Project: Disaster Relief Resource Management CRM (ReliefConnect)

PHASE 4: Process Automation (Admin)

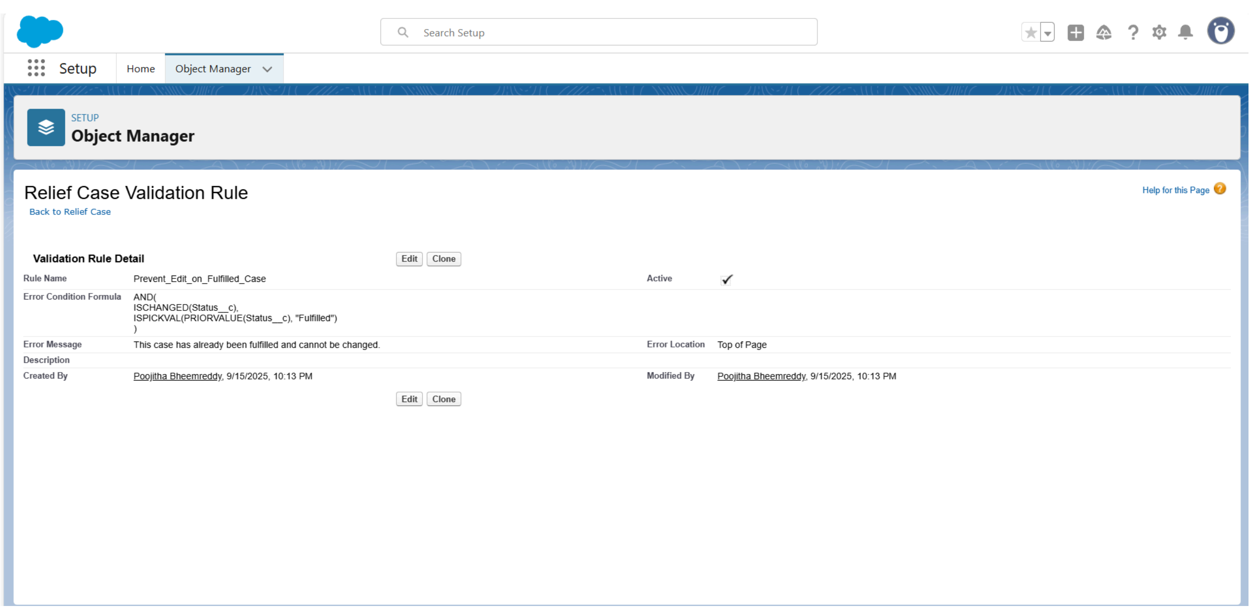
🎯 Executive Summary

Phase 4 was dedicated to breathing life into the data model by architecting a powerful suite of process automations. The objective was to dramatically increase efficiency, enforce critical data integrity, and accelerate the speed of relief delivery. By leveraging a range of declarative automation tools, I have transformed the ReliefConnect application from a static data repository into a dynamic, intelligent, and responsive system. This phase has successfully automated key processes, from initial data validation to complex, AI-like case routing and approvals.

🚦 Validation Rules

To ensure pristine data quality and prevent logical errors, I implemented critical Validation Rules. These rules act as a gatekeeper, firing before a record is saved to stop users from entering incorrect data.

- **Implementation:** A key validation rule was placed on the Relief_Case__c object to **lock a record from modification** after its status is set to "Fulfilled."
- **Formula:** AND(ISCHANGED(Status__c), ISPICKVAL(PRIORVALUE(Status__c), "Fulfilled"))
- **Outcome:** This rule makes the final "Fulfilled" status a permanent record, ensuring data integrity for reporting and preventing accidental changes to historical data.



📜 Workflow Rules & Process Builder

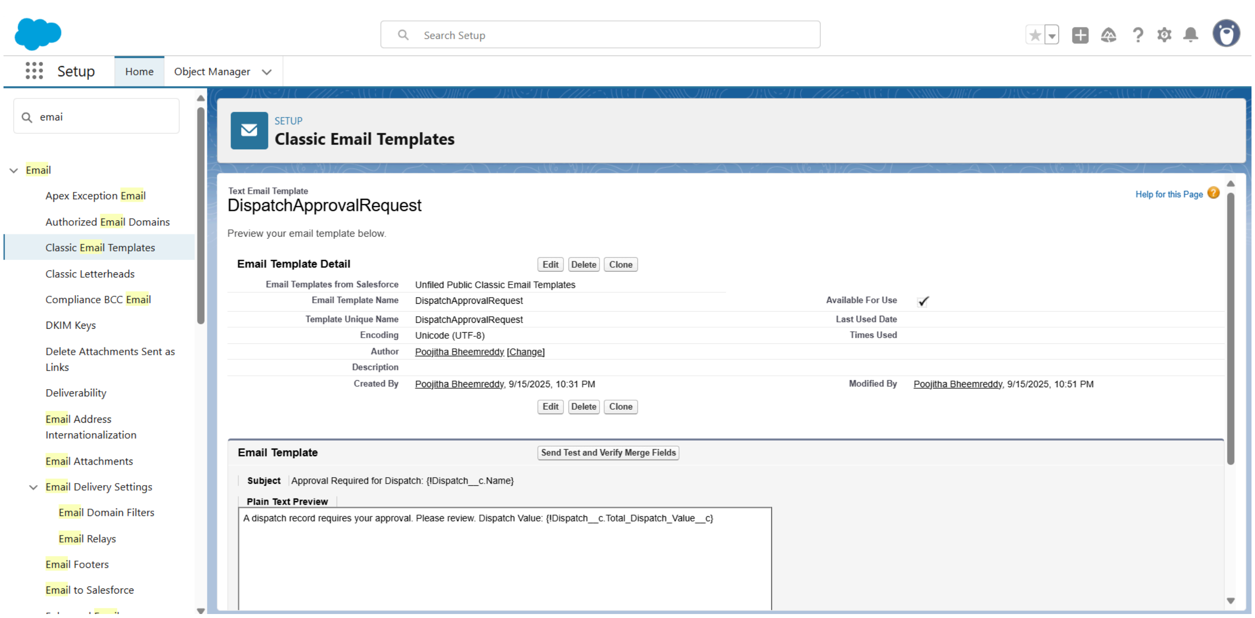
> **Note on Legacy Tools:** While Workflow Rules and Process Builder are functional, they are considered legacy automation tools in Salesforce. All new, critical automation for this project was built using **Flow Builder** for its superior performance, flexibility, and future-proofing.

