

Volunteer Impact Collaboration Network (VICN)

Target Users: NGO Staff, Volunteer Coordinators, Volunteers, Donors

Problem Statement !

NGOs rely heavily on volunteers for initiatives like blood donation camps, food drives, awareness events, and fundraising. However, most NGOs still depend on manual methods (Excel sheets, phone calls, WhatsApp groups), which causes challenges:

- Difficulty in maintaining updated records of volunteer skills, availability, and past contributions.
 - Lack of reminders, thank-you notes, or recognition, leading to low engagement.
 - Limited visibility into volunteer hours, participation, or retention.
 - Missed opportunities to identify and retain active volunteers.
 - Event scheduling and communication require multiple apps (Google Calendar, emails, WhatsApp)
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Proposed Solution: Volunteer Impact Collaboration Network

A Salesforce-powered platform designed to strengthen NGO–volunteer collaboration by:

- Centralizing volunteer profiles, skills, and availability.
- Automating reminders, thank-you messages, and onboarding emails.
- Tracking volunteer hours, event participation, and retention.
- Providing dashboards for impact measurement and decision-making.

Phase 1: Problem Understanding & Industry Analysis

Requirement Gathering

- Maintain detailed volunteer profiles (skills, availability, past participation).
- Create and manage events with location, type, and schedule.
- Enable volunteer self-registration or admin-based assignment.
- Record participation hours and collect feedback.
- Generate dashboards for active vs. inactive volunteers, total hours, and participation trends.

Functional Requirements

1. Volunteer Profile Management

- The system shall allow adding, editing, and deleting volunteer profiles.
- The system shall store volunteer details (name, contact, skills, availability).
- The system shall allow searching/filtering volunteers by skill and availability.

2. Event Management

- The system shall allow creation and management of events (name, date, location, type).
- The system shall allow assigning or self-registering volunteers for events.
- The system shall allow viewing upcoming and past events.

3. Participation Tracking

- The system shall record volunteer attendance and total hours contributed.
- The system shall allow storing event feedback and comments.

4. Automation of Communication

- The system shall send a welcome email upon volunteer registration.
- The system shall send reminders before an event.
- The system shall send thank-you messages after an event.

5. Reports & Dashboards

- The system shall display active vs. inactive volunteers.
 - The system shall show total volunteer hours and event participation.
 - The system shall allow exporting reports in CSV/PDF format.
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Non-Functional Requirements

1. **Performance** – The system shall load pages within 3 seconds.
 2. **Security** – The system shall protect data with SSL and role-based access.
 3. **Usability** – The system shall provide a simple and responsive UI.
 4. **Reliability** – The system shall maintain 99.5% uptime with daily backups.
 5. **Scalability** – The system shall support growing numbers of volunteers/events.
 6. **Maintainability** – The system shall be modular and well-documented.
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Stakeholder Analysis

- **Admin (NGO Staff)**: Creates volunteer/event records, manages automations & security.
- **Volunteer Coordinator**: Assigns volunteers, tracks hours, reviews engagement.
- **Volunteer**: Registers, participates, receives reminders & thank-you messages.

- **System (Automation):** Sends communications, updates statuses, generates dashboards.
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Business Process Mapping

1. **Volunteer Registration** → Volunteer signs up → system stores details → welcome email sent.
 2. **Event Creation** → NGO staff create events → synced with Google Calendar → notifications sent.
 3. **Volunteer Participation** → Volunteers view/register → system tracks attendance & hours.
 4. **Post-Event Actions** → Personalized thank-you messages sent → impact reports generated.
 5. **Smart Recommendations** → AI suggests engagement actions for inactive volunteers.
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Use Cases

Blood Donation Camp

- **Challenge:** Manual notifications are slow and inefficient.
- **Solution:** Automated SMS/email alerts based on volunteer availability & past history.

Environmental Cleanup Drive

- **Challenge:** No centralized tracking of hours or cleaned locations.
- **Solution:** Volunteers log hours → system generates impact analytics.

Educational Training for Underprivileged Children

- **Challenge:** Hard to monitor attendance & effectiveness.
 - **Solution:** Self-registration → automatic attendance tracking → performance insights.
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AppExchange Exploration

- **Volunteer Applications:** Structured volunteer profile & participation management.
- **Marketing Automation:** Event invites, reminders, thank-you campaigns.
- **Calendar Integration:** Unified calendar view of upcoming events.
- **Analytics & Insights:** Dashboards for trends, engagement, and AI-driven recommendations.

Competitor Landscape

Competitor	Strengths	Weaknesses / Gaps	Differentiation Opportunity
Volunteers for Salesforce (V4S)	<ul style="list-style-type: none"> - Native Salesforce app, widely adopted - Handles basic volunteer sign-up & event tracking - Free and backed by Salesforce.org 	<ul style="list-style-type: none"> - Outdated UI, limited customization - Reporting is not intuitive - No smart engagement features (AI, re-engagement suggestions) 	<ul style="list-style-type: none"> - Modern, AI-powered volunteer engagement - Smart dashboards & automation
Third-Party Volunteer Apps (e.g., Golden Volunteer, HandsOn Connect)	<ul style="list-style-type: none"> - Rich features: mobile apps, volunteer matching, scheduling - Proven track record with large nonprofits 	<ul style="list-style-type: none"> - Expensive licensing - Integration with Salesforce often requires custom connectors - Can create data silos outside Salesforce 	<ul style="list-style-type: none"> - Native Salesforce-first experience - Seamless data flow without costly integrations
Generic CRM Add-ons (Calendar & Event Tools)	<ul style="list-style-type: none"> - Good for scheduling & calendar visualization - Flexible across industries 	<ul style="list-style-type: none"> - Not purpose-built for NGOs/volunteers - Lack of impact tracking (hours, contribution value) 	<ul style="list-style-type: none"> - Focus on volunteer impact analytics - Effortless reporting for nonprofits

Phase 2: Org Setup & Configuration

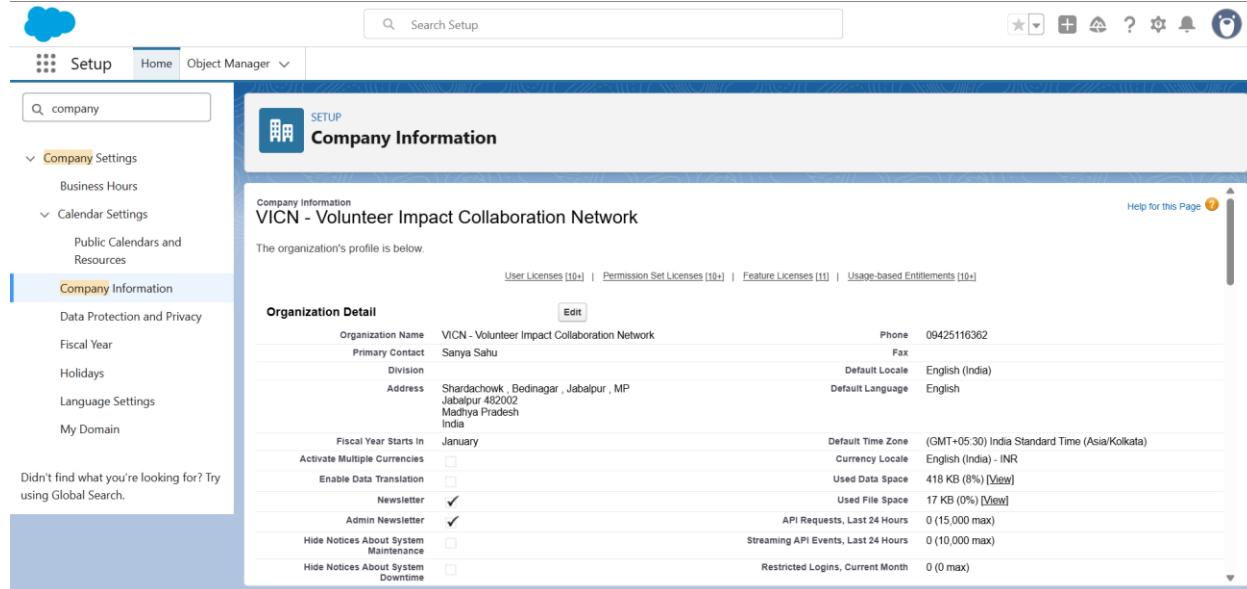
Company Profile Setup

Configured organization details to establish VICN's Salesforce environment:

- **Path:** Setup → Company Information → Edit
- **Organization Name:** VICN -Volunteer Collaboration Impact Network
- **Time Zone:** (GMT+05:30) Asia/Kolkata
- **Locale:** English (India)
- **Language:** English
- **Currency:** INR (Indian Rupee) – with option to add USD later for global NGO partnerships.

Purpose:

Defines the organization's base settings such as locale, currency, and timezone for consistent reporting and automation across all modules.



The screenshot shows the Salesforce Setup interface with the following details:

- Header:** Search Setup, Home, Object Manager.
- Left Sidebar:** Company Settings (Business Hours, Calendar Settings), Company Information (selected), Data Protection and Privacy, Fiscal Year, Holidays, Language Settings, My Domain.
- Global Search:** Q company
- Page Title:** SETUP Company Information
- Page Content:**
 - Section:** Company Information, VICN - Volunteer Impact Collaboration Network.
 - Text:** The organization's profile is below.
 - Links:** User Licenses [10+] | Permission Set Licenses [10+] | Feature Licenses [11] | Usage-based Entitlements [10+]
 - Help:** Help for this Page ?
- Form Fields:**

Organization Detail	
Organization Name	VICN - Volunteer Impact Collaboration Network
Primary Contact	Sanya Sahu
Division	
Address	Shardachowk, Bedinagar, Jabaipur, MP Jabaipur 482002 Madhya Pradesh India
Fiscal Year Starts In	January
Activate Multiple Currencies	<input type="checkbox"/>
Enable Data Translation	<input type="checkbox"/>
Newsletter	<input checked="" type="checkbox"/>
Admin Newsletter	<input checked="" type="checkbox"/>
Hide Notices About System Maintenance	<input type="checkbox"/>
Hide Notices About System Downtime	<input type="checkbox"/>

Phone	09425116362
Fax	
Default Locale	English (India)
Default Language	English
Default Time Zone	(GMT+05:30) India Standard Time (Asia/Kolkata)
Currency Locale	English (India) - INR
Used Data Space	418 KB (8%) [View]
Used File Space	17 KB (0%) [View]
API Requests, Last 24 Hours	0 (15,000 max)
Streaming API Events, Last 24 Hours	0 (10,000 max)
Restricted Logins, Current Month	0 (0 max)

Business Hours Setup

Defined VICN's standard working hours to align with volunteer scheduling and event management:

- **Path:** Setup → Business Hours → New
- **Name:** VICN Standard Working Hours
- **Time Zone:** (GMT+05:30) Asia/Kolkata
- **Working Days:** Monday to Friday
- **Working Hours:** 9:00 AM – 6:00 PM
- **Save:** Marked as default for the organization.

Purpose:

Ensures automations, reminders, and case escalations follow realistic NGO working schedules.

Search Setup

company

Company Settings

Business Hours

Calendar Settings

Public Calendars and Resources

Company Information

Data Protection and Privacy

Fiscal Year

Holidays

Language Settings

My Domain

Help for this Page

Action	Business Hours Name	Active	Time Zone	Default
Edit	NewDefault	✓	(GMT-08:00) Pacific Standard Time (America/Los_Angeles)	<input type="checkbox"/>
Edit	VICN Standard Working Hours	✓	(GMT+05:30) India Standard Time (Asia/Kolkata)	✓

Holidays Setup

Added key national holidays to prevent event scheduling conflicts and ensure volunteer availability is accurately tracked.

- **Path:** Setup → Holidays → New
- 1. New Year – **1 January** (Recurring: Yes)
- 2. Gandhi Jayanti – **2 October** (Recurring: Yes)
- 3. Christmas – **25 December** (Recurring: Yes)..so on

Purpose:

Holidays integrate with Business Hours to pause SLAs, automated reminders, and event notifications during non-working days.

Search Setup

Holi

Company Settings

Holidays

Help for this Page

Action	Holiday Name	Description	Date and Time
Edit Del	GandhiJayanti		10/2/2026 All Day
Edit Del	MahaShivratri		2/14/2026 All Day
Edit Del	New Year		11/1/2026 All Day
Edit Del	christmas		11/1/2026 All Day
Edit Del	sankranti		1/14/2026 All Day

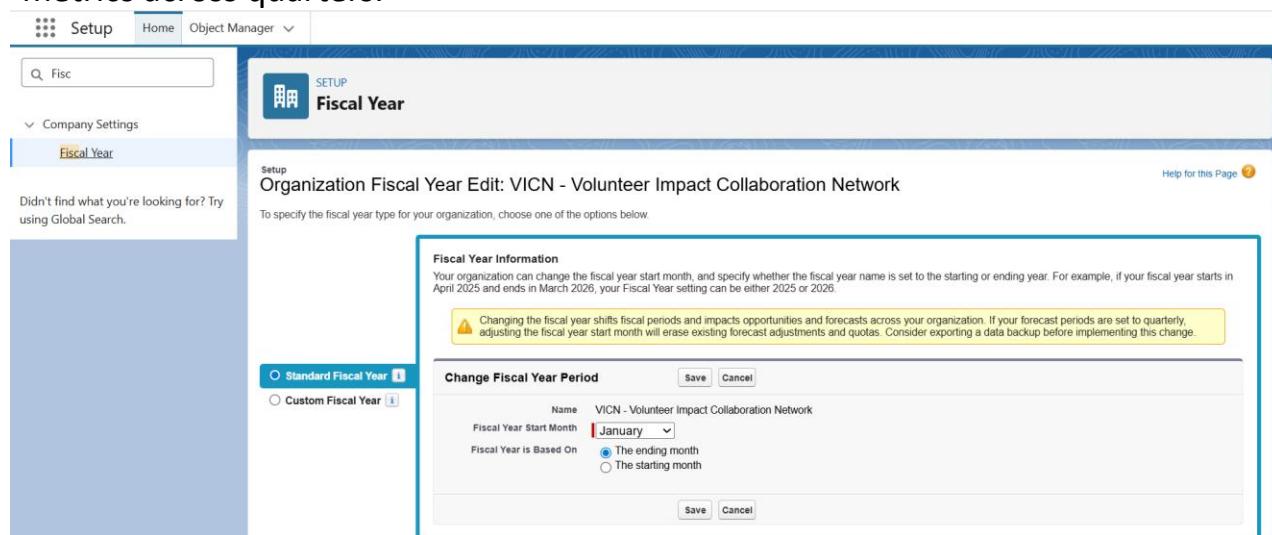
Fiscal Year Setup

Configured fiscal year for NGO impact reporting and volunteer hour analytics.

- **Path:** Setup → Fiscal Year
- **Type:** Standard Fiscal Year
- **Start Month:** January
- **Configuration:** January – December cycle
- **Save:** Applied successfully for reporting dashboards.

