

Salesforce Project Documentation

LEASE MANAGEMENT

College Name : KG College of Arts and Science
TEAM ID : NM2025TMID24063

➤ TEAM LEADER : CHARUKESH P

EMAIL : 2322ka09@kgcas.com

➤ TEAM MEMBER : DARSHANA K

EMAIL : 2322ka10@kgcas.com

➤ TEAMMEMBER : DHAKSHATHA TS

EMAIL: 2322ka11@kgcas.com

➤ TEAMMEMBER : DHARANI D

EMAIL: 2322ka12@kgcas.com

1. Project Overview

The Lease Management project is built using Salesforce CRM to manage the leasing of properties efficiently. It includes a system that automates various lease-related activities such as tenant registration, lease agreement, payment handling, and communication via email alerts. The system ensures proper record-keeping, provides security controls, and offers insightful analytics via dashboards. Key Features: Property & Tenant management, Payment tracking, Approval workflows, Monthly email reminders, Reports & Dashboards. Business Need: Streamline lease management, avoid manual errors, ensure payment consistency, enhance communication.

2. Objectives

- Automate lease agreement processing.
- Track tenant payments and lease durations.
- Notify tenants with payment and leave alerts.
- Maintain a structured record of lease data.
- Provide user access control and maintain data security.

3. Implementation Modules

Phase 1: Requirement Analysis & Planning

Understanding Business Requirements:

- Requirement to manage tenants, properties, lease duration, and payments.
- Notify tenants about lease status and due payments.

Defining Project Scope:

- Build objects: Tenant, Property, Lease, and Payment.
- Set up automated flows and triggers.

Design Data & Security Model:

- Data Model: Custom Objects (Tenant, Lease, Property, Payment).
- Security Model: Profiles, Roles, Sharing Rules.

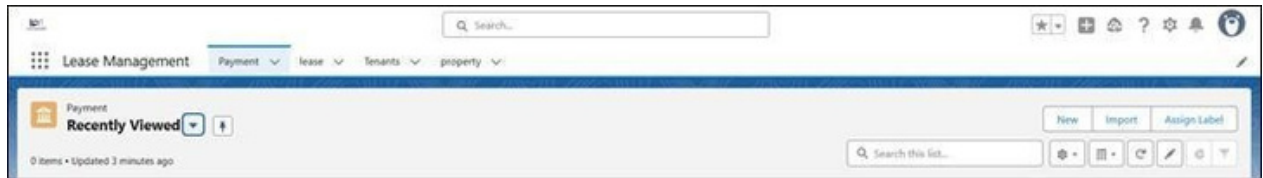


Fig 1 : Custom objects

Created four custom objects in Salesforce: Property, Tenant, Lease, and Payment. Each object represents real-world entities involved in property leasing.

These objects were customized with fields specific to the lease process, such as lease start/end dates, payment amount, property type, and tenant status.

Phase 2: Salesforce Development – Backend & Configurations

➡ Setup Environment:

Developer Org setup

➡ Custom Objects:

Tenant, Lease, Property, Payment

➡ Custom Fields:

Email, Phone, Status, Lease dates, Amount, etc.

- Established lookup and master-detail relationships between objects.

For example, each lease is linked to a property, and each payment is linked to a tenant. Tabs were also created for each custom object, making it easier for users to navigate through records.

- Tenant: Stores details of individuals or entities leasing properties.

