Phase 4: Process Automation

Airline Management System

Salesforce-Based Passenger & Operations Management

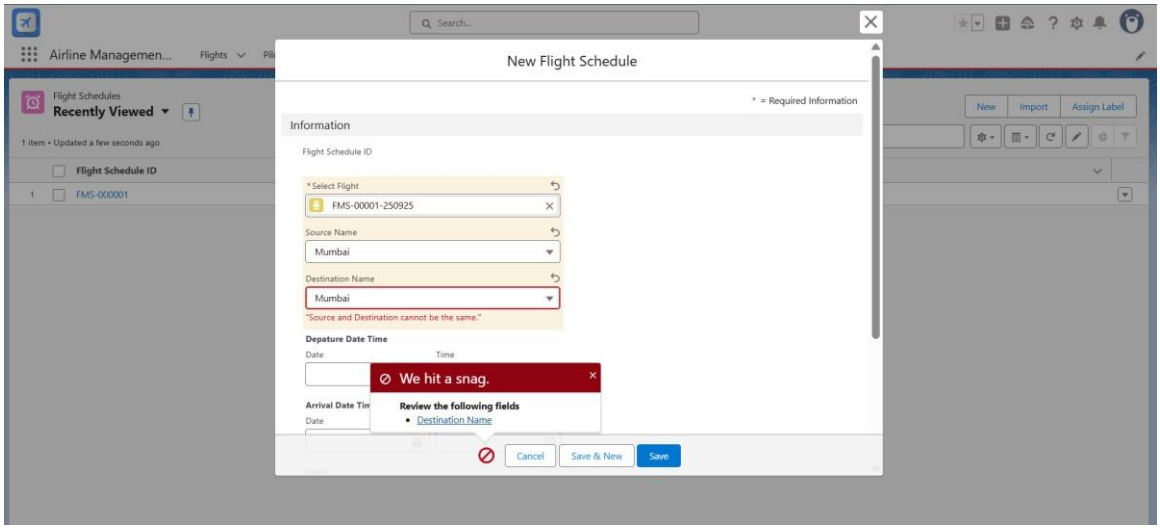
1. Introduction

Phase 4 focuses on implementing automation features in Salesforce for the Airline Management System. The goal is to enforce business rules, improve efficiency, and ensure data integrity when managing **Flights, Flight Schedules, and Pilots**. By introducing **validation rules, formula fields, flows, queues, email alerts, and dashboards**, this phase reduces manual errors, improves collaboration among operators, and gives management accurate real-time insights.

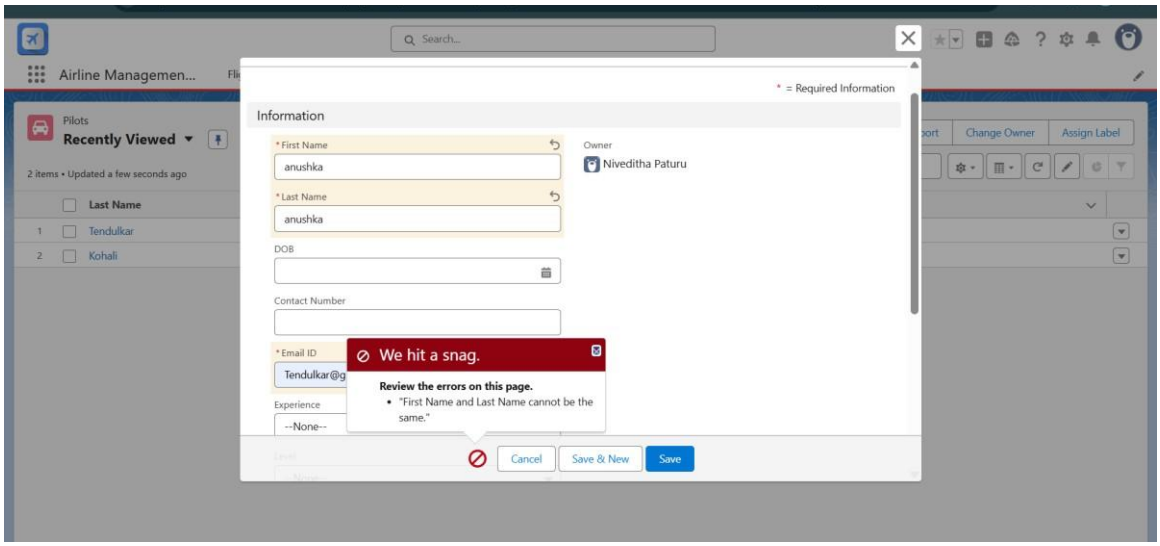
2. Validation Rules

Validation rules enforce data correctness and prevent invalid records from being saved. In this project, the following validation rules are created:

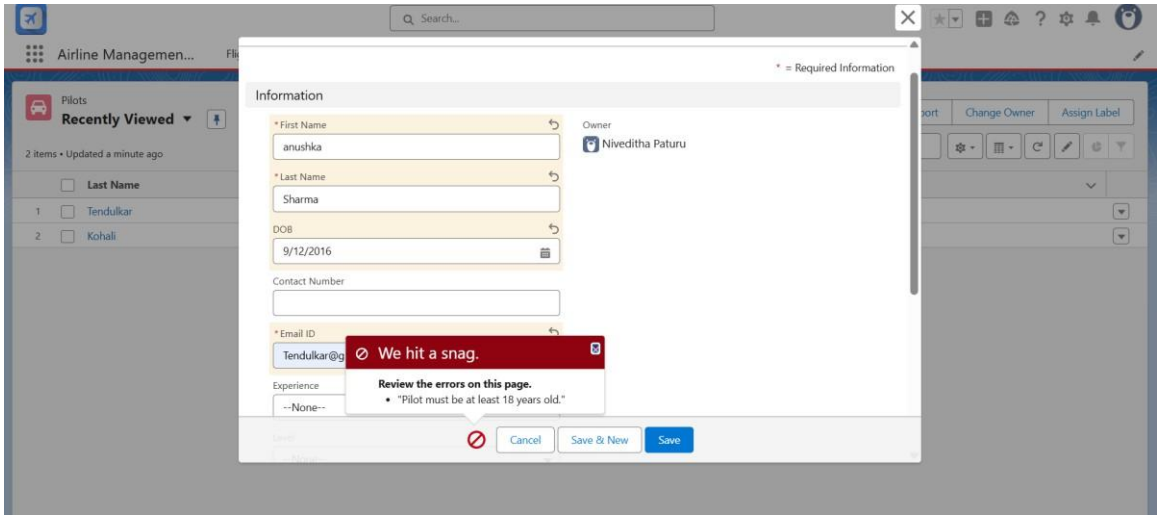
- **Source ≠ Destination (Flight Schedule):** Prevents scheduling a flight from and to the same location.



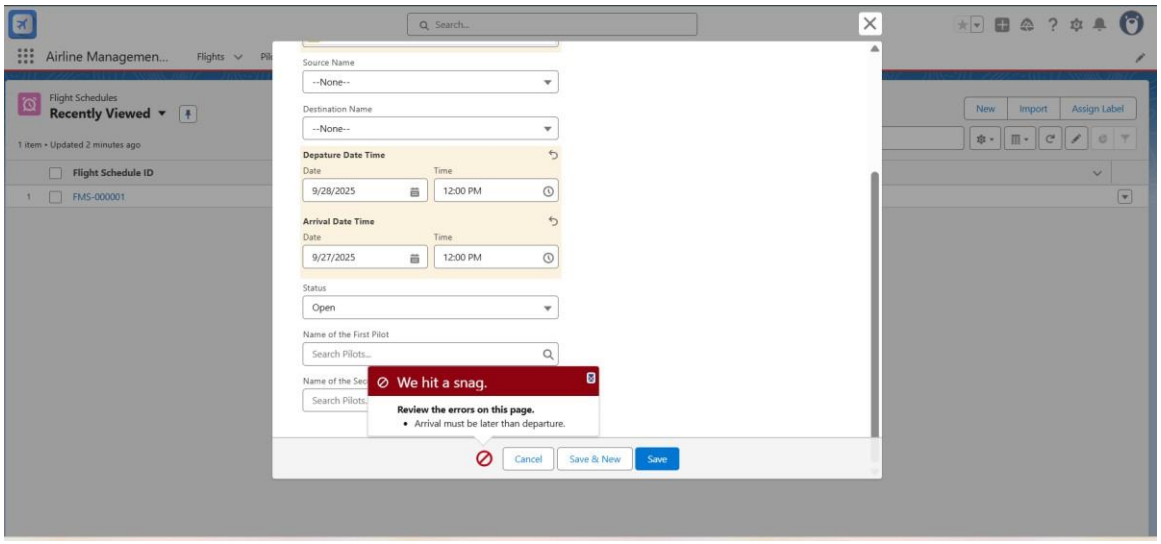
- **Pilot Name Validation (Pilot):** First Name and Last Name must not be identical.