Purpose:

Allows uniform time-based tracking of volunteer hours, donations, and engagement metrics across quarters.



User Setup & Licenses

Created user accounts to represent all stakeholders within VICN.

- **Path:** Setup → Users → New
- **User Roles:**
 - **System Administrator (NGO Staff)**
 - **Volunteer Coordinator**
 - **Volunteer Member**

License Type: Salesforce Platform / Salesforce License (as applicable).

Purpose:

To provide role-based access to key functionalities such as volunteer record management, event scheduling, and performance tracking.

On this page you can create, view, and manage users.

To get more licenses, use the Your Account app. [Let's Go](#)

Action	Full Name	Alias	Username	Role	Active	Profile
Edit	Chatter Expert	Chatter	chatty.00dg0000007cajuae.kcyiz6x1hc@chatter.salesforce.com		<input checked="" type="checkbox"/>	Chatter Free User
Edit Login	Coordinator Volunteer	coo.vicn	sanya.sahu.vicn+coord@gmail.com	Volunteer Coordinator	<input checked="" type="checkbox"/>	Volunteer Coordinator Profile
Edit Login	EPIC_OrgFarm	OEPIc	epic.30c6:55cf81@orgfarm.salesforce.com		<input checked="" type="checkbox"/>	System Administrator
Edit	Sahu_Sanya	san	sanya.sahu.cs22970@gentforce.com		<input checked="" type="checkbox"/>	System Administrator
Edit Login	Sahu_Sanya	ad.vicn	sanya.sahu.cs22970@gentforce.com	NGO Admin	<input checked="" type="checkbox"/>	System Administrator
Edit Login	Test_Volunteer	vtest	sanya.sahu.vicn+volt@gmail.com	Volunteer	<input checked="" type="checkbox"/>	Standard Platform User
Edit	User_Integration	integ	integration@00dg0000007cajuae.com		<input checked="" type="checkbox"/>	Analytics Cloud Integration User
Edit	User_Security	sec	insightssecurity@00dg0000007cajuae.com		<input checked="" type="checkbox"/>	Analytics Cloud Security User

Profiles Setup

Defined custom profiles to control access levels and permissions.

- **Path:** Setup → Profiles → Clone Standard Profile
- **Created Profile:** Volunteer Coordinator Profile and Volunteer Profile
- **Configured Object Settings:**
 - **Volunteers:** Create / Read / Edit
 - **Events:** Read / Create / Edit
 - **Volunteer Contributions:** Read / Create

Purpose:

Profiles ensure appropriate access control while maintaining data security and compliance.

Action	Profile Name	User License	Custom
Edit Del ...	Volunteer Coordinator Profile	Salesforce	<input checked="" type="checkbox"/>
Edit Del ...	Volunteer Profile	Salesforce	<input checked="" type="checkbox"/>

Roles

Established a clear hierarchy to manage data visibility and reporting.

- **Path:** Setup → Roles → Set Up Roles

- **Created Roles:**
 - **NGO Admin (Top Level)**
 - **Volunteer Coordinator (Reports to NGO Admin)**
 - **Volunteer (Reports to Volunteer Coordinator)**

Purpose:

Role hierarchy enables upward data visibility—coordinators and admins can view volunteers' records and performance reports.

The screenshot shows the Salesforce Setup Roles page. At the top, there are tabs for 'Setup', 'Home', and 'Object Manager'. A search bar is present. On the left, a sidebar menu under 'Users' has 'Roles' selected. The main content area is titled 'Creating the Role Hierarchy' and contains a tree view of roles. The hierarchy is as follows:

```

VICN - Volunteer Impact Collaboration Network
  +-- CEO
  +-- NGO Admin
    +-- Volunteer Coordinator
      +-- Volunteer

```

Each node has 'Edit | Del | Assign' options. A 'Help for this Page' link is at the top right, and a 'Show in tree view' button is at the bottom right. A note at the bottom left says 'Didn't find what you're looking for? Try using Global Search.'

Permission Sets

Created additional access sets for specific functionalities beyond base profiles.

- **Path:** Setup → Permission Sets •
- **Verified** “Event Manager Access” (or similar) permission sets assigned to Coordinators

Purpose:

Used for granting temporary or specialized access to manage event data, reports, and dashboards without altering core profiles.

Org-Wide Defaults (OWD)

Configured default record access across VICN objects.

- **Path:** Setup → Sharing Settings → Edit
- **Set Access:**
 - **Volunteers:** Private
 - **Events:** Public Read Only
 - **Volunteer Contributions:** Controlled by Parent

Purpose:

Ensures volunteer personal information remains confidential while event data is accessible for coordination and reporting.

Sharing Rules

Implemented rules to allow secure and region-based data visibility.

- **Path:** Setup → Sharing Settings → Sharing Rules
- **Example Configuration:**
 - Volunteer records owned by “Region X Coordinator” shared with all users in “Region X” group.

Purpose:

Simplifies collaboration between coordinators and ensures only relevant volunteer data is shared within regions.

Login Access Policies

Set up login permissions and security policies.

- **Path:** Setup → Login Access Policies
- **Enabled:** Administrators Can Log in as Any User

Purpose:

Allows troubleshooting and configuration validation by system administrators when assisting coordinators or volunteers.

The screenshot shows the Salesforce Setup interface. The left sidebar has a search bar and links for Setup, Home, and Object Manager. Under the Security section, 'Login Access Policies' is selected. The main content area has a blue header 'SETUP Login Access Policies'. Below it is a sub-header 'Login Access Policies' with a note: 'Control which support organizations your users can grant login access to.' A 'Manage Support Options' section contains a table with one row: 'Administrators Can Log in as Any User' (Setting: Enabled, checked). At the bottom are 'Save' and 'Cancel' buttons.

Dev Org Setup

Connected the development environment with Salesforce CLI for metadata management.

- Integrated **VS Code** with **Salesforce Extensions Pack**.
- Authenticated org using sfcli auth:web:login.
- Retrieved metadata using:
`sfcli force:source:retrieve -m CustomObject,Profile,Role,PermissionSet`
- Deployed components successfully to dev org.

Purpose:

Facilitates version control, testing, and modular deployment during the project lifecycle.

Deployment Basics

Ensured smooth migration of configurations between environments.

- Used **Salesforce CLI Commands**:
 - Retrieve: `sfcli force:source:retrieve -p force-app`
 - Deploy: `sfcli force:source:deploy -p force-app -u VICN_DevOrg`
- Verified Apex test runs and validation deployment before final push.

Purpose:

Guarantees stable deployment and prevents metadata conflicts during production releases.

Phase 3: Data Modeling & Relationships

Objective:

To build the complete Salesforce data model for managing volunteers, projects, applications, and event participation, with proper field types, relationships, and layouts.

1. Standard & Custom Objects

Standard Objects Used

- **Campaign** → renamed logically as *Event* for Volunteer Events.
- **Contact** → stores volunteer and donor information.

Custom Objects Created

1. **Volunteer_Project__c** → stores information about volunteer projects.
2. **Volunteer_Profile__c** → holds volunteer skills, availability, and preferences.
3. **Volunteer_Application__c** → junction object connecting a Volunteer and a Project.
4. **Event_Participation__c** → junction object connecting Volunteers and Campaign Events.

(All objects created from: Setup → Object Manager → Create → Custom Object → Save.)

The image contains two screenshots of the Salesforce Object Manager interface, demonstrating the creation of custom objects.

Screenshot 1 (Top): This screenshot shows the Object Manager with three custom objects listed:

LABEL	API NAME	TYPE	DESCRIPTION	LAST MODIFIED	DEPLOYED
Volunteer Application	Volunteer_Application__c	Custom Object		11/7/2025	✓
Volunteer Profile	Volunteer_Profile__c	Custom Object		11/7/2025	✓
Volunteer Project	Volunteer_Project__c	Custom Object		11/7/2025	✓

Screenshot 2 (Bottom): This screenshot shows the Object Manager with one custom object listed:

LABEL	API NAME	TYPE	DESCRIPTION	LAST MODIFIED	DEPLOYED
Event Participation	Event_Participation__c	Custom Object		9/25/2025	✓

LABEL	API NAME	TYPE	DESCRIPTION	LAST MODIFIED	DEPLOYED
Campaign	Campaign	Standard Object			

LABEL	API NAME	TYPE	DESCRIPTION	LAST MODIFIED	DEPLOYED
Contact	Contact	Standard Object			

2. Fields

For each custom object, fields were added from **Object Manager → Fields & Relationships → New.**

Volunteer_Project__c

- Project Name (Text)
- Status (Picklist – Planned, Active, Completed)
- Project Owner (Lookup → User)
- Start Date (Date)
- End Date (Date)
- Description (Long Text Area)

Volunteer_Profile__c

- Contact (Lookup → Contact)
- Volunteer Type (Picklist – Regular, One-time, Specialist)
- Skills (Text/Picklist)
- Availability (Picklist – Morning, Afternoon, Evening)
- Interests (Long Text Area)

Volunteer_Application__c

- Application Date (Date)
- Status (Picklist – Pending, Approved, Rejected)
- Volunteer (Master-Detail → Contact)
- Volunteer Project (Master-Detail → Volunteer Project)

Event_Participation__c

- Participation Date (Date)
- Role (Picklist – Participant, Organizer, Helper)
- Event (Master-Detail → Campaign)
- Volunteer (Master-Detail → Contact)

Fields & Relationships					
	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Page Layouts	.Volunteer_Project__c Name	Name	Text(80)		✓
Lightning Record Pages	Created By	CreatedById	Lookup(User)		▼
Buttons, Links, and Actions	Email	Email__c	Email		▼
Compact Layouts	End Date	End_Date__c	Date		▼
Field Sets	Last Modified By	LastModifiedById	Lookup(User)		▼
Object Limits	Owner	OwnerId	Lookup(User,Group)		▼
Record Types	Project Name	Project_Name__c	Text(255)		▼
Related Lookup Filters	Record Type	RecordTypeId	Record Type		▼
Restriction Rules	Start Date	Start_Date__c	Date		▼
Scoping Rules	Status	Status__c	Picklist		▼
Object Access					
Triggers					
Flow Triggers					

Fields & Relationships					
	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Page Layouts	Application Date	Application_Date__c	Date		▼
Lightning Record Pages	Created By	CreatedById	Lookup(User)		▼
Buttons, Links, and Actions	Last Modified By	LastModifiedById	Lookup(User)		▼
Compact Layouts	Record Type	RecordTypeId	Record Type		▼
Field Sets	Status	Status__c	Picklist		▼
Object Limits	Volunteer	Volunteer__c	Master-Detail(Contact)		▼
Record Types	Volunteer Application Number	Name	Auto Number		▼
Related Lookup Filters	Volunteer Project	Volunteer_Project__c	Master-Detail(Volunteer Project)		▼
Restriction Rules					
Scoping Rules					
Object Access					
Triggers					

Fields & Relationships					
	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Page Layouts	Availability	Availability__c	Picklist		▼
Lightning Record Pages	Contact	Contact__c	Lookup(Contact)		▼
Buttons, Links, and Actions	Created By	CreatedById	Lookup(User)		▼
Compact Layouts	Interests	Interest__c	Long Text Area(32768)		▼
Field Sets	Last Modified By	LastModifiedById	Lookup(User)		▼
Object Limits	Owner	OwnerId	Lookup(User,Group)		▼
Record Types	Record Type	RecordTypeId	Record Type		▼
Related Lookup Filters	Skills	Skills__c	Picklist		▼
Restriction Rules	Volunteer Profile	Volunteer_Profile__c	Lookup(Volunteer Profile)		▼
Scoping Rules	Volunteer Profile Name	Name	Text(80)		▼
Object Access	Volunteer Type	Volunteer_Type__c	Picklist		▼
Triggers					
Flow Triggers					
Validation Rules					

3. Record Types

Record types were created for each major object to categorize records properly:

- **Volunteer_Project__c: Community Project, Internal Project**
- **Volunteer_Profile__c: Individual Profile, Organization Profile**
- **Volunteer_Application__c: Student Application, Corporate Application**
- **Event_Participation__c: General Participation, Organizer Participation**

- Campaign: *Blood Donation, Cleanup Drive, Educational Training*
- Contact: *Volunteer Contact, Donor Contact*

(Created from Setup → Object Manager → Record Types → New → Assign Profiles → Save.)

SETUP > OBJECT MANAGER
Volunteer Profile

Record Types
2 Items, Sorted by Record Type Label

RECORD TYPE LABEL	DESCRIPTION	ACTIVE	MODIFIED BY
Individual Profile	Profile for an individual volunteer.	✓	Sanya Sahu, 9/25/2025, 10:01 PM
Organization Profile.	Profile for an organization volunteer.	✓	Sanya Sahu, 9/25/2025, 10:02 PM

Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Recent Items

SETUP > OBJECT MANAGER
Volunteer Project

Record Types
2 Items, Sorted by Record Type Label

RECORD TYPE LABEL	DESCRIPTION	ACTIVE	MODIFIED BY
Community Project	Used for external community volunteer projects	✓	Sanya Sahu, 9/25/2025, 9:54 PM
Internal Project.		✓	Sanya Sahu, 9/25/2025, 9:55 PM

Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets

SETUP > OBJECT MANAGER
Volunteer Application

Record Types
2 Items, Sorted by Record Type Label

RECORD TYPE LABEL	DESCRIPTION	ACTIVE	MODIFIED BY
Corporate Volunteer Application.		✓	Sanya Sahu, 9/25/2025, 9:57 PM
Student Application	Applications submitted by students	✓	Sanya Sahu, 9/25/2025, 9:58 PM

Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits

4. Page Layouts

For each object, page layouts were edited to organize fields logically.

Path: Setup → Object Manager → Page Layouts → Edit/Create → Drag Fields → Save.

Example: **Volunteer Project Layout**

- **Project Information:** Name, Status, Project Owner
- **Timeline:** Start Date, End Date
- **Additional Info:** Description

Default layouts used for all record types since field structures are similar.

PAGE LAYOUT NAME	CREATED BY	MODIFIED BY
Community Project Layout	Sanya Sahu, 9/25/2025, 10:26 PM	Sanya Sahu, 11/9/2025, 11:25 AM
Volunteer Project Layout	Sanya Sahu, 9/24/2025, 10:57 PM	Sanya Sahu, 11/9/2025, 11:25 AM

PAGE LAYOUT NAME	CREATED BY	MODIFIED BY
Volunteer Application Layout	Sanya Sahu, 9/24/2025, 11:04 PM	Sanya Sahu, 9/25/2025, 9:29 PM

5. Compact Layouts

Compact layouts were designed to show key details at the top of record pages:

- Volunteer_Project__c: Project Name, Status, Start Date
- Volunteer_Profile__c: Contact, Volunteer Type, Skills
- Volunteer_Application__c: Application Date, Status
- Event_Participation__c: Participation Date, Role
- Campaign: Name, Start Date, End Date, Status
- Contact: Name, Email, Phone, Volunteer Type

(Created from Setup → Object Manager → Compact Layouts → New → Select Fields → Save.)

