

Project Design Phase-II

Technology Stack (Architecture & Stack)

DATE	01/11/2025
TEAM ID	NM2025TMID01369
PROJECT NAME	Lease Management
MAXIMUM MARKS	4 MARKS

Technical Architecture: Lease Management System

Overview:

The Lease Management System is built on the Salesforce Cloud Platform, designed to streamline property lease operations — including lease creation, tenant management, rent tracking, and automated renewal alerts.

The architecture integrates various Salesforce components such as custom objects, Flows, Validation Rules, Process Builder, and Dashboards to automate and visualize business processes.

All data (e.g., tenant, property, lease, payment) is securely stored within Salesforce's multi-tenant cloud infrastructure, ensuring high availability, scalability, and reliability.

Architectural Diagram Includes:

- Application logic blocks such as Tenant Management, Lease Processing, Payment Tracking, and Notification System.
- Infrastructural demarcation between user interface (Salesforce Lightning App) and backend cloud (Salesforce Database & Automation Services).
- External interfaces such as email notifications and optional payment gateway APIs.
- Data storage components including Salesforce custom objects (Lease__c, Property__c, Tenant__c, Payment__c).
- Cloud Infrastructure: Hosted entirely on Salesforce SaaS platform.

Table–1: Components & Technologies

S.No	Component	Description	Technology
1	User Interface	Admins and managers interact through Salesforce Lightning Web Interface.	Salesforce Lightning App (Web UI)
2	Application Logic – 1	Manages tenant and property information.	Salesforce Apex, Lightning Components
3	Application Logic – 2	Creates, updates, and validates lease agreements.	Salesforce Flow, Validation Rules
4	Application Logic – 3	Tracks and updates rent payments automatically.	Process Builder, Apex Trigger
5	Application Logic – 4	Sends automated renewal alerts and payment reminders.	Salesforce Flow, Email Alerts
6	Database	Stores lease, tenant, payment, and property data.	Salesforce Custom Objects (Lease__c, Tenant__c, Payment__c, Property__c)
7	Cloud Database	Fully managed by Salesforce Cloud Infrastructure.	Salesforce Multi-Tenant Cloud Database
8	File Storage	Stores digital copies of lease agreements and payment receipts.	Salesforce Files, Attachments
9	External API – 1 (Optional)	Payment gateway integration for online rent payments.	REST API Integration
10	External API – 2	Optional integration with property listing portals.	REST / SOAP API
11	Machine Learning Model	Optional — future enhancement for rent forecasting.	Salesforce Einstein Analytics (optional)

Table–2: Application Characteristics

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Salesforce is a proprietary SaaS solution; limited open-source components used.	—
2	Security Implementations	Role-based access control, permission sets, and field-level security to protect data.	Salesforce Security Model, Profiles, Roles
3	Scalable Architecture	Horizontally scalable through Salesforce's multi-tenant infrastructure.	Salesforce Cloud Platform
4	Availability	Highly available with Salesforce's 99.9% uptime SLA.	Salesforce Cloud Infrastructure
5	Performance	Optimized with asynchronous processes, Apex Triggers, indexed data fields, and Lightning components.	Asynchronous Queueable Jobs
6	Data Backup & Recovery	Automatic backup and restore through Salesforce data management tools.	Salesforce Data Loader / Backup Service
7	Integration Ready	Easily integrates with third-party payment and property management systems.	REST / SOAP APIs
8	Analytics & Reporting	Dashboards and Reports provide insights into leases, payments, and renewals.	Salesforce Reports, Einstein Analytics

Reference:

-  [**Salesforce Platform Architecture Overview**](#)
-  [**Salesforce Flow Automation**](#)
-  [**Salesforce Data Model for Custom Apps**](#)