- **Pilot Age ≥ 18 (Pilot):** Ensures that only qualified individuals are added as pilots. Age is calculated automatically from Date of Birth.



- **Arrival > Departure (Flight Schedule):** Ensures that the arrival time is always later than the departure time.

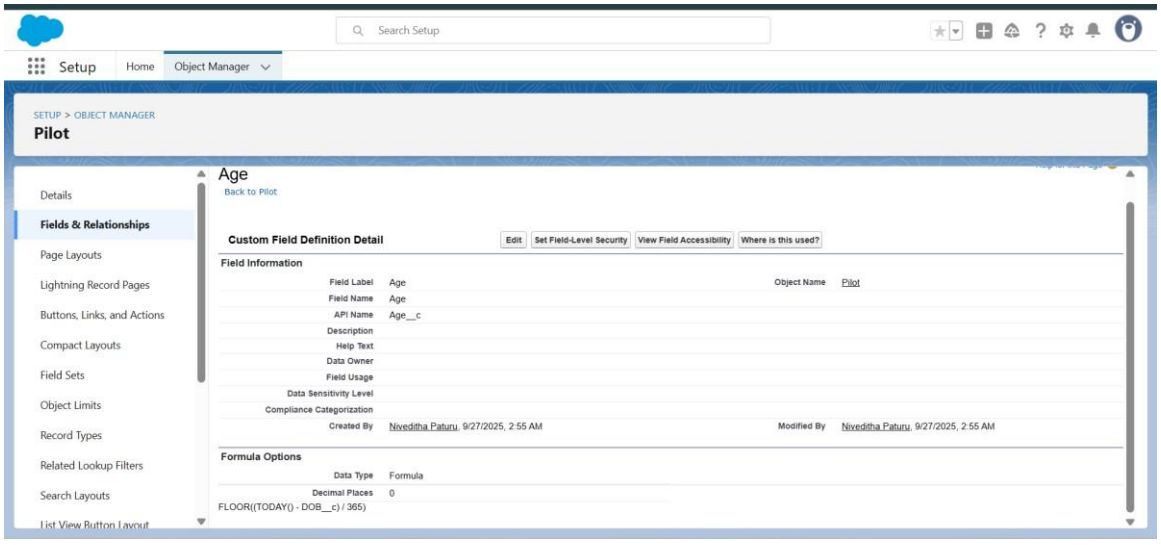


These rules maintain consistency, enforce business logic, and eliminate human errors.