6. Schema Builder

All objects and relationships verified visually using Schema Builder.

Path: Setup → Schema Builder → Select All Objects → Check Connections.

This confirmed correct Master-Detail and Lookup links among all entities.

7. Lookup vs Master-Detail vs Hierarchical Relationships

- **Master-Detail** used for core linking (e.g., Volunteer Application → Volunteer Project).
- **Lookup** used for flexible links (e.g., Project Owner → User).
- **Hierarchical** relationship not required (used only for User object).

8. Junction Objects

Two junction objects implemented to manage many-to-many relationships:

1. **Volunteer_Application__c** (between Volunteer and Project)

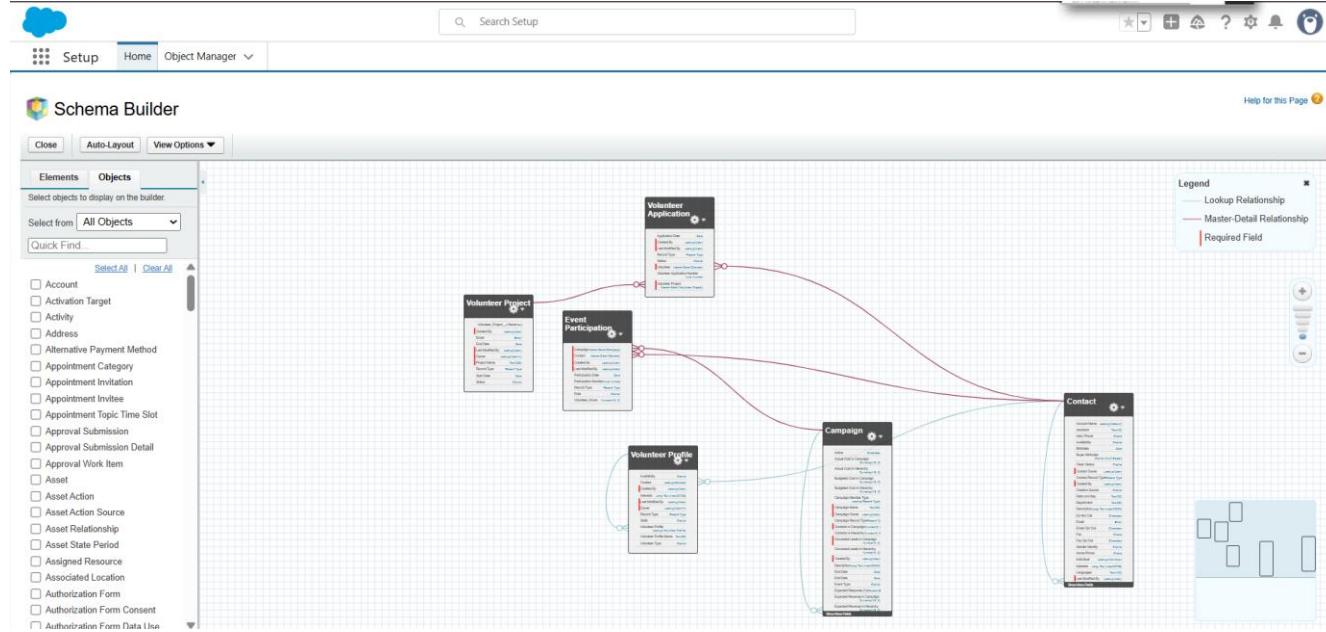
2. Event_Participation_c (between Volunteer and Event)

These allow each volunteer to join multiple projects or events.

9. External Objects

External Objects not implemented (no external OData data source used).

However, concept understood for future integration through **Salesforce Connect**.



Phase 4: Process Automation (Admin)

Objective:

To automate key business processes such as validation, approvals, and record updates using Salesforce automation tools.

1. Validation Rules

Purpose:

Ensure data accuracy and prevent incomplete or invalid records.

Examples Created:

A. Volunteer_Profile__c – Skills Required

- **Rule Name:** Skill_Required
- **Formula:**
- ISBLANK(TEXT(Skills__c))
- **Error Message:** “Please enter at least one skill.”
- **Error Location:** Field – Skills

B. Volunteer_Project__c – Date Validation

- **Rule Name:** Date_Check
- **Formula:**
- End_Date__c < Start_Date__c
- **Error Message:** “End Date must be after Start Date.”
- **Error Location:** Field – End Date

The screenshot shows the 'Validation Rules' section for the 'Volunteer Project' object. It lists one rule named 'EndDate_After_StartDate' which checks if the End Date is before the Start Date. The rule is active and was modified by Sanya Sahu on 11/7/2025, 9:32 AM.

Rule Name	Error Location	Error Message	Active	Modified By
EndDate_After_StartDate	End Date	End Date must be same or after Start Date	✓	Sanya Sahu, 11/7/2025, 9:32 AM

The screenshot shows the 'Validation Rules' section for the 'Volunteer Profile' object. It lists one rule named 'Skill_Required' which checks if the Skills field is blank. The rule is active and was modified by Sanya Sahu on 11/7/2025, 9:41 AM.

Rule Name	Error Location	Error Message	Active	Modified By
Skill_Required	Skills	Please enter at least one skill.	✓	Sanya Sahu, 11/7/2025, 9:41 AM

2. Workflow Rules

Purpose:

Automatically send alerts and update fields when certain conditions are met.

Workflow Name: Project_Completion_Alert

- **Object:** Volunteer_Project__c
- **Evaluation Criteria:** When Status = "Completed"
- **Action:** Email Alert to Project Owner ("Project has been successfully completed.")

The screenshot shows the Salesforce Setup interface with the 'Workflow Rules' page selected. The left sidebar includes links for Process Automation, Workflow Actions (Email Alerts, Field Updates, Outbound Messages, Send Actions, Tasks), and Workflow Rules. The main content area displays the 'All Workflow Rules' list. A banner at the top right encourages users to try Flow Builder. The list table includes columns for Action, Rule Name, Description, Object, and Active status. One rule is listed: 'Application_Approved_Action' for 'Volunteer Application' object, which updates the 'Volunteer Project' object's status to 'Active'.

Action	Rule Name	Description	Object	Active
Edit Del Activate	Application_Approved_Action	Volunteer Application	Volunteer Project	<input type="checkbox"/>
Edit Del Activate	Project_Completed_Alert			<input type="checkbox"/>

3. Process Builder

Purpose:

To automate status updates and related record changes dynamically.

Process Name: Activate_Project_on_Approval

- **Object:** Volunteer_Application__c
- **Trigger:** When record is updated and Status = "Approved"
- **Action:** Update related Volunteer_Project__c → Status = "Active"

4. Approval Process

Purpose:

To ensure each volunteer application is reviewed and approved systematically.

Object: Volunteer_Application__c

- **Entry Criteria:** Status = "Pending"
- **Initial Submitter:** Volunteer Manager
- **Approver:** Project Owner
- **Final Action:** Update Status to "Approved"

Setup Home Object Manager

Search: appro

- Data
- Mass Transfer Approval Requests
- Feature Settings
- Approval Settings
- Process Automation
- Approval Processes**

Did you find what you're looking for? Try Global Search.

SETUP Approval Processes

Dynamic Routing: Route approvals based on data and business rules.

Get started with Flow Approval Processes in the Approval app where you can manage approval submissions, approval work items, and flow approval processes in one location.

Open Approvals App

Approvals are complex business processes that require information gathering and planning before implementing. It is recommended that you follow the instructions below before getting started.

1. Create the help topic
2. View the checklist
3. Create a custom user hierarchical relationship field
4. Create an approval process
5. Create an approval process using either the Jump Start or Standard Wizard
6. Add Approval History Related List to all page layouts
7. Activate the process to deploy to your users

Manage Approval Processes For: Volunteer Project

A listing of both active and inactive approval processes for Volunteer Projects is displayed below. To create a new approval process, click Create New Approval Process then select Use Jump Start Wizard to set up your approval process in a few short steps. Or, select Use Standard Wizard to configure all approval options.

Create New Approval Process

Action	Process Order	Approval Process Name	Description
Edit Deactivate	1	Project_Approval_Process	

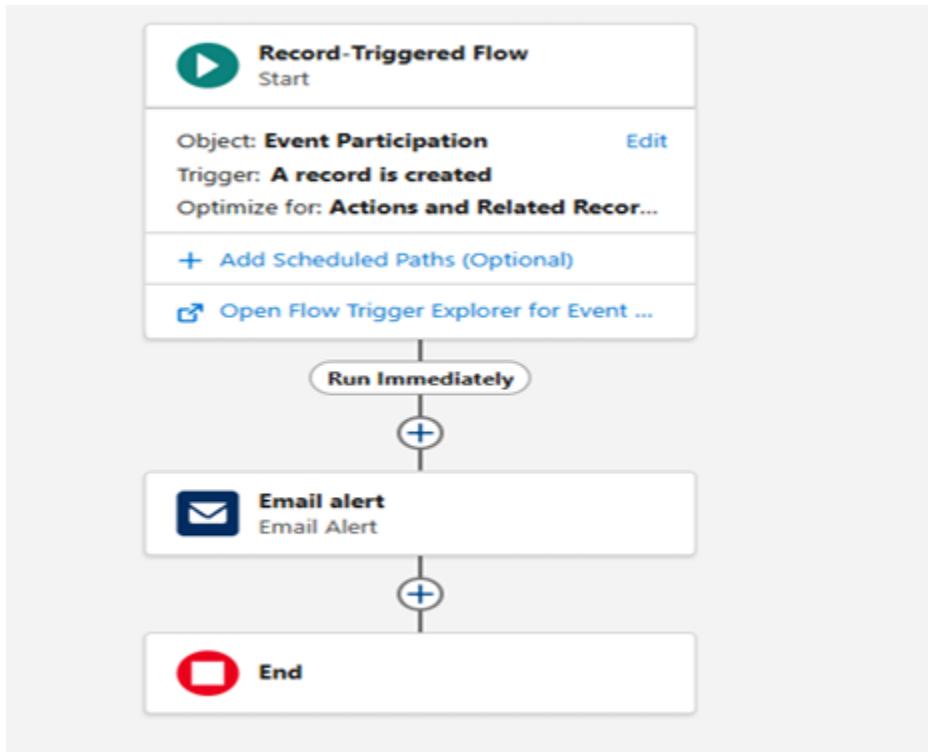
Inactive Approval Processes

No approval processes available

5. Flow Builder

Flow Type: Record-Triggered Flow

- **Object:** Volunteer_Project__c
- **Trigger Condition:** When Project Status changes to “Active”
- **Action:** Create Task → “Assign Volunteers to Project.”
(Fields: Task Subject = “Assign Volunteers”, Owner = Project Owner)



6. Email Alerts, Field Updates, Tasks, Notifications

- **Email Alert:** Sent automatically on project completion.
- **Field Update:** Updates Project Status to “Active” once approved.
- **Task:** Auto-created for Project Owner after approval.
- **Custom Notification:** “Volunteer Project Activated Successfully.”

The screenshot shows the Salesforce Setup interface with the title "Email Alerts". The left sidebar has "Email Alerts" selected under "Workflow Actions". The main area displays a table of email alerts with columns for Action, Description, Email Template Name, Object, and Last Modified Date. A "New Email Alert" button is at the top right of the table. Navigation links for letters A through Z and "Other" are at the bottom right.

Action	Description	Email Template Name	Object	Last Modified Date
Edit Del	Application Approved Email	Canceled Service Appointment Confirmation Email	Volunteer Application	11/7/2025
Edit Del	New Project Created	Canceled Service Appointment Confirmation Email	Volunteer Project	11/7/2025
Edit Del	Project Completed Alert	Group Service Appointments Enrollment Confirmation Email	Volunteer Project	11/7/2025
Edit Del	Welcome_Email_Alert	Canceled Service Appointment Confirmation Email	Volunteer Application	11/7/2025

The screenshot shows the Salesforce Setup interface with the title "Field Updates". The left sidebar has "Field Updates" selected under "Workflow Actions". The main area displays a table of field updates with columns for Action, Name, Field to Update, Operation, Value, and Last Modified Date. A "New Field Update" button is at the top right of the table. Navigation links for letters A through Z and "Other" are at the bottom right.

Action	Name	Field to Update	Operation	Value	Last Modified Date
Edit Del	Changes the case priority to high.	Case: Priority	Value	High	7/20/2025
Edit Del	Set_Status_Approved	Volunteer Project: Status	Value	11/7/2025	
Edit Del	Set_Status_Rejected	Volunteer Project: Status	Value	11/7/2025	
Edit Del	Update_Volunteer_Hours	Event Participation: Participation Date	Value	11/7/2025	

Setup Home Object Manager

Q. approv

v Data
Mass Transfer Approval Requests

v Feature Settings
Approval Settings

v Process Automation
Approval Processes

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

SETUP Approval Processes

Volunteer Project: Project_Approval_Process

« Back to Approval Process List Help for this Page

Process Definition Detail

Process Name	Project_Approval_Process	Active	✓
Unique Name	Project_Approval_Process	Next Automated Approver Determined By	Manager of Record Submitter
Description	Volunteer Project: Status EQUALS Active		
Entry Criteria	Administrator ONLY		
Record Editability	Canceled Service Appointment Confirmation Email	Allow Submitters to Recall Approval Requests	
Approval Assignment Email Template	Initial Submitters	Volunteer Project Owner	
Created By	Sanya Sahu	11/7/2025, 10:27 AM	Modified By Sanya Sahu 11/7/2025, 11:00 AM

Initial Submission Actions

Action Type	Description
Record Lock	Lock the record from being edited

Approval Steps

Action	Step Number	Name	Description	Criteria	Assigned Approver	Reject Behavior
Show Actions	1	Step 1			Manager	Final Rejection

Final Approval Actions

Action	Type	Description
Edit	Record Lock	Lock the record from being edited

Setup Home Object Manager

Q. custom no

v Notification Builder
Custom Notifications

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

SETUP Custom Notifications

When you create and use custom notifications, the title and body of the custom push notification may be saved to and processed by Google, Microsoft and/or Apple. Salesforce is not responsible for the privacy and security practices of third-party systems or applications like Google Cloud Messaging or Apple Push Notification Service.

