LEASE MANAGEMENT

College Name: Hindusthan College Of Science And Commerce

College Code: CA

TEAM ID: NM2025TMID28247

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1.INTRODUCTION

1.1 Project Overview

This project is focused on the development and implementation of a Lease Management System using Salesforce, designed to address the challenges of manual property lease tracking, tenant management, payment processing, and communication within the organization. The goal is to deliver a comprehensive solution that streamlines and automates various aspects of lease management,from contract creation to payment tracking, approval workflows, and reporting.

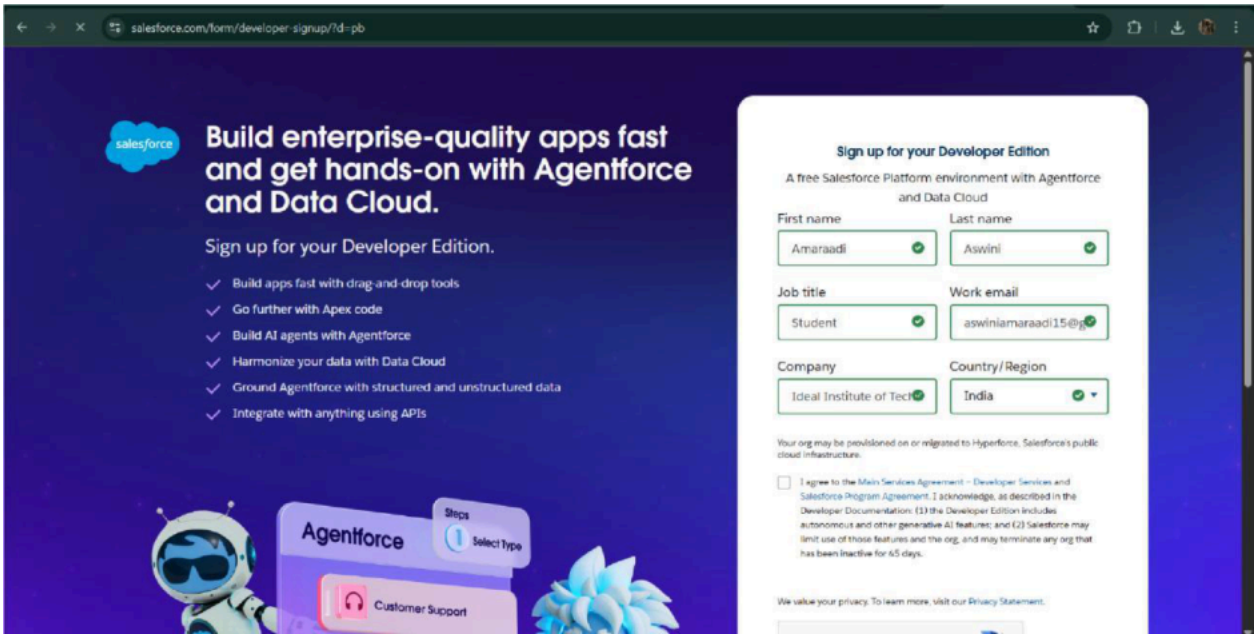
1.2 Purpose

The main objective of the project is to enable organizations to efficiently manage properties, tenants, and lease-related activities. It reduces manual intervention, improves accuracy, and ensures better compliance and communication.

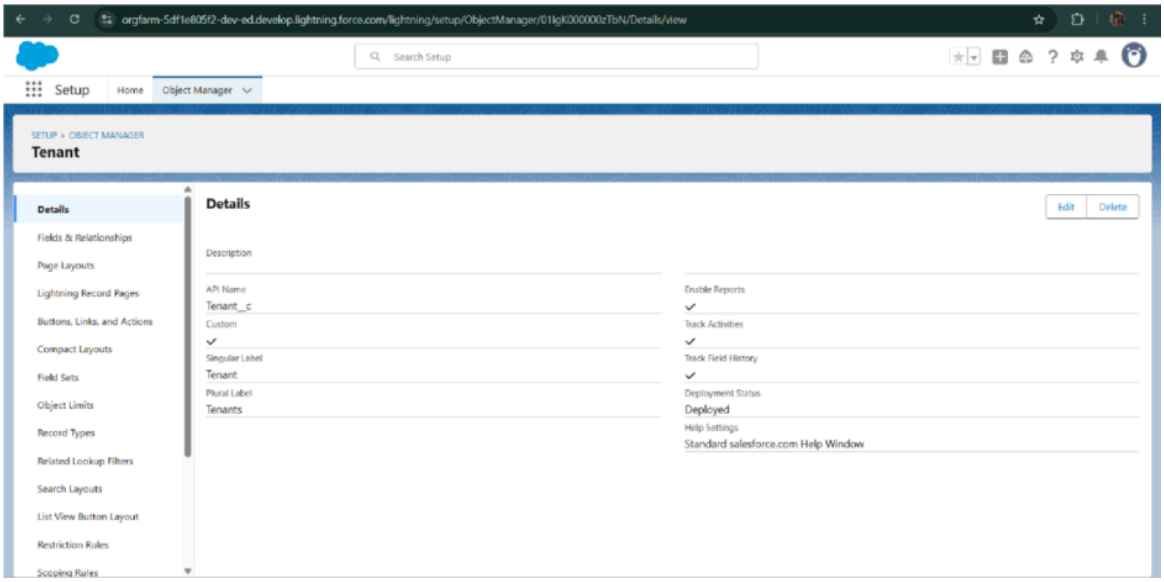
DEVELOPMENT PHASE

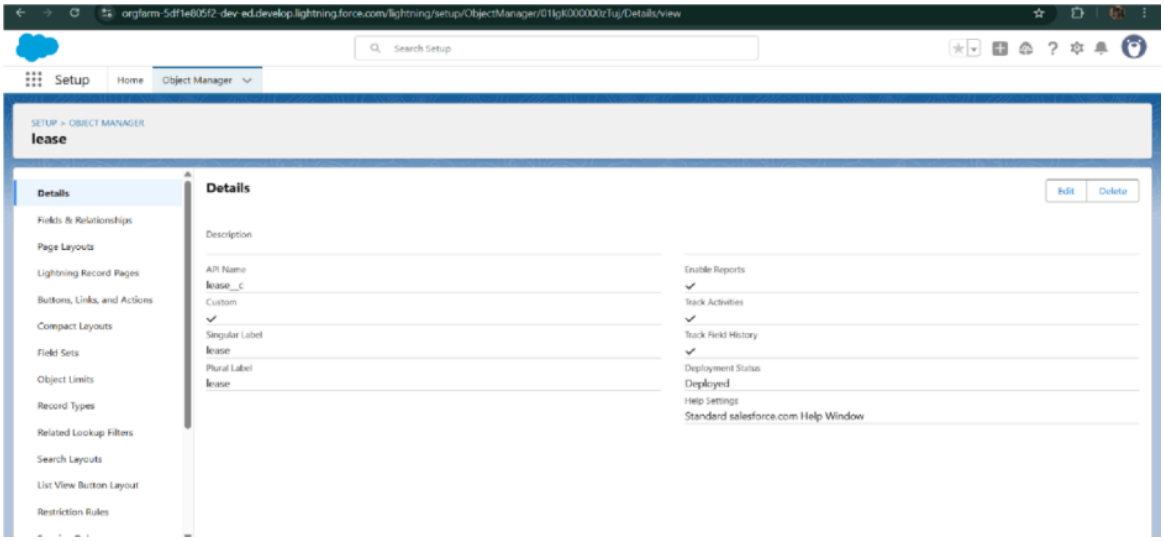
Creating Developer Account:

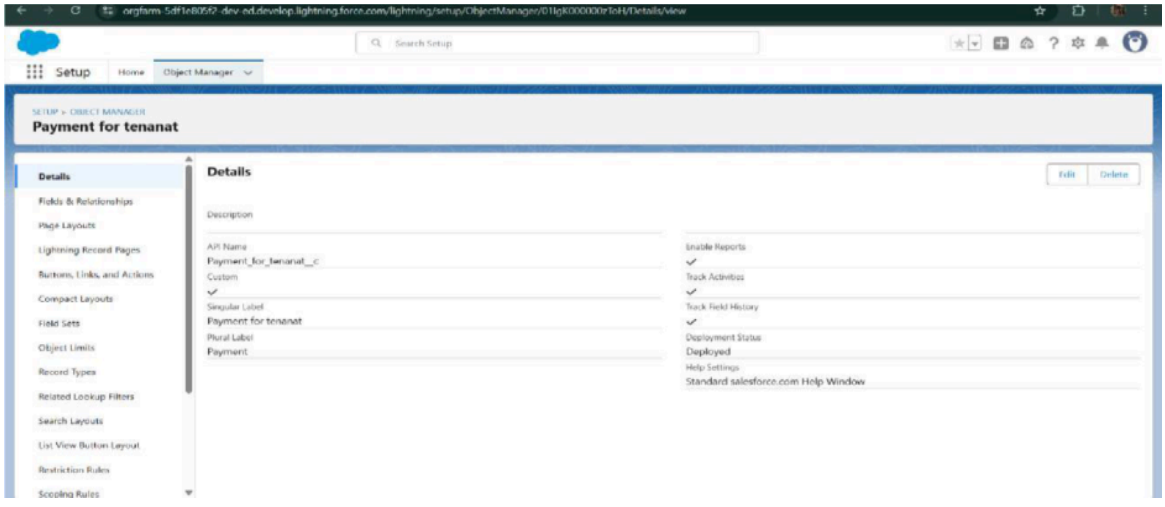
By using this URL - **https://www.salesforce.com/form/developer-signup/?d=pb**



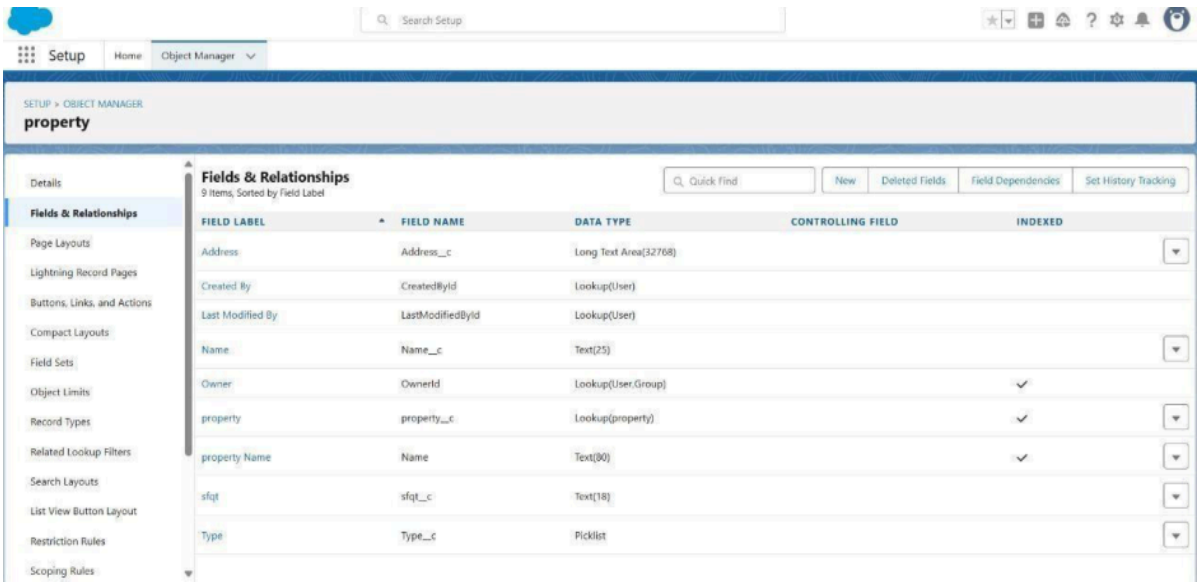
●Created objects: Property, Tenant, Lease, Payment