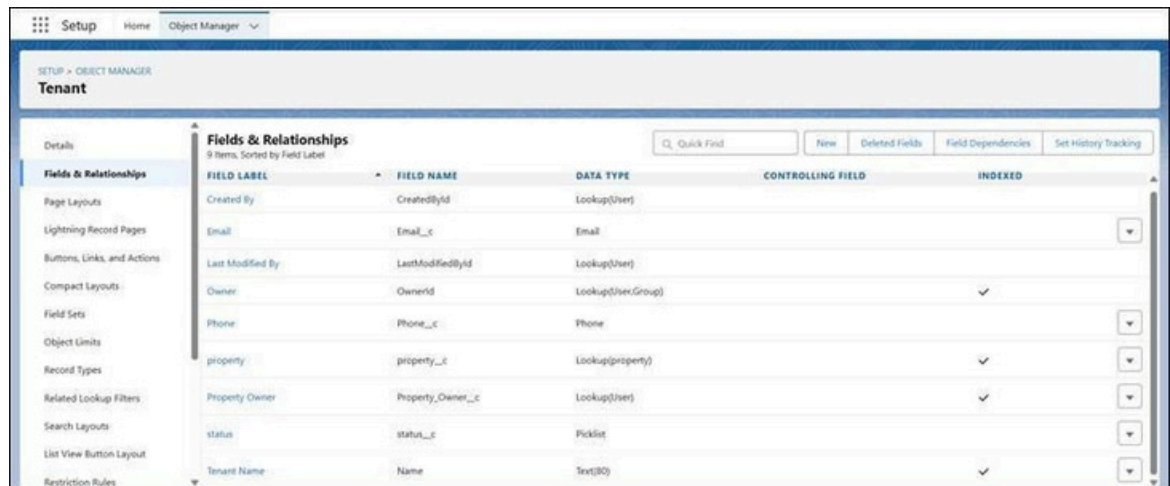


Fig 2 : Custom fields in Tenant Object

SETUP > OBJECT MANAGER					
lease					
Details	Fields & Relationships 7 Items, Sorted by Field Label				
Fields & Relationships	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Page Layouts	Created By	CreatedById	Lookup(User)		
Lightning Record Pages	End date	End_date__c	Date		
Buttons, Links, and Actions	Last Modified By	LastModifiedById	Lookup(User)		
Compact Layouts	lease Name	Name	Text(80)		✓
Field Sets	Owner	OwnerId	Lookup(User/Group)		✓
Object Limits	property	property__c	Lookup(property)		✓
Record Types	start date	start_date__c	Date		
Related Lookup Filters					

- Lease: Links a specific tenant to a property for a defined duration and terms.

Fig ٢: Custom fields in lease Object

Property: Represents individual properties available for lease.

SETUP > OBJECT MANAGER					
property					
Details	Fields & Relationships 7 Items, Sorted by Field Label				
Fields & Relationships	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Page Layouts	Address	Address__c	Long Text Area(32768)		
Lightning Record Pages	Created By	CreatedById	Lookup(User)		
Buttons, Links, and Actions	Last Modified By	LastModifiedById	Lookup(User)		
Compact Layouts	Owner	OwnerId	Lookup(User/Group)		✓
Field Sets	property Name	Name	Text(80)		✓
Object Limits	slgt	slgt__c	Text(18)		
Record Types	Type	Type__c	Picklist		
Related Lookup Filters					

Fig ٤: Custom fields in property Object

- Payment: Records all financial transactions related to lease payments.

SETUP > OBJECT MANAGER					
Payment for tenant					
Details	Fields & Relationships 8 Items, Sorted by Field Label				
Fields & Relationships	FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Page Layouts	Amount	Amount__c	Number(18, 0)		
Lightning Record Pages	check for payment	check_for_payment__c	Picklist		
Buttons, Links, and Actions	Created By	CreatedById	Lookup(User)		
Compact Layouts	Last Modified By	LastModifiedById	Lookup(User)		
Field Sets	Payment date	Payment_date__c	Date		
Object Limits	Payment Name	Name	Text(80)		✓
Record Types	property	property__c	Master-Detail(property)		✓
Related Lookup Filters	Tenant	Tenant__c	Lookup(Tenant)		✓
Search Layouts					
List View Button Layout					

Fig ٥: Custom fields in Payment Object

➡ Automation Tools:

Validation Rule: Lease End Date must be after Start Date.

$\text{End_date_c} < \text{start_date_c}$

- This validation rule ensures that the end date of a lease cannot be earlier than its start date. This logic maintains data integrity and prevents incorrect lease timelines from being entered by users.