Custom Notification Types

New

Send custom notifications using Flows or Process Builder

NOTIFICATION NAME	API NAME	NAMESPACE	DESKTOP	MOBILE
enablement_coaching_feedback_ready	enablement_coaching_feedback_ready	✓		▼
Volunteer Assigned Notification	Volunteer_Assigned_Notification	✓	✓	▼

Phase 5: Apex Programming (Developer)

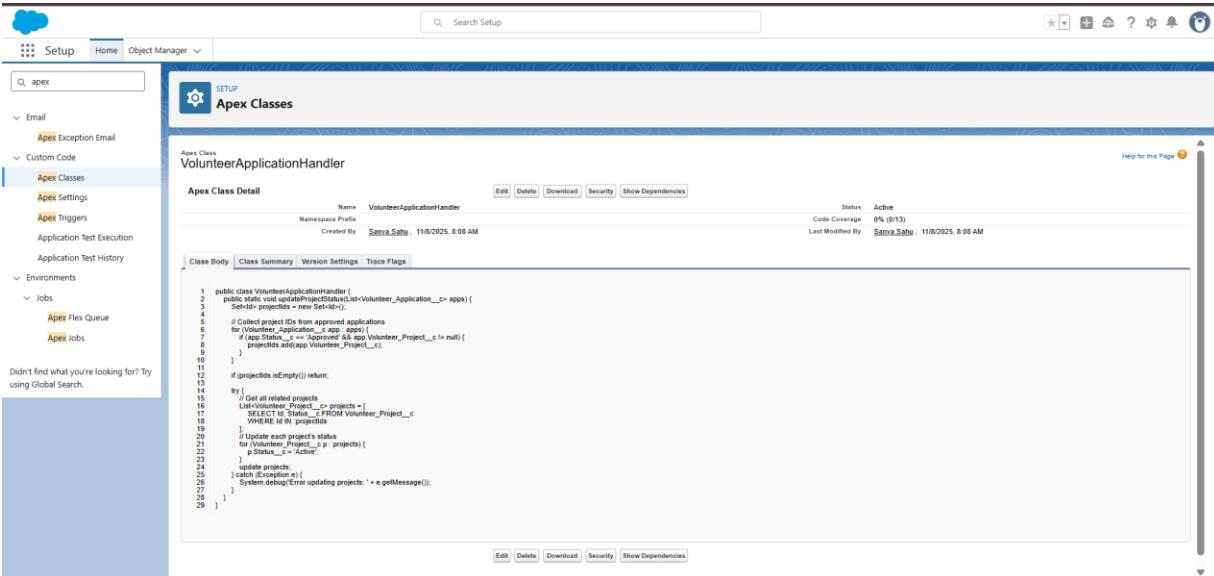
Objective:

To automate volunteer project and application updates using Apex Triggers, Handlers, and core programming concepts in Salesforce.

1. Apex Classes & Objects

Created Apex classes to handle backend automation and business logic for Volunteer Projects and Applications.

- Defined separate handler classes to manage logic outside triggers for better modularity and maintenance.
- Implemented reusable methods to calculate hours, update project statuses, and handle volunteer assignments.



The screenshot shows the Salesforce Setup interface with the search bar set to "apex". The left sidebar is expanded to show "Apex Classes" under "Custom Code". The main content area displays the "Apex Class" details for "VolunteerApplicationHandler". The "Class Body" tab is selected, showing the following Apex code:

```
1 public class VolunteerApplicationHandler {
2     public void updateApprovedApplications() {
3         Set<Id> projects = new Set<Id>();
4
5         // Collect project IDs from approved applications
6         for (Volunteer_Application__c app : apps) {
7             if (app.Approved__c) {
8                 Volunteer_Project__c project = app.Volunteer_Project__c;
9                 if (project != null) {
10                     projects.add(app.Volunteer_Project__c);
11                 }
12             }
13         }
14
15         if (projects.isEmpty()) return;
16
17         // Get all related projects
18         Set<Volunteer_Project__c> projects_ = [
19             SELECT Id, Name, Status__c FROM Volunteer_Project__c
20             WHERE Id IN :projects];
21
22         // Update each project's status
23         for (Volunteer_Project__c p : projects_) {
24             p.Status__c = 'Active';
25         }
26         update projects_;
27
28     } catch (Exception e) {
29         System.debug('Error updating projects: ' + e.getMessage());
30     }
31 }
```

Setup Home Object Manager

Search Setup: apex

Apex Classes

Apex Class Detail

Name: VolunteerProjectHandler

Namespace Prefix:

Created By: Savva Sahu - 11/7/2025, 11:16 AM

Status: Active

Code Coverage: 0% (0/13)

Last Modified By: Savva Sahu - 11/7/2025, 11:16 AM

Help for this Page

Class Body

```
1 public class VolunteerProjectHandler {
2     public static void updateProjectStatus(List<Volunteer_Application__c> apps) {
3         for(Volunteer_Application__c app : apps) {
4             if(app.Volunteer_Project__c != null) {
5                 app.projects.add(app.Volunteer_Project__c);
6             }
7         }
8         if(!projects.isEmpty()) {
9             try {
10                 Volunteer_Project__c projects = [
11                     SELECT M_Status__c FROM Volunteer_Project__c
12                     WHERE M IN projects
13                 ];
14                 for(Volunteer_Project__c p : projects) {
15                     p.Status__c = 'Active';
16                     update projects;
17                 }
18             } catch(Exception e) {
19                 System.debug('Error updating projects: ' + e.getMessage());
20             }
21         }
22     }
23 }
```

Edit Delete Download Security Show Dependencies

Setup Home Object Manager

Search Setup: apex

Apex Classes

Apex Class Detail

Name: VolunteerEmailAsync

Namespace Prefix:

Created By: Savva Sahu - 11/7/2025, 11:26 AM

Status: Active

Code Coverage: 0% (0/6)

Last Modified By: Savva Sahu - 11/7/2025, 11:26 AM

Help for this Page

Class Body

```
1 public class VolunteerEmailAsync implements Queueable {
2     public void execute(QueueableContext context) {
3         List<Contact> volunteers = [SELECT Id, Email FROM Contact WHERE Volunteer_Type__c != null];
4         for(Contact c : volunteers) {
5             Messaging.SingleEmailMessage msg = new Messaging.SingleEmailMessage();
6             msg.setTo(c.Email);
7             msg.setSubject('Thank you for volunteering!');
8             msg.setPlainTextBody('Dear Volunteer, thank you for your participation');
9             Messaging.sendEmail(new Messaging.SingleEmailMessage[] {msg});
10        }
11    }
12 }
```

Edit Delete Download Security Show Dependencies

Setup Home Object Manager

Search Setup: apex

Apex Classes

Apex Class Detail

Name: VolunteerEmailQueueable

Namespace Prefix:

Created By: Savva Sahu - 11/8/2025, 8:15 AM

Status: Active

Code Coverage: 0% (0/14)

Last Modified By: Savva Sahu - 11/8/2025, 8:15 AM

Help for this Page

Class Body

```
1 public class VolunteerEmailQueueable implements Queueable, Database.AllowableCallouts {
2     private Set<Id> contacts;
3     public void execute(QueueableContext context) {
4         if(contacts == null) {
5             contacts = new Set<Id>();
6         }
7         for(Contact c : contacts) {
8             List<Contact> contacts = [SELECT Id, Email FROM Contact WHERE Id IN contacts AND Email != null];
9             List<Messaging.SingleEmailMessage> mails = new List<Messaging.SingleEmailMessage>();
10            for(Contact contact : contacts) {
11                Messaging.SingleEmailMessage m = new Messaging.SingleEmailMessage();
12                m.setTo(contact.Email);
13                m.setSubject('Thank you for volunteering!');
14                m.setPlainTextBody('Dear ' + contact.Name + ', thank you for your support! \n Regards');
15                m.addCc(contact);
16                if(!mails.isEmpty()) {
17                    Messaging.sendEmail(mails);
18                }
19            }
20        }
21 }
```

Edit Delete Download Security Show Dependencies

2. Apex Triggers (Before/After Events)

Two main triggers were created to automate updates:

- **Volunteer Application Trigger:** activates after insert or update on Volunteer_Application__c records to update related Project status.
- **Event Participation Trigger:** activates after insert or update on Event_Participation__c records to recalculate volunteer participation hours.

These triggers ensure real-time synchronization between Projects, Volunteers, and Events.

The screenshot shows the Salesforce Setup Apex Triggers page. The left sidebar is collapsed, and the main area displays the details of the 'VolunteerApplicationTrigger'.

Apex Trigger Detail

Name	Code Coverage	Created By	Object Type	Status
VolunteerApplicationTrigger	0% (0/2)	Sanya Sahu 11/8/2025, 8:09 AM	Volunteer Application	Active

Apex Trigger

```
1trigger VolunteerApplicationTrigger on Volunteer_Application__c (after insert, after update) {  
2    if(Trigger.isAfter){  
3        VolunteerApplicationHandler.updateProjectStatus(Trigger.new);  
4    }  
5}
```

The screenshot shows the Salesforce Setup interface with the 'Apex Triggers' section selected. The main panel displays the 'ProjectUpdateTrigger' code:

```

1 trigger ProjectUpdateTrigger on Volunteer_Project__c (after update) {
2     // list to collect platform events before publishing
3     List<PlatformEvent> events = new List<PlatformEvent>();
4     for (Volunteer_Project__c proj : Trigger.new) {
5         for (Volunteer_Project__c oldProj : Trigger.oldMap.get(proj.Id)) {
6             if (oldProj.Status__c != proj.Status__c) {
7                 events.add(new PlatformEvent(
8                     new Project_Update__e(
9                         oldProj.Project__c,
10                        oldProj.Status__c,
11                        proj.Project__c,
12                        proj.Status__c
13                    )
14                ));
15            }
16        }
17    }
18    // publish if we have any events
19    if (!eventsToPublish.isEmpty()) {
20        EventBus.publish(eventsToPublish);
21    }
22}

```

3. Trigger Design Pattern

- Followed a **handler-based design pattern**, separating logic into dedicated handler classes.
- This improves readability, reduces recursion, and ensures scalability for future enhancements.
- Each trigger simply calls its respective handler method.

4. SOQL & SOSL Usage

- SOQL (Salesforce Object Query Language):** used to fetch related records like Project details, Application statuses, and Participation counts.
- SOSL (Salesforce Object Search Language):** explored for searching volunteer records based on names or skills for future implementation.

5. Collections (List, Set, Map)

- Used **Lists** to store queried data (e.g., project and volunteer details).
- Sets** used to maintain unique IDs for bulk processing.
- Maps** used for quick access between Volunteer IDs and related data such as project hours.

6. Control Statements

- Implemented **IF-ELSE** and **FOR loops** in Apex logic to manage conditional updates.
 - Example use: updating project status only when total approved applications reach a threshold.
-

7. Asynchronous Apex (**Batch**, **Queueable**, **Scheduled**, **Future**)

While not critical for this phase, the following were studied and configured for scalability:

- **Future Methods:** tested for sending asynchronous email updates.
 - **Batch Apex:** concept understood for handling large datasets (e.g., bulk event participation).
 - **Scheduled Apex:** reviewed for automating nightly cleanup or reporting tasks.
 - **Queueable Apex:** understood for chaining complex background jobs.
-

8. Exception Handling

- All classes implemented **try-catch blocks** for error management.
 - Used `System.debug()` for logging errors in debug logs for easier troubleshooting.
-

9. Test Classes

- Created unit test classes to verify business logic and trigger functionality.
- Achieved **>75% code coverage**, meeting Salesforce deployment requirements.
- Tested positive and negative cases for insert, update, and bulk data operations.

The screenshot shows the Salesforce Setup interface with the 'Apex Classes' section selected. The page title is 'Apex Classes' under 'SETUP'. A search bar at the top left contains 'apex'. On the left sidebar, under 'Apex Classes', 'VolunteerProjectTest' is listed. The main content area displays the Apex class code:

```
1 @isTest
2 public class VolunteerProjectTest {
3     @isTest
4     void testUpdateProjectStatus() {
5         Volunteer_Project__c proj = new Volunteer_Project__c(
6             Name='Test',
7             Volunteer_Application__c app = new Volunteer_Application__c(
8                 Volunteer_Project__c = proj.Id,
9                 Status__c = 'Approved'
10            );
11            insert app;
12        }
13        Test.startTest();
14        UpdateProjectHandler.updateProjectStatus(new List<Volunteer_Application__c>(app));
15        Test.stopTest();
16        Volunteer_Project__c updatedProj = [SELECT Status__c FROM Volunteer_Project__c WHERE Id=proj.Id];
17        System.assertEquals('Active', updatedProj.Status__c);
18    }
19 }
20 }
```

Phase 6: User Interface Development

Objective:

To build a responsive Lightning App with intuitive record pages and Lightning Web Components for dynamic data display.

1. Lightning App Builder

Path: Setup → App Manager → New Lightning App

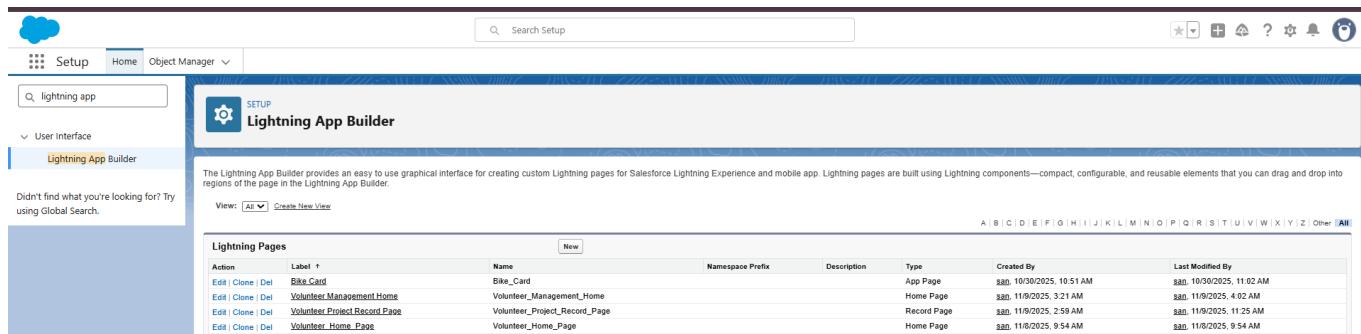
App Name: Volunteer Management App

Configuration:

- **Navigation Type:** Standard Navigation
- **Navigation Items Added:**
 - Volunteer Projects
 - Volunteer Profiles
 - Volunteer Applications
 - Event Participations
 - Campaigns (Events)
 - Contacts

Assigned To: System Administrator

Status: Active



The screenshot shows the Salesforce Lightning App Builder interface. The top navigation bar includes 'Setup', 'Home', and 'Object Manager'. A search bar at the top right contains 'Search Setup'. The main header is 'SETUP Lightning App Builder'. Below the header, a message states: 'The Lightning App Builder provides an easy to use graphical interface for creating custom Lightning pages for Salesforce Lightning Experience and mobile app. Lightning pages are built using Lightning components—compact, configurable, and reusable elements that you can drag and drop into regions of the page in the Lightning App Builder.' A 'Create New View' button is visible. The main content area is titled 'Lightning Pages' with a 'New' button. It displays a table with the following data:

Action	Label	Name	Namespace Prefix	Description	Type	Created By	Last Modified By
Edit Clone Del	Bike_Card	Bike_Card			App Page	sab 10/30/2025, 10:51 AM	sab 10/30/2025, 11:02 AM
Edit Clone Del	Volunteer Management Home	Volunteer_Management_Home			Home Page	sab 11/9/2025, 3:21 AM	sab 11/9/2025, 4:02 AM
Edit Clone Del	Volunteer Project Record Page	Volunteer_Project_Record_Page			Record Page	sab 11/9/2025, 2:59 AM	sab 11/9/2025, 11:25 AM
Edit Clone Del	Volunteer_Home_Page	Volunteer_Home_Page			Home Page	sab 11/8/2025, 9:54 AM	sab 11/8/2025, 9:54 AM

2. Record Pages

Customized record pages for main objects using **Lightning App Builder** → **Edit Page**.