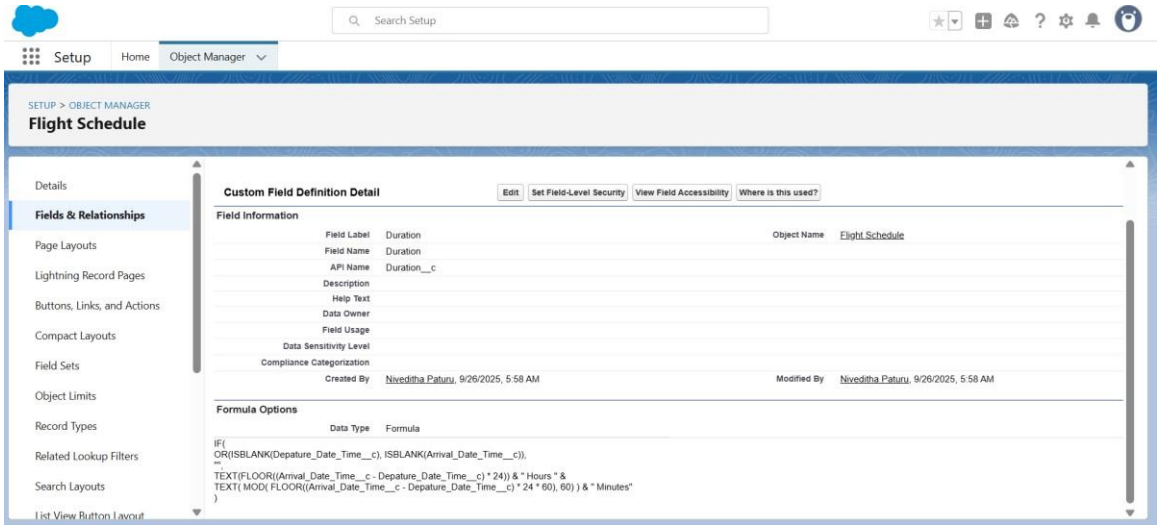
3. Formula Fields

Formula fields are created to automatically calculate and display important information:

- **Pilot Age Formula:** Calculates age from Date of Birth. Example:



- **Duration Formula:** Calculates travel time from Departure Date/Time and Arrival Date/Time and displays it in “Hours and Minutes” format.

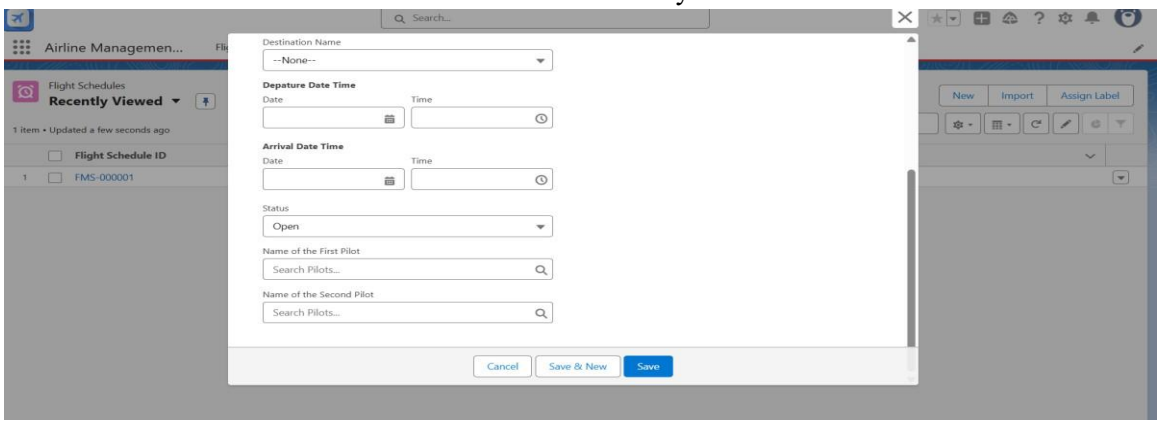


These formula fields save time for users and provide accurate results for reporting.

4. Default Values & Picklists

- The **Status field** in Flight Schedule is a picklist with values: *Open, In Progress, Closed, Cancelled.*

- A **default value** of **Open** is applied so that every new Flight Schedule record starts with "Open" status.
- This reduces manual effort and ensures uniformity across all records.

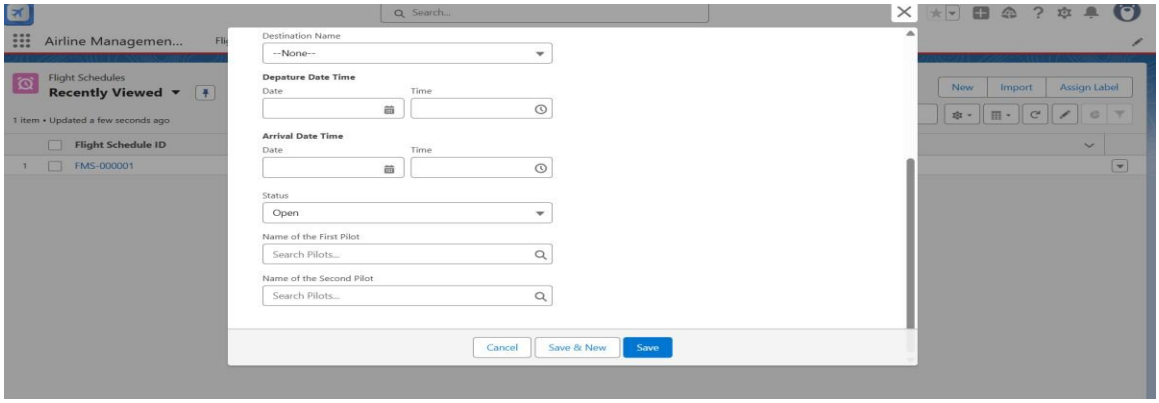


5. Flows

Salesforce Flows are used to automate critical tasks:

1. **Flow 1: Set Default Status (Before-Save Flow)**
    a. Automatically sets Status = "Open" when a new Flight Schedule is created.
2. **Flow 2: Assign Schedule to Queue (After-Save Flow)**

a. Assigns newly created Flight Schedule records to the **Flight Operators Queue**.
b. Ensures all operators can share workload.



6. Queues

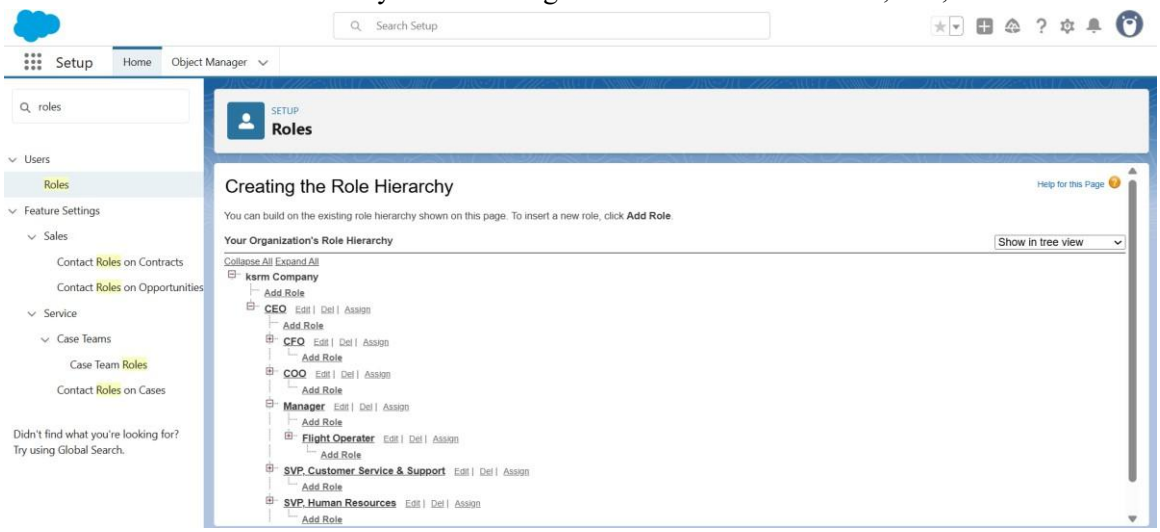
Flight Operators Queue is created so that new Flight Schedule records can be assigned to a common pool.

- Members of this queue: Rajesh K, Rajnikant, and Anushka Sharma.
- Operators can take ownership of records from the queue, ensuring fair workload distribution.
- Improves teamwork and prevents overload on a single user.

