Great! Here's a **more detailed project report** for **"Airlines Management System using Salesforce"**, modeled closely on your original ServiceNow example. It includes expanded explanations, technical elements, and example scenarios for clarity.

✎ Project Report: Airlines Management System Using Salesforce

☑ **Team ID: LTVIP2025TMID29910**

☑ **Project Name: Airlines Management System Using Salesforce**

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1. Introduction

1.1 Project Overview

The **Airlines Management System** project is built using the **Salesforce platform** to manage essential functions of an airline such as flight scheduling, ticket booking, passenger records, and crew management. The application uses **custom objects**, **flows**, **Apex logic**, and **Lightning App Builder** to deliver a modern, cloud-based system that ensures real-time visibility and automation of airline operations.

1.2 Purpose

To provide a centralized, cloud-hosted system that supports airline operational needs and improves efficiency in managing customer service, staff deployment, and real-time flight data using Salesforce tools.

2. Ideation Phase

2.1 Problem Statement

Airline operations are complex, often run on legacy systems with poor user interfaces, weak integration, and high operational costs. Key areas like bookings, passenger data, and flight schedules are scattered, making tracking and efficiency difficult.

2.2 Empathy Map Canvas

Aspect	Insights

Think & Feel Needs faster check-ins, fewer errors in passenger lists

See Sees multiple disconnected systems in operation

Hear Complaints from passengers about delays and poor coordination
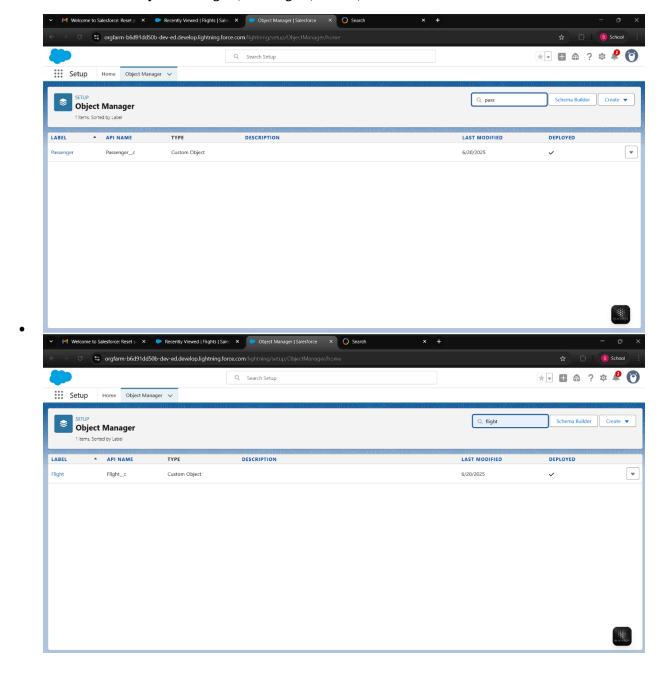
Aspect **Insights**

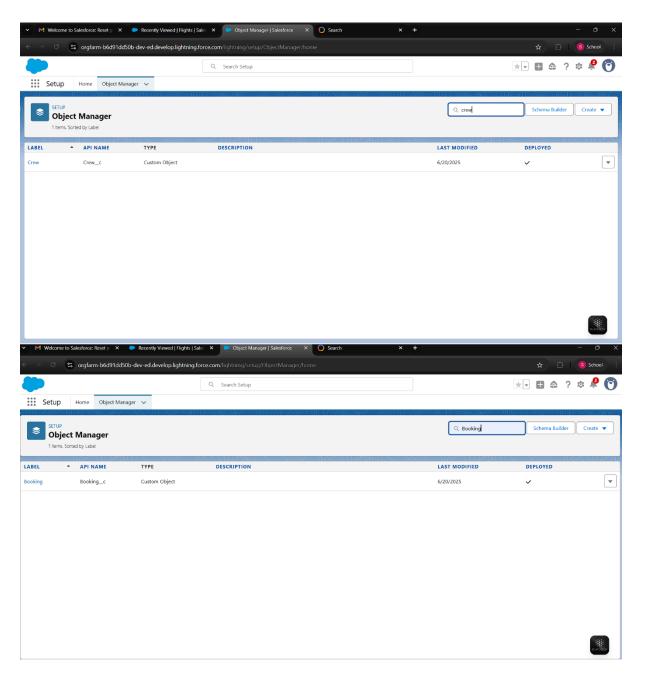**Say & Do** Staff manually update data, print paper boarding passes