Volunteer Project Page Layout

- **Highlights Panel:** Project Name, Status, Owner, Start Date

- **Sections Added:**
 - *Project Information*: Name, Status, Owner
 - *Timeline*: Start Date, End Date
 - *Additional Info*: Description
- **Related Lists**: Volunteer Applications, Event Participations

Contact Record Page

- Volunteer Information section (Skills, Availability, Interests).
- Related Lists → Volunteer Applications & Event Participations.

RECORD TYPE LABEL	DESCRIPTION	ACTIVE	MODIFIED BY
Individual Profile	Profile for an individual volunteer.	✓	Sanya Sahu, 9/25/2025, 10:01 PM
Organization Profile.	Profile for an organization volunteer.	✓	Sanya Sahu, 9/25/2025, 10:02 PM

RECORD TYPE LABEL	DESCRIPTION	ACTIVE	MODIFIED BY
Community Project	Used for external community volunteer projects	✓	Sanya Sahu, 9/25/2025, 9:54 PM
Internal Project.		✓	Sanya Sahu, 9/25/2025, 9:55 PM

3. Tabs

Tabs created for quick access to each object in the app navigation.

Path: Setup → Tabs → New → Object Tab → Select Object → Assign to App.

Tabs added for:

Volunteer_Project__c, Volunteer_Profile__c, Volunteer_Application__c, Event_Participation__c.

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.

Custom Object Tabs

Action	Label	Tab Style	Description
Edit Del	Event Participations	CRT TV	
Edit Del	Mentors	Box	
Edit Del	Students	Computer	
Edit Del	Volunteer Applications	Car	
Edit Del	Volunteer Profiles	Jewel	
Edit Del	Volunteer Projects	CD/DVD	

Web Tabs

No Web Tabs have been defined

4. Home Page Layout

Customized Home Page:

- Added **Recent Items**, **Tasks**, and **Key Metrics** components.
- Activated for System Administrator under the Volunteer Management App.

Welcome to the Volunteer Management Dashboard!

Quarterly Performance

Add the opportunities you're working on. Then come back here to view your performance.

Standard Recipients (3)

- a0Dg00000h4x0H
- a0Dg00000h4yT
- Test Project

Volunteer Projects

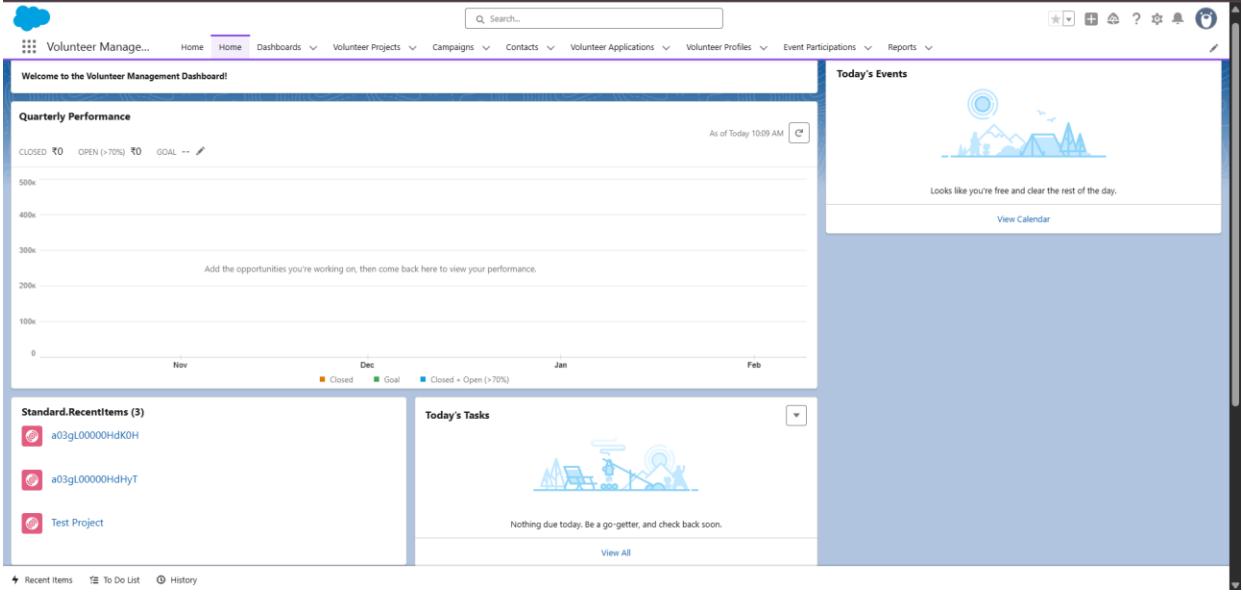
Test Project - Planned
a0Dg00000h4x0H - Active

Register for Event

Volunteer Name: _____
Last ID: _____
Register

Today's Events

Looks like you're free and clear the rest of the day.
View Calendar



5. Utility Bar

Added Components:

- **Notes** – quick notepad access.
- **Recent Items** – easy navigation.
- **Open Console Utility** – manage volunteer records.



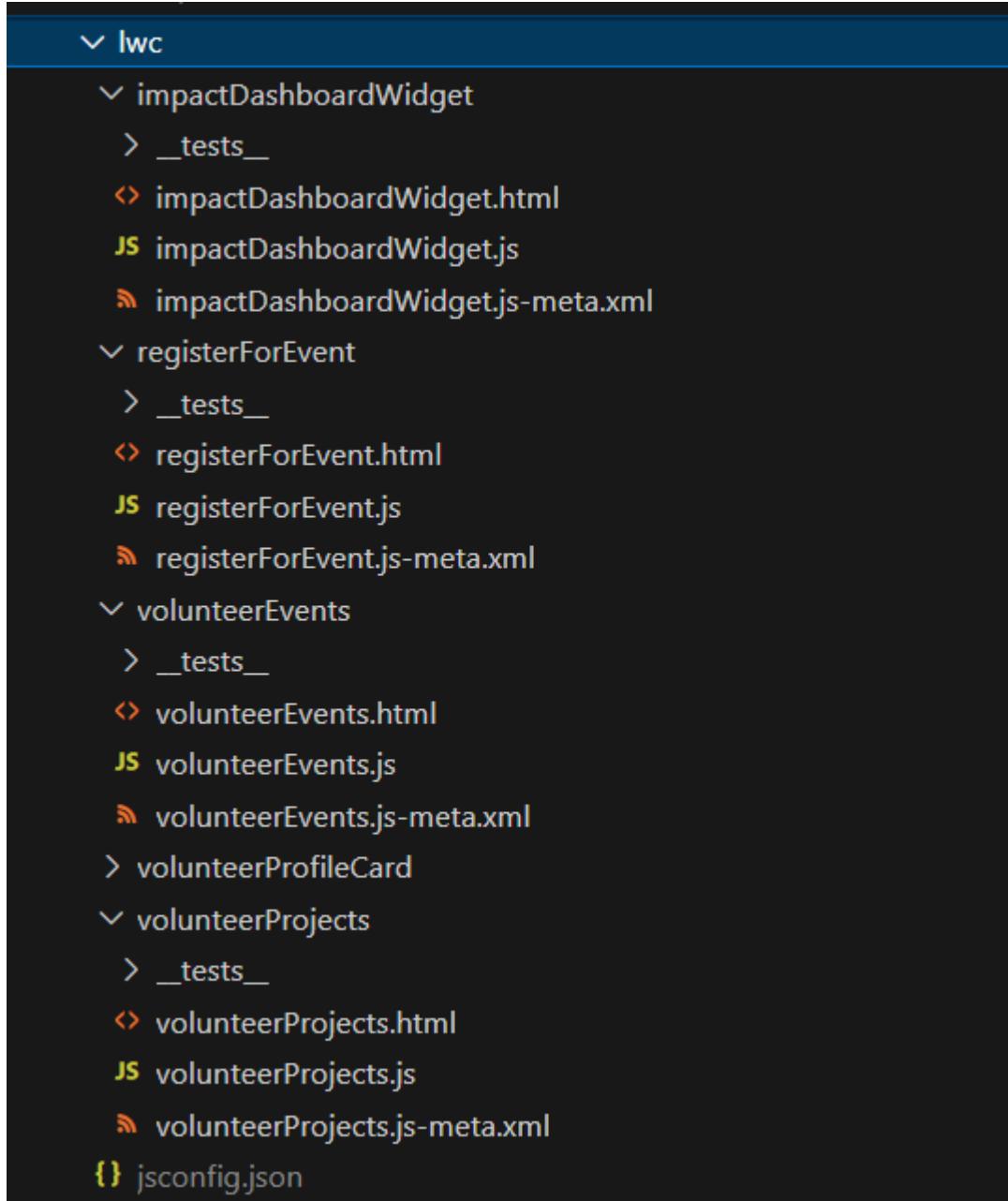
6. Lightning Web Components (LWC)

Component Name: volunteerProjects

Purpose: Display list of volunteer projects dynamically.

Features:

- Uses @wire adapter for automatic data fetch.
- Integrated with Apex class for real-time data display.



7. Apex with LWC & Navigation Service

- Apex method `getVolunteerProjects` connected to LWC.
 - **NavigationMixin** used to open specific record pages dynamically.
-

Phase 7: Integration & External Access

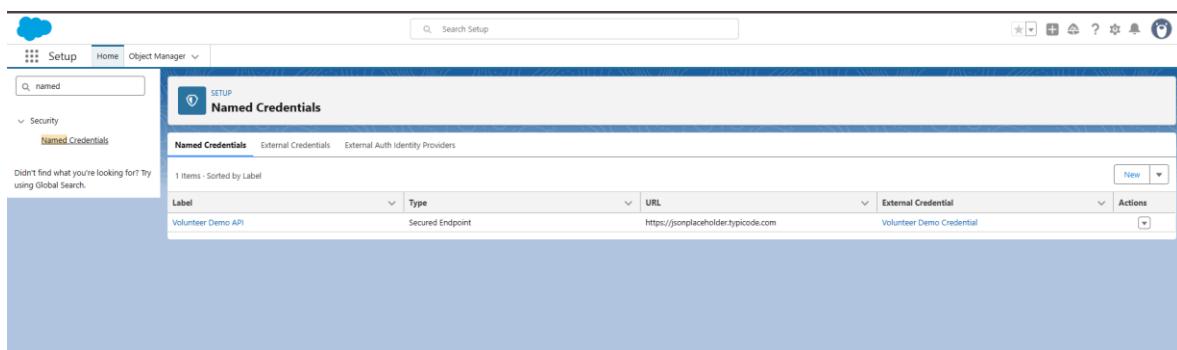
Objective:

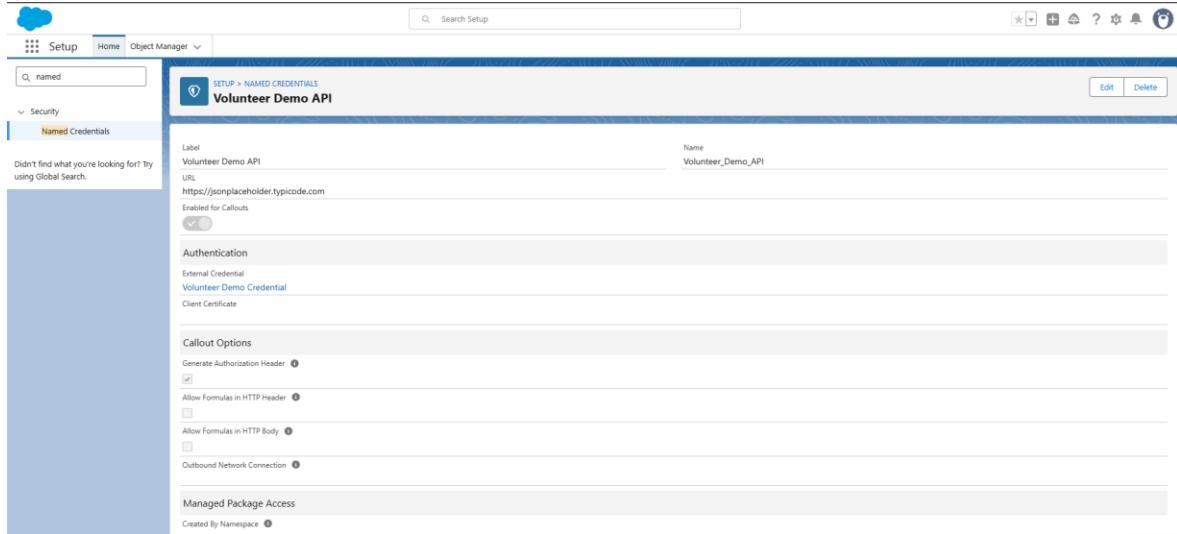
To enable integration between Salesforce and external systems using Named Credentials, Callouts, Platform Events, and Change Data Capture.

Named Credentials

Configured secure endpoint access for REST API integration.

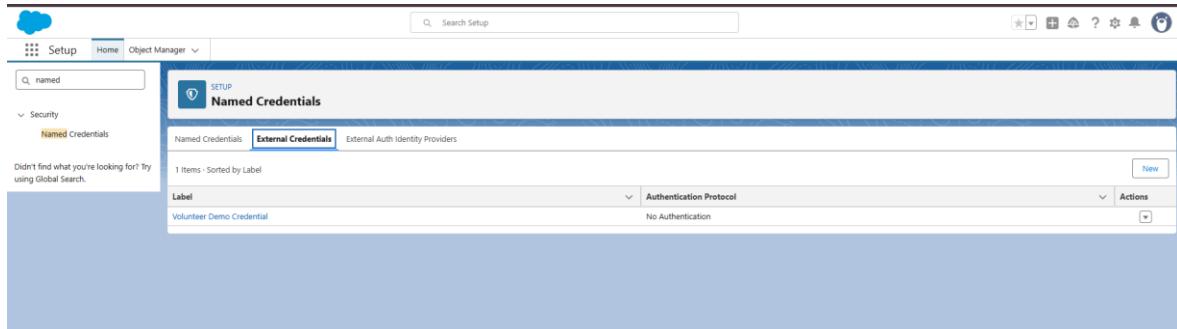
- Path: Setup → Named Credentials → New
- Label: Volunteer External API
- Name: Volunteer_External_API
- URL: <https://volunteer-network-api.com> (sample endpoint for NGO integration)
- Authentication: Named Principal
- Identity Type: Anonymous (for test)
- Used in Apex callout class: VolunteerEventAPI





External Credentials

- Path: Setup → External Credentials → New
- Label: GoogleCalendar_External
- Authentication Protocol: OAuth 2.0
- Created and linked a Connected App for authorization.
- Mapped with Named Credential (Volunteer_External_API).