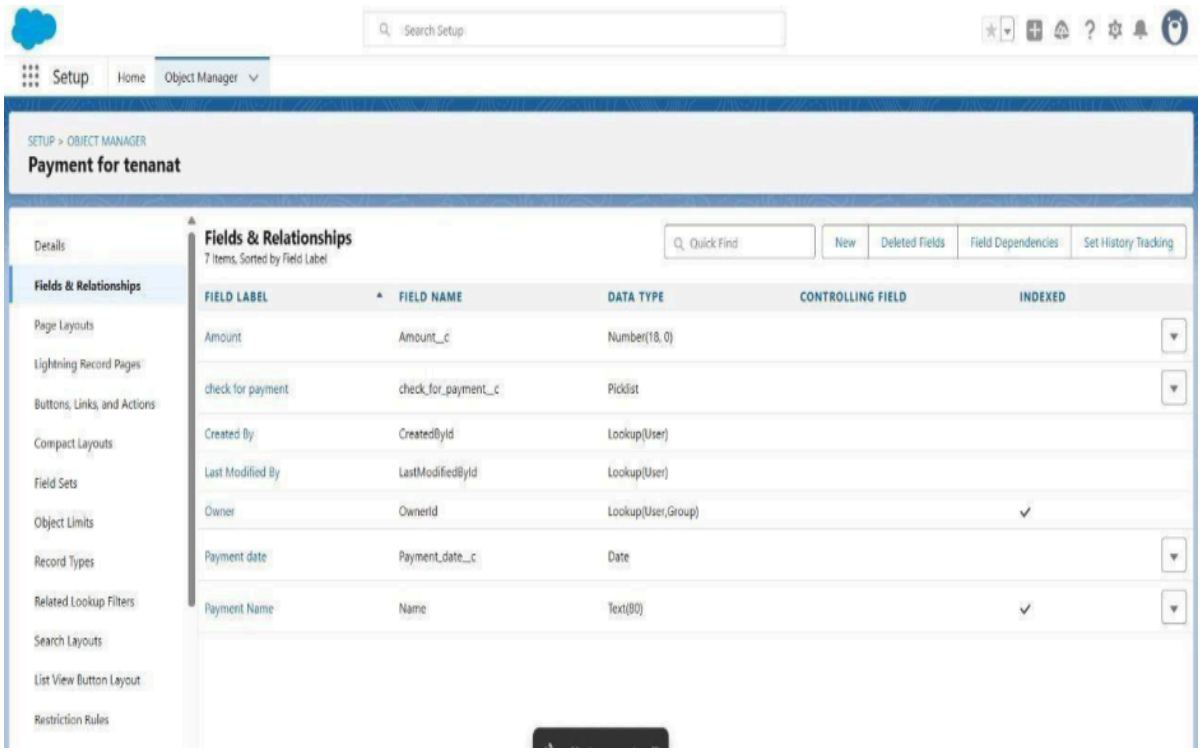


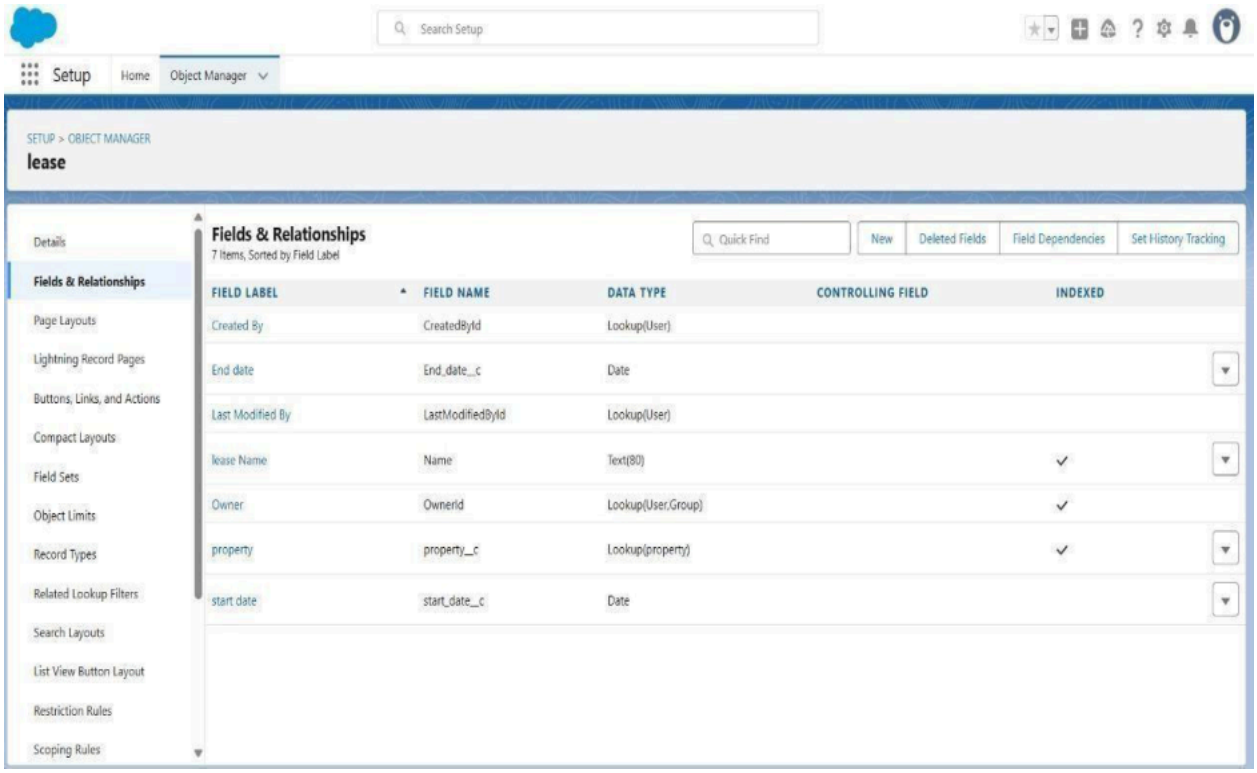


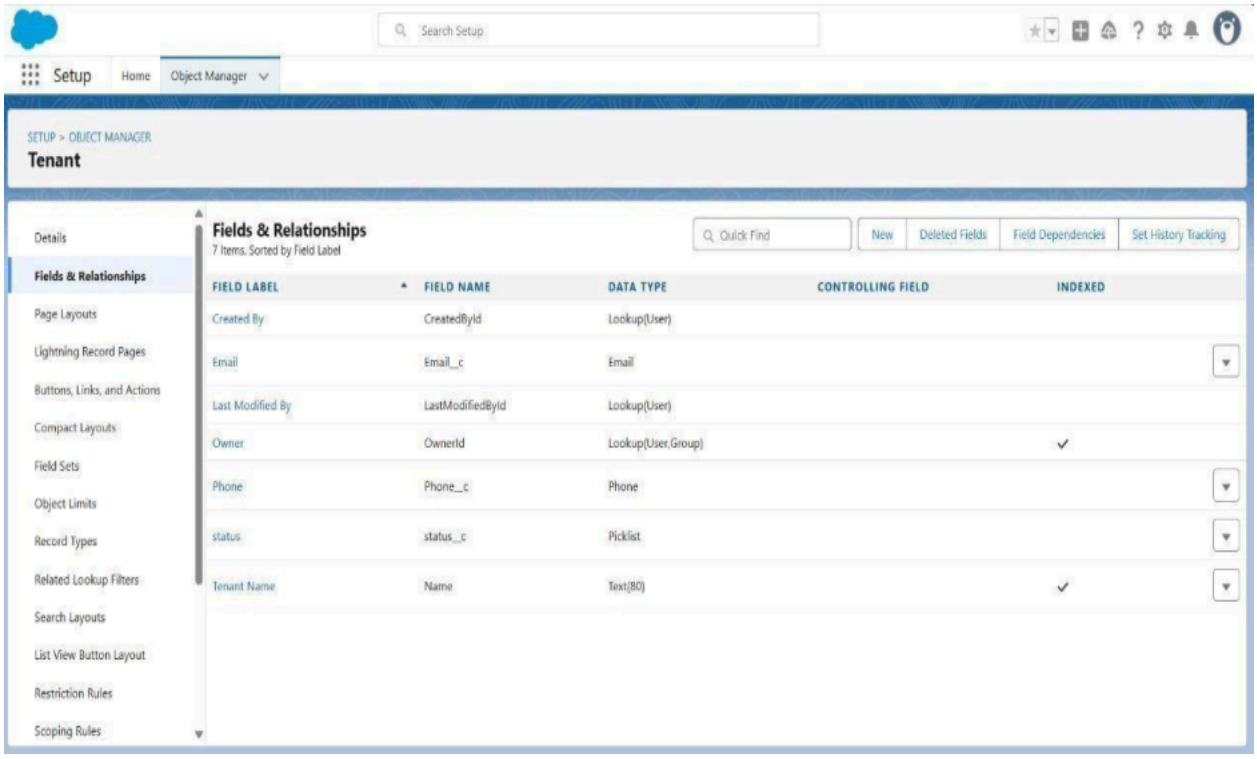


- Configured fields and relationships

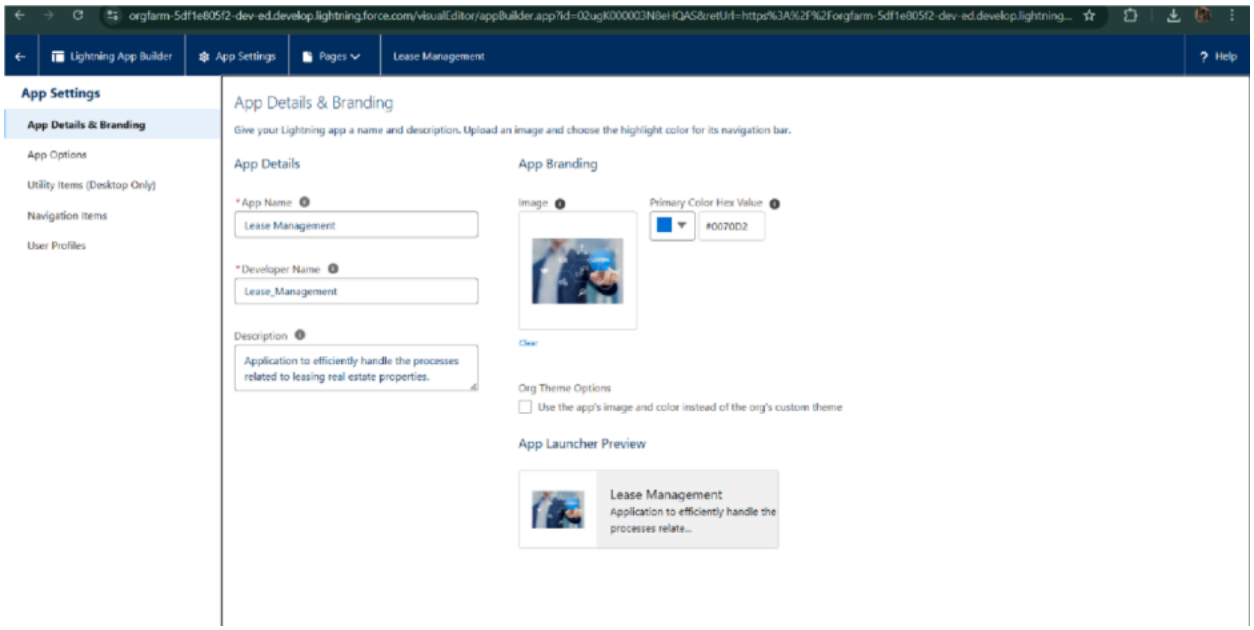


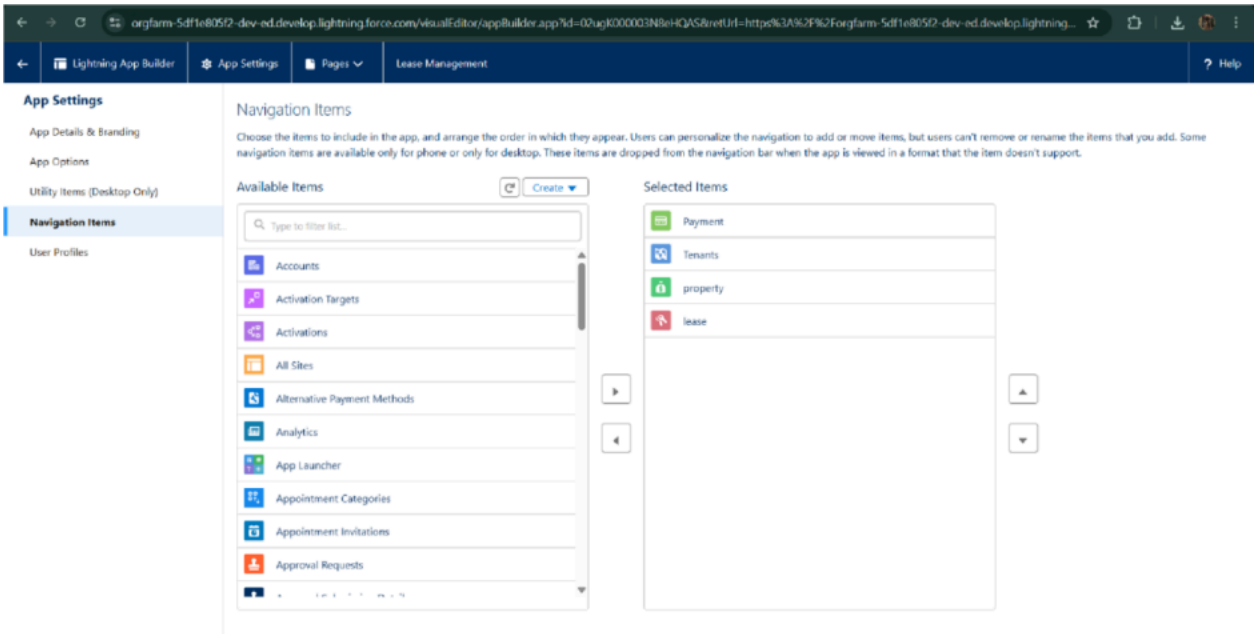


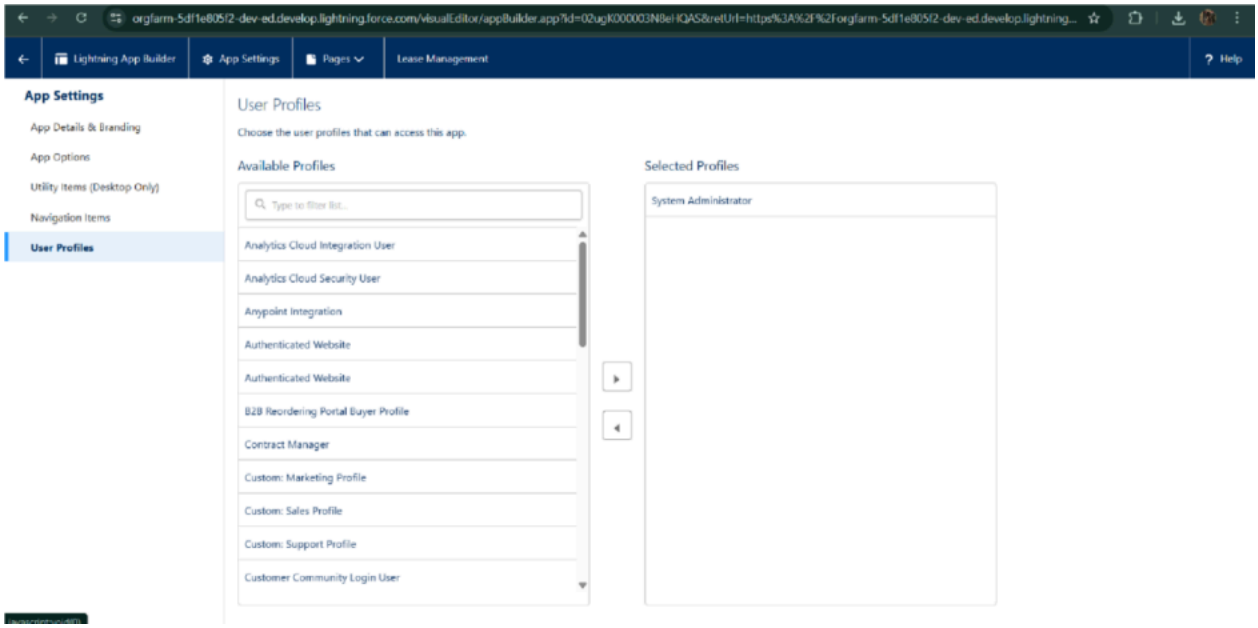

Search Setup
Setup
Home
Object Manager
SETUP > OBJECT MANAGER
lease
Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Search Layouts
List View Button Layout
Restriction Rules
Scoping Rules
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