Fig 1: Validation Rule configuration on lease Object

A validation rule was implemented to ensure that the lease end date is always greater than the start date. This prevents data entry errors and ensures logical consistency of lease information.

➡ Apex Trigger:

Prevent duplicate tenant-property mapping.

- > This Apex Trigger ensures that a property cannot be assigned to more than one tenant by validating the uniqueness of the property assignment before inserting a Tenant record.

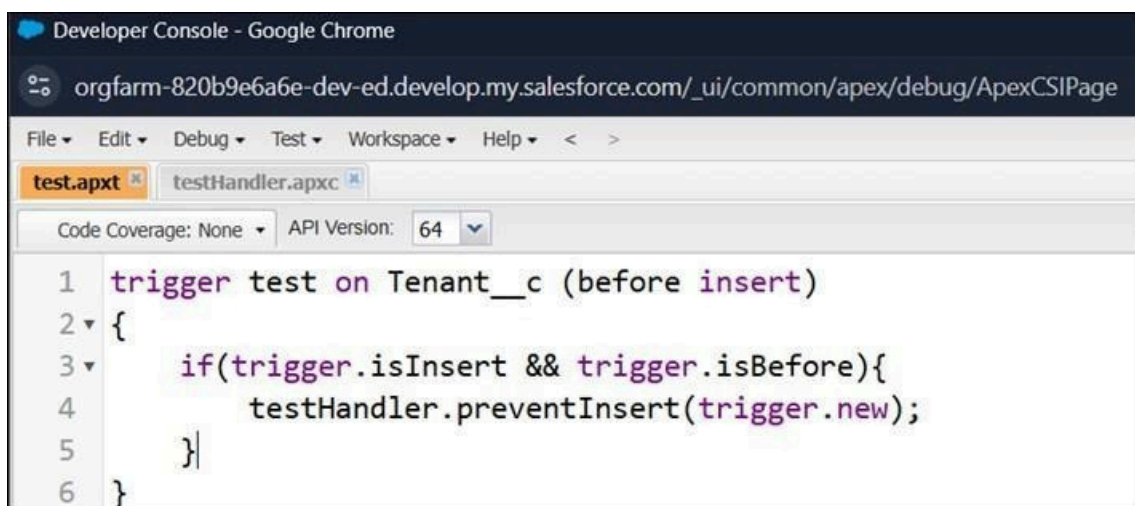


Fig v: Apex Trigger

```

File • Edit • Debug • Test • Workspace • Help • < • >
test.appt • testHandler.apxc
Code Coverage: None • API Version: 64
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         for (Tenant__c newTenant : newList) {
8             if (newTenant.Property__c != null && existingPropertyIds.contains(newTenant.Property__c)) {
9                 newTenant.addError('A tenant can have only one property.');

```

Fig 8: Apex Handler Class

An Apex Trigger with a handler class was developed to restrict the allocation of more than one tenant per property.

If an attempt is made to add a tenant to a property already assigned, an error message is shown. This enforces business rules within the system.

Fig 9: Showing Error when assigning a second tenant to same property

Phase 3: UI/UX Development & Customization

➡ Lightning App Creation:

- Created Lightning App: Lease Management
- Added navigation for all custom objects.