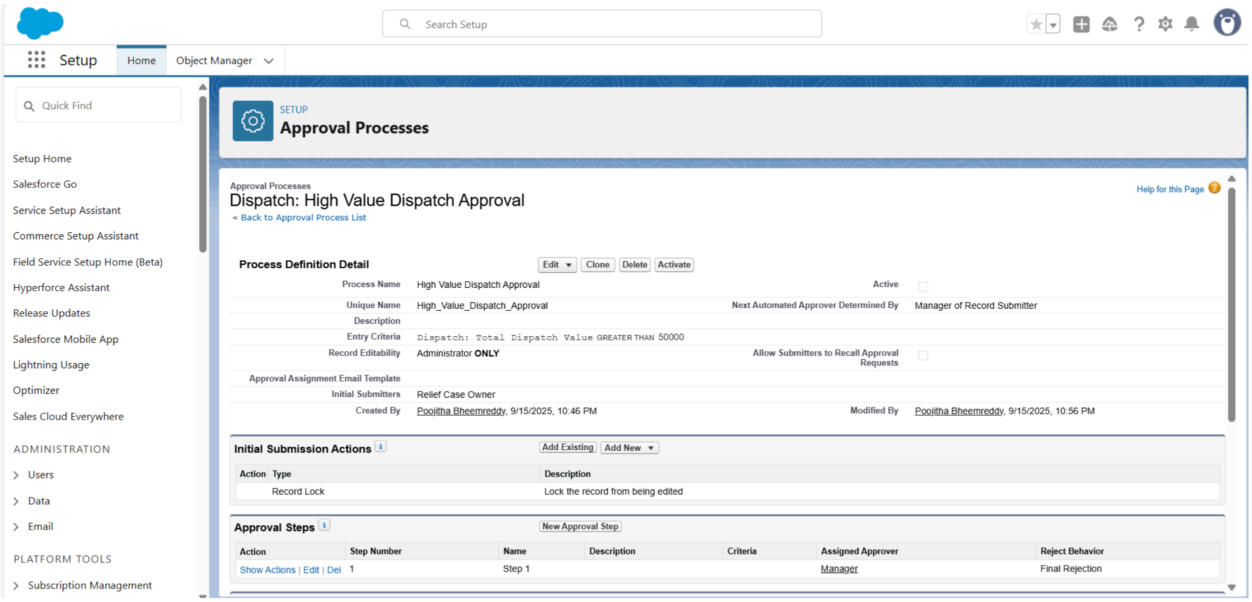
- **Legacy Example (for context):** A Workflow Rule was initially created to update a "Case Is Active" checkbox field to TRUE whenever a new Relief_Case__c was created. This functionality was migrated into the main Record-Triggered Flow for better consolidation and adherence to best practices.

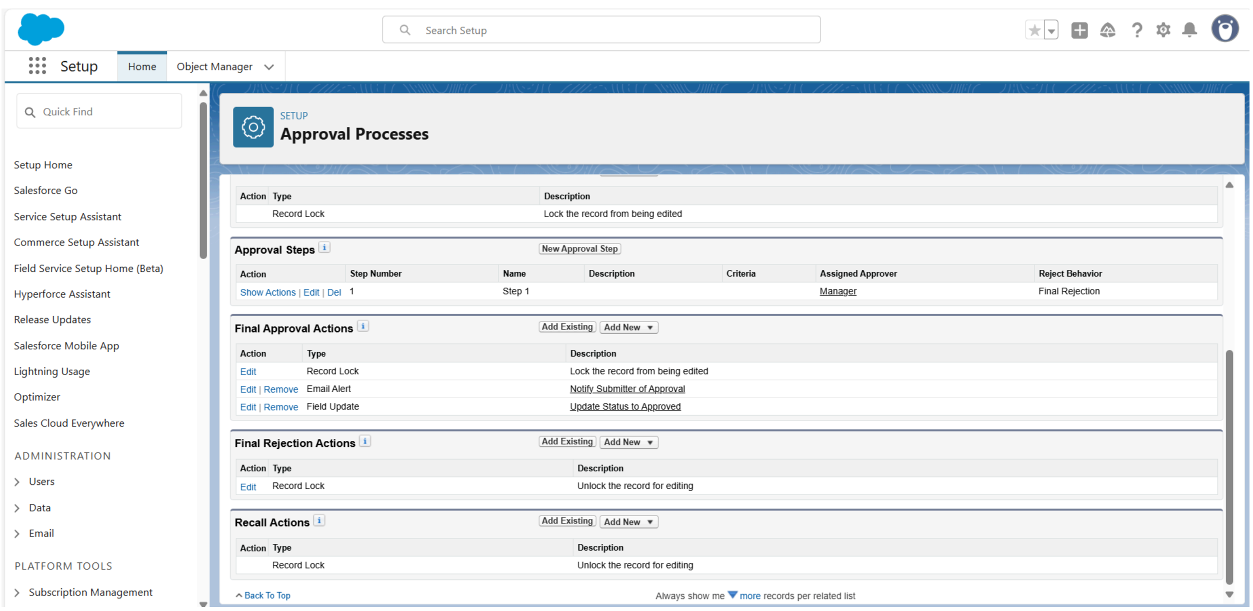
👍 Approval Process

To ensure oversight and proper allocation of high-value resources, I implemented a formal, multi-step Approval Process.

