

LEASE MANAGEMENT SYSTEM

A PROJECT REPORT

Submitted by

SUSMITHA A (913022104009)

JEYAMURUGESWARI P

(913022104025)

VISHNU D K (913022104303)

RAMAJAYAM K (913022104039)

A final year students (Semester 7th) who done the

Naan Mudhalvan Project for the degree of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE AND ENGINEERING



**UNIVERSITY COLLEGE OF ENGINEERING,
RAMANATHAPURAM**

(A Constituent College of ANNA UNIVERSITY , CHENNAI 600 025)

NOV/DEC 2025

ABSTRACT

The Lease Management System is a Salesforce-based cloud application designed to streamline and automate the end-to-end process of managing property and equipment leases. The system provides a centralized platform to handle lease agreements, tenant/lessee records, rent schedules, payment tracking, renewal reminders, and issue resolution. By leveraging Salesforce features such as Apex Classes, Flows, Validation Rules, Reports, and Dashboards, the system ensures accuracy, transparency, and efficient workflow management.

The application simplifies lease lifecycle management by enabling users to generate new lease contracts, monitor due dates, compute billing automatically, and maintain communication with tenants through automated notifications. The system also supports tracking maintenance requests and lease expirations to avoid delays and ensure timely renewals. Administrators can visualize operational performance through interactive dashboards for payment status, occupancy rate, and revenue reports.

Key Tools and Features Used:

- Salesforce CRM Platform
- Apex Classes and Triggers
- Flows and Process Automation
- Validation Rules
- Reports and Dashboards

This Lease Management System offers a scalable and reliable digital solution for businesses, property owners, and lease administrators, ensuring systematic record management, faster processing, and improved decision-making.

TABLE OF CONTENTS

- 1. Introduction**
- 2. Project Ideation (Phase 1)**
- 3. Requirement Analysis (Phase 2)**
- 4. Project Design (Phase 3)**
- 5. Project Development (Phase 4)**
- 6. Project Documentation (Phase 5)**
- 7. Project Demonstration and Results**
- 8. Conclusion and Future Enhancement**
- 9. Appendix**
- 10. References**

LEASE MANAGEMENT

CHAPTER 1 – INTRODUCTION

1.1 Overview

- The Lease Management System is designed to automate operations such as maintaining tenant details, lease contract records, rent payment tracking, renewal scheduling, and termination updates.
- Using Salesforce CRM, all lease activities are maintained in integrated objects that ensure efficient workflow and record transparency.

1.2 Objectives

- To automate the leasing process and centralize data storage.
- To implement Salesforce automation for rent payment reminders
- To track contract start/end dates and renewal notifications.
- To generate dashboards for payment status and occupancy reports.

1.3 Scope

This project focuses on:

- Tenant information management
- Lease contract tracking
- Rent payment updates and reminders
- Renewal & termination handling
- Reports and dashboards for analysis

1.4 Existing vs Proposed System

Existing System

Manual paperwork

Missed payment & renewal reminders

Difficulty tracking tenant records

No analytics or reports

Proposed System (Salesforce)

Fully automated cloud system

Automated alerts and notifications

Structured data with relational objects

Real-time dashboards and insights

CHAPTER 2 – PROJECT IDEATION (Phase 1)

2.1 Problem Identification

Property managers and landlords often maintain lease records manually, leading to errors, missed payments, lost documents, and delayed renewals.

2.2 Idea Description

The idea is to build a centralized lease management application in Salesforce that automates the lifecycle of lease records, rent collection, and contract expiration reminders.

2.3 Feasibility

Salesforce provides ready infrastructure, automation, and reporting tools, making the system scalable and cost-effective.

2.4 Innovation

- Automated rent due reminders via email
- Dashboard showing active, expired, and upcoming contracts
- Flow-based automated renewal status updates

CHAPTER 3 – REQUIREMENT ANALYSIS (Phase 2)

3.1 Functional Requirements

- Add, update, and maintain tenant and property records.
- Track lease duration, rent amount, and payment status.
- Generate renewal and termination alerts.
- Display reports for income and occupancy.

3.2 Non-Functional Requirements

- Secure cloud-based database (Salesforce).
- User-friendly interface.
- High scalability and reliability.

3.3 User Roles

Role	Permissions
Admin	Manage all system settings and objects
Property Manager	Handle tenant/lease records and payments
Tenant	Receives email notifications & payment details

3.4 Entity Relationship

Objects: Property → Lease Contract → Payment Records → Tenant Information
Uses Lookup and Master-Detail relationships.

CHAPTER 4 – PROJECT DESIGN (Phase 3)

4.1 Schema Builder

Visual representation of entities and object relationships.

4.2 Process Flow

1. Tenant record created.
2. Lease contract assigned to property.
3. Payment reminders triggered monthly.
4. Renewal/termination updated automatically.

4.3 UI Layout

Salesforce lightning page layouts with separate navigation tabs for Tenants, Properties, Lease Contracts, and Payments.

CHAPTER 5 – PROJECT DEVELOPMENT (Phase 4)

5.1 Custom Objects Created

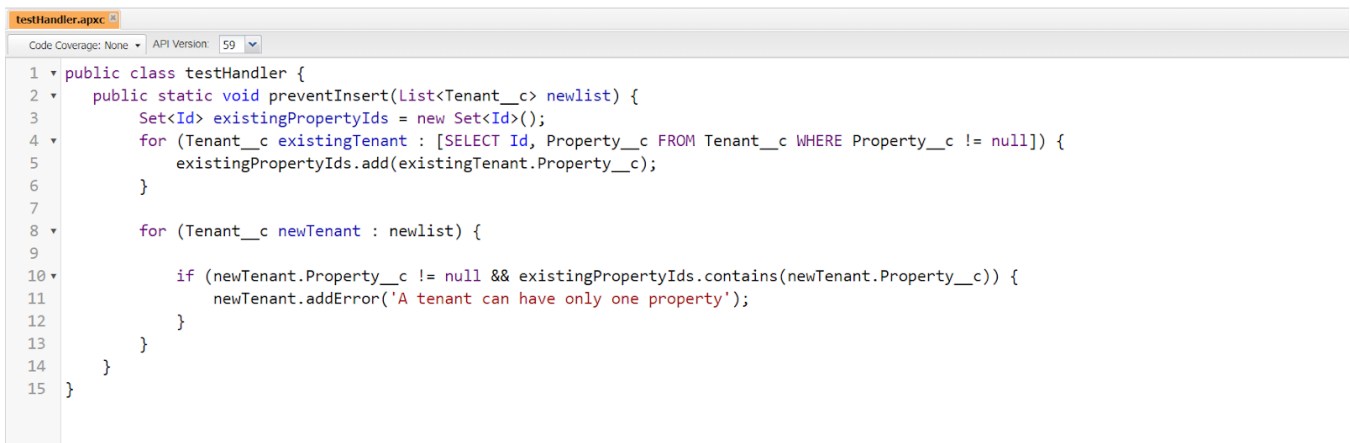
- Tenant Information
- Property Details
- Lease Contract
- Payment Record

5.2 Sample Apex Logic (Rent Auto Calculation)

```
public class testHandler {
    public static void preventInsert(List<Tenant__c> newList) {
        Set<Id> existingPropertyIds = new Set<Id>();
        for (Tenant__c existingTenant : [SELECT Id, Property__c FROM Tenant__c WHERE Property__c
!= null]) {
            existingPropertyIds.add(existingTenant.Property__c);
        }

        for (Tenant__c newTenant : newList) {

            if (newTenant.Property__c != null && existingPropertyIds.contains(newTenant.Property__c)) {
                newTenant.addError('A tenant can have only one property');
            }
        }
    }
}
```



```
testHandler.apxc
Code Coverage: None API Version: 59
1 public class testHandler {
2     public static void preventInsert(List<Tenant__c> newList) {
3         Set<Id> existingPropertyIds = new Set<Id>();
4         for (Tenant__c existingTenant : [SELECT Id, Property__c FROM Tenant__c WHERE Property__c != null]) {
5             existingPropertyIds.add(existingTenant.Property__c);
6         }
7     }
8     for (Tenant__c newTenant : newList) {
9
10        if (newTenant.Property__c != null && existingPropertyIds.contains(newTenant.Property__c)) {
11            newTenant.addError('A tenant can have only one property');
12        }
13    }
14 }
15 }
```


5.3 Trigger

```
trigger test on Tenant__c (before insert)
{
    if(trigger.isInsert && trigger.isBefore){
        testHandler.preventInsert(trigger.new);
    }
}
```

5.4 Flows

Flow 1: Rent Reminder Email Flow

Flow 2: Contract Renewal Date Checker Flow

5.5 Reports & Dashboards

- Payment Status Report
- Tenant Occupancy Dashboard
- Revenue Summary Chart

CHAPTER 6 – PROJECT DOCUMENTATION (Phase 5)

6.1 Execution Steps

- Created custom objects & relationships
- Implemented triggers and flows
- Designed reports and dashboards
- Tested validation and workflow logic

6.2 GitHub & SmartInternz Links

- **GitHub Repository:** <https://github.com/susmi3264-blip/LEASE-MANAGEMENT-.git>
- **SmartInternzWorkspace:** https://nme.smartinternz.com/Student/guided_project_workspace/3739

6.2 Challenges & Solutions

Challenge	Solution
Payment reminder not triggering	Adjusted flow scheduling and criteria
Missing data in report	Added necessary lookup relationships

CHAPTER 7 – PROJECT DEMONSTRATION & RESULTS

7.1 Demo Summary

System successfully tracks lease lifecycle and automates rent reminders.

7.2 Outcome

- Reduced manual workload
- Improved visibility of lease records
- Real-time payment dashboard

CHAPTER 8 – CONCLUSION & FUTURE ENHANCEMENT

8.1 Conclusion

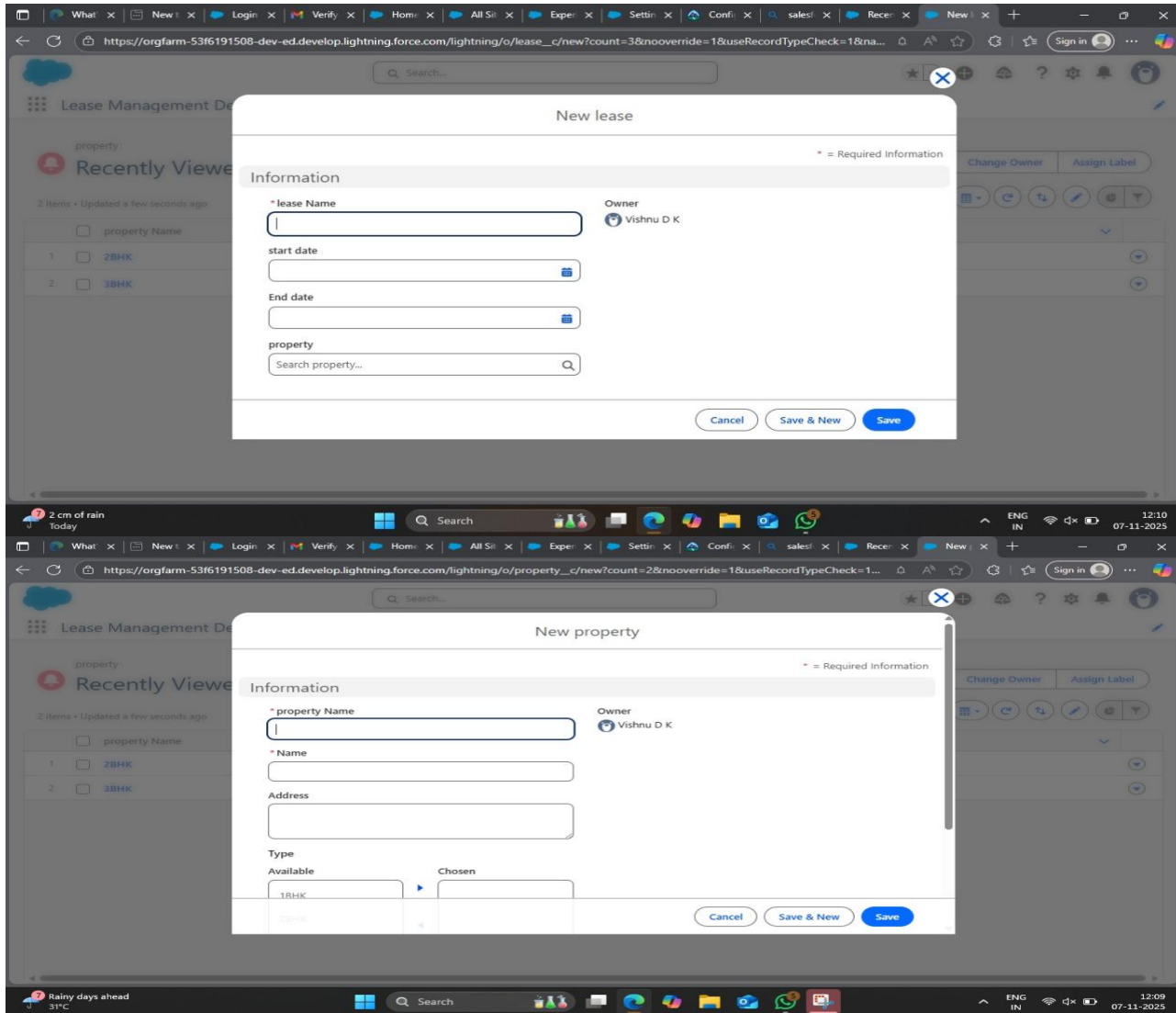
The Lease Management System successfully automates the process of managing tenant records, lease contracts, and rent payments. By using Salesforce tools, the system improves efficiency, reduces manual errors, and ensures timely reminders for payment and contract renewals. Overall, it enhances transparency and makes lease handling faster, accurate, and more organized.

8.2 Future Enhancements

- Integrate online payment gateway
- Add mobile application
- Enable AI-based rent forecasting

APPENDIX - SCREENSHOTS

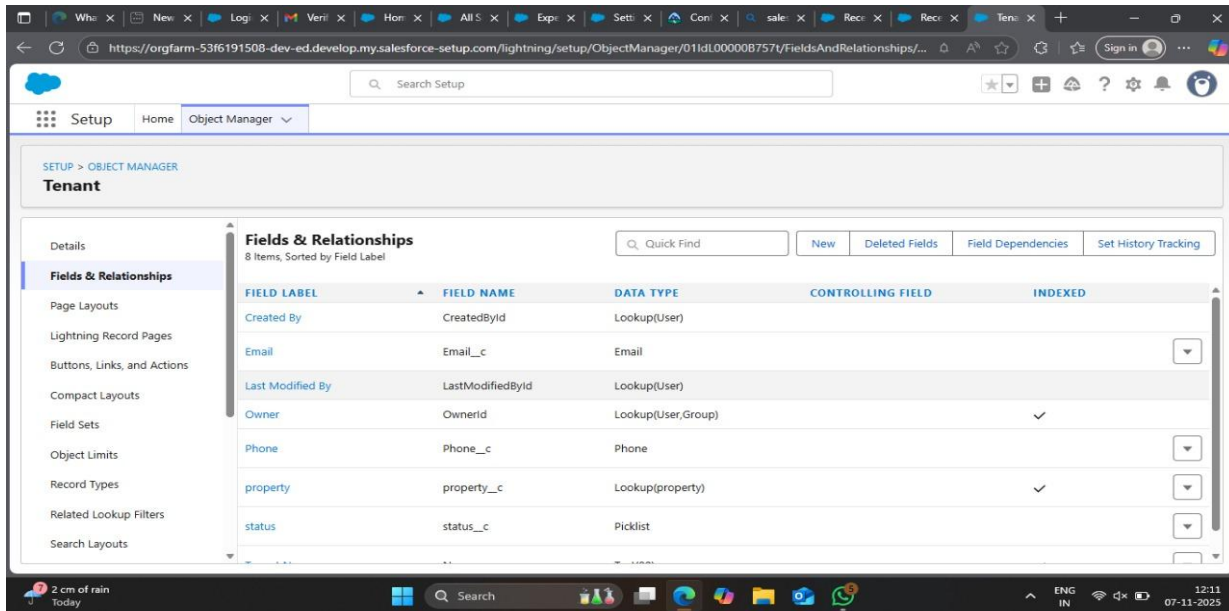
Lease Management App home



The top screenshot shows the 'New lease' modal form. It has a title bar 'New lease' and a subtitle '* = Required Information'. The form is divided into two columns. The left column contains fields for 'Lease Name' (required), 'start date', 'End date', and 'property' (with a search bar). The right column contains the 'Owner' field, which is populated with 'Vishnu D K'. At the bottom are 'Cancel', 'Save & New', and 'Save' buttons.

The bottom screenshot shows the 'New property' modal form. It has a title bar 'New property' and a subtitle '* = Required Information'. The form is divided into two columns. The left column contains fields for 'property Name' (required), 'Name', 'Address', and 'Type'. The 'Type' field has a dropdown menu with 'Available' and 'Chosen' options. The right column contains the 'Owner' field, which is populated with 'Vishnu D K'. At the bottom are 'Cancel', 'Save & New', and 'Save' buttons.

Fields & Relationship for an object



SETUP > OBJECT MANAGER
Tenant

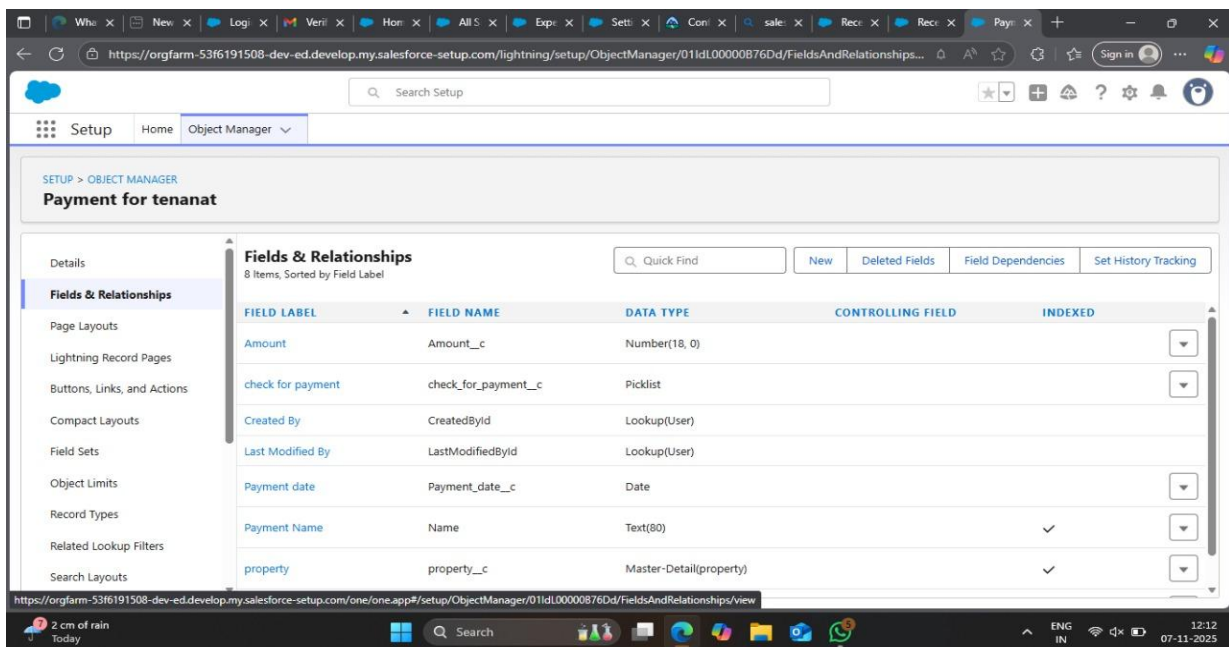
Details

Fields & Relationships
8 Items, Sorted by Field Label

Quick Find

New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Email	Email_c	Email		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Phone	Phone_c	Phone		
property	property_c	Lookup(property)		✓
status	status_c	Picklist		



SETUP > OBJECT MANAGER
Payment for tenant

Details

Fields & Relationships
8 Items, Sorted by Field Label

Quick Find

New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount	Amount_c	Number(18, 0)		
check for payment	check_for_payment_c	Picklist		
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Payment date	Payment_date_c	Date		
Payment Name	Name	Text(80)		✓
property	property_c	Master-Detail(property)		✓

Setup > OBJECT MANAGER

lease

Details

Fields & Relationships
7 Items, Sorted by Field Label

Quick Find

New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
End date	End_date__c	Date		
Last Modified By	LastModifiedById	Lookup(User)		
lease Name	Name	Text(80)		✓
Owner	OwnerId	Lookup(User,Group)		✓
property	property__c	Lookup(property)		✓
start date	start_date__c	Date		

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

Setup > OBJECT MANAGER

property

Details

Fields & Relationships
8 Items, Sorted by Field Label

Quick Find

New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Address	Addres__c	Long Text Area(32768)		
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Name	Name__c	Text(25)		
Owner	OwnerId	Lookup(User,Group)		✓
property Name	Name	Text(80)		✓
sqft	sqft__c	Text(18)		

Field Sets

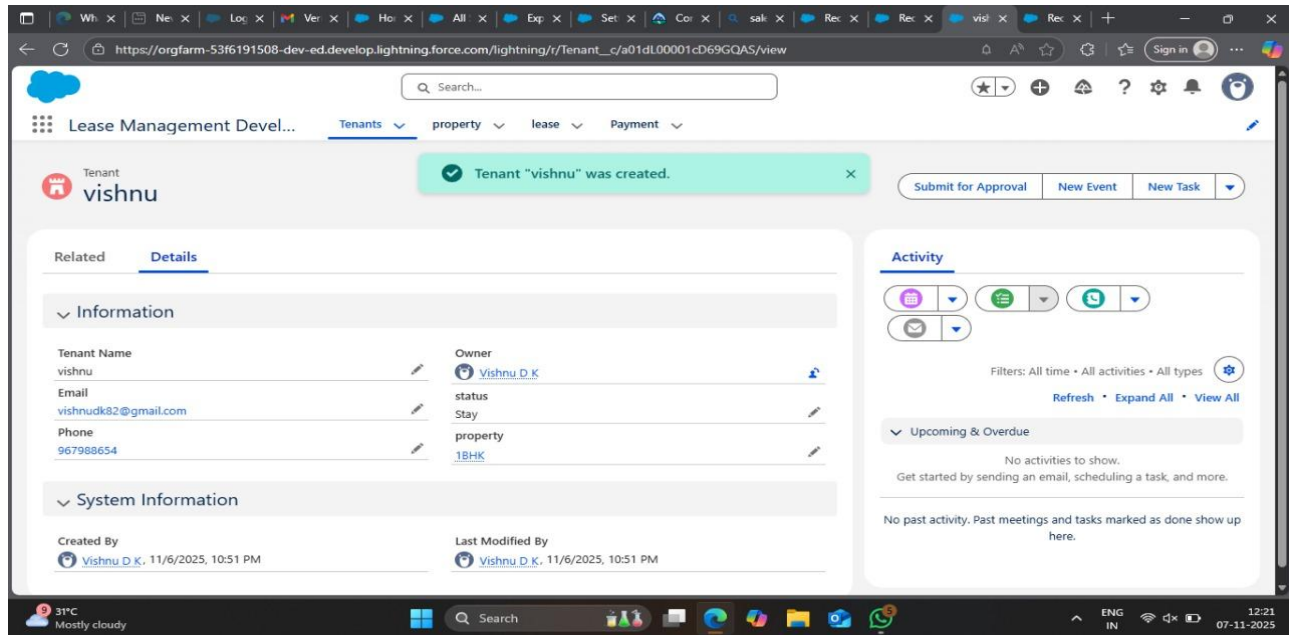
Object Limits

Record Types

Related Lookup Filters

Search Layouts

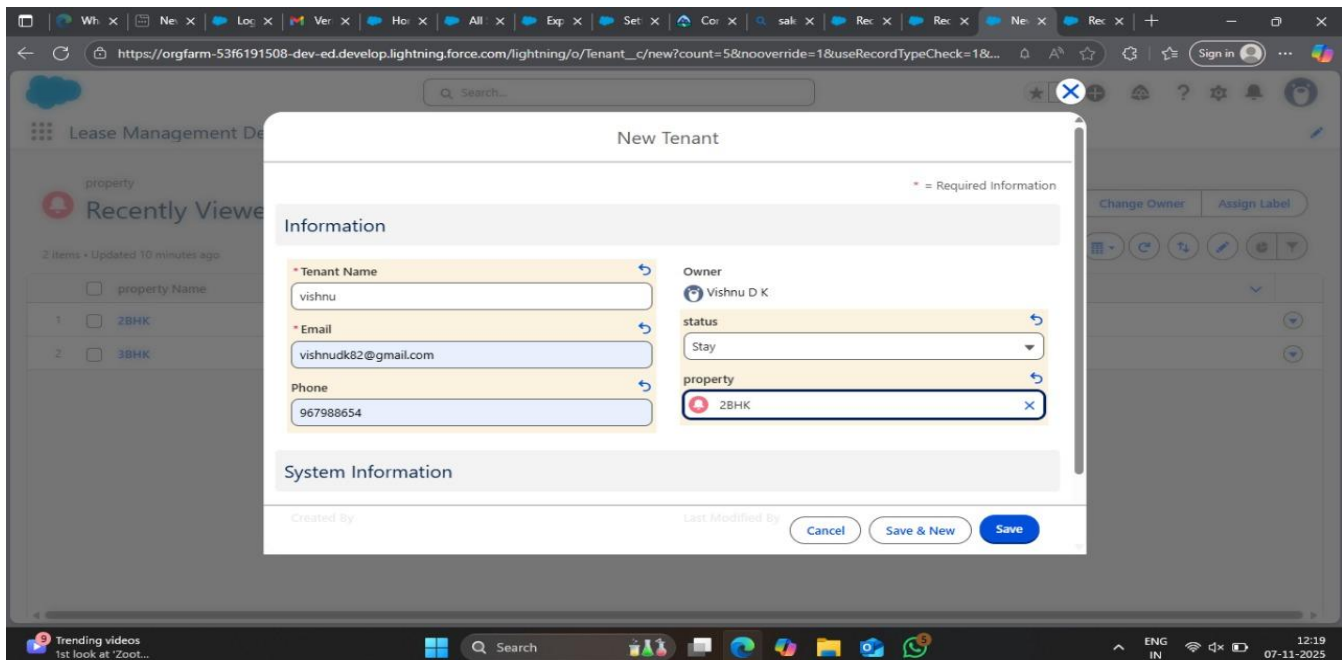
Record Creation(show working flow)



The screenshot shows the Salesforce Lightning interface for a tenant record. The top navigation bar includes the 'Lease Management Development' app and the 'Tenants' tab. A green notification banner at the top states 'Tenant "vishnu" was created.' Below this, the 'Details' tab is active, displaying the tenant's information in a table format. The 'Information' section includes fields for Tenant Name, Email, Phone, Owner, status, and property. The 'System Information' section shows the record was created by 'Vishnu D K' on 11/6/2025 at 10:51 PM. The right sidebar shows the 'Activity' section with filters and a list of upcoming and overdue activities.

Information	
Tenant Name	vishnu
Email	vishnudk82@gmail.com
Phone	967988654
Owner	Vishnu D K
status	Stay
property	1BHK

System Information	
Created By	Vishnu D K, 11/6/2025, 10:51 PM
Last Modified By	Vishnu D K, 11/6/2025, 10:51 PM



The screenshot shows the 'New Tenant' form in the Salesforce Lightning interface. The form is divided into two main sections: 'Information' and 'System Information'. The 'Information' section contains fields for Tenant Name, Email, Phone, Owner, status, and property. The 'System Information' section contains fields for Created by and Last Modified by. The form is displayed over a background of the 'Recently Viewed' list, which shows two items: '2BHK' and '3BHK'.

Information	
Tenant Name	vishnu
Email	vishnudk82@gmail.com
Phone	967988654
Owner	Vishnu D K
status	Stay
property	2BHK

System Information	
Created by	
Last Modified by	

https://orgfarm-53f6191508-dev-ed.develop.lightning.force.com/lightning/o/lease_c/new?count=7&nooverride=1&useRecordTypeCheck=1&na...

Lease Management Dashboard

Recently Viewed

0 items • Updated a few seconds ago

New lease

* = Required information

Information

* Lease Name

start date

End date

property

Owner Vishnu D K

Change Owner Assign Label

Cancel Save & New Save

Nothing to see here

31°C Mostly cloudy

Search

ENG IN 12:23 07-11-2025

https://orgfarm-53f6191508-dev-ed.develop.lightning.force.com/lightning/o/property_c/new?count=6&nooverride=1&useRecordTypeCheck=1...

Lease Management Dashboard

Recently Viewed

0 items • Updated a few seconds ago

properties

1BHK

* Name

Address

Type

Available

2BHK

3BHK

Chosen

1BHK

sqft

Owner Vishnu D K

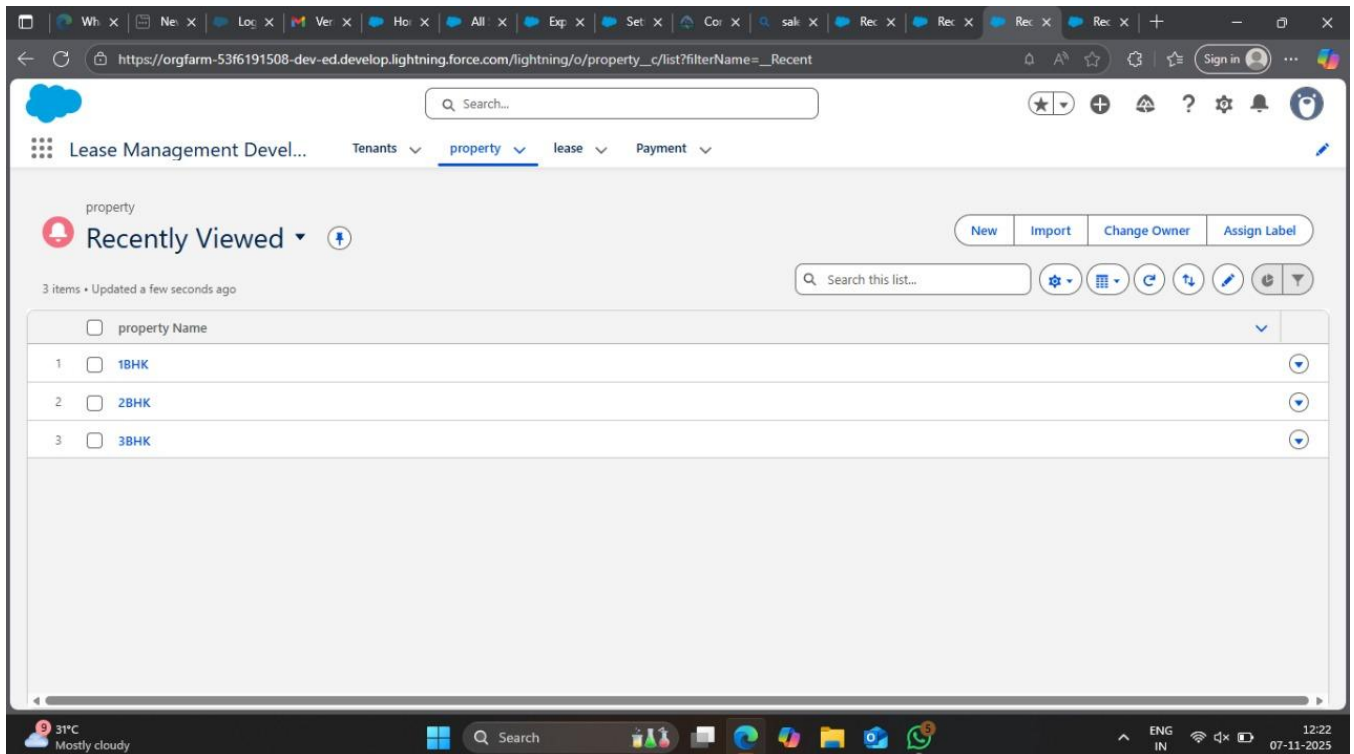
Change Owner Assign Label

Cancel Save

31°C Mostly cloudy

Search

ENG IN 12:21 07-11-2025



Lease Management Development

Tenants **property** lease Payment

property

Recently Viewed

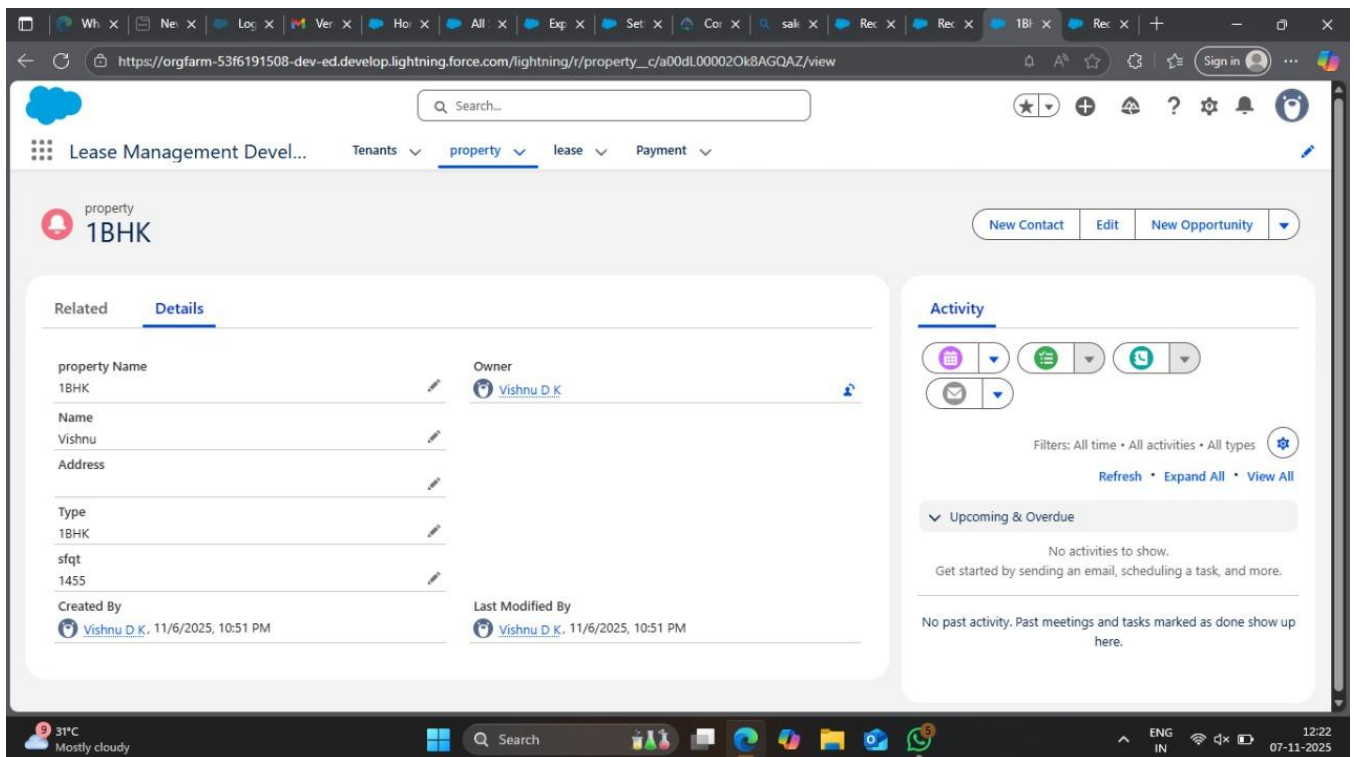
3 items • Updated a few seconds ago

Search this list...

	property Name
1	1BHK
2	2BHK
3	3BHK

31°C Mostly cloudy

12:22 07-11-2025



Lease Management Development

Tenants **property** lease Payment

property

1BHK

New Contact Edit New Opportunity

Related Details

property Name	1BHK	Owner	Vishnu D K
Name	Vishnu		
Address			
Type	1BHK		
sqft	1455		
Created By	Vishnu D K, 11/6/2025, 10:51 PM	Last Modified By	Vishnu D K, 11/6/2025, 10:51 PM

Activity

Filters: All time • All activities • All types

Refresh Expand All View All

Upcoming & Overdue

No activities to show.

Get started by sending an email, scheduling a task, and more.

No past activity. Past meetings and tasks marked as done show up here.

31°C Mostly cloudy

12:22 07-11-2025

Information

* Payment Name
Bank

Payment date
11/6/2025

Amount
100,000

check for payment
Paid

* property
1BHK

Tenant
vishnu

Cancel Save & New Save

Nothing to see here

Payment for tenantat Bank

Payment for tenantat "Bank" was created.

New Contact Edit New Opportunity

Related Details

Payment Name
Bank

Payment date
11/6/2025

Amount
100,000

check for payment
Paid

property
1BHK

Tenant
vishnu

Created By
Vishnu D.K., 11/6/2025, 10:56 PM

Last Modified By
Vishnu D.K., 11/6/2025, 10:56 PM

Activity

Filters: All time • All activities • All types

Refresh Expand All View All

Upcoming & Overdue

No activities to show.
Get started by sending an email, scheduling a task, and more.

No past activity. Past meetings and tasks marked as done show up here.

1. REFERENCE:

- 1) Salesforce Trailhead Documentation — <https://trailhead.salesforce.com>
- 2) SmartInternz Naan Mudhalvan Portal— <https://nme.smartinternz.com>
- 3) Salesforce Developer Guide — <https://developer.salesforce.com>
- 4) GitHub Repository — <https://github.com/susmi3264-blip/LEASE-MANAGEMENT-.git>