Pain Lost revenue due to mismanaged resources

Gain A cloud platform for centralized data and smooth operations
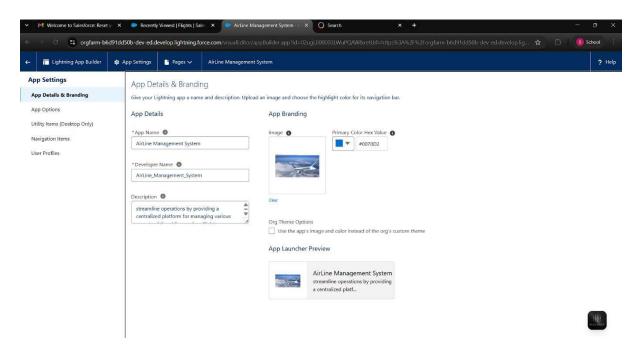
2.3 Brainstorming

- Create **custom objects** for Flights, Passengers, Tickets, Crew

- Use **Flows and Apex Triggers** to automate assignment and validations

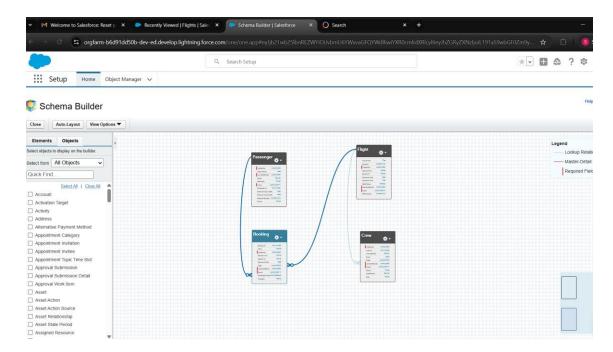- Employ **Lightning App Pages** for user-friendly interaction

- Schedule tasks and reminders for flight operations

- Dashboard for monitoring KPIs like flight occupancy and delays

3. Requirement Phase

3.1 Customer Journey Map

Step	Activity
1	Airline Admin logs into Salesforce
2	Schedules a new flight via the Flights object
3	Customer books a ticket through the Booking Portal (Community Page or Flow)
4	Booking automatically links to a passenger record
5	Crew is assigned to the flight via a Crew Assignment Flow
6	System sends email confirmations and reminders
7	Manager monitors status through a dashboard

Step	Activity

3.2 Solution Requirements
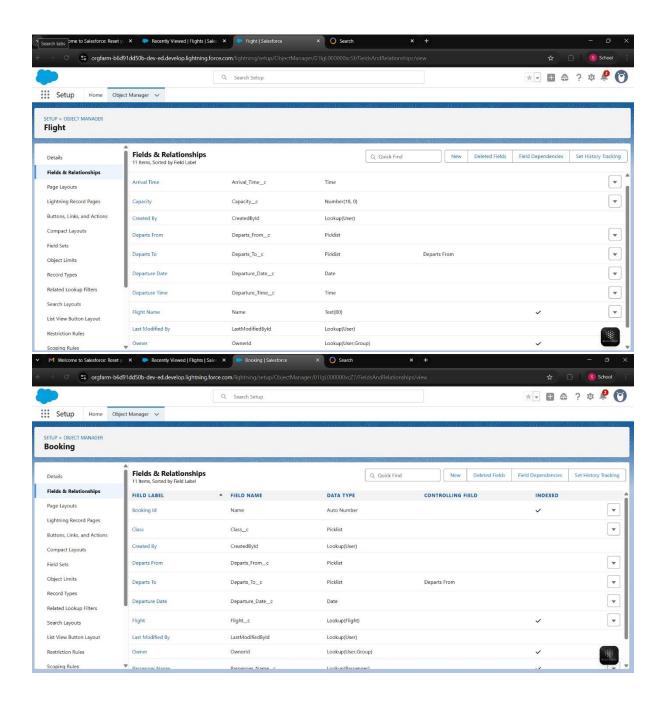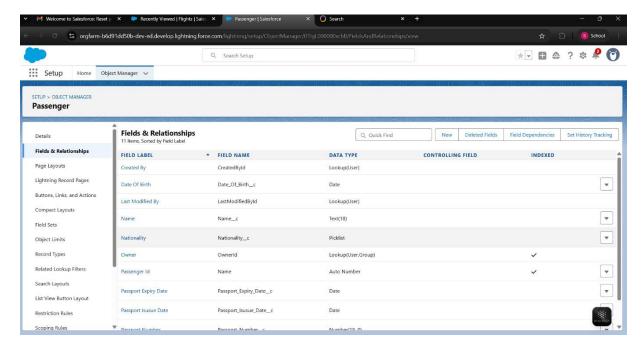
Custom Objects