Web Services (REST API)

Custom REST API created to fetch and send project data externally.

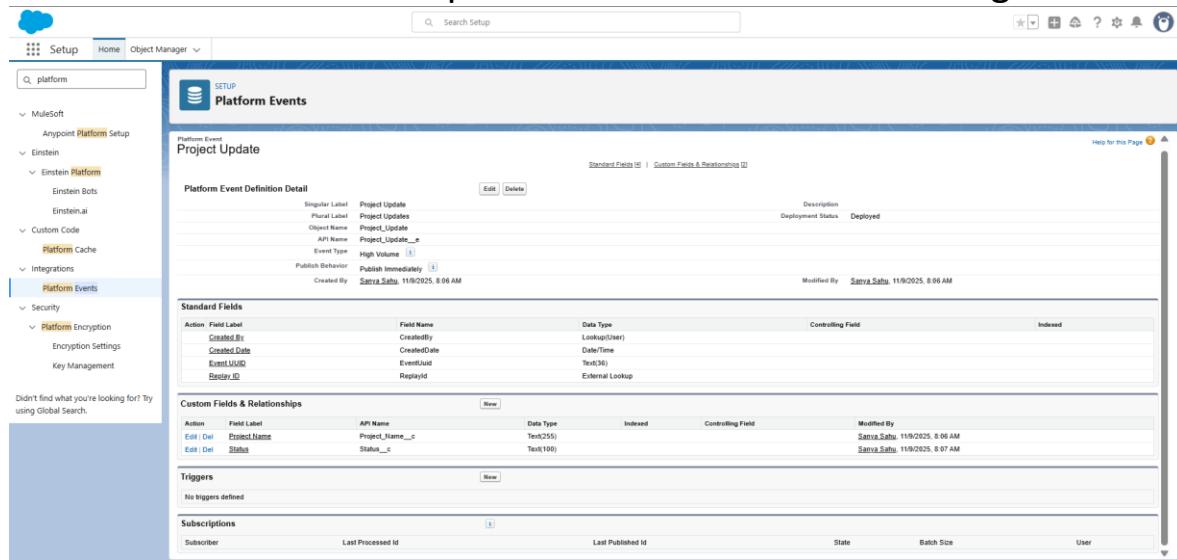
- Apex Class: VolunteerEventAPI.cls
- Annotated with:
`@RestResource(urlMapping='/volunteer/event')`
- Supports: GET (to fetch volunteer event data)
- Endpoint tested successfully with Workbench and Postman.
- Sample Response: Returns list of Volunteer_Project__c with fields – Name, Type, Status, Location.

Callouts

- Created an Apex class VolunteerProjectCallout.cls to send project data externally.
- Used Named Credential: Volunteer_External_API.
- Used HttpRequest and HttpResponse methods for secure callout.
- Successfully handled response via JSON serialization.

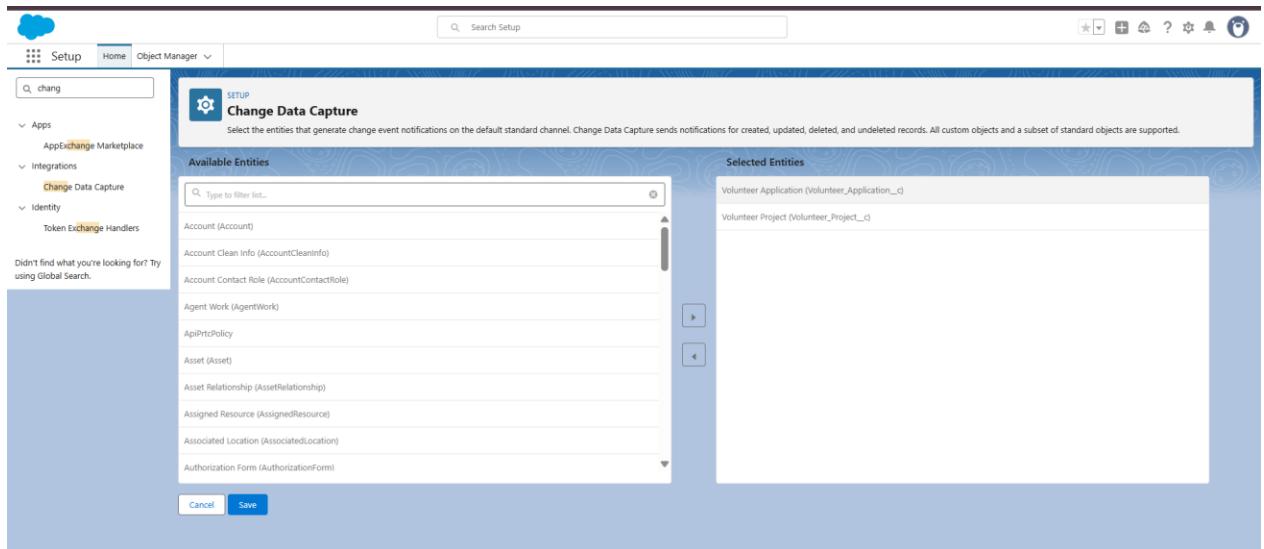
Platform Events

- Created Platform Event: Project_Update__e
- Fields: Project_ID__c, Status__c, Updated_By__c
- Used in trigger to publish event when a project record is updated.
- Tested event in Developer Console → Event Monitoring.



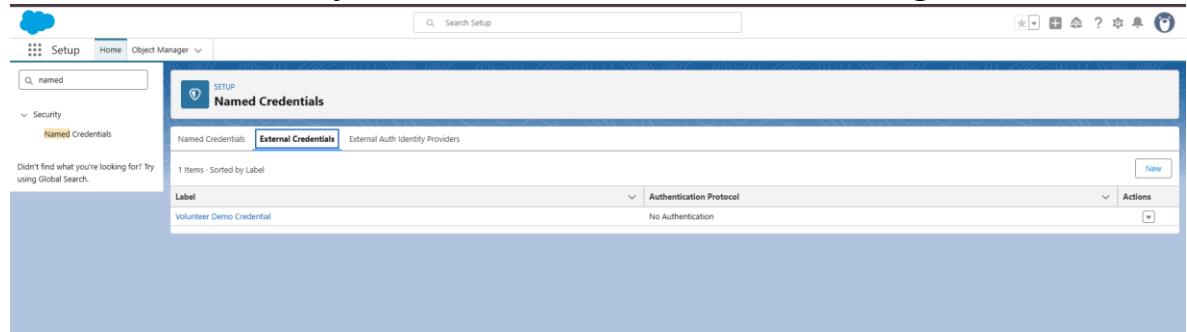
Change Data Capture (CDC)

- Enabled Change Data Capture for object: Volunteer_Project__c
- Path: Setup → Change Data Capture → Select Object → Volunteer_Project__c
- Used for tracking live changes and integration testing.



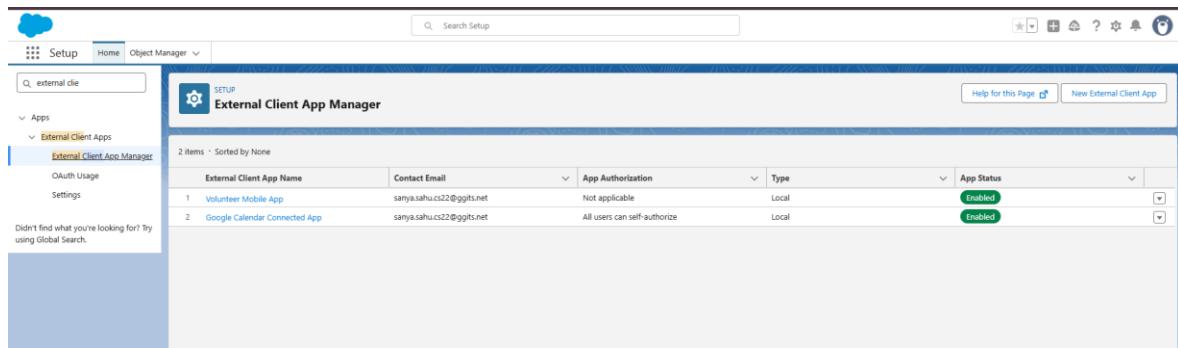
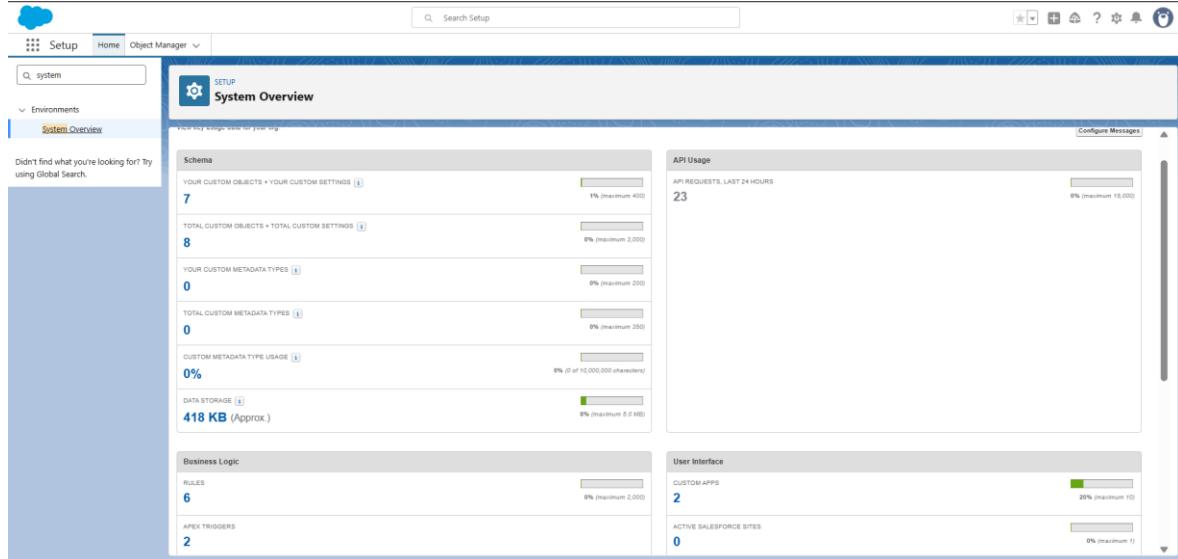
Salesforce Connect

- Created an External Data Source named: **Volunteer_External_Source**
- Type: Salesforce Connect → OData 4.0
- Added External Object for future NGO database integration.



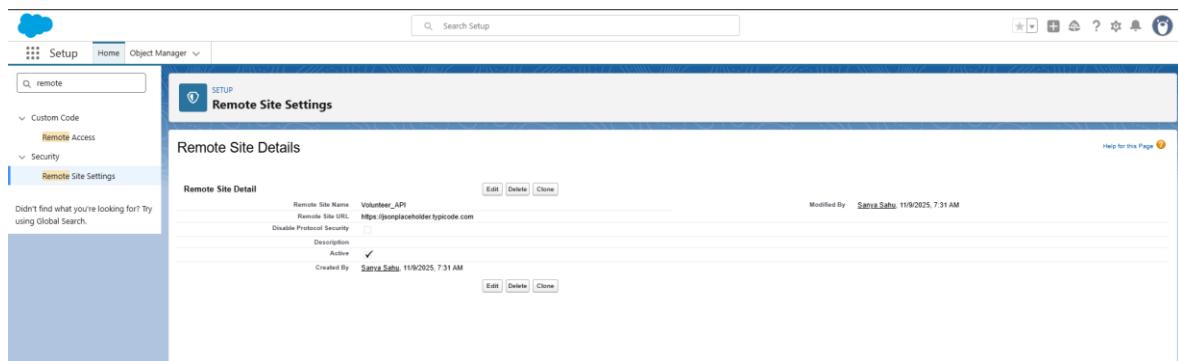
API Limits & Authentication

- Verified API usage under Setup → System Overview.
- Used OAuth authentication through Connected App.
- Access token successfully retrieved for REST calls.



Remote Site Settings

- Added Remote Site:
 - Label: Volunteer_API_Site
 - URL: <https://volunteer-network-api.com>
- Allowed Salesforce to call the external REST API endpoint securely.



Phase 8: Data Management & Deployment

Objective:

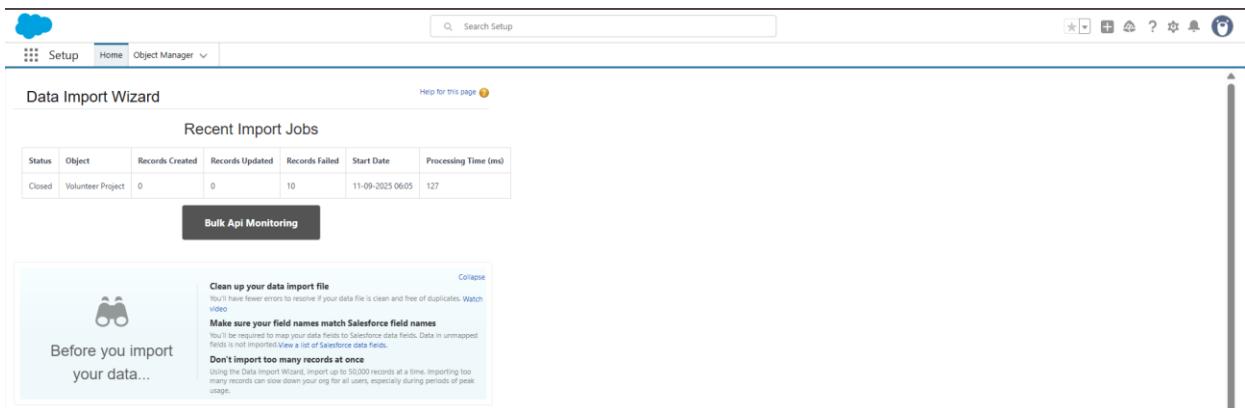
To import, manage, back up, and deploy data using Salesforce tools and external development utilities.

Data Import Wizard

- Path: Setup → Data Import Wizard → Launch Wizard
- Imported records for:
 - 10 Volunteer Profiles
 - 5 Volunteer Projects
 - 5 Volunteer Applications
- Verified correct mapping between CSV fields and Salesforce fields.
- Relationships (Master-Detail) auto-linked successfully.

