

SOLUTION ARCHITECTURE

Date	3 August 2025
Team ID	LTVIP2025TMID30830
Project name	Lease management
Maximum Marks	

 **Project Name:**

Lease Management System

 **Team ID:**

LTVIP2025TMID30830

 **Date:**

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1. Introduction

This document outlines the architecture of the Lease Management System built on the Salesforce platform. The architecture is designed to deliver a modular, automated, and scalable solution that addresses the key business needs of lease tracking, tenant management, rent collection, and automated communication. It ensures performance, reliability, security, and future extensibility.

2. Architectural Overview

The Lease Management System is implemented using the **Salesforce Lightning Platform** and is composed of the following layers:

◆ **Architecture Layers:**

Layer	Component	Purpose
Presentation Layer	Lightning App & Tabs	User Interface for admins, managers, and staff
Application Layer	Apex Classes, Triggers, Flows	Enforce business rules, automation, and validations
Data Layer	Salesforce Custom Objects	Store data related to Properties, Tenants, Leases, and Payments

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Layer	Component	Purpose
Communication Layer	Email Templates & Alerts	Send reminders, approvals, rejections, and confirmations
Scheduler Layer	Apex Scheduler	Automate monthly rent reminders
Security Layer	Profiles, Roles, Field-level Security	Control access and ensure data protection



3. System Components

◆ Custom Objects

- **Property:** Stores property details (name, type, address, area)
- **Tenant:** Tenant information and lease status
- **Lease:** Lease agreements with start and end dates
- **Payment for Tenant:** Payment status, amount, and date

◆ Relationships

- **Master-Detail and Lookup** relationships between:
 - Tenant → Property
 - Lease → Tenant
 - Payment → Tenant & Property
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4. Automation and Logic

◆ Apex Triggers

- Prevent multiple tenants from being assigned to the same property

◆ Validation Rules

- Lease end date must be after the start date
- Mandatory fields must be filled before submission

◆ Approval Process

- Approval workflow for tenant requests to end or extend leases

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◆ **Scheduled Apex**

- Sends monthly email reminders to tenants on the 1st of each month



5. Communication System

Email Template

Use Case

Tenant Leaving Request for lease termination

Leave Approved Approval of lease end request

Leave Rejected Rejection with reasons

Monthly Rent Reminder Auto-sent on the 1st of each month

Payment Confirmation Sent after successful rent payment



6. Security Model

- **Role-based access control**
- **Profile-level permissions**
- **Object and Field-Level Security (FLS)**
- **Audit Trails and History Tracking**



7. Scalability & Extensibility

Current Scale:

- Supports 1000+ properties and tenants

Future-Ready Integrations:

- Payment gateways (e.g., Razorpay, Stripe)
- Mobile App
- AI/ML for lease forecasting and analytics
- Tenant self-service portal



8. Summary Diagram

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Would you like a **visual diagram** showing:

- Component interactions
- Data flows
- User roles
- Object relationships?

I can generate it for you.

9. Conclusion

The Salesforce-based architecture provides a structured, flexible, and scalable foundation for lease management. It ensures automation, reliability, and ease of use—eliminating manual errors and paving the way for digital transformation in property administration.