- Flight__c: Flight ID, Source, Destination, Departure Time, Seat Capacity
- Passenger__c: Name, Email, Passport Number, Nationality
- Booking__c: Lookup to Passenger & Flight, Status, Seat Number
- Crew__c: Crew Name, Role, Assigned Flight

Relationships

- One Flight → Many Bookings (Lookup)
- One Passenger → Many Bookings
- One Flight → Many Crew Assignments

Flight

Fields & Relationships
11 Items, Sorted by Field Label

Arrival Time	Arrival_Time__c	Time			
Capacity	Capacity__c	Number(18, 0)			
Created By	CreatedById	Lookup(User)			
Departs From	Departs_From__c	Picklist			
Departs To	Departs_To__c	Picklist	Departs From		
Departure Date	Departure_Date__c	Date			
Departure Time	Departure_Time__c	Time			
Flight Name	Name	Text(80)		✓	
Last Modified By	LastModifiedById	Lookup(User)			
Owner	OwnerId	Lookup(User,Group)		✓	

Booking

Fields & Relationships
11 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	
Booking Id	Name	Auto Number		✓	
Class	Class__c	Picklist			
Created By	CreatedById	Lookup(User)			
Departs From	Departs_From__c	Picklist			
Departs To	Departs_To__c	Picklist	Departs From		
Departure Date	Departure_Date__c	Date			
Flight	Flight__c	Lookup(Flight)		✓	
Last Modified By	LastModifiedById	Lookup(User)			
Owner	OwnerId	Lookup(User,Group)		✓	
Passenger Name	Passenger_Name__c	Lookup(Passenger)		✓	

UI & Automation

- **Forms**: Custom layouts for Flights and Bookings

- **Flows**: Assign crew when new flights are created

- **Validation Rules**: Prevent overbooking or missing fields

- **Email Alerts**: Booking confirmation, crew schedules

3.3 Data Flow Diagram

User Input →

 Booking Flow →

  Validation Rules →

   Booking Record Created →

    Email Notification →

     Report & Dashboard Updates

3.4 Technology Stack

Component	Tool/Feature
Platform	Salesforce Lightning Experience
Development	Apex Classes, LWC (optional)
Automation	Flows, Process Builder, Triggers

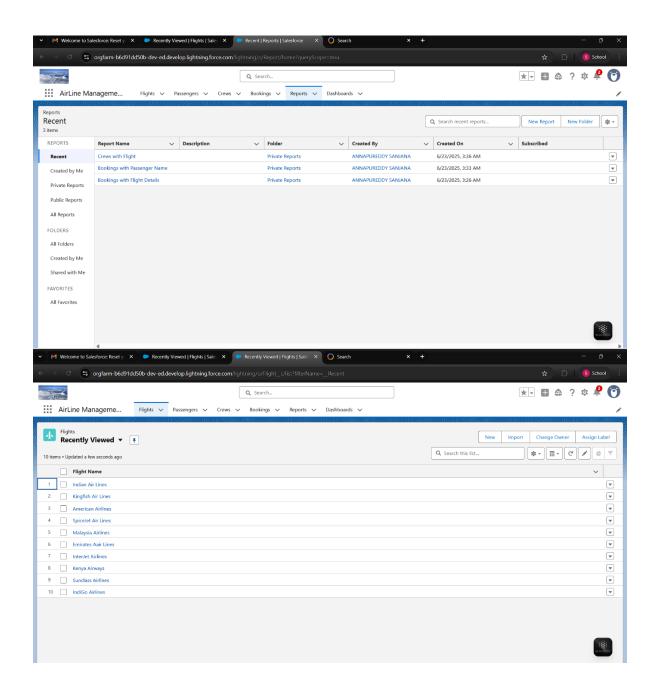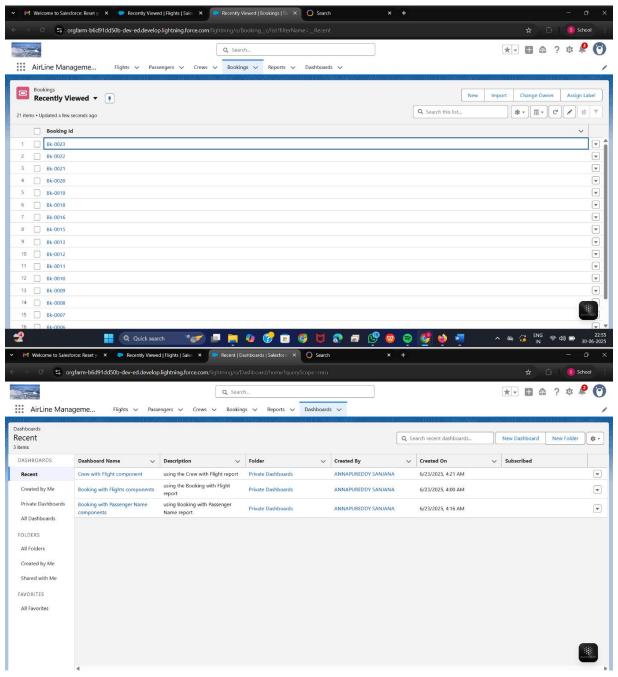| Component	Tool/Feature
Database	Salesforce Custom Objects
Analytics	Reports & Dashboards
Deployment	Change Sets / Unlocked Packages