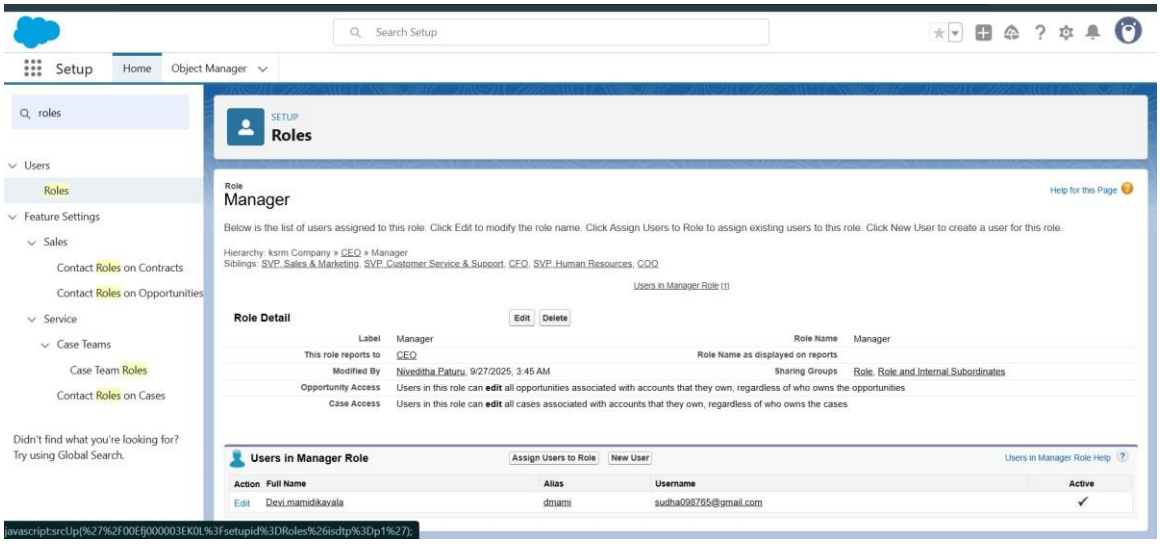
7. Profiles, Roles & Permission Sets

- Proper access control ensures that users can only perform the actions allowed by their role.

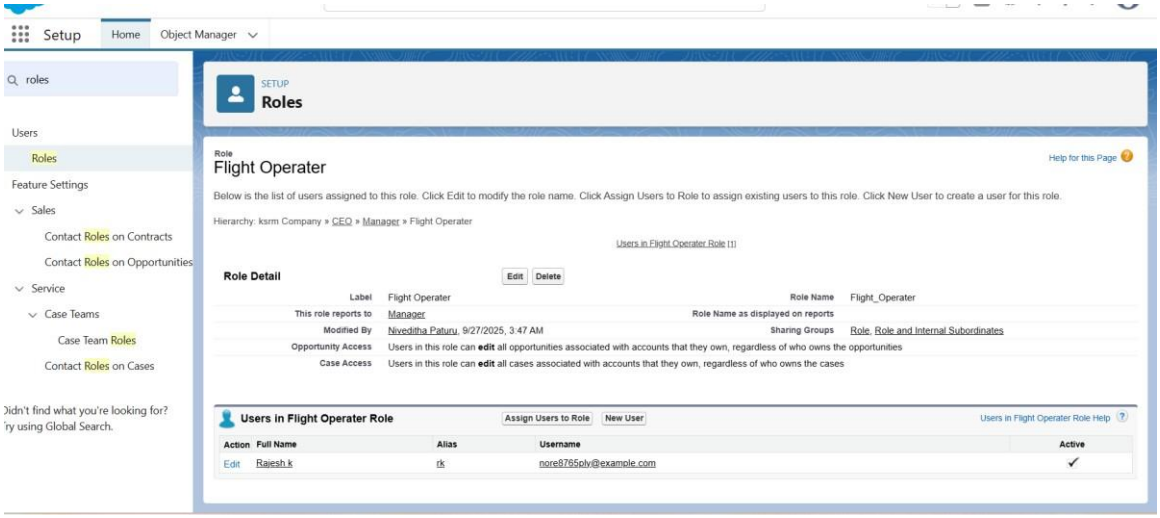
- **CEO Profile:** Read-only access to Flight Schedules. Cannot create, edit, or delete records.



