

Technology Stack:

Technology Stack (Architecture & Stack)

Date: 24 June 2025

Team ID: LTVIP2025TMID30597

Project Name: Airlines Management System using Salesforce

Maximum Marks: 4 Marks

Technical Architecture:

This project aims to enhance the efficiency and effectiveness of managing flights, reservations, and passenger information. Built using Salesforce, it streamlines airline operations including:

- Managing fleet and scheduling flights
- Seat allocation and ticket booking
- Passenger check-ins and baggage handling
- Real-time alerts and notifications
- Reports and dashboards for operational insights

The system enables communication between airlines, airports, and passengers, supporting seamless workflows and improved user experience.

Table-1: Components & Technologies

S.No	Component	Description	Technology
1	User Interface	Web interface for managing flights and bookings	Salesforce Lightning App Builder
2	Application Logic-1	Business logic for seat reservations, scheduling, etc.	Salesforce Flows / Apex
3	Application Logic-2	Check-in & baggage handling logic	Salesforce Flows / Apex
4	Application Logic-3	Real-time notifications to passengers	Process Builder / Flows / Apex
5	Database	Stores passenger, flight, and booking information	Salesforce Standard & Custom Objects
6	Cloud Database	Cloud-hosted storage of all objects	Salesforce Platform Database

7	File Storage	Attachment storage (e.g., ticket PDFs, IDs)	Salesforce Files / ContentVersion
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Table-2: Application Characteristics

S.No	Characteristics	Description / Technology
1	Open-Source Frameworks	Not directly applicable as Salesforce is a managed platform / N/A
2	Security Implementations	Object-level, field-level, role-based access, profile control / Salesforce Security Model, IAM
3	Scalable Architecture	Built on Salesforce multi-tenant cloud architecture / Salesforce Platform Architecture
4	Availability	Highly available through Salesforce global infrastructure / Salesforce Load Balancing, CDN
5	Performance	Optimized via indexing, governor limits, efficient data access / SOQL, Caching, Asynchronous Apex

Milestones Implemented:

- Object Creation – Custom objects for Flights, Passengers, Bookings
- Tabs – Navigation tabs for all major entities
- The Lightning App – Consolidated app for airline admin
- Fields – Custom fields for detailed record management
- Milestone 6: User Adoption – Setup user profiles, permissions, interface walk-through
- Milestone 7: Profiles – Different profiles for Admin, Agent, etc.
- Milestone 8: Role Hierarchy – Role-based access defined
- Milestone 9: Users – Multiple test users created for testing use cases
- Milestone 10: Reports – Reports on passenger data, flight occupancy, etc.
- Milestone 11: Dashboards – Visual dashboards for executive overview
- Milestone 12: Apex – Triggers for ticket generation and custom logic
- Milestone 13: Flows – Automated processes like booking confirmation, seat updates

References:

- <https://www.salesforce.com/products/platform/overview/>
- <https://c4model.com/>
- <https://developer.ibm.com/patterns/>
- https://help.salesforce.com/s/articleView?id=sf.flow_build.htm