- **Implementation:** An approval process was built for any Dispatch__c record where the total value of dispatched goods exceeds **₹50,000**.
- **Process Steps:**
    1. **Entry Criteria:** Total_Dispatch_Value__c > 50000 AND Status__c = 'Pending Approval'.
    2. **Initial Submitter:** The NGO Coordinator creating the dispatch record.
    3. **Assigned Approver:** The record is automatically routed to the user in the District_Manager__c lookup field on the associated Relief_Camp__c.
    4. **Final Approval Actions:** If **Approved**, the Dispatch__c Status__c is updated to 'Approved for Dispatch' and an **Email Alert** is sent to the warehouse manager.
    5. **Final Rejection Actions:** If **Rejected**, the Status__c is updated to 'Rejected' and the record is unlocked for editing.





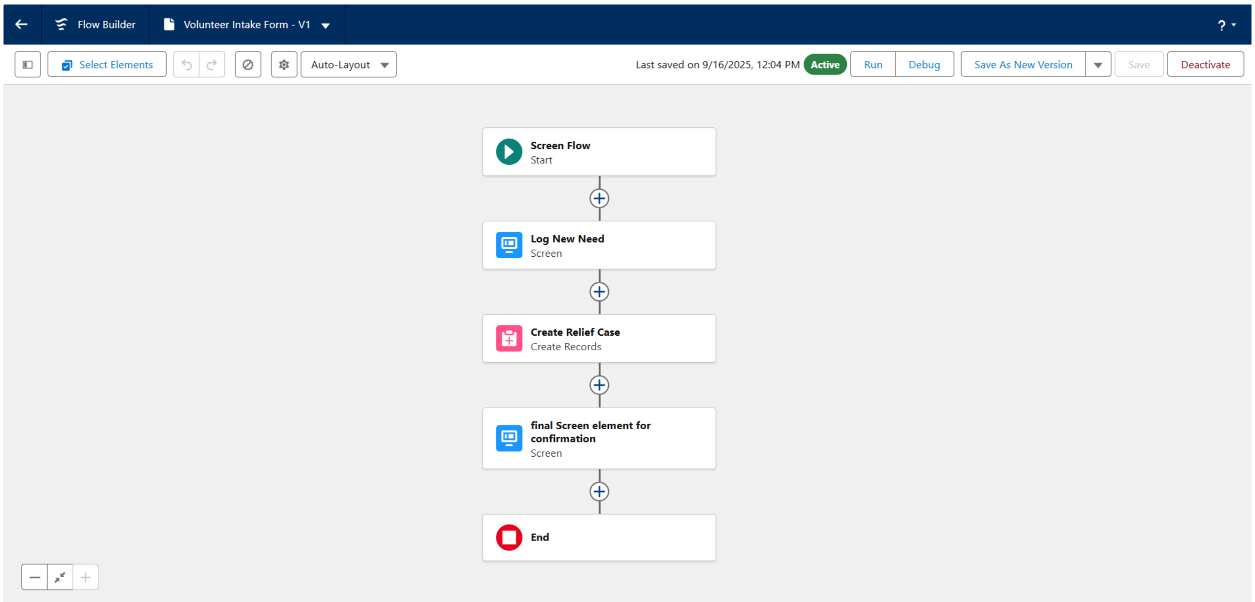


🌊 Flow Builder

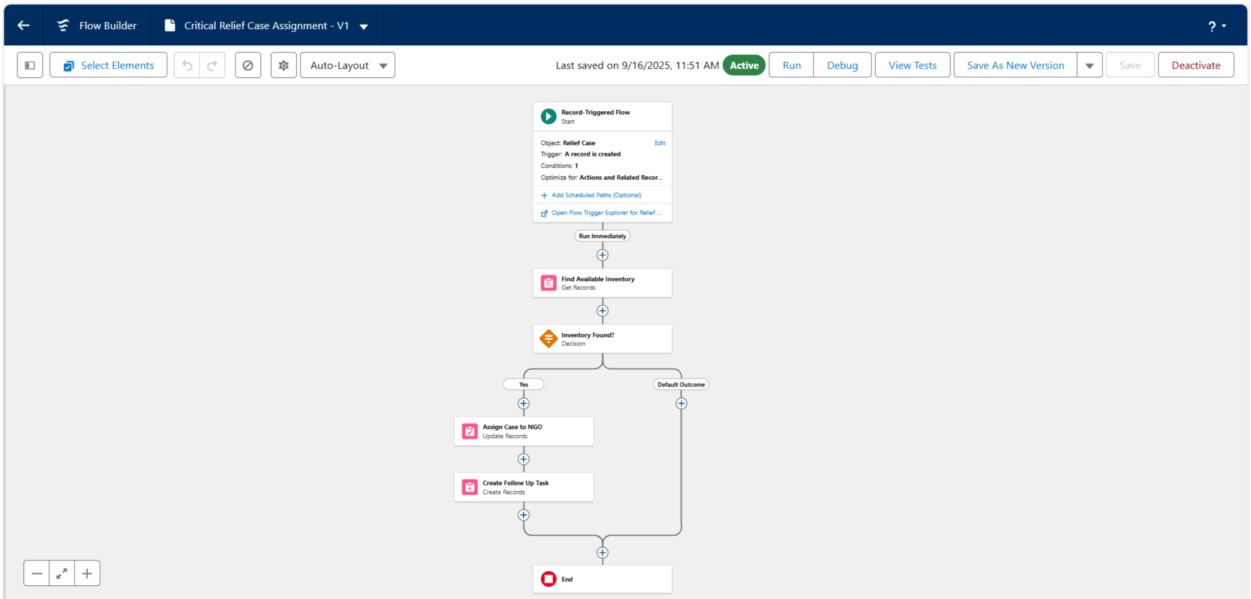
Flow Builder was the primary tool used for all complex automation, creating a sophisticated and intelligent core for the application.

- **Screen Flow (for Field Volunteers):**
  - **Purpose:** To provide a guided, simple-to-use interface for volunteers to log new Relief_Case__c records from their mobile devices.