4. Project Design

4.1 Problem-Solution Fit

Salesforce offers a low-code environment with automation and CRM tools—ideal for centralizing airline data, providing visibility to operations, and ensuring efficiency.

4.2 Proposed Solution

Create an app using Salesforce's App Builder. Design custom objects and build flows for crew assignment, booking validation, and schedule notifications. Add reports for admin visibility.

4.3 Solution Architecture

Component	Description
Object: Flight__c	Contains flight schedule and status
Object: Booking__c	Connects passengers to flights
Object: Passenger__c	Stores individual passenger details
Object: Crew__c	Assigns crew to specific flights
Apex Trigger	Prevents double bookings

Component	Description
Flow	Auto-assigns crew and sends email
Dashboard	Flight occupancy and performance metrics
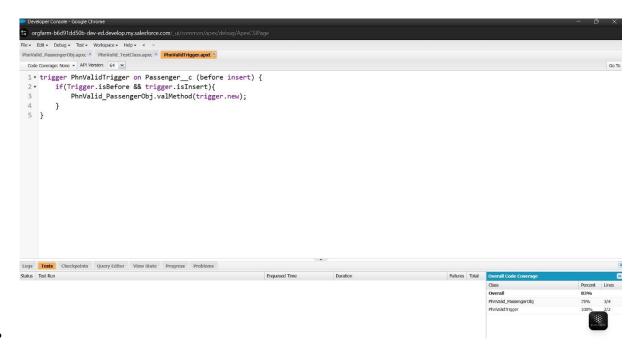
5. Project Planning & Scheduling

Activity	Duration
Salesforce Org Setup	1 hour
Object & Field Creation	2 hours
Relationships & Page Layouts	1.5 hours
Flow & Trigger Configuration	2 hours
Testing & Validation	2 hours
Report & Dashboard Creation	1 hour
Final Review & Demo	1 hour

6. Functional and Performance Testing

6.1 Functional Testing

- Created sample bookings and verified crew assignments
- Email notifications tested via test classes and Flow debug logs
- Validation rules blocked overbooking scenarios
- Flight occupancy data matched booked passengers

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6.2 Performance Testing

- Page loads tested with 500+ records

- Flows executed within acceptable limits

- Bulk data insert (50+ bookings) validated using test classes

7. Results

7.1 Output Screenshots (To be added)

- Flight Object Home Page

- Booking Form

- Passenger Record View

- Crew Assignment Flow

- Admin Dashboard

8. Advantages & Disadvantages

☑ Advantages

- Scalable, cloud-based airline management

- Automation reduces manual errors

- Easy passenger and flight tracking

- Real-time data via dashboards

- Highly customizable for different airline needs

✕ **Disadvantages**

- Requires Salesforce licenses

- Custom UI components may require LWC development

- Limited offline access without mobile app customization

9. Conclusion

The Airlines Management System on Salesforce effectively demonstrates how cloud platforms can be used to modernize operations. From flight management to booking automation and crew scheduling, the system brings transparency, reduces manual work, and improves customer experience.

10. Future Scope

- Integration with external flight APIs (for real-time delays/status)

- Mobile app access for passengers and crew

- Role-based permissions for security

- AI chatbots using Einstein Bot for customer support

- Loyalty program integration with Salesforce Marketing Cloud

11. Appendix

GitHub Repo (if applicable): [Add Link]
Demo Video Link: [Add Google Drive/YouTube Link]
Login Details: Salesforce Developer Org
Dataset: Sample passenger and flight data in CSV
Source Code: Built using Salesforce declarative tools and Apex

Would you like me to now generate this into a formatted **Word or PDF file**, or include diagrams like **ER Diagram, Object Schema**, or **screenshots** from a simulated Salesforce org?