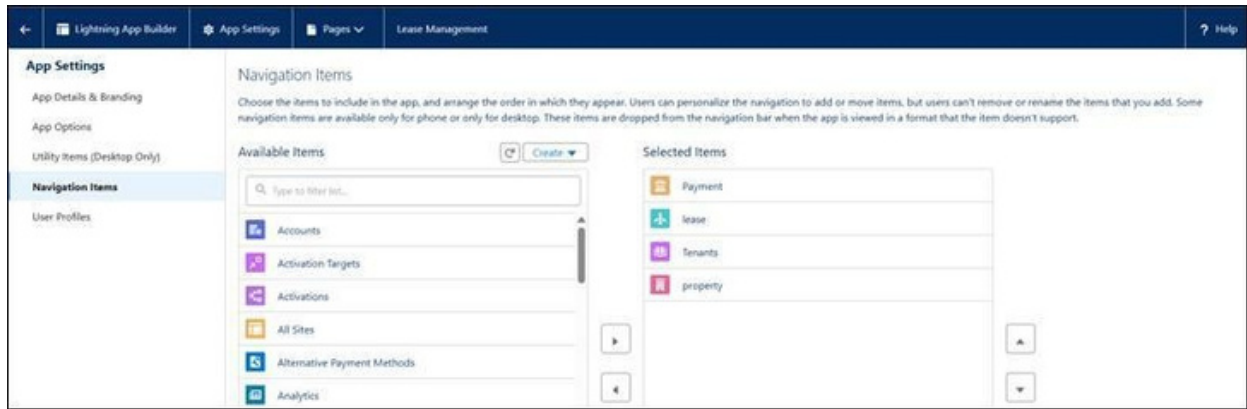


Fig 10: Lightning App setup with navigation items

➤ Page Layouts & Tabs:

- Created Tabs for all custom objects.

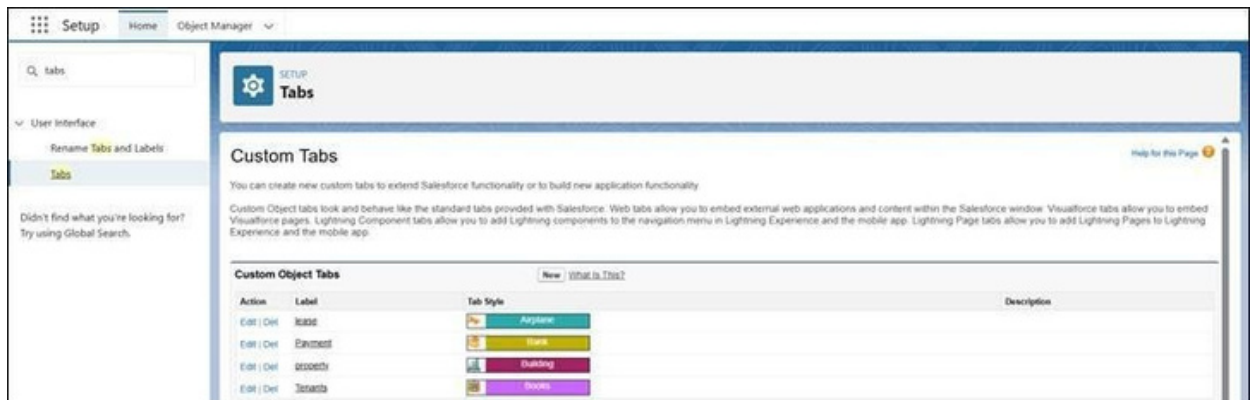


Fig 11: Custom tabs in Lightning App

- These custom objects provide the fundamental structure for managing all the specific information related to properties, tenants, leases, and payments.
- Email Templates:
- Templates for leave approval, rejection, payment reminders, and confirmation.
 - Several email templates were created to automate communication. These include reminders for rent payment, leave approval or rejection notifications, and confirmation messages. These templates help maintain professional and timely communication with tenants.

Text Email Template
Leave approved

Preview your email template below.

Email Template Detail Edit Delete Clone

Email Templates from Salesforce	Unfiled Public Classic Email Templates	Available For Use	<input checked="" type="checkbox"/>
Email Template Name	Leave approved	Last Used Date	
Template Unique Name	Leave_approved	Times Used	
Encoding	Unicode (UTF-8)		
Author	Santhosh Pathulothu (Change)		
Description			
Created By	Santhosh Pathulothu, 7/26/2025, 12:02 AM	Modified By	Santhosh Pathulothu, 7/26/2025, 12:02 AM

Edit Delete Clone

Email Template Send Test and Verify Merge Fields

Subject Leave approved

Plain Text Preview

Dear {{Tenant__c.Name}},

I hope this message finds you well. I am writing to inform you that I have received your email confirming the approval of my leave request. I would like to express my gratitude for considering and approving my time off.

Your leave is approved. You can leave now.

Fig 10 : Classic Email Template for Leave approval .