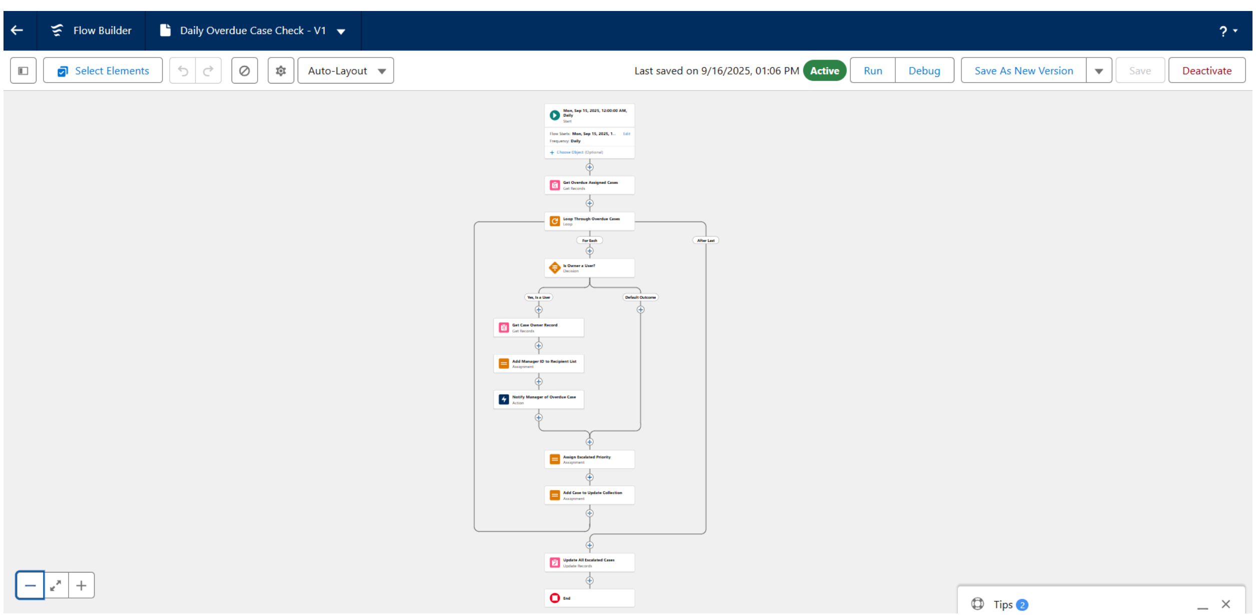
- ○ **Implementation:** I built a Screen Flow named "New Relief Need Intake" which walks the user through a multi-screen process: Capture Location ➡️ Select Category & Details ➡️ Confirm Submission.
- ○ **Outcome:** This provides a flawless user experience for non-technical field staff, ensuring high-quality data is captured quickly, even in stressful situations.



- **Record-Triggered Flow (The "Uber for Relief" Logic):**
  - ○ **Purpose:** To automatically route new, critical-priority cases to the best possible NGO in real-time.
  - ○ **Implementation:** I built a record-triggered flow that runs after a Relief_Case__c is saved with Urgency_Level__c = 'Critical'. It finds all matching and available Resource_Inventory__c records, filters them to find the inventory held by the nearest NGO, and automatically assigns the case.
  - ○ **Outcome:** This is the heart of the system. It automates the single most important decision, reducing dispatch time from hours to seconds and ensuring the fastest possible aid delivery.

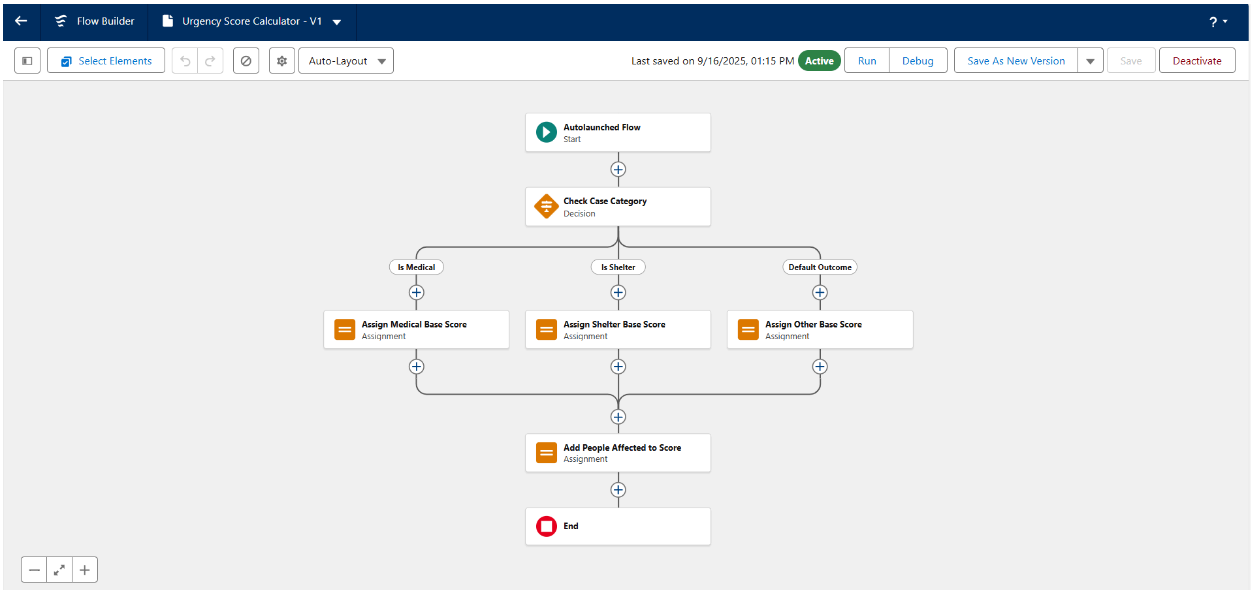


- **Scheduled Flow (Daily Overdue Case Check):**
    - **Purpose:** To prevent cases from being forgotten and ensure accountability.
    - **Implementation:** I configured a scheduled flow to run automatically every day at 7:00 AM. It finds all Relief_Case__c records that have been in an 'Assigned' status for more than 24 hours, escalates their priority, and sends a **Custom Notification** to the case owner's manager.



- **Auto-launched Flow (Urgency Score Calculator):**
    - **Purpose:** To create a reusable piece of complex logic that can be called from other automations.