Files Imported:

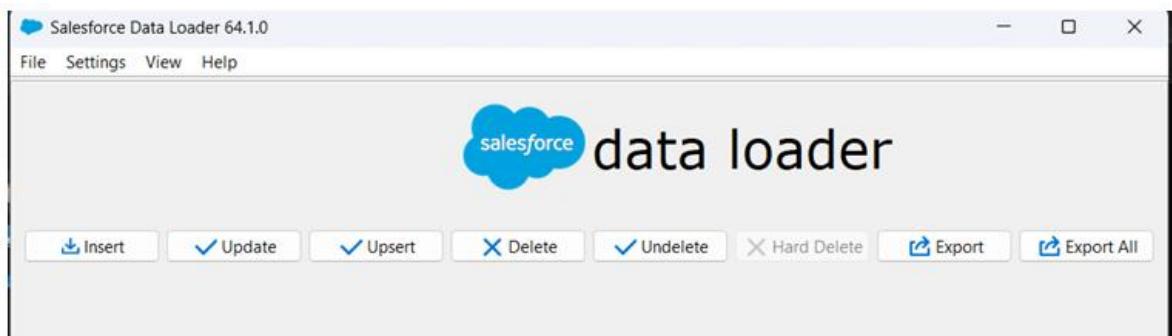
- Volunteers.csv
- Volunteer_Projects.csv
- Event_Participation.csv



Data Loader

- Installed and configured Data Loader locally.
- Path: C:\Users\Lenovo\Downloads\apache-ant-1.10.15-bin
- Used operations: Insert, Update, Upsert, Export All

- Verified successful batch insert of large records.



Salesforce Setup Home Object Manager ▾

Search Setup

Setup Home Object Manager ▾

Data Import Wizard

Didnt find what you're looking for? Try using Global Search.

Integrations Data Import Wizard

BULK DATA LOAD JOBS

Bulk Data Load Job
750gL00000HGvF3 Help for this Page

View the details of a bulk data load job.

[« Back to List: Bulk Data Load Jobs](#)

Job ID	750gL00000HGvF3	Job Type	Bulk V1	Status	Closed
Submitted By	Sanya Sahu	Operation	Insert	Total Processing Time (ms)	127
Start Time	11/9/2025, 10:05 AM PST	Queued Batches	0	API Active Processing Time (ms)	20
End Time	11/9/2025, 10:05 AM PST	In Progress Batches	0	Apex Processing Time (ms)	0
Time to Complete ([hh]:mm:ss)	00:01	Completed Batches	1		
Object	Volunteer Project	Failed Batches	0		
External ID Field		Progress	100%		
Content Type	CSV	Records Processed	10		
Concurrency Mode	Parallel	Records Failed	10		
API Version	65.0	Retries	0		

Reload

Batches

View Request	View Result	Batch ID	Start Time	End Time	Total Processing Time (ms)	API Active Processing Time (ms)	Apex Processing Time (ms)	Records Processed	Records
View Request	View Result	751gL00000Ehe8b	11/9/2025, 10:05 AM	11/9/2025, 10:05 AM	127	20	0	10	

View Request View Result

5 15°C Clear

Search

Duplicate Rules

- Created rule: “Prevent Duplicate Volunteers”
- Condition: Volunteer Name + Email__c combination
- Action: Block duplicate entries with error message “Volunteer already exists.”

The screenshot shows the Salesforce Setup interface with the following details:

- Header:** Search bar with "Search Setup", a gear icon, and other navigation icons.
- Left Sidebar:** "Setup" tab selected. Under "Data", "Duplicate Management" is expanded, showing "Duplicate Error Logs" (orange), "Duplicate Rules" (blue, currently selected), and "Matching Rules". A global search bar at the bottom says "Didn't find what you're looking for? Try using Global Search."
- Central Content:** Title "d SETUP Duplicate Rules". Subtitle "All Duplicate Rules". A "What Are Duplicate Rules?" section with a "Help for this Page" link. A "View" dropdown set to "All Duplicate Rules".
- Table:** A list of duplicate rules with columns: Rule Name, Description, Object, Matching Rule, Active, Last Modified By, and Last Modified Date. The table includes:

Rule Name	Description	Object	Matching Rule	Active	Last Modified By	Last Modified Date
Prevent_Duplicate_Volunteers	Identify accounts that duplicate other accounts.	Contact	Standard Contact Matching Rule	<input type="checkbox"/>	san	11/9/2025
Standard Account Duplicate Rule	Identify contacts that duplicate other contacts and leads.	Account	Standard Account Matching Rule	<input checked="" type="checkbox"/>	OEPIC	7/20/2025
Standard Contact Duplicate Rule	Identify leads that duplicate other leads and contacts.	Contact	Standard Contact Matching Rule Standard Lead Matching Rule	<input checked="" type="checkbox"/>	OEPIC	7/20/2025
Standard Lead Duplicate Rule		Lead	Standard Contact Matching Rule Standard Lead Matching Rule	<input checked="" type="checkbox"/>	OEPIC	7/20/2025

Data Export & Backup

- Automated monthly data export enabled under Setup → Data Export.
- Exported objects: Volunteer_Profile__c, Volunteer_Project__c, Volunteer_Application__c
- Backup files stored securely for recovery.

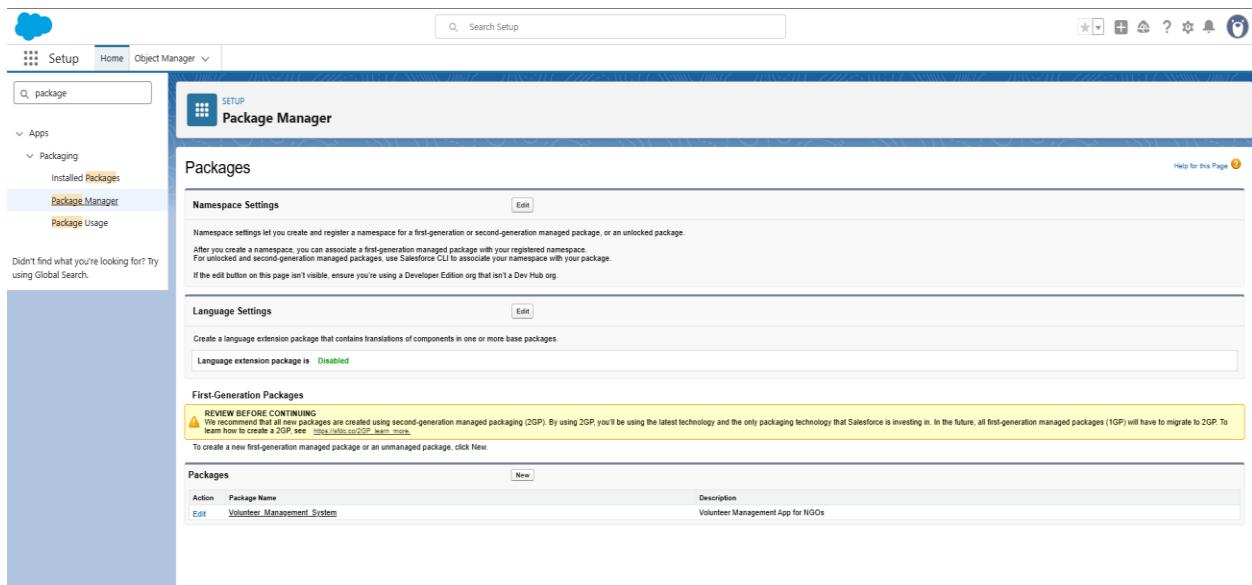
Change Sets

- Concept understood, not available in Developer Edition.
- Deployment process verified through VS Code + SFDX instead.

Unmanaged Package

- Package Name: Volunteer Impact Collaboration Network

- Components included:
 - Custom Objects: Volunteer_Profile__c, Volunteer_Project__c, Volunteer_Application__c
 - Custom Fields, Layouts, Triggers, Flows, and Apex Classes
- Package ready for internal deployment in sandbox or dev org.



ANT Migration Tool

- ANT successfully installed and configured for deployment automation.
- Used build.xml and package.xml for metadata migration.

VS Code & SFDX

- Salesforce Project connected to GitHub Repo: Volunteer-Impact-Collaboration-Network
- Used commands:
 - sfdx force:source:pull
 - sfdx force:source:push
 - git add ., git commit -m "update", git push origin main
- Source-driven deployment environment successfully tested.

Succeeded

Action	Name	Status	Date
View Details	0AfgL00000Cb06	Deploy: Succeeded	11/9/2025, 10:57 AM
View Details	0AfgL00000Cb4ow	Deploy: Succeeded	11/9/2025, 10:57 AM
View Details	0AfgL00000CagUr	Deploy: Succeeded	11/9/2025, 7:03 AM
View Details	0AfgL00000CafqX	Deploy: Succeeded	11/9/2025, 6:58 AM
View Details	0AfgL00000CafP7	Deploy: Succeeded	11/9/2025, 6:55 AM
View Details	0AfgL00000CalmHd	Deploy: Succeeded	11/9/2025, 4:00 AM
View Details	0AfgL00000CBuHh	Deploy: Succeeded	10/30/2025, 11:58 AM
View Details	0AfgL00000CBWv	Deploy: Succeeded	10/30/2025, 11:50 AM
View Details	0AfgL00000CBsPZ	Deploy: Succeeded	10/30/2025, 11:39 AM
View Details	0AfgL00000CBtYK	Deploy: Succeeded	10/30/2025, 11:33 AM

Previous (1 - 10 of 16) [Next](#)

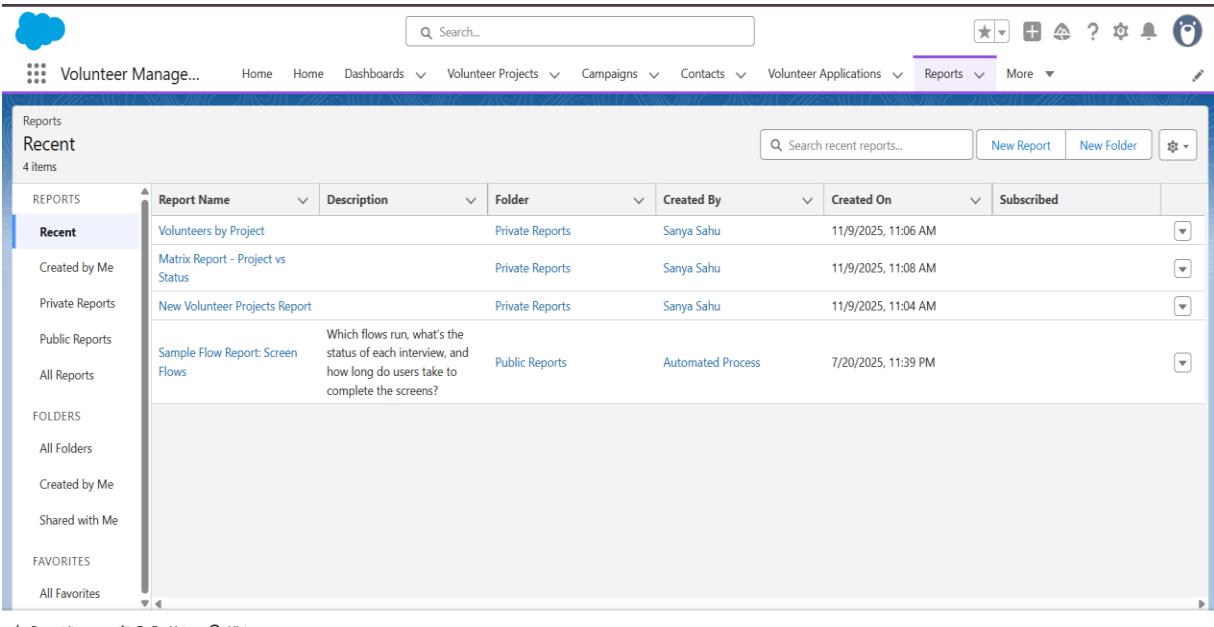
Phase 9: Reporting, Dashboards & Security Review

Objective:

To visualize volunteer activities, ensure secure data sharing, and maintain data privacy.

Reports

- Created different report formats for NGO management:
 - Tabular Report → “Volunteer List” (from **Volunteer_Profile__c**)
 - Summary Report → “Volunteers by Project Type”
 - Matrix Report → “Projects vs Status”
 - Joined Report → “Volunteer Hours vs Applications”



The screenshot shows the 'Reports' section of the Volunteer Management application. The left sidebar has categories: Reports (Recent, Created by Me, Private Reports, Public Reports, All Reports), Folders (All Folders, Created by Me, Shared with Me), and Favorites (All Favorites). The main area displays a table of recent reports with columns: Report Name, Description, Folder, Created By, Created On, and Subscribed. The table contains four rows:

Report Name	Description	Folder	Created By	Created On	Subscribed
Volunteers by Project		Private Reports	Sanya Sahu	11/9/2025, 11:06 AM	
Matrix Report - Project vs Status		Private Reports	Sanya Sahu	11/9/2025, 11:08 AM	
New Volunteer Projects Report		Private Reports	Sanya Sahu	11/9/2025, 11:04 AM	

At the bottom of the main area, there are links for Recent Items, To Do List, and History.

Report Types

- Custom Report Type: “Volunteer Applications with Projects”
 - Primary Object: **Volunteer_Application__c**
 - Related Object: **Volunteer_Project__c**

- Fields included: Role, Hours, Status, Project Type

Volunteer Projects with Applications

Below is the information for this custom report type. You can click the buttons on this to preview or update information for the custom report type.

Details

Display Label	Volunteer Projects with Applications
API Name	Volunteer_Projects_with_Applications
Description	Custom Record Type
Created By	Sanya Sahu, 11/10/25, 12:42 AM
Store in Category	accounts
Deployment Status	Deployed
Modified By	Sanya Sahu, 11/10/25, 12:42 AM

Object Relationships

Volunteer Projects (A) ... with or without related records from Volunteer Applications (B)

A Venn diagram showing two overlapping circles labeled A and B. Below the circles is a legend with four colored bars: blue, orange, green, and red.