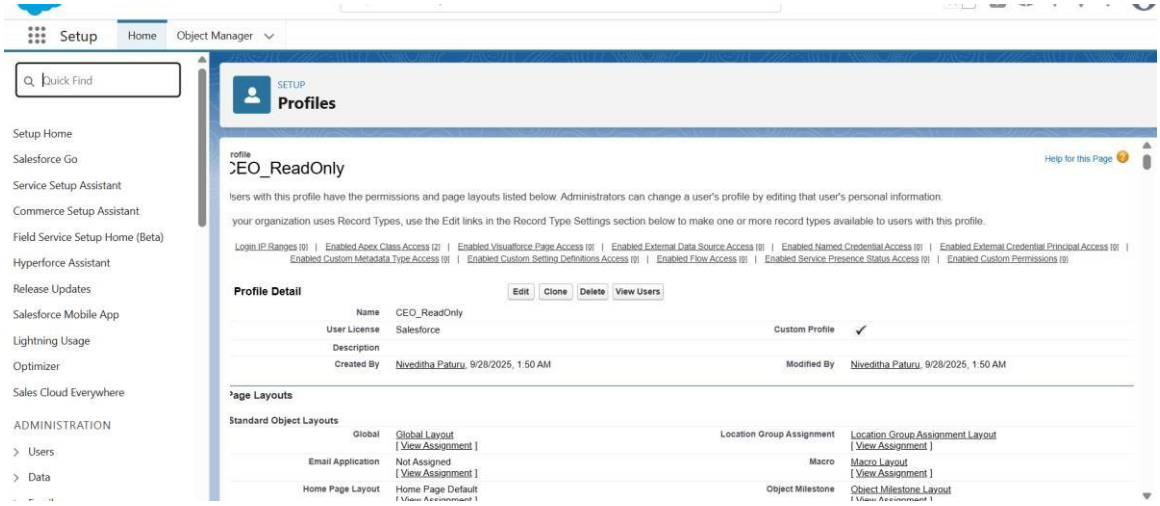
- **Manager (Devi):** Full access to oversee operations and operators.



- **Flight Operators (Rajesh K,):** Can create, read, and edit Flight Schedules.



- **Permission Set:** Special permission set assigned only to **Rajesh K** allowing him to delete Flight Schedules.



This model ensures security, accountability, and proper hierarchy within the system.

8. Email Alerts & Templates

- Email notifications improve communication and keep management updated.

- **Email Template:** Designed to include Flight details (Name, Source, Destination, Departure, Arrival, and Pilots).
- **Email Alert:** Configured so that when a Flight Schedule is marked as "Cancelled," the Manager (Virat Kohli) automatically receives an email.

This ensures prompt awareness of cancellations and allows for quick decision-making.

9. Test Cases

The following test cases are performed:

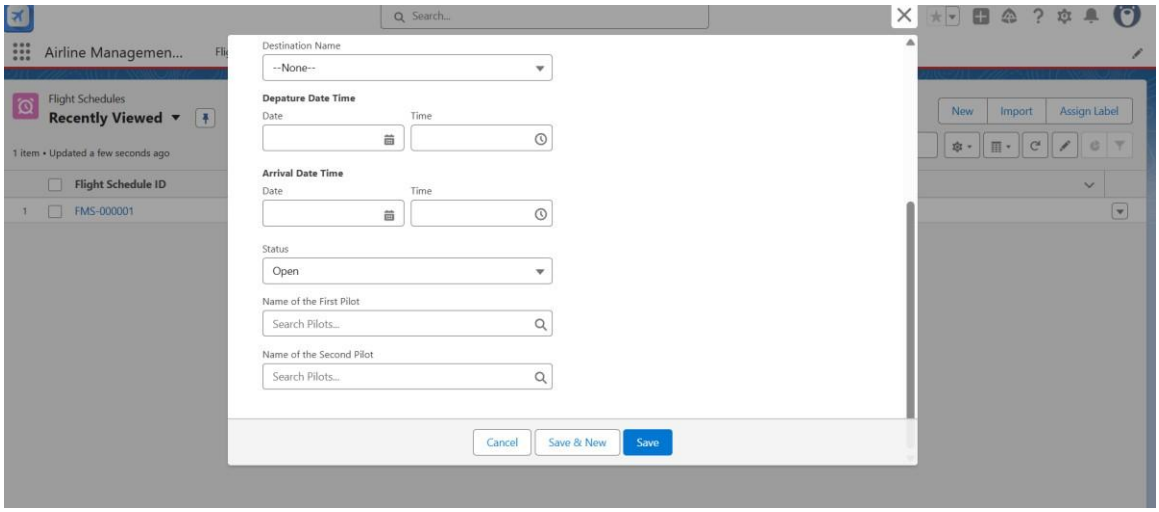
• Verify Source and Destination validation.