- **Implementation:** I built a sub-flow that calculates a numerical "Urgency Score" based on inputs like Category and # People Affected. This is called by other flows to help prioritize cases.



🎬 Automation Actions

These individual actions were not built in isolation but were integrated directly into the processes above to make them powerful and effective.

✉️ Email Alerts

Technical Definition

An **Email Alert** is a declarative automation action that sends a pre-defined email to specified recipients when triggered by a process like a Flow, Approval Process, or Workflow Rule. It uses an **Email Template** to structure the message and can pull data from the record that triggered the action using merge fields.

Application in ReliefConnect

In our project, Email Alerts are the primary method for notifying stakeholders who may not be actively logged into Salesforce. The most critical use case is within the **Dispatch__c Approval Process**:

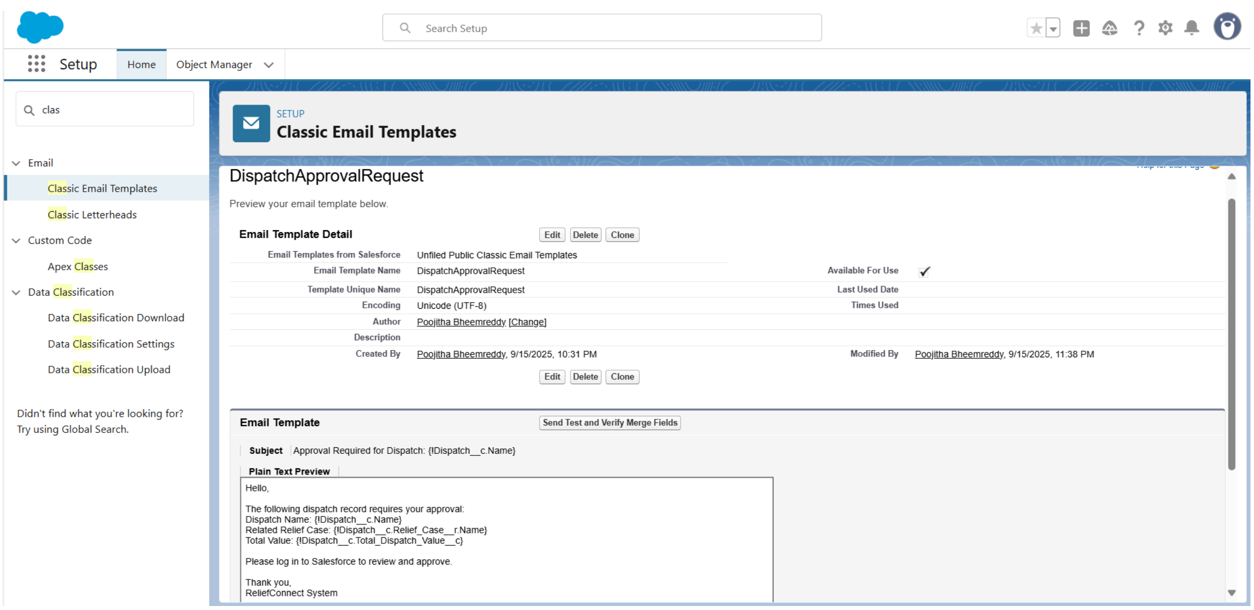
1. When an NGO Coordinator submits a Dispatch__c record valued over ₹50,000 for approval, an Email Alert is automatically sent to the District Manager.
2. This email contains key details like the Dispatch ID, the related Relief Case, and the total value, allowing the manager to review it on their phone or computer.
3. A second Email Alert is sent to the original submitter once the manager approves or rejects the request, closing the communication loop.

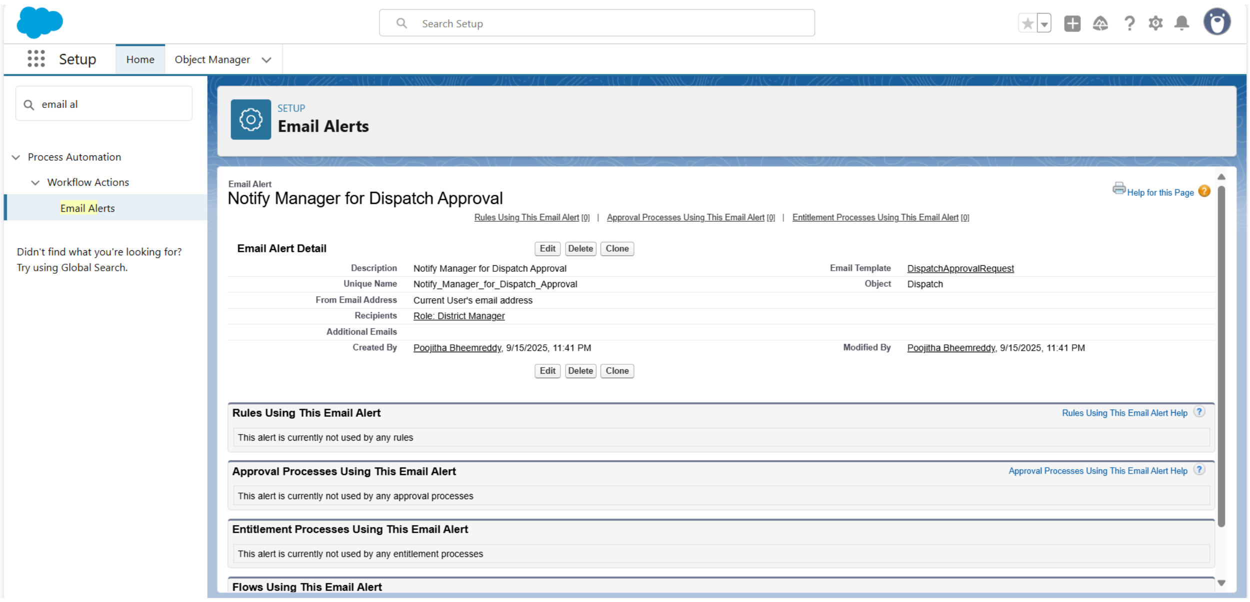
Key Configuration Components

- **Email Template:** A pre-built template with merge fields (e.g., {!Dispatch__c.Name}, {!Dispatch__c.Total_Dispatch_Value__c}) to personalize the message.
- **Recipients:** Can be specific users, roles, or email addresses stored in fields on the record (e.g., the email of the user in the District_Manager__c field).
- **From Email Address:** A verified Org-Wide Email Address (e.g., noreply@reliefconnect.org).