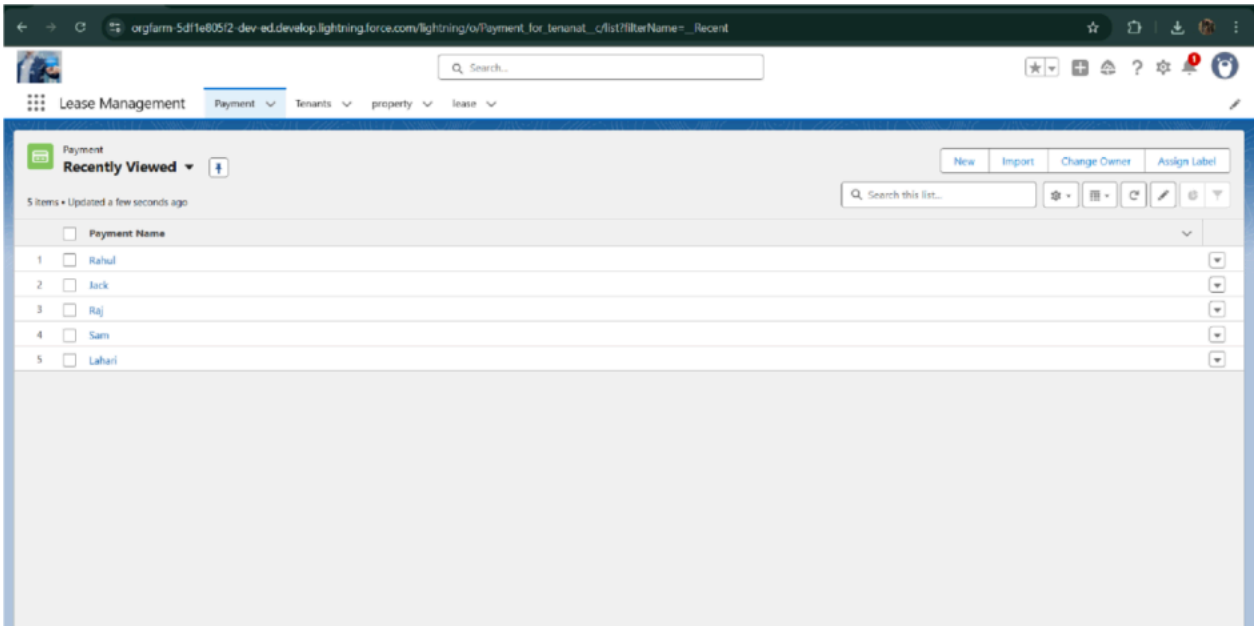

Search Setup
Setup
Home
Object Manager
SETUP > OBJECT MANAGER
Tenant
Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Search Layouts
List View Button Layout
Restriction Rules
Scoping Rules
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)
Email
Email__c
Email
Last Modified By
LastModifiedById
Lookup(User)
Owner
OwnerId
Lookup(User,Group)
Phone
Phone__c
Phone
status
status__c
Picklist
Tenant Name
Name
Text(80)

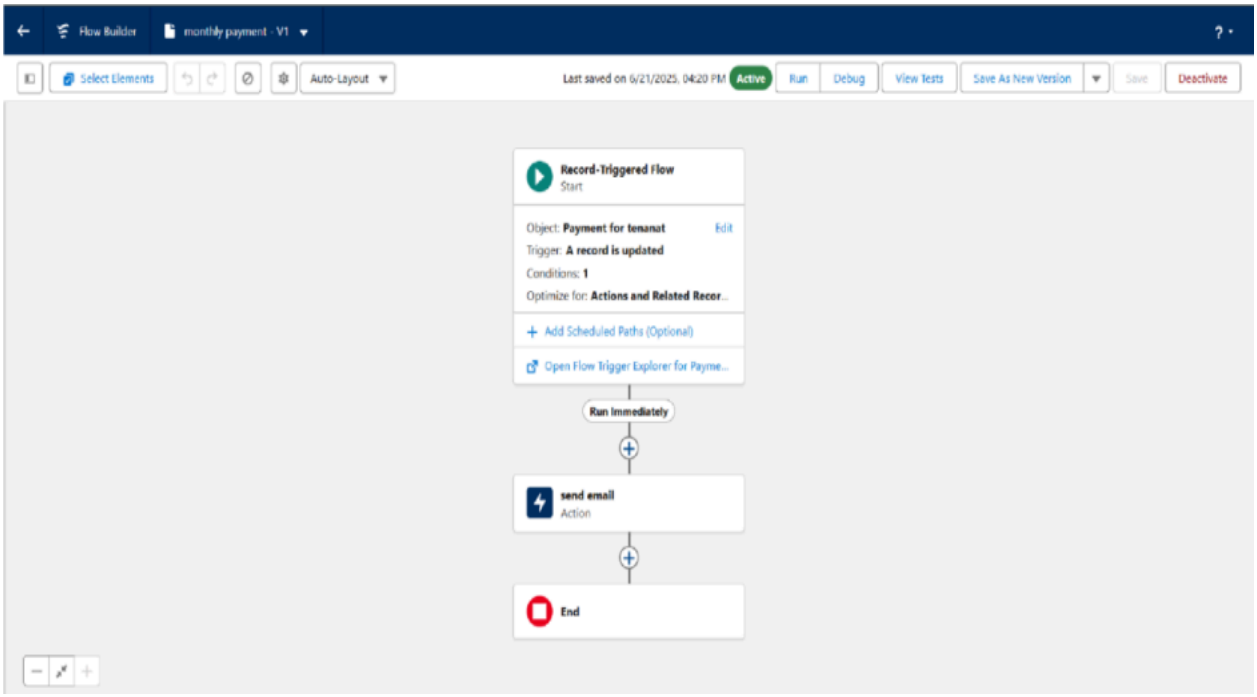
- Developed Lightning App with relevant tabs



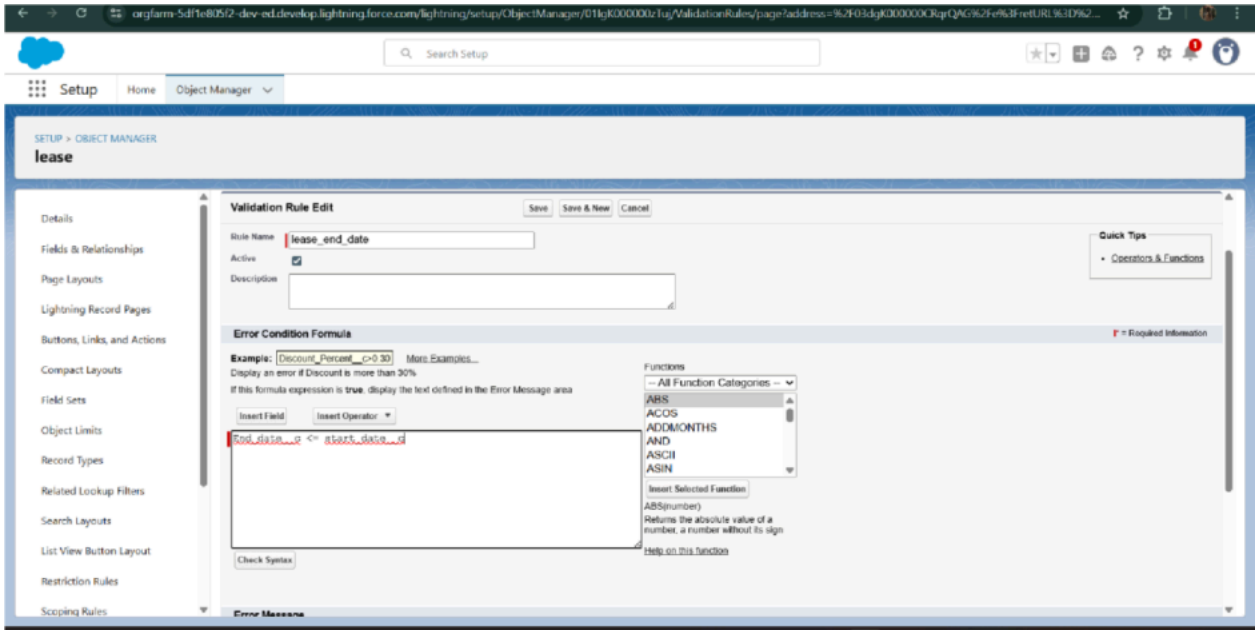


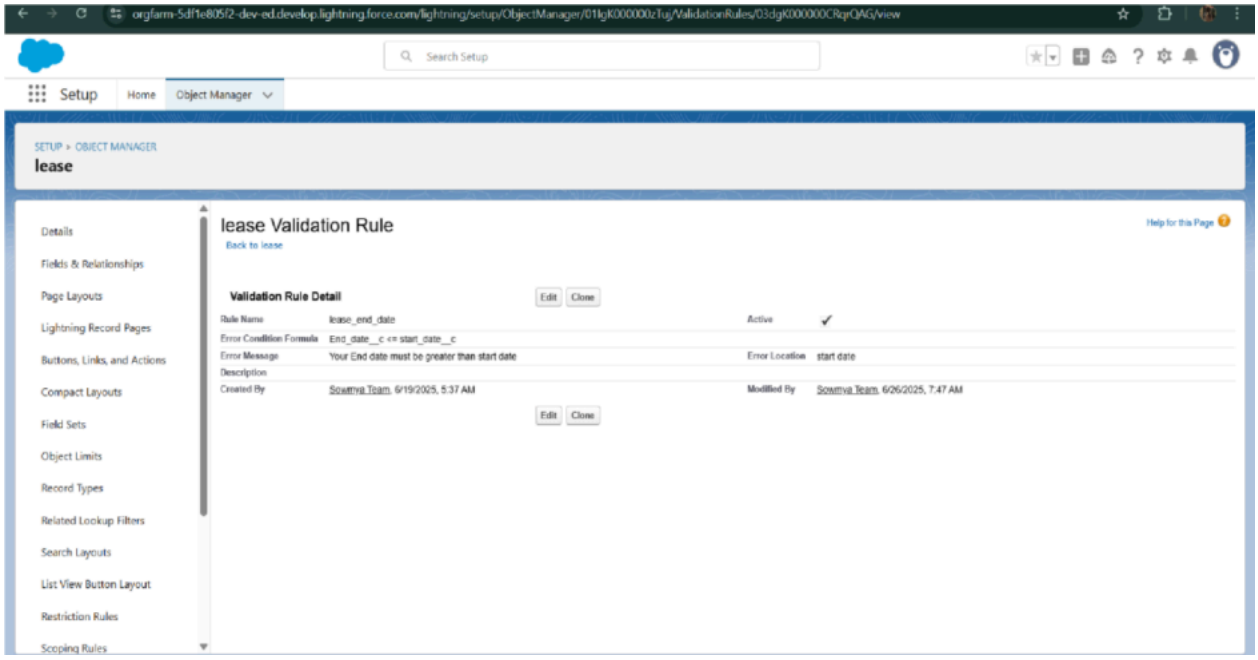

Lightning App Builder
App Settings
Pages
Lease Management
Help
App Settings
App Details & Branding
App Options
Utility Items (Desktop Only)
Navigation Items
User Profiles
User Profiles
Choose the user profiles that can access this app.
Available Profiles
Selected Profiles
System Administrator
Analytics Cloud Integration User
Analytics Cloud Security User
Anypoint Integration
Authenticated Website
Authenticated Website
B2B Reordering Portal Buyer Profile
Contract Manager
Custom: Marketing Profile
Custom: Sales Profile
Custom: Support Profile
Customer Community Login User


Lease Management
Payment
Tenants
property
lease
Payment
Recently Viewed
5 items • Updated a few seconds ago
New
Import
Change Owner
Assign Label
Payment Name
1 Rahul
2 Jack
3 Raj
4 Sam
5 Lahari

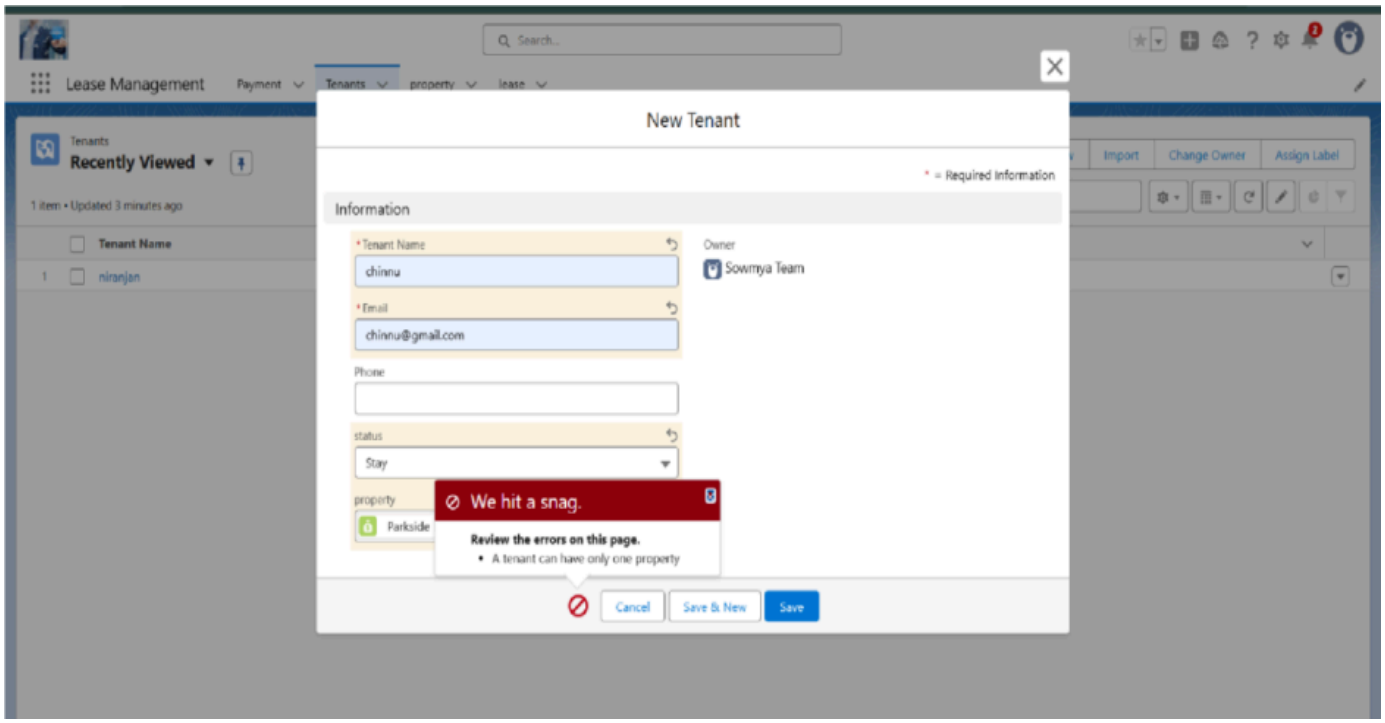


- Implemented Flows for monthly rent and payment success
- To create a validation rule to a Lease Object

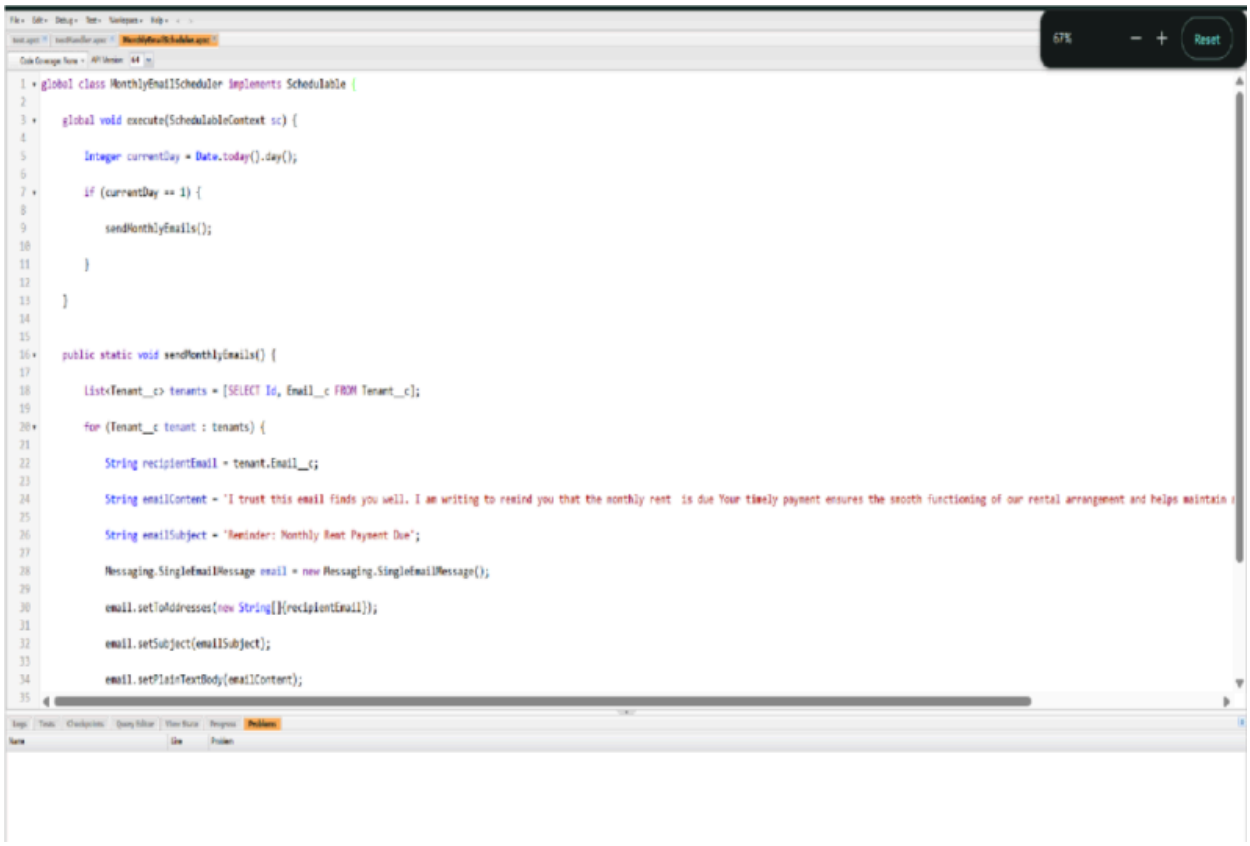

Setup
Home
Object Manager
SETUP > OBJECT MANAGER
lease
Validation Rule Edit
Save
Save & New
Cancel
Rule Name
lease_end_date
Active
Description
Quick Tips
Operators & Functions
Error Condition Formula
= Required Information
Example:
Discount_Percent__c>0.30
More Examples
Display an error if Discount is more than 30%
If this formula expression is true, display the text defined in the Error Message area
Insert Field
Insert Operator
End_date__c <= start_date__c
Functions
-- All Function Categories --
ABS
ACOS
ADDMONTHS
AND
ASCII
ASIN
Insert Selected Function
ABS(number)
Returns the absolute value of a number, a number without its sign
Help on this function
Check Syntax
Error Message
Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Search Layouts
List View Button Layout
Restriction Rules
Scoping Rules


Setup
Home
Object Manager
SETUP > OBJECT MANAGER
lease
lease Validation Rule
Back to lease
Help for this Page
Validation Rule Detail
Edit
Clone
Rule Name
lease_end_date
Active
Error Condition Formula
End_date__c <= start_date__c
Error Message
Your End date must be greater than start date
Error Location
start date
Description
Created By
Sowmya Team, 6/19/2025, 5:37 AM
Modified By
Sowmya Team, 6/26/2025, 7:47 AM
Edit
Clone
Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Search Layouts
List View Button Layout
Restriction Rules
Scoping Rules

- Added Apex trigger to restrict multiple tenants per property

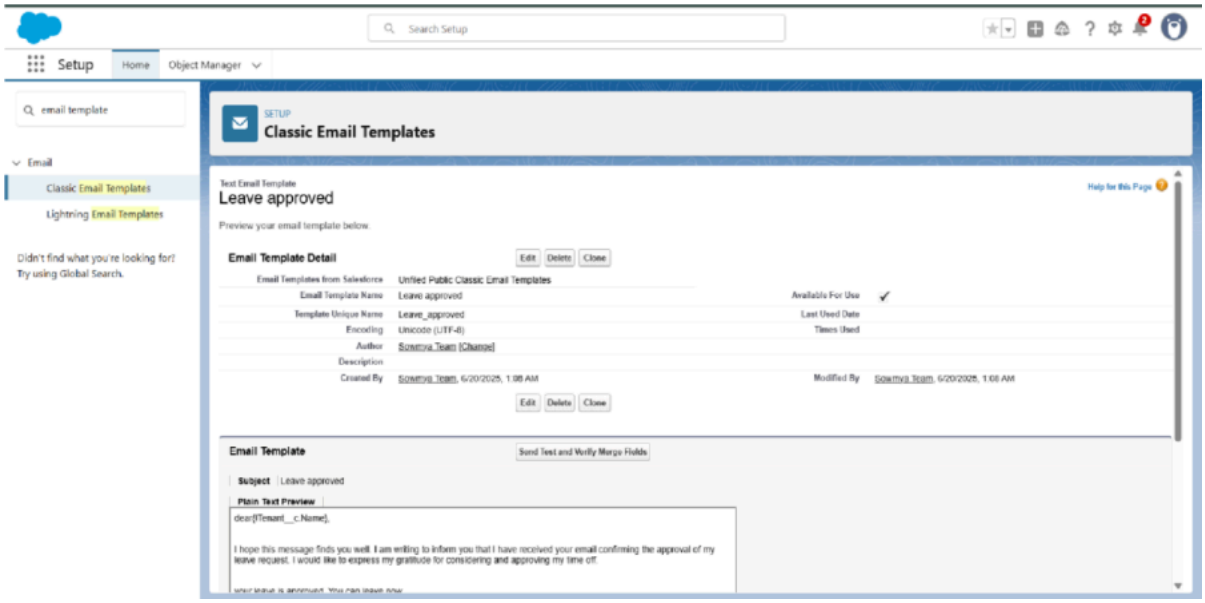


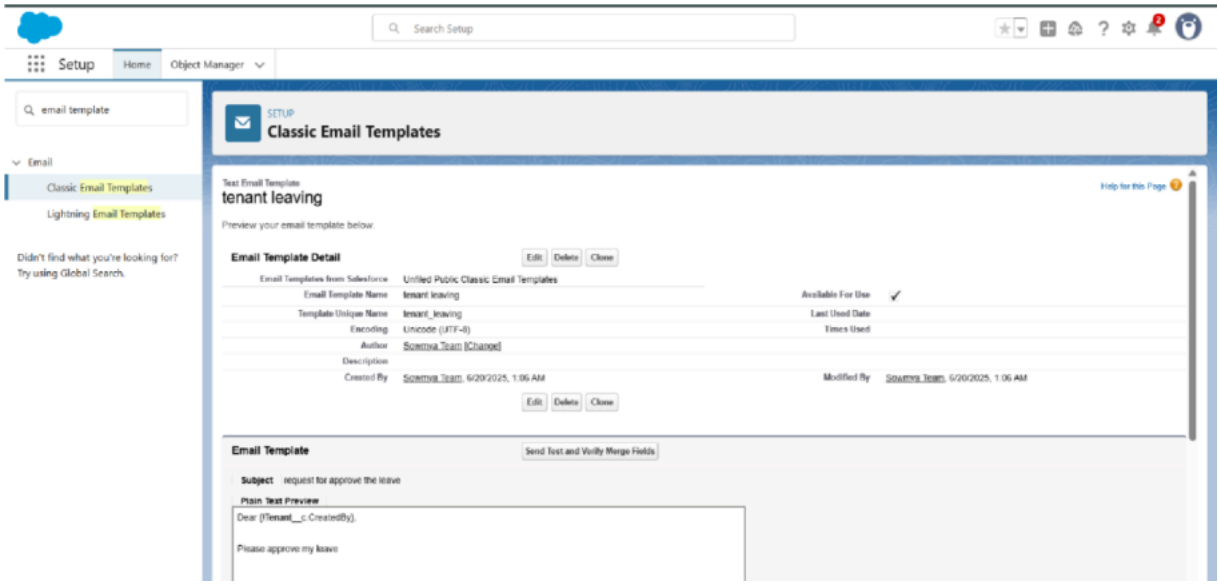
- Scheduled monthly reminder emails using Apex class

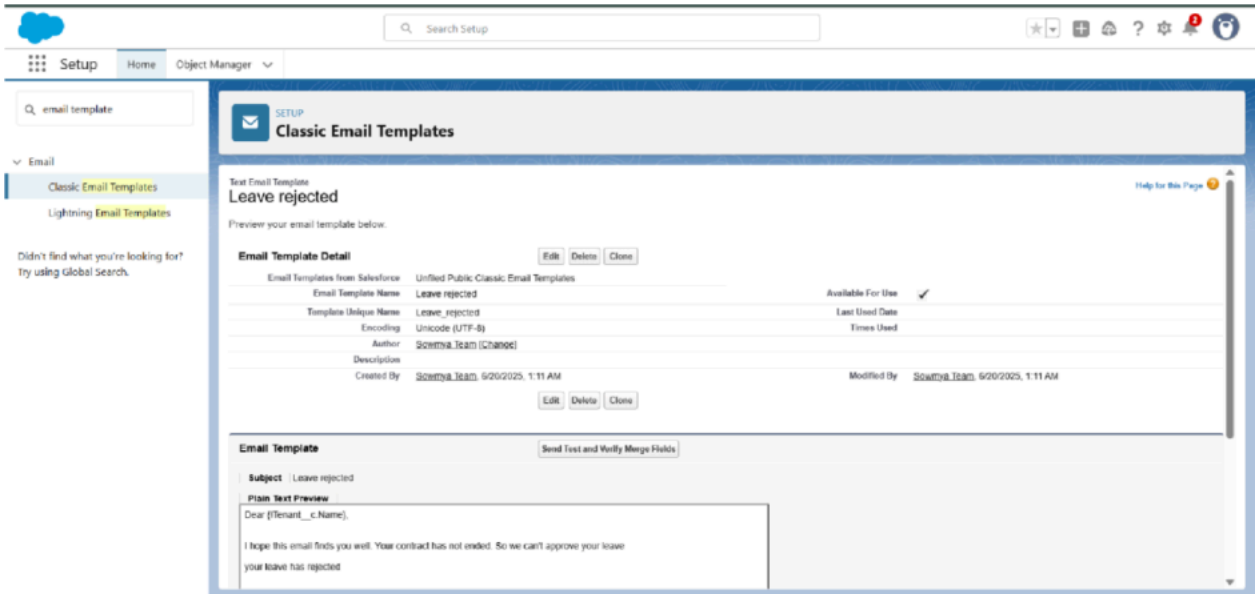


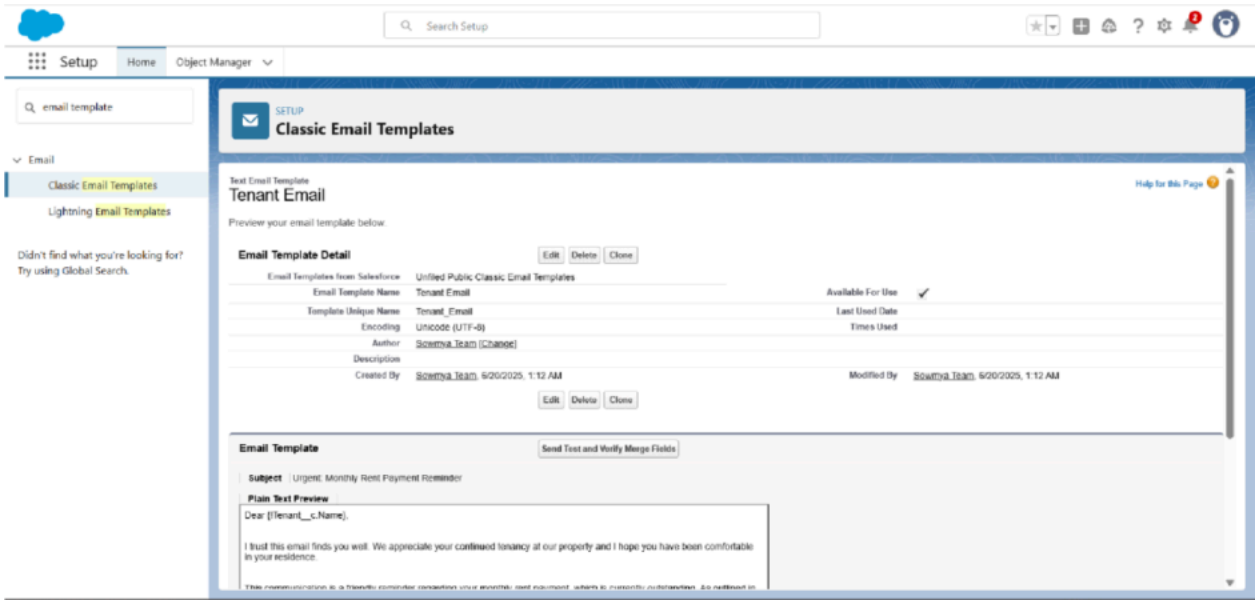
```
global class MonthlyEmailScheduler implements Schedulable {

    global void execute(SchedulableContext sc) {

        Integer currentDay = Date.today().day();

        if (currentDay == 1) {

            sendMonthlyEmails();

        }

    }


    public static void sendMonthlyEmails() {

        List<Tenant__c> tenants = [SELECT Id, Email__c FROM Tenant__c];

        for (Tenant__c tenant : tenants) {

            String recipientEmail = tenant.Email__c;

            String emailContent = 'I trust this email finds you well. I am writing to remind you that the monthly rent  is due Your timely payment ensures the smooth functioning of our rental arrangement and helps maintain

            String emailSubject = 'Reminder: Monthly Rent Payment Due';

            Messaging.SingleEmailMessage email = new Messaging.SingleEmailMessage();

            email.setToAddresses(new String[]{recipientEmail});

            email.setSubject(emailSubject);

            email.setPlainTextBody(emailContent);
```

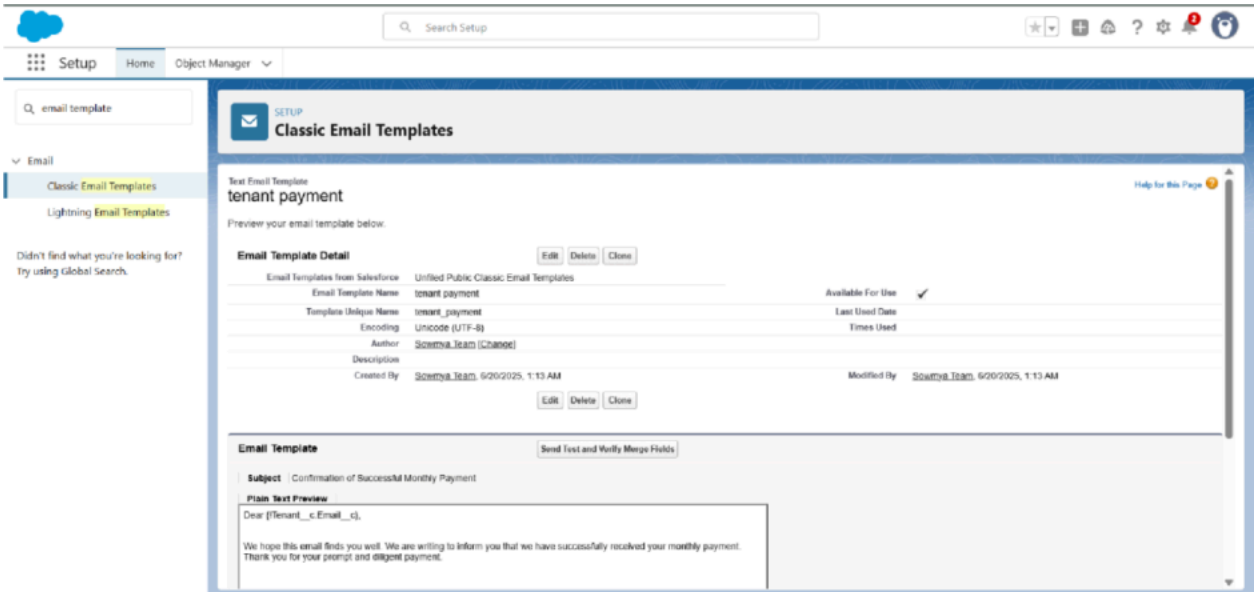
- Built and tested email templates for leave request, approval, rejection, payment, and reminders


Search Setup
Setup
Home
Object Manager
email template
Email
Classic Email Templates
Lightning Email Templates
Didn't find what you're looking for?
Try using Global Search.
SETUP
Classic Email Templates
Text Email Template
Leave approved
Help for this Page
Preview your email template below.
Email Template Detail
Edit
Delete
Clone
Email Templates from Salesforce
Unfiled Public Classic Email Templates
Email Template Name
Leave approved
Available For Use
Template Unique Name
Leave_approved
Last Used Date
Encoding
Unicode (UTF-8)
Times Used
Author
Sowmya Team [Change]
Description
Created By
Sowmya Team, 6/20/2025, 1:08 AM
Modified By
Sowmya Team, 6/20/2025, 1:08 AM
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.


Search Setup
Setup
Home
Object Manager
email template
Email
Classic Email Templates
Lightning Email Templates
Didn't find what you're looking for?
Try using Global Search.
SETUP
Classic Email Templates
Text Email Template
tenant leaving
Help for this Page
Preview your email template below.
Email Template Detail
Edit
Delete
Clone
Email Templates from Salesforce
Unfiled Public Classic Email Templates
Email Template Name
tenant leaving
Available For Use
Template Unique Name
tenant_leaving
Last Used Date
Encoding
Unicode (UTF-8)
Times Used
Author
Sowmya Team [Change]
Description
Created By
Sowmya Team, 6/20/2025, 1:06 AM
Modified By
Sowmya Team, 6/20/2025, 1:06 AM
Email Template
Send Test and Verify Merge Fields
Subject
request for approve the leave
Plain Text Preview
Dear {!Tenant__c.CreatedBy},
Please approve my leave

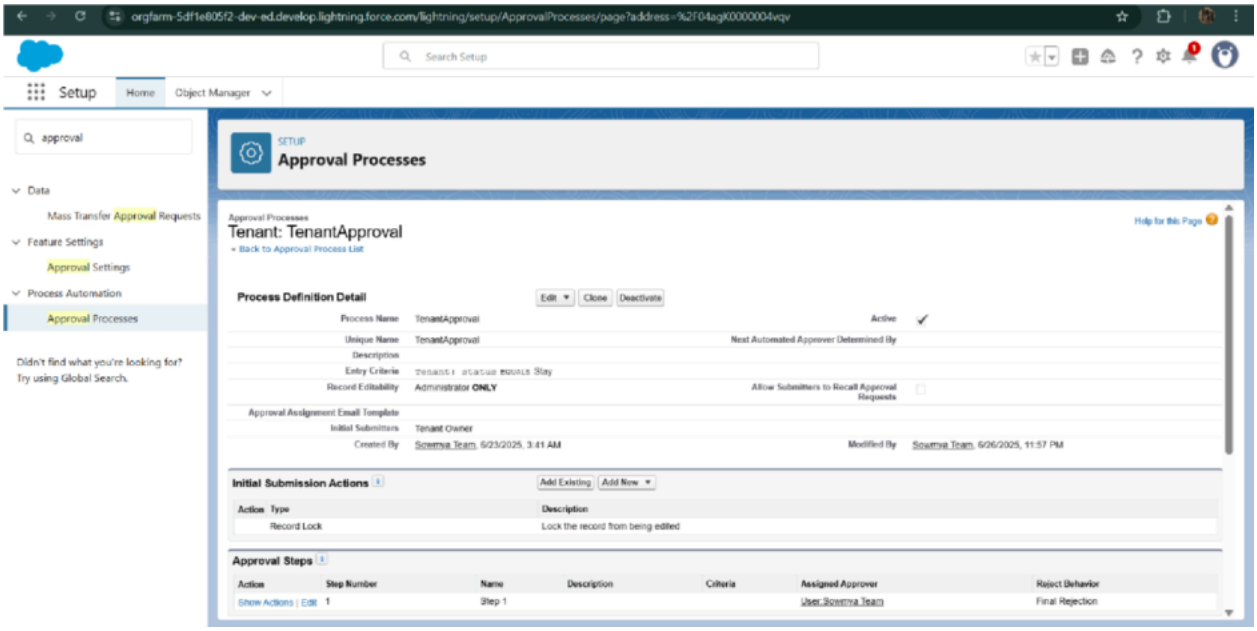

Search Setup
Setup
Home
Object Manager
email template
Email
Classic Email Templates
Lightning Email Templates
Didn't find what you're looking for?
Try using Global Search.
SETUP
Classic Email Templates
Text Email Template
Leave rejected
Help for this Page
Preview your email template below.
Email Template Detail
Edit
Delete
Clone
Email Templates from Salesforce
Unfiled Public Classic Email Templates
Email Template Name
Leave rejected
Available For Use
Template Unique Name
Leave_rejected
Last Used Date
Encoding
Unicode (UTF-8)
Times Used
Author
Sowmya Team [Change]
Description
Created By
Sowmya Team, 6/20/2025, 1:11 AM
Modified By
Sowmya Team, 6/20/2025, 1:11 AM
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


Search Setup
Setup
Home
Object Manager
email template
Email
Classic Email Templates
Lightning Email Templates
Didn't find what you're looking for?
Try using Global Search.
SETUP
Classic Email Templates
Text Email Template
Tenant Email
Help for this Page
Preview your email template below.
Email Template Detail
Edit
Delete
Clone
Email Templates from Salesforce
Unfiled Public Classic Email Templates
Email Template Name
Tenant Email
Available For Use
Template Unique Name
Tenant_Email
Last Used Date
Encoding
Unicode (UTF-8)
Times Used
Author
Sowmya Team [Change]
Description
Created By
Sowmya Team, 6/20/2025, 1:12 AM
Modified By
Sowmya Team, 6/20/2025, 1:12 AM
Email Template
Send Test and Verify Merge Fields
Subject
Urgent: Monthly Rent Payment Reminder
Plain Text Preview
Dear {!Tenant__c.Name},
I trust this email finds you well. We appreciate your continued tenancy at our property and I hope you have been comfortable in your residence.

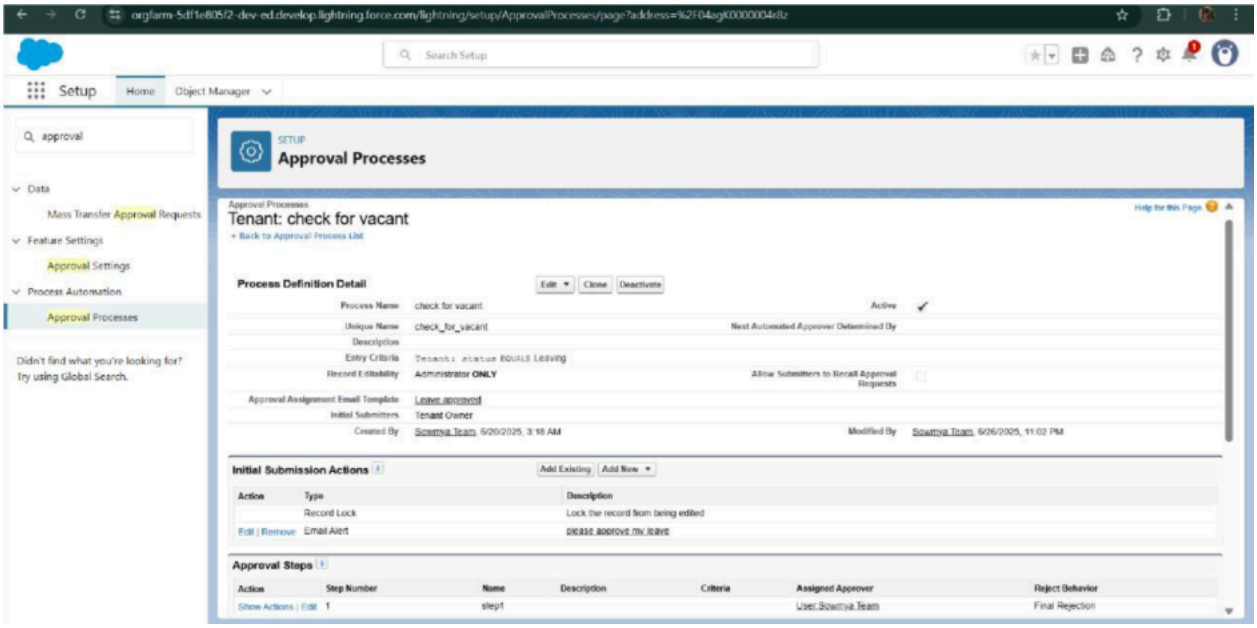


- Approval Process creation

For Tenant Leaving:

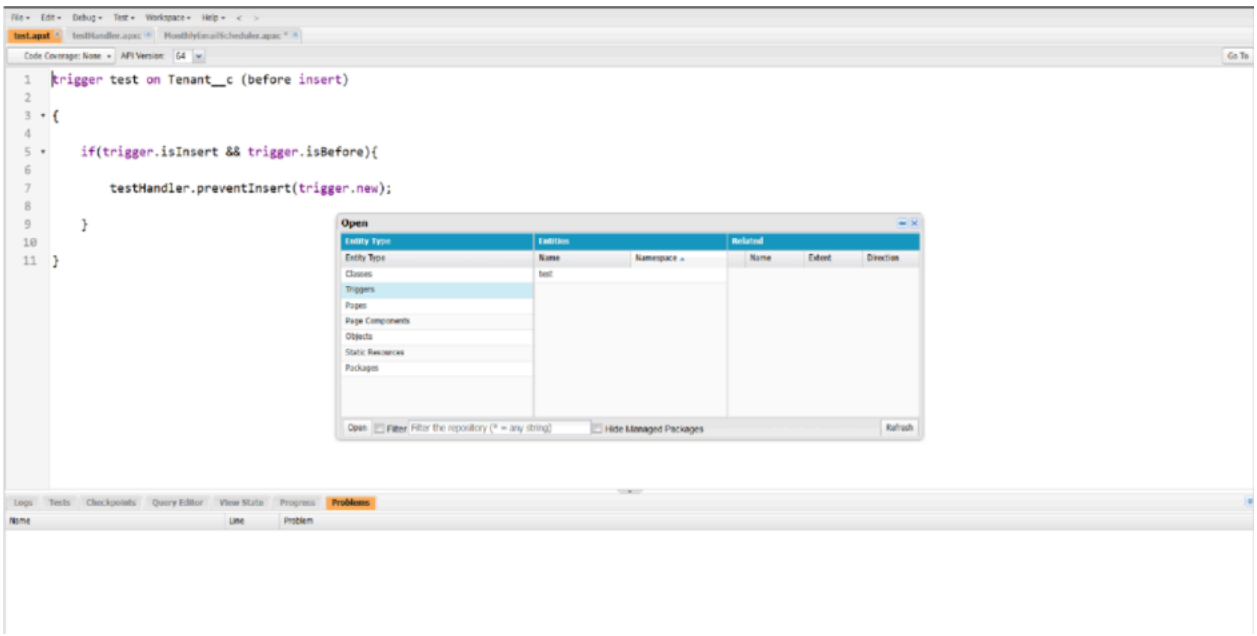


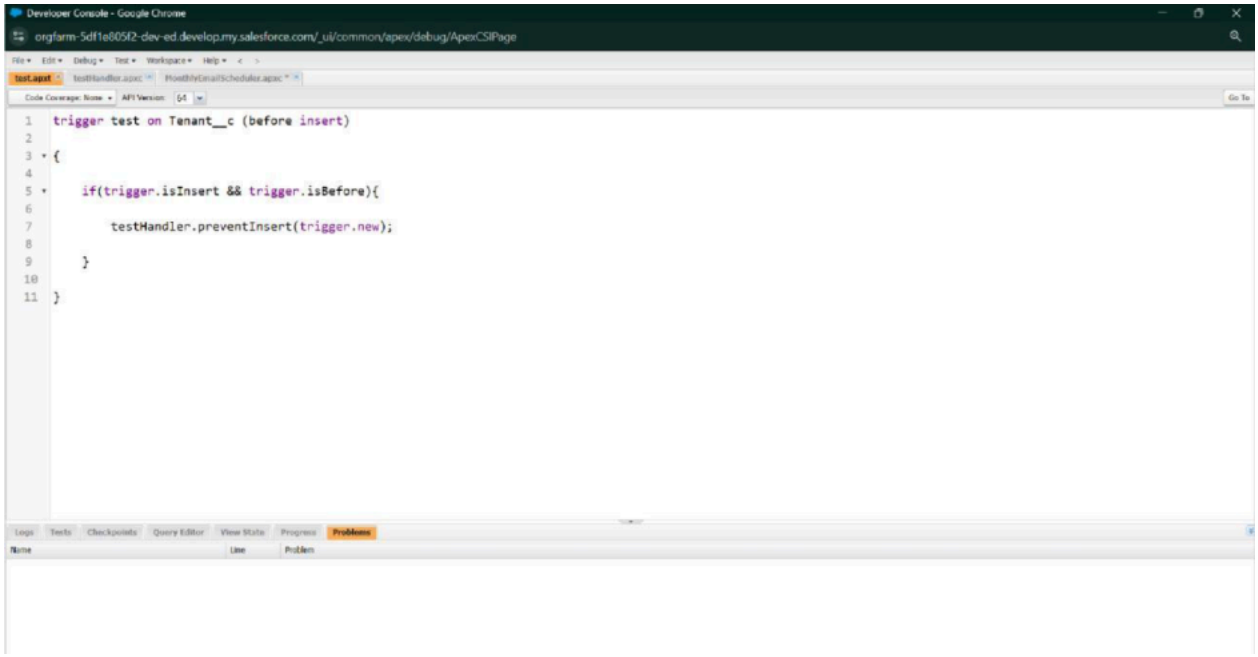
For Check for Vacant:



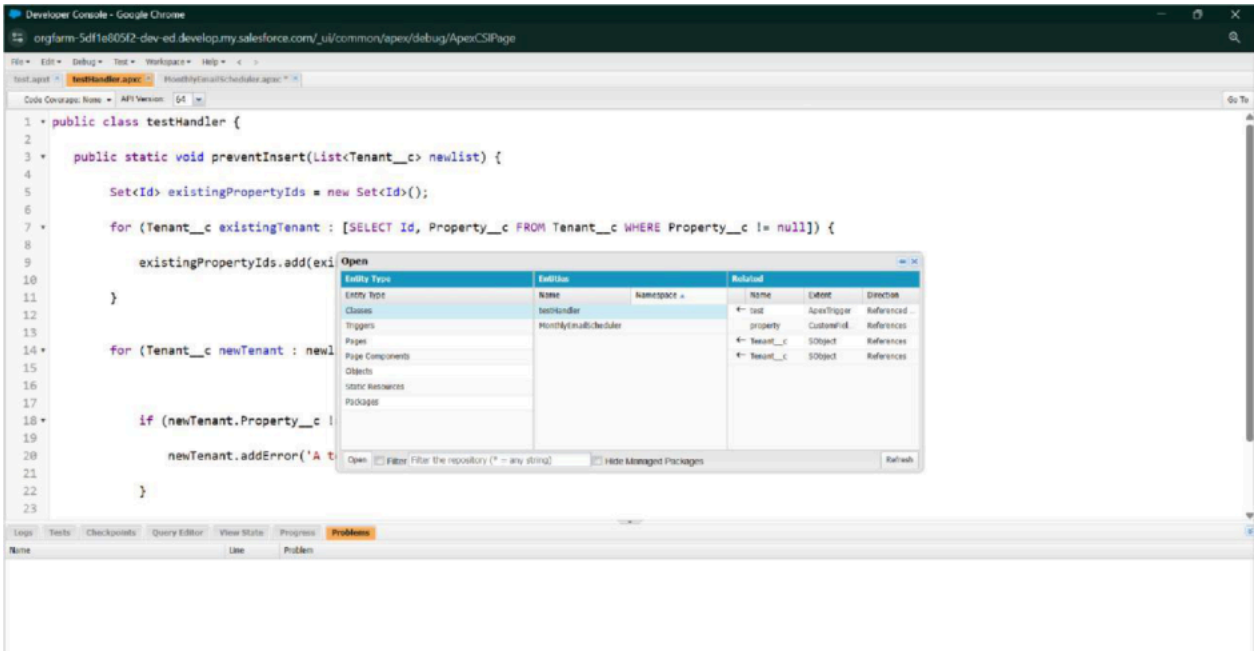
- Apex Trigger

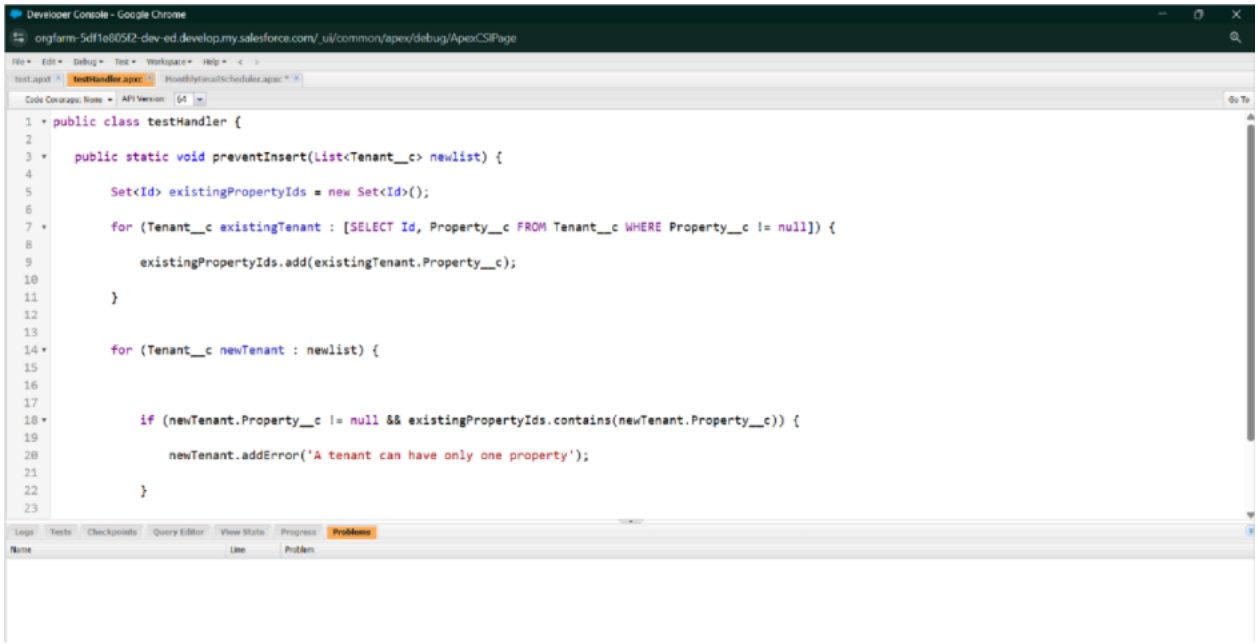
  Create an Apex Trigger



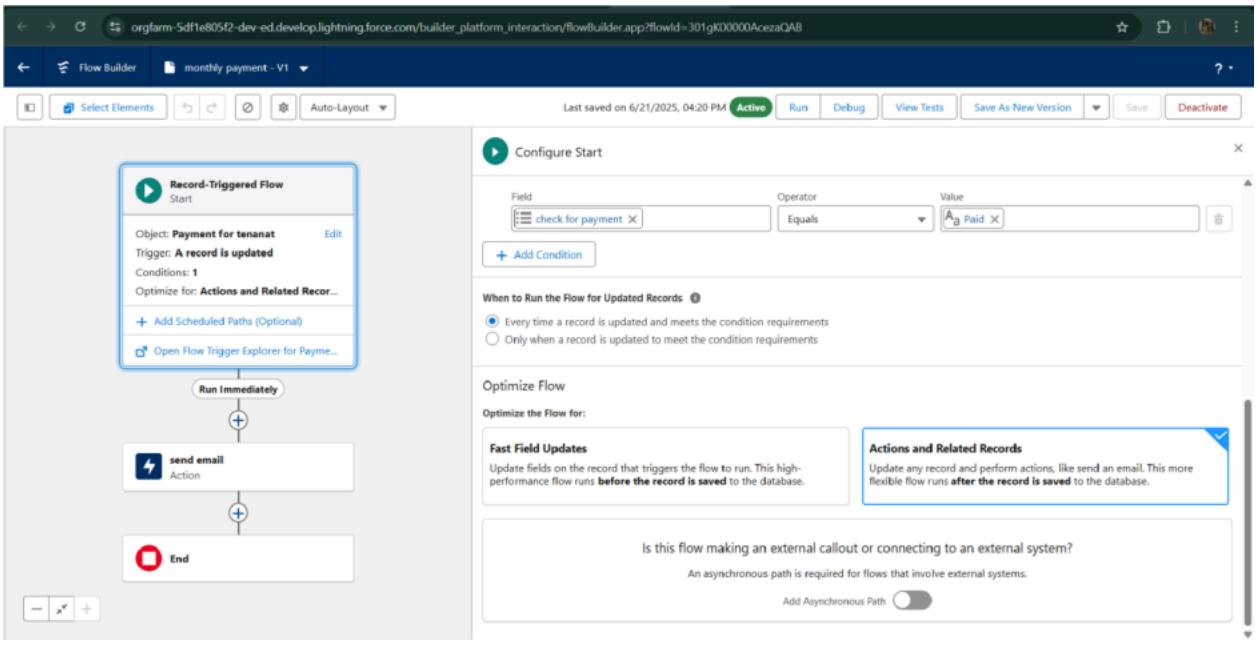


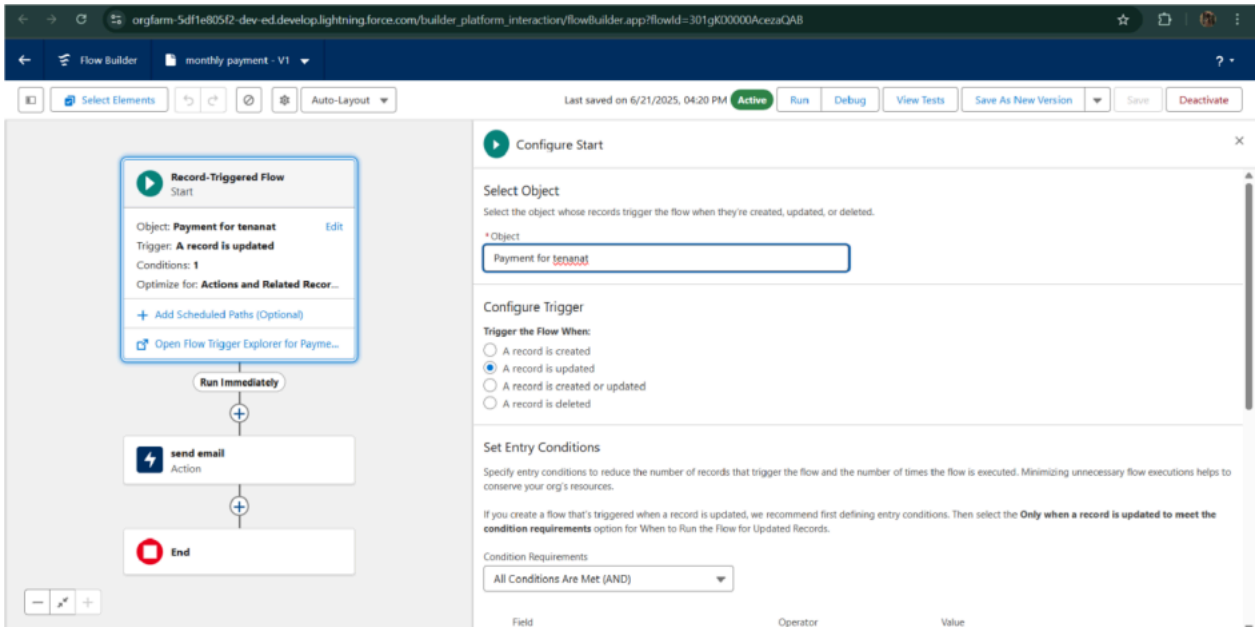
Create an Apex Handler class



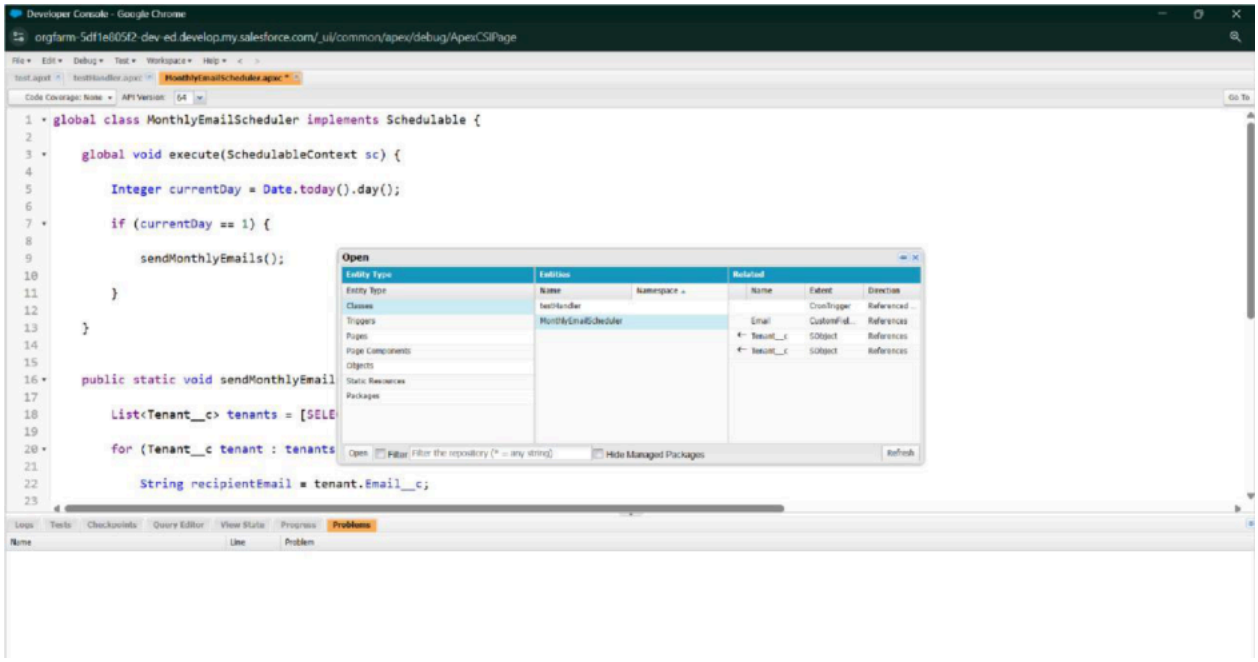

Developer Console - Google Chrome
orgfarm-5df1e805f2-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage
public class testHandler {
public static void preventInsert(List<Tenant__c> newlist) {
Set<Id> existingPropertyIds = new Set<Id>();
for (Tenant__c existingTenant : [SELECT Id, Property__c 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');
}

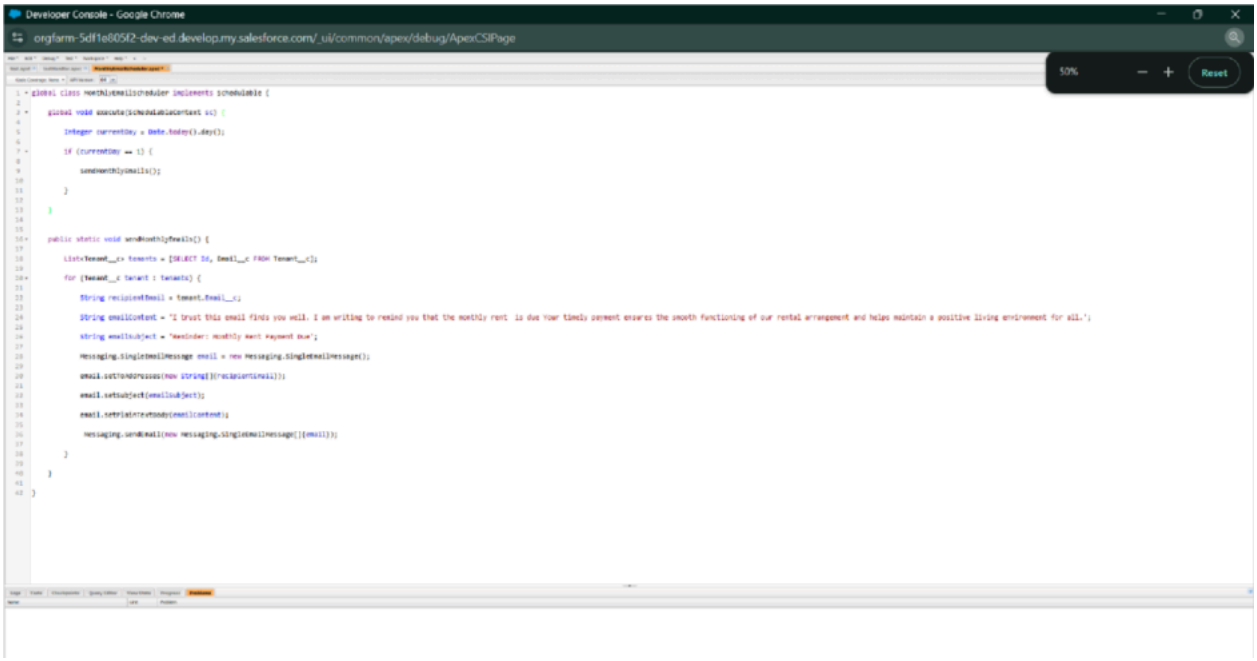
- FLOWS


orgfarm-5df1e805f2-dev-ed.develop.lightning.force.com/builder_platform_interaction/flowBuilder.app?flowId=301gK00000AcezaQAB
Flow Builder
monthly payment - V1
Select Elements
Auto-Layout
Last saved on 6/21/2025, 04:20 PM
Active
Run
Debug
View Tests
Save As New Version
Save
Deactivate
Record-Triggered Flow
Start
Object: Payment for tenanat
Edit
Trigger: A record is updated
Conditions: 1
Optimize for: Actions and Related Recor...
Add Scheduled Paths (Optional)
Open Flow Trigger Explorer for Payme...
Run Immediately
send email
Action
End
Configure Start
Field
Operator
Value
check for payment
Equals
Paid
Add Condition
When to Run the Flow for Updated Records
Every time a record is updated and meets the condition requirements
Only when a record is updated to meet the condition requirements
Optimize Flow
Optimize the Flow for:
Fast Field Updates
Update fields on the record that triggers the flow to run. This high-performance flow runs before the record is saved to the database.
Actions and Related Records
Update any record and perform actions, like send an email. This more flexible flow runs after the record is saved to the database.
Is this flow making an external callout or connecting to an external system?
An asynchronous path is required for flows that involve external systems.
Add Asynchronous Path

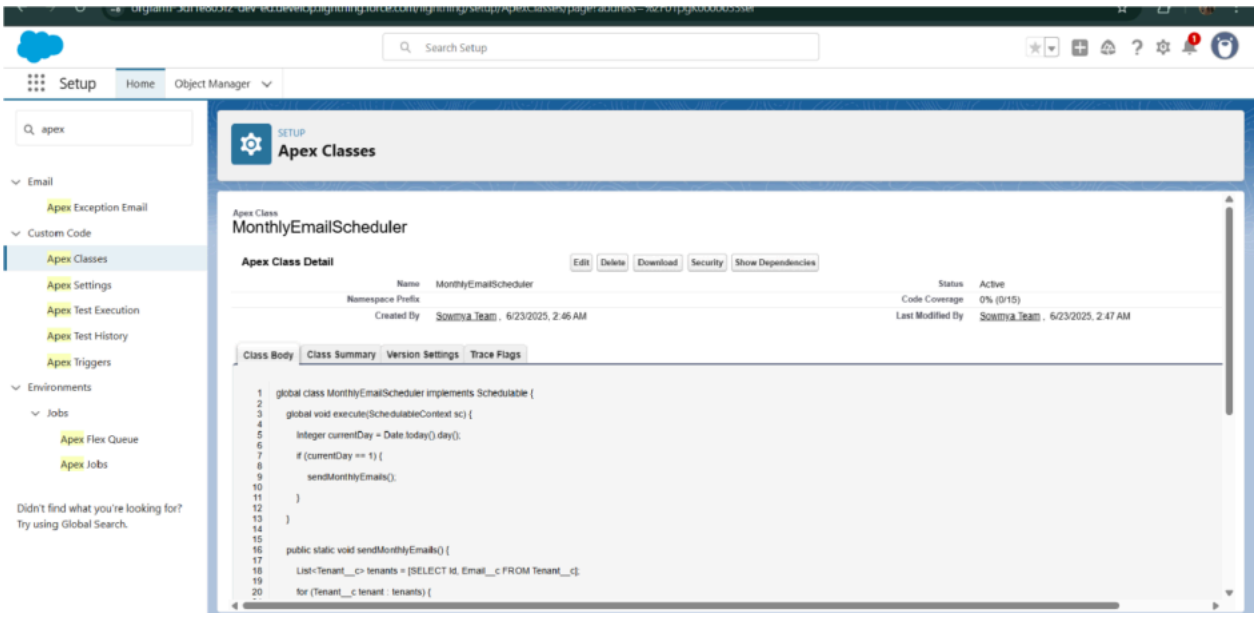


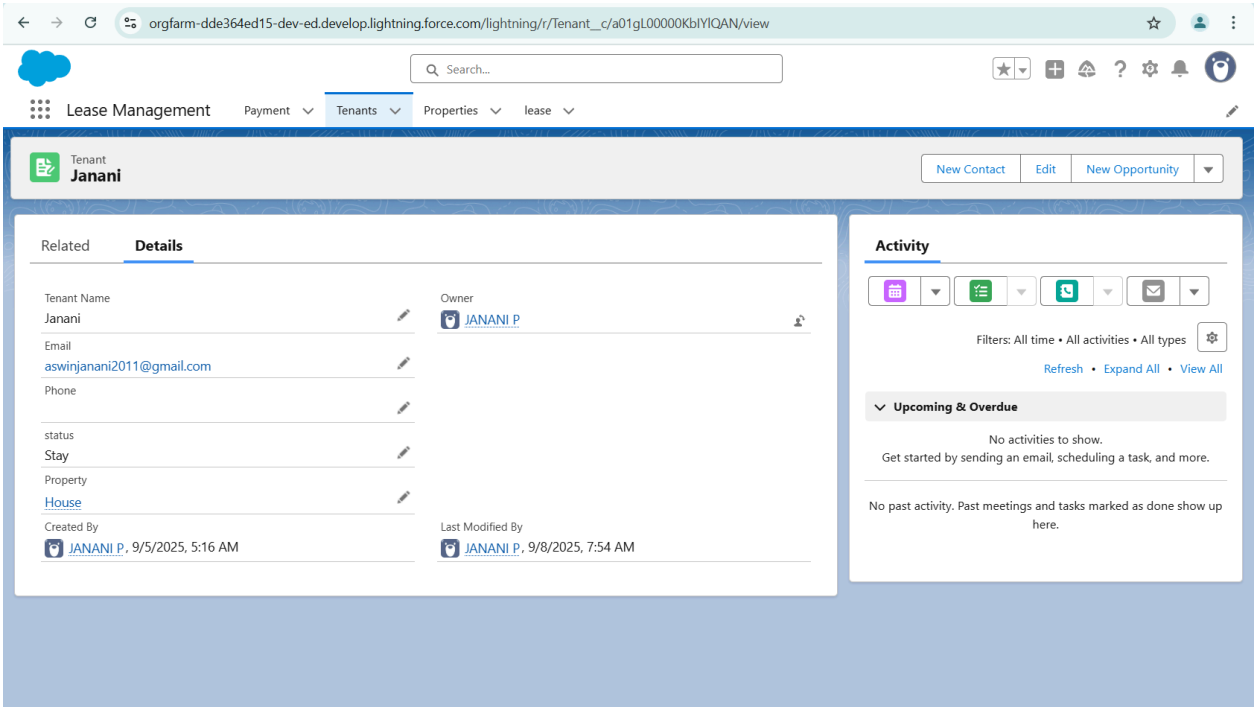
- Schedule class:
  Create an Apex Class