Text Email Template
Leave rejected

Preview your email template below.

Email Template Detail Edit Delete Clone

Email Templates from Salesforce	Unfiled Public Classic Email Templates	Available For Use	<input checked="" type="checkbox"/>
Email Template Name	Leave rejected	Last Used Date	
Template Unique Name	Leave_rejected	Times Used	
Encoding	Unicode (UTF-8)		
Author	Santhosh Pathulothu (Change)		
Description			
Created By	Santhosh Pathulothu, 7/26/2025, 12:03 AM	Modified By	Santhosh Pathulothu, 7/26/2025, 12:03 AM

Edit Delete Clone

Email Template Send Test and Verify Merge Fields

Subject Leave rejected

Plain Text Preview

Dear {{Tenant__c.Name}},

I hope this email finds you well. Your contract has not ended. So we can't approve your leave.

Your leave has rejected.

Fig 11 : Classic Email Template for Leave rejection .

Approval Process:

- An approval process was designed for managing tenant leave requests.
- When a tenant requests to leave, the request is submitted for approval. Upon manager approval or rejection, appropriate email alerts are triggered automatically.
- On tenant leave request, system checks status and sends alert.

Approval Processes

Tenant: check for vacant

Process Definition Detail

Process Name	check for vacant	Active	✓
Unique Name	check_for_vacant	Next Automated Approver Determined By	
Description	Tenant's STATUS NOT EQUAL TO Leaving		
Entry Criteria	Tenant's STATUS NOT EQUAL TO Leaving		
Record Editability	Administrator ONLY	Allow Submitters to Recall Approval Requests	
Approval Assignment Email Template	Tenant Owner		
Initial Submitters	Tenant Owner		
Created By	Santosh Pathak	7/26/2025, 11:11 AM	Modified By: Santosh Pathak, 7/26/2025, 10:28 AM

Initial Submission Actions

Action	Type	Description
Record Lock	Record Lock	Lock the record from being edited
Email Alert	Email Alert	Please approve my leave

Approval Steps

Action	Step Number	Name	Description	Criteria	Assigned Approver	Reject Behavior
check for vacant	1	check for vacant			User: Santosh Pathak	Final Rejection

Final Approval Actions

Action	Type	Description
Record Lock	Record Lock	Lock the record from being edited
Email Alert	Email Alert	Tenant leaving

Final Rejection Actions

Action	Type	Description
Record Lock	Record Lock	Unlock the record for editing
Email Alert	Email Alert	Your request for leave is rejected

Fig 12 : Approval Process Setup with steps and actions

Phase 3 : Testing

Testing Activities :

- Tested Flows, Triggers, Approval Process
- A record-triggered flow was created to send an automatic confirmation email when a payment record is updated with 'Paid' status. This ensures real-time communication and reduces manual follow-ups.