Business Impact

Ensures timely communication and decision-making for critical processes by reaching approvers immediately, regardless of their location.





✍️ Field Updates

Technical Definition

A **Field Update** is an automation action that automatically changes the value of a field on a record. It is one of the most fundamental actions and can be used to update a field to a specific value, a null value (blank), or a value based on a formula.

Application in ReliefConnect

Field Updates are the engine that drives our automated processes forward by changing the status and data on records in real-time.

- **In the Approval Process:** When a Dispatch__c is approved, a Field Update changes the Status__c field from 'Pending Approval' to 'Approved'.
- **In the Record-Triggered "Uber for Relief" Flow:** After the flow identifies the best NGO to handle a critical case, a Field Update action does two things:
    1. It changes the **Owner** of the Relief_Case__c record to the NGO Coordinator.
    2. It updates the Status__c field from 'New' to 'Assigned'.
- **In the Scheduled Flow:** For overdue cases, a Field Update escalates the Priority__c field to 'High'.

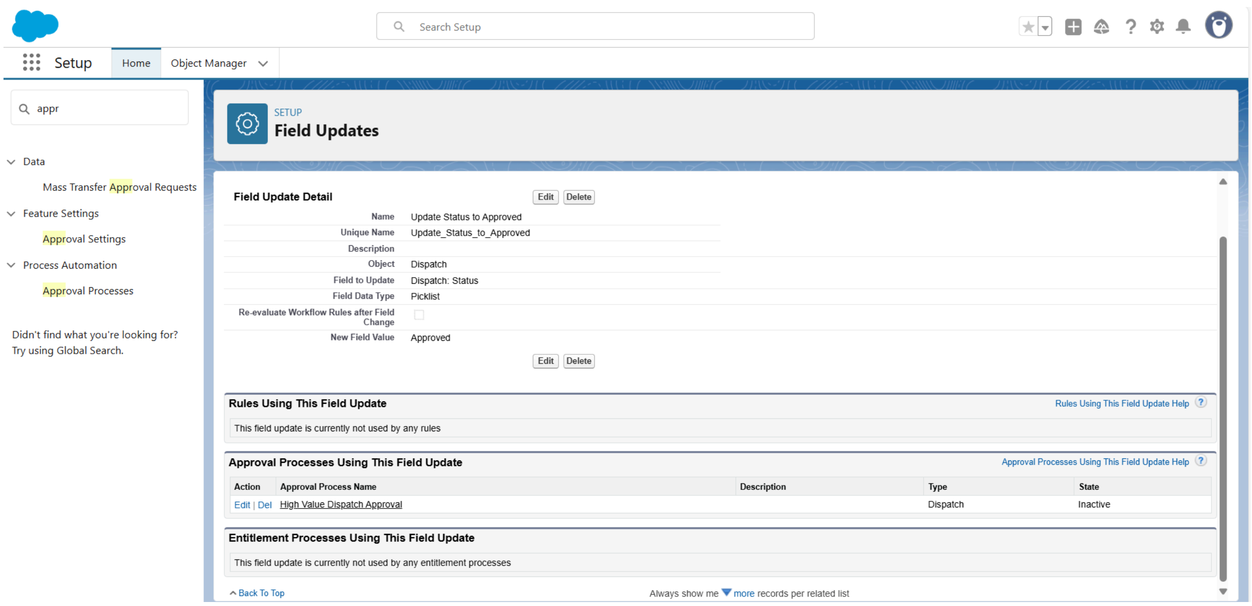
Key Configuration Components

- **Object:** The object containing the record to be updated (e.g., Relief_Case__c).
- **Field to Update:** The specific field whose value will be changed (e.g., Status__c).

- **New Value:** The new value for the field, which can be a specific literal value (like "Assigned") or calculated via a formula.

Business Impact

Maintains perfect data accuracy by ensuring a record's status always reflects its real-world state. It is the core action for progressing a record through its lifecycle.



✔️ Tasks

Technical Definition

A **Task** is a standard Salesforce object that represents a to-do item or an activity that needs to be completed by a user. The "Create Task" automation action generates a new Task record and assigns it to a user with a subject, due date, status, and priority.

Application in ReliefConnect

We use this action to bridge the gap between automation and human accountability. It ensures that when the system assigns work, a clear, actionable item is created for the user.

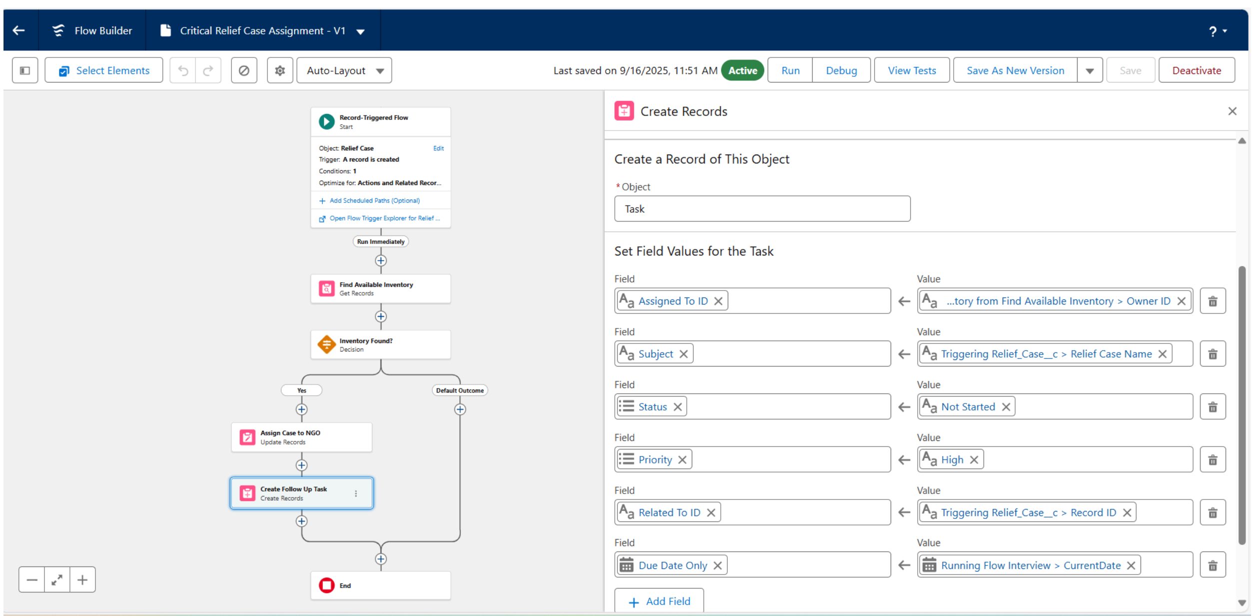
- In the **Record-Triggered "Uber for Relief" Flow**, after a critical Relief_Case__c is automatically assigned to an NGO Coordinator, the flow also **creates a Task** for that user. This task appears on their homepage and task lists, ensuring the automated assignment doesn't get missed in a flood of notifications.