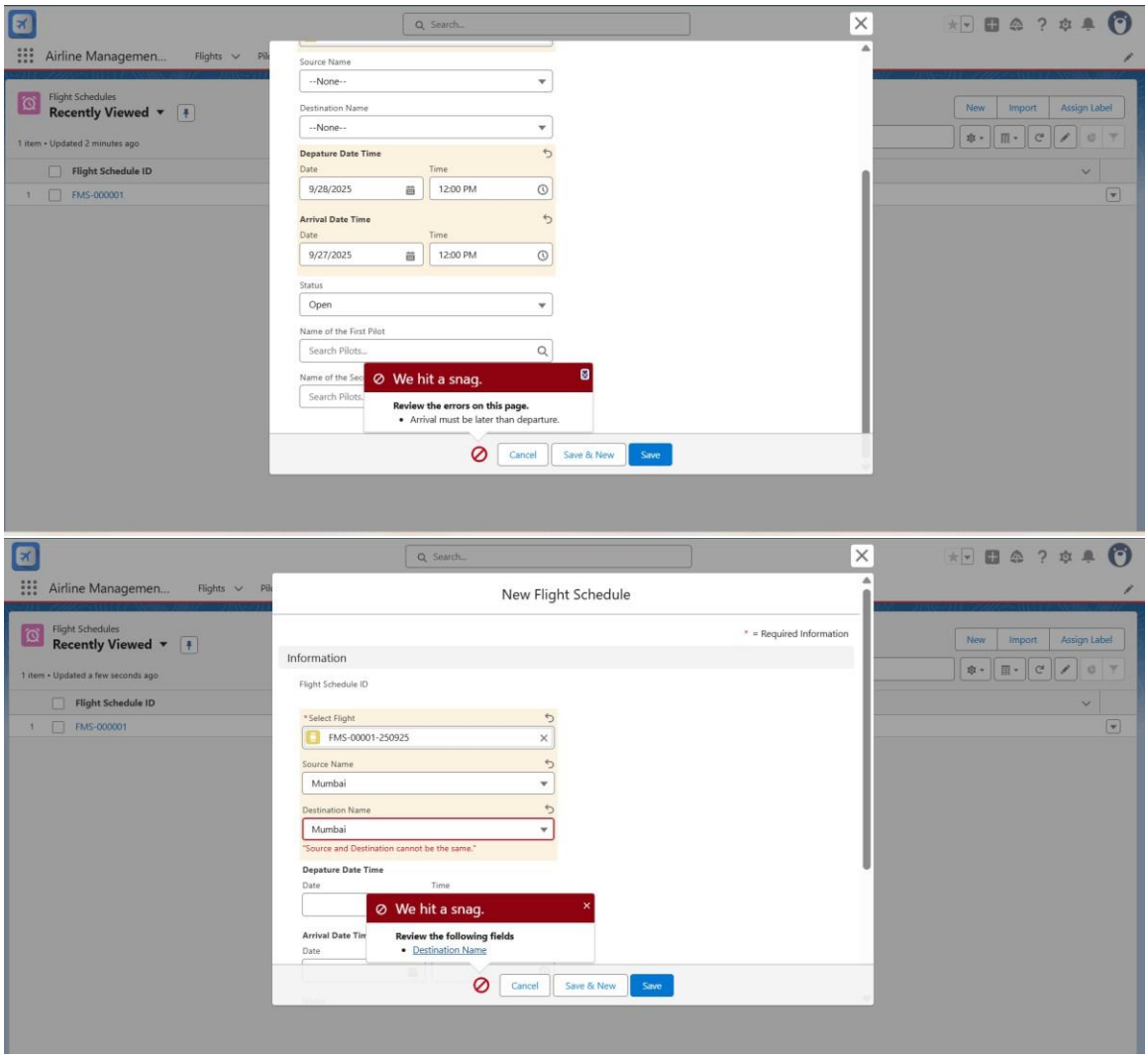
• Verify Pilot name validation.

• Verify Pilot age validation.

• Verify Arrival after Departure validation.

• Verify default Status is 'Open'.





11. Conclusion

Phase 4 successfully automated the Airline Management System, improving accuracy, consistency, and efficiency. Validation rules prevent bad data, formula fields simplify calculations, and flows automate repetitive processes. Queues distribute work fairly, while profiles and permission sets secure the system. Email alerts provide real-time communication, and dashboards deliver actionable insights to management.

This automation makes the system reliable, user-friendly, and aligned with real-world airline operations.