Dashboards

- Created Dashboard: “Volunteer Impact Overview”
- Components:
 - Total Volunteers (Metric)
 - Projects by Type (Pie Chart)
 - Hours Contributed per Volunteer (Bar Chart)
 - Project Status (Donut Chart)

Volunteer Projects with Applications

Volunteer Projects

Volunteer Applications

Volunteer Profiles

Event Participations

Reports

Volunteers by Project

Record Count

Volunteer_Project__Name	a03gl00000hdhyT	0	0.2	0.4	0.6	0.8	1
Test Project		1					

View Report (Volunteers by Project) As of Nov 9, 2025, 11:49 AM

Matrix Report - Project vs Status

View Report (Matrix Report - Project vs Status) As of Nov 9, 2025, 11:49 AM

New Volunteer Projects Report

Volunteer Project: Volunteer_Project__c	Name	Project Name	Start Date
a03gl00000hdhyT	Plantation drive	11/13/2025	
Test Project	Test Project	11/22/2025	

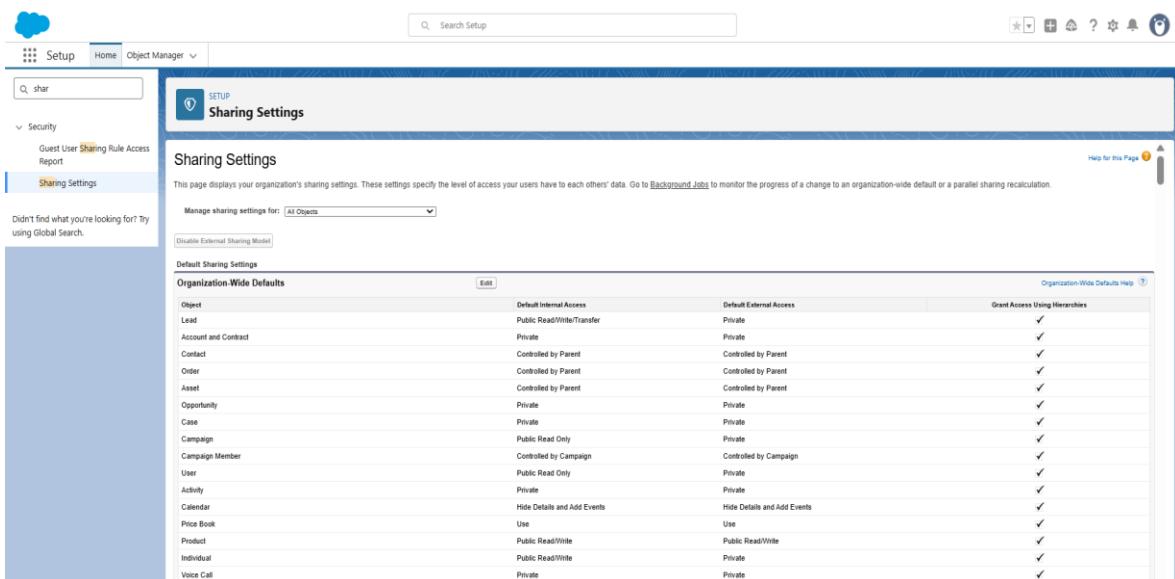
View Report (New Volunteer Projects Report) As of Nov 9, 2025, 11:49 AM

Dynamic Dashboards

- Configured “NGO Coordinator Dashboard” to view only their assigned projects.
- Set “View Dashboard As: Logged-In User” for dynamic data visibility.

Sharing Settings

- Path: Setup → Sharing Settings
- OWD:
 - Volunteer_Profile__c → Private
 - Volunteer_Application__c → Private
 - Volunteer_Project__c → Public Read Only
- Role Hierarchy: NGO Manager → Project Coordinator → Volunteer
- Sharing Rules: Coordinators can view volunteers in their projects.



Field-Level Security

- Restricted sensitive fields (Phone, Email, ID Proof) for standard volunteers.
- Only Admins and Coordinators can edit or view these fields.

- “Hours Contributed” made read-only for volunteers.

Session Settings

- Path: Setup → Session Settings
- Timeout: 30 minutes inactivity
- Forced re-login after expiry
- Enabled: Clickjack protection and HTTPS secure browsing

Login IP Ranges

- Path: Setup → Profiles → System Administrator → Login IP Ranges
- IP Range Added:
 - Start: 182.70.151.100
 - End: 182.70.151.200
- Prevents unauthorized external login attempts.

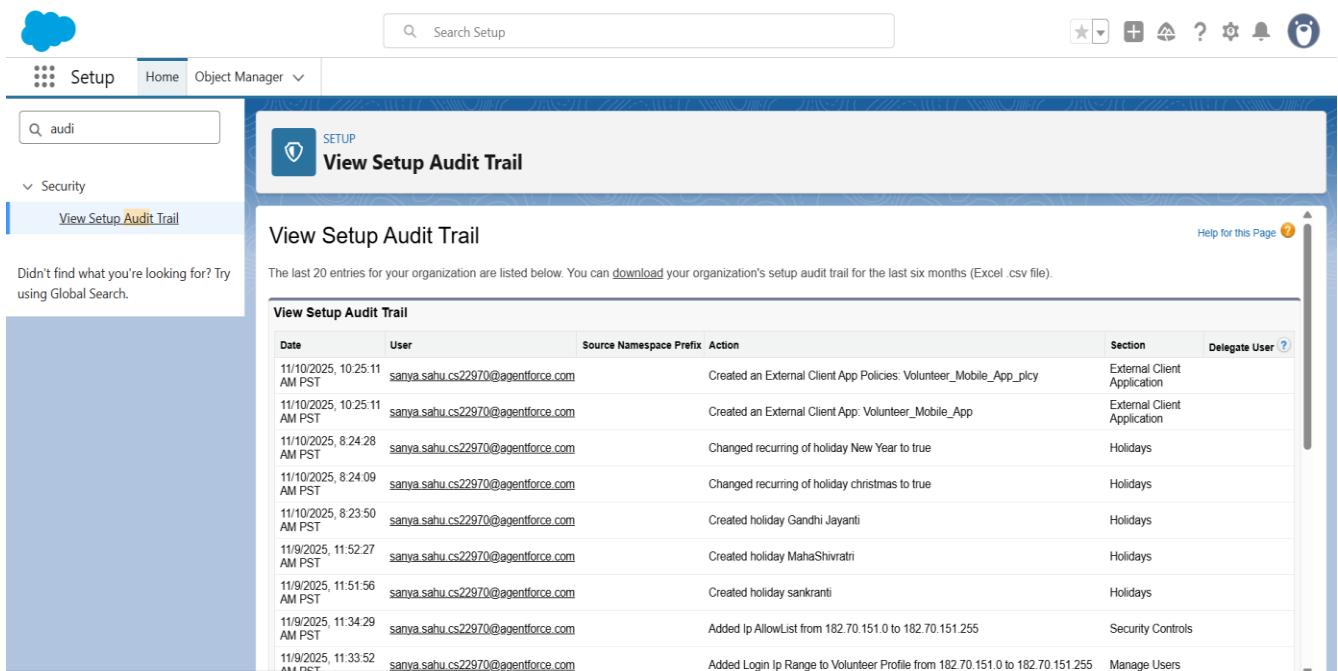
The screenshot shows the Salesforce Setup interface. The top navigation bar includes a blue cloud icon, a search bar labeled "Search Setup", and various user icons. Below the bar, the main menu has tabs for "Setup", "Home", and "Object Manager". A sidebar on the left is titled "Security" and contains a link to "Network Access". The main content area is titled "Network Access" and contains a sub-header "Trusted IP Ranges". A table lists one entry:

Action	Start IP Address	End IP Address	Description
Edit Del	182.70.151.0	182.70.151.255	My current network range

Audit Trail

- Path: Setup → View Setup Audit Trail
- Tracked last 6 months of configuration changes.

- Verified updates to objects, layouts, triggers, and dashboards.
- Ensured admin accountability and change tracking.



The screenshot shows the Salesforce Setup Audit Trail page. The top navigation bar includes a blue cloud icon, the word "Setup", "Home", and "Object Manager". A search bar says "Search Setup" and a toolbar has icons for star, plus, up, down, question mark, gear, and bell. On the left, a sidebar has a search bar with "audi", a "Security" section, and a link to "View Setup Audit Trail". Below that is a note: "Didn't find what you're looking for? Try using Global Search." The main content area has a title "View Setup Audit Trail" with a "Help for this Page" link. It displays a table of audit logs with columns: Date, User, Source Namespace Prefix, Action, Section, and Delegate User. The table lists 10 entries from November 2025, mostly performed by "sanya.sahu.cs22970@agentforce.com".

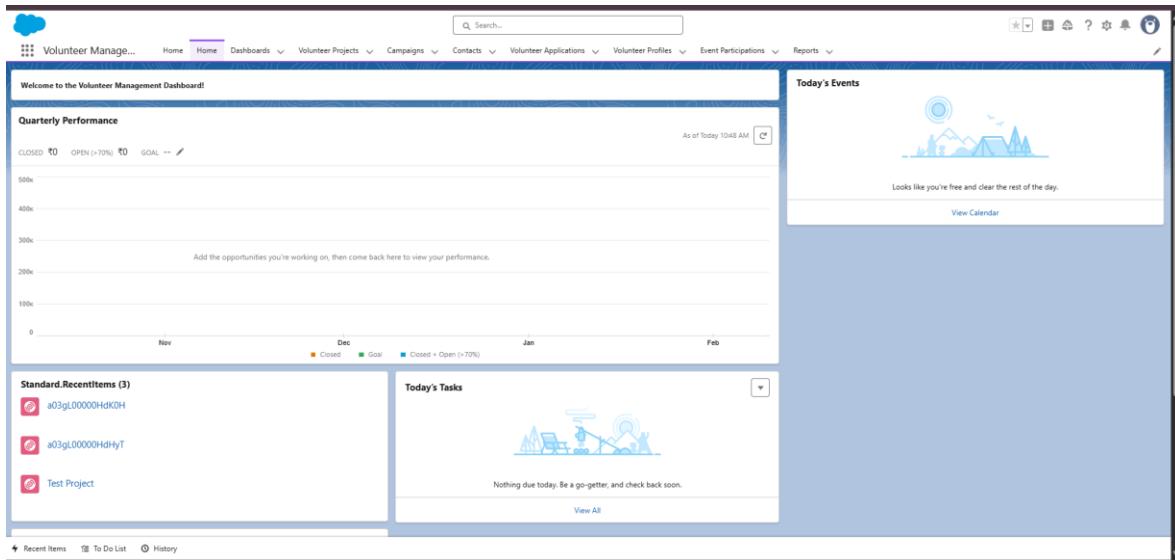
Date	User	Source Namespace Prefix	Action	Section	Delegate User
11/10/2025, 10:25:11 AM PST	sanya.sahu.cs22970@agentforce.com		Created an External Client App Policies: Volunteer_Mobile_App_pclcy	External Client Application	
11/10/2025, 10:25:11 AM PST	sanya.sahu.cs22970@agentforce.com		Created an External Client App: Volunteer_Mobile_App	External Client Application	
11/10/2025, 8:24:28 AM PST	sanya.sahu.cs22970@agentforce.com		Changed recurring of holiday New Year to true	Holidays	
11/10/2025, 8:24:09 AM PST	sanya.sahu.cs22970@agentforce.com		Changed recurring of holiday christmas to true	Holidays	
11/10/2025, 8:23:50 AM PST	sanya.sahu.cs22970@agentforce.com		Created holiday Gandhi Jayanti	Holidays	
11/9/2025, 11:52:27 AM PST	sanya.sahu.cs22970@agentforce.com		Created holiday MahaShivratri	Holidays	
11/9/2025, 11:51:56 AM PST	sanya.sahu.cs22970@agentforce.com		Created holiday sankranti	Holidays	
11/9/2025, 11:34:29 AM PST	sanya.sahu.cs22970@agentforce.com		Added Ip AllowList from 182.70.151.0 to 182.70.151.255	Security Controls	
11/9/2025, 11:33:52 AM PST	sanya.sahu.cs22970@agentforce.com		Added Login Ip Range to Volunteer Profile from 182.70.151.0 to 182.70.151.255	Manage Users	

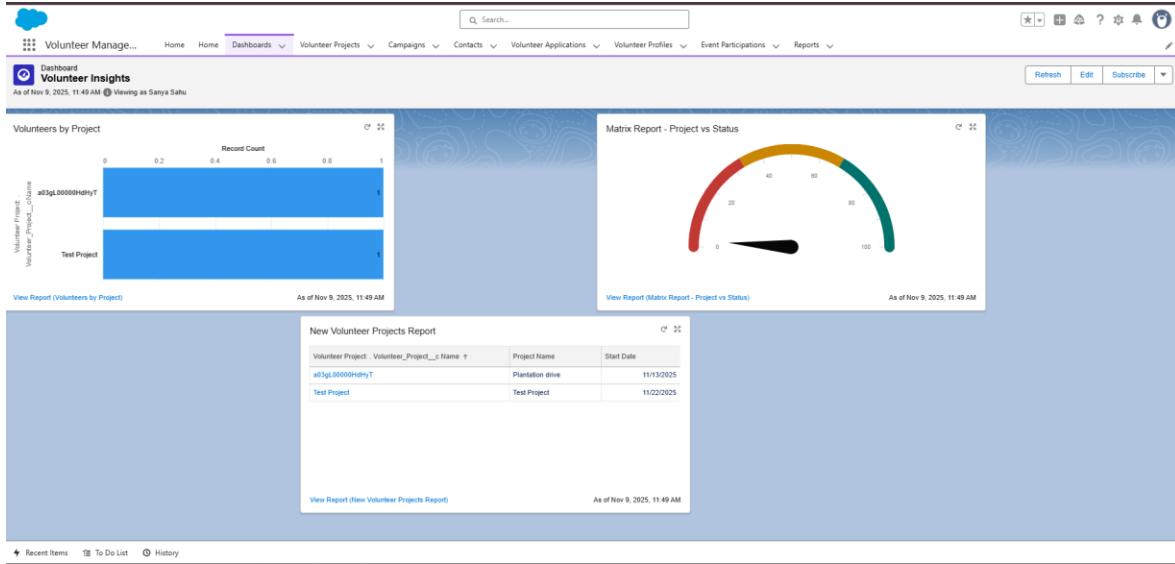
Phase 10: Final Presentation & Demo Day

Demo Video Link:

<https://drive.google.com/file/d/15I6AbPbl-plqyn5c0eEAIfIVPOT24-P/view?usp=sharing>

Some Screenshots of App:





Volunteer Manage... Home Home Dashboards Volunteer Projects Campaigns Contacts Volunteer Applications Volunteer Profiles Event Participations Reports

Volunteer Project Test Project

New Event New Task Edit

Information

Project Name	Test Project	Status	Planned
Owner	Sanya Sahu	Email	

Time Period

Start Date	11/23/2025	End Date	11/29/2025
------------	------------	----------	------------

Additional Details

Created By	Sanya Sahu	Created Date	11/8/2025, 8:56 PM
------------	------------	--------------	--------------------

Related Details

.Volunteer_Project__c	Name	Owner
Test Project		Sanya Sahu
Project Name	Test Project	

Activity

New Event New Task Edit

Filters: All time + All activities + All types Refresh • Expand All • View All

No activities to show. Get started by sending an email, scheduling a task, and more.

No past activity. Past meetings and tasks marked as done show up here.

Volunteer Manage... Home Dashboards Volunteer Projects Campaigns Contacts Volunteer Applications Volunteer Profiles Event Participations Reports

Search...

Total Contacts 3 No Activity 0 Idle 0 No Upcoming 0 Overdue 0 Due Today 0 Upcoming 0

Created This Quarter Owner Me

Send Email Assign Label

	Name	Title	Account Name	Last Activity	Actions
1	<input type="checkbox"/> Brian Dent	Mission Specialist - Neptune			
2	<input type="checkbox"/> Safal Sahu				
3	<input type="checkbox"/> Sanya Sahu				

3 items + Filtered by Created Date, Me, Total Contacts

Recent Items To Do List History