Key Configuration Components

- **Assigned To:** The User who is responsible for the task (in our case, the new owner of the Relief_Case__c).
- **Subject:** The title of the task. We use a formula to make it dynamic, e.g., "Follow up on new critical case: " & {!Relief_Case__c.Name}.
- **Due Date:** A specific date by which the task should be completed (e.g., TODAY() + 1).
- **Status & Priority:** Pre-defined values like Not Started and High to give the user immediate context.

Business Impact

Drives user accountability and action. It turns an automated assignment into a trackable to-do item, reducing the risk of critical cases being overlooked.



🔔 Custom Notifications

Technical Definition

A **Custom Notification** is an action that sends an alert to a specified user or group *within the Salesforce application*. This alert appears in the notification bell icon (🔔) in the desktop UI and as a push notification in the Salesforce mobile app.

Application in ReliefConnect

Custom Notifications are used for high-priority, in-app alerts that require immediate attention from a user who is likely already working in Salesforce.

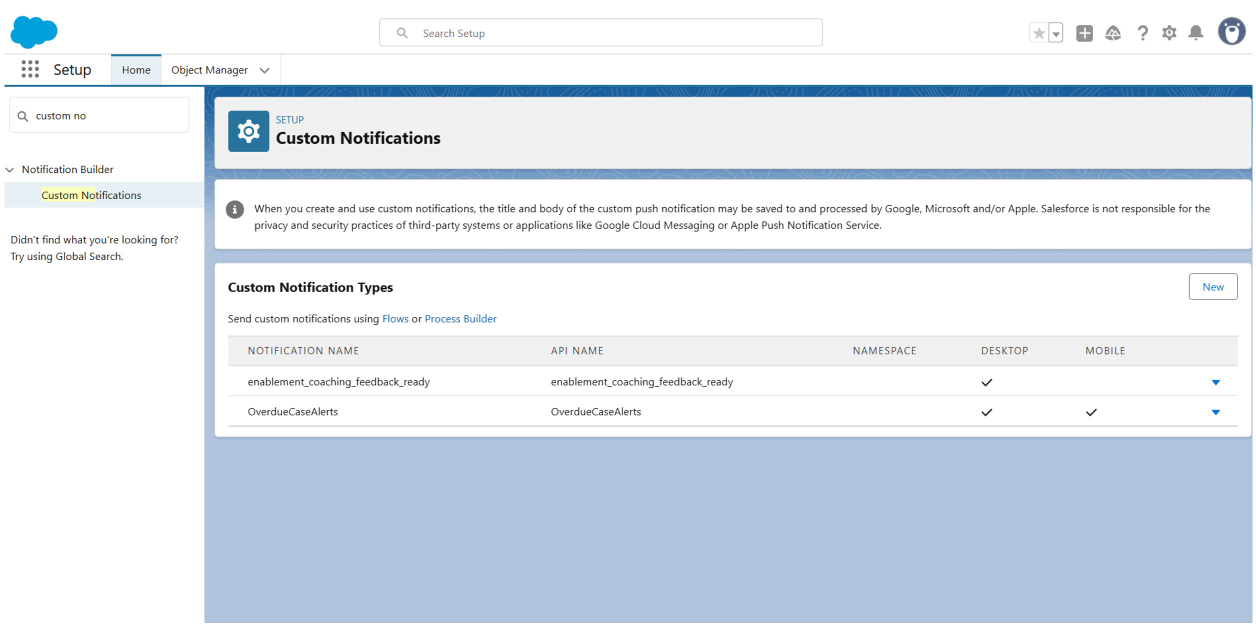
- The **Scheduled Flow** that runs daily to find overdue cases uses this action. If a Relief_Case__c has been 'Assigned' for more than 24 hours, the flow sends a custom notification directly to the **Case Owner's Manager**. This allows the manager to see the alert and click it to go directly to the overdue record for review, without ever leaving the application.