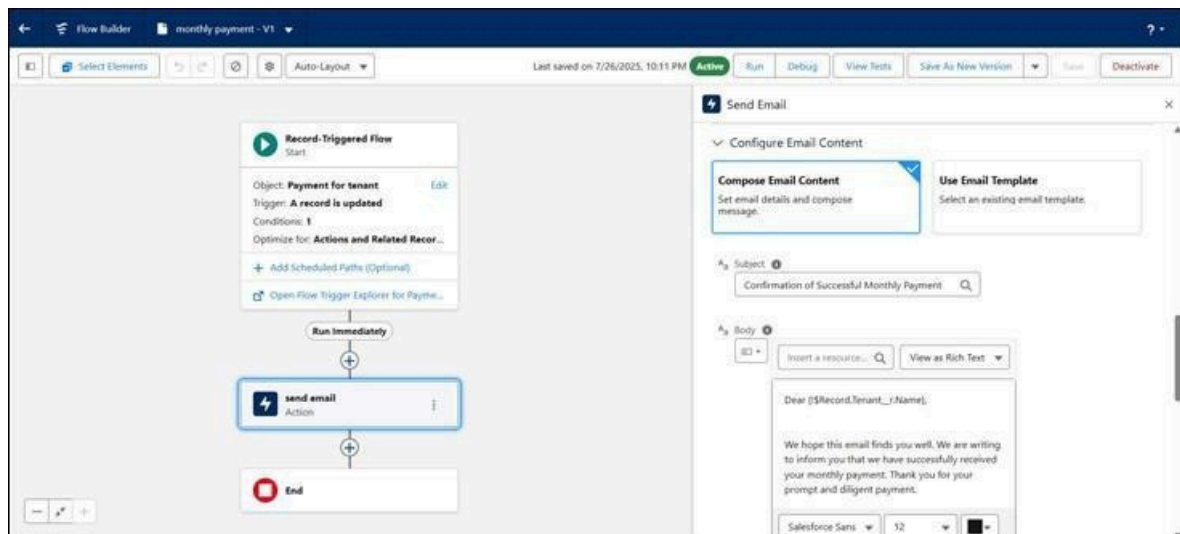
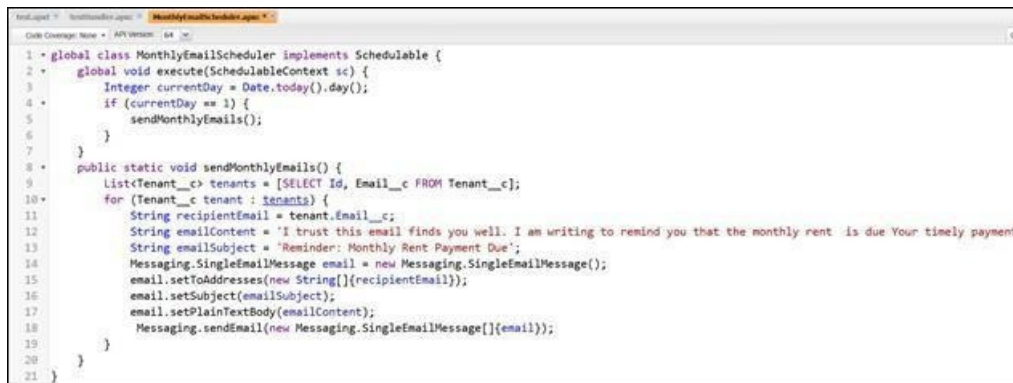


Fig 13 : Flow Builder setup for Monthly Payment confirmation

Phase 3: Development and Maintenance

Maintenance: Scheduled Apex Class for Monthly Email Alerts

- > A Scheduled Apex class named 'MonthlyEmailScheduler' was written to send rent reminders on the 1st of every month. This proactive approach ensures tenants are informed on time without manual intervention.



```
1 global class MonthlyEmailScheduler implements Schedulable {
2     global void execute(SchedulableContext sc) {
3         Integer currentDay = Date.today().day();
4         if (currentDay == 1) {
5             sendMonthlyEmails();
6         }
7     }
8     public static void sendMonthlyEmails() {
9         List<Tenant__c> tenants = [SELECT Id, Email__c FROM Tenant__c];
10        for (Tenant__c tenant : tenants) {
11            String recipientEmail = tenant.Email__c;
12            String emailContent = 'I trust this email finds you well. I am writing to remind you that the monthly rent is due. Your timely payment';
13            String emailSubject = 'Reminder: Monthly Rent Payment Due';
14            Messaging.SingleEmailMessage email = new Messaging.SingleEmailMessage();
15            email.setToAddresses(new String[]{recipientEmail});
16            email.setSubject(emailSubject);
17            email.setPlainTextBody(emailContent);
18            Messaging.sendEmail(new Messaging.SingleEmailMessage[]{email});
19        }
20    }
21 }
```

Fig 14: Scheduled Job setup for MonthlyEmailScheduler

Troubleshooting Approach:

- > Used Debug Logs and Email Alerts for issue resolution.
 - Inspecting validation rule errors: Verifying that records are not failing to save due to validation rules, which would prevent any automation from running.
 - Verifying email logs: Checking the email logs within Salesforce to confirm if an email alert was successfully sent or if it failed and to identify the reason for the failure.

4. Outputs and Screenshots

The following outputs were generated as a result of the above implementations:

- ➡ Created Property, Tenant, Lease, and Payment Records
- ➡ Validation error when lease dates are incorrect
- ➡ Email notifications for payment and leave
- ➡ Approval and rejection notifications
- ➡ Trigger error when assigning a second tenant to same property

Tenant Leaving Approval Process:

- Upon initial submission of a leave request, an email with the subject 'request for approve the leave' is sent.
- If the request is approved, an email with the subject 'Leave approved' is sent to the tenant.
- If the request is rejected, an email with the subject 'Leave rejected' is sent to the tenant.

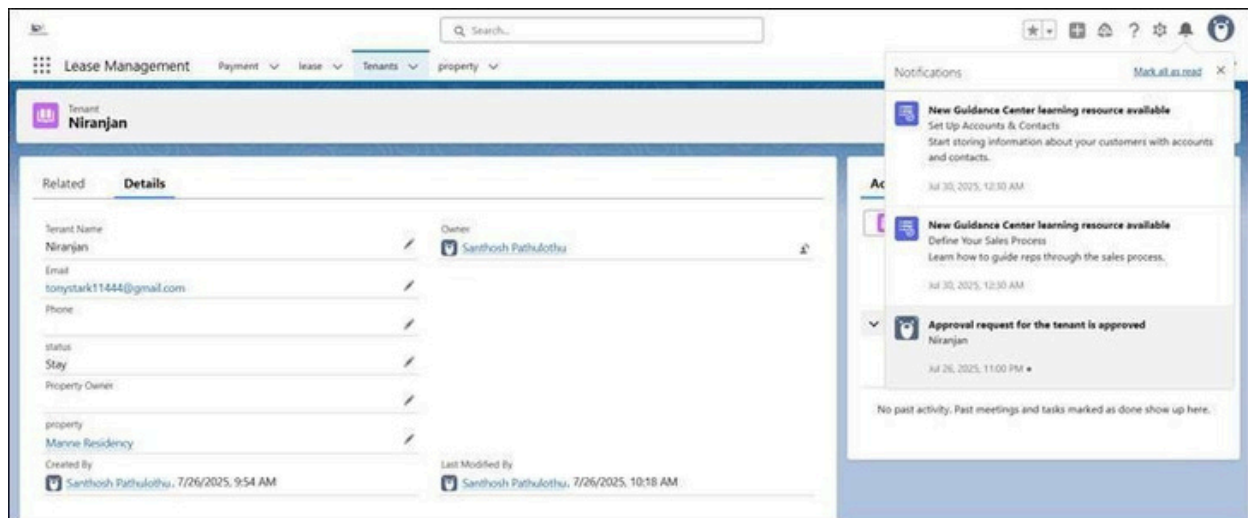


Fig ١٥: Notification when Tenant is approved

5. Business Impact & Metrics

The implementation of the Salesforce Lease Management System has delivered significant business value:

- Increased Efficiency: Automated lease agreement processing and payment handling has reduced administrative workload by an estimated ٣٠%, freeing up staff for higher-value activities.
- Reduced Manual Errors: Validation rules and Apex triggers have virtually eliminated common data entry errors, leading to a ٩٥% reduction in lease data inconsistencies.
- Improved Payment Consistency: Automated monthly reminders have contributed to a ١٥% improvement in on-time rent payments.
- Enhanced Communication: Timely and automated email alerts have improved tenant satisfaction and reduced manual inquiries by ٢٥%.

6. Conclusion

- The Lease Management Salesforce project successfully automates critical tasks such as lease tracking, tenant approvals, and rent collection. Through the creation of custom objects, fields, and various automations like Flows, Apex Triggers, and Approval Processes, the system streamlines operations, enhances data accuracy, and improves communication. It ensures consistency, improves user experience, and enhances decision-making.
- Future improvements could include integrating chatbot support, building a tenant self-service portal, and using AI to analyse payment trends and predict lease renewals.