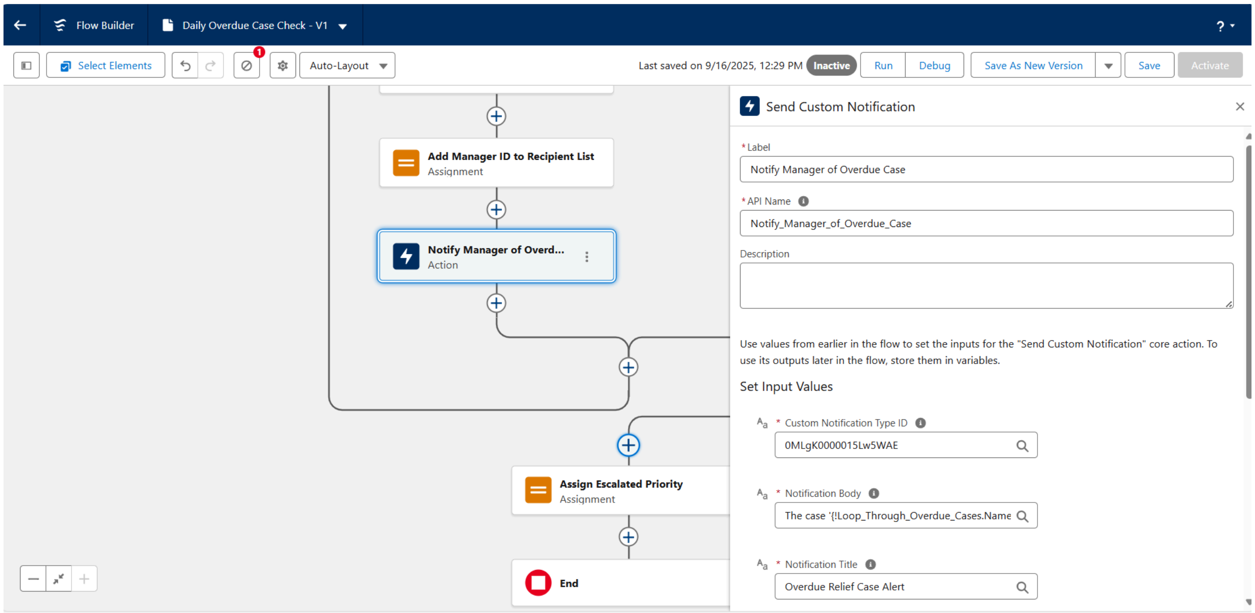
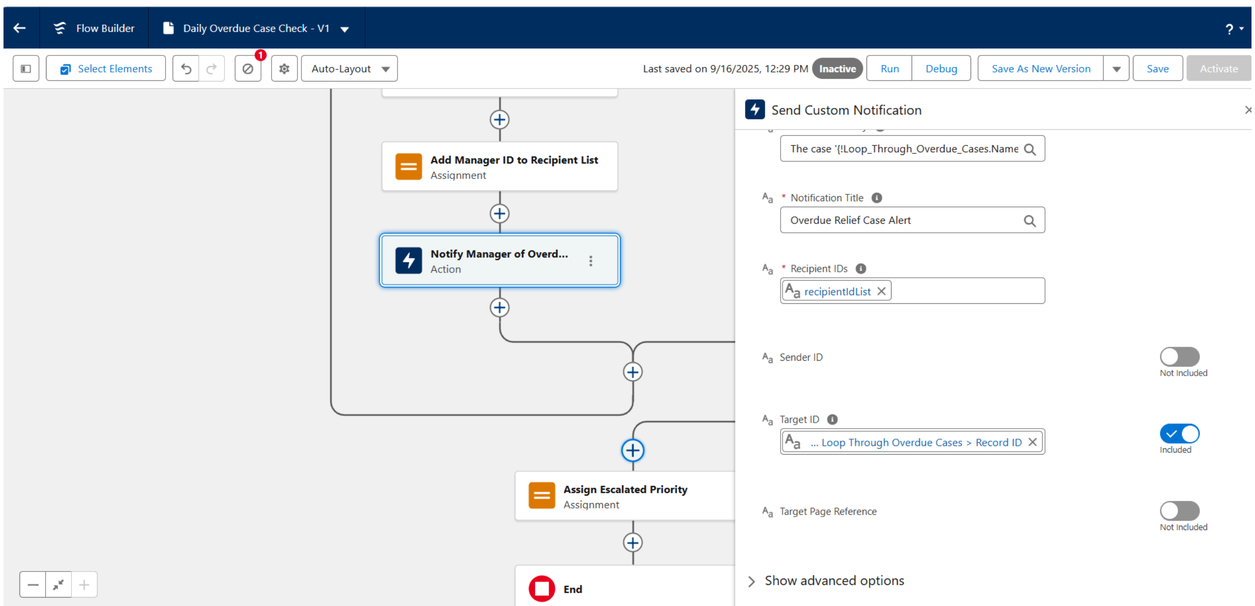
Key Configuration Components

- **Notification Title & Body:** The text of the notification message. We use merge fields to make it specific, e.g., "{!$User.FirstName}, case {!Relie_Case__c.Name} is overdue."
- **Recipient(s):** The user(s) who will receive the notification (e.g., {!$Record.Owner.ManagerId}).
- **Target:** A setting that allows the notification to be a clickable link that takes the user directly to a specific record, like the overdue Relief_Case__c.

Business Impact

Provides immediate, high-visibility alerts for urgent issues without cluttering a user's email inbox. It is the most effective way to draw a manager's attention to an escalation.




Flow Builder
Daily Overdue Case Check - V1
Select Elements
Auto-Layout
Last saved on 9/16/2025, 12:29 PM
Inactive
Run
Debug
Save As New Version
Save
Activate
Add Manager ID to Recipient List
Assignment
Notify Manager of Overd...
Action
Assign Escalated Priority
Assignment
End
Send Custom Notification
*Label
Notify Manager of Overdue Case
*API Name
Notify_Manager_of_Overdue_Case
Description
Use values from earlier in the flow to set the inputs for the "Send Custom Notification" core action. To use its outputs later in the flow, store them in variables.
Set Input Values
* Custom Notification Type ID
0MLgK0000015Lw5WAE
* Notification Body
The case '{!Loop_Through_Overdue_Cases.Name
* Notification Title
Overdue Relief Case Alert

Flow Builder
Daily Overdue Case Check - V1
Select Elements
Auto-Layout
Last saved on 9/16/2025, 12:29 PM
Inactive
Run
Debug
Save As New Version
Save
Activate
Add Manager ID to Recipient List
Assignment
Notify Manager of Overd...
Action
Assign Escalated Priority
Assignment
End
Send Custom Notification
The case '{!Loop_Through_Overdue_Cases.Name
* Notification Title
Overdue Relief Case Alert
* Recipient IDs
recipientIdList
Sender ID
Not Included
Target ID
... Loop Through Overdue Cases > Record ID
Included
Target Page Reference
Not Included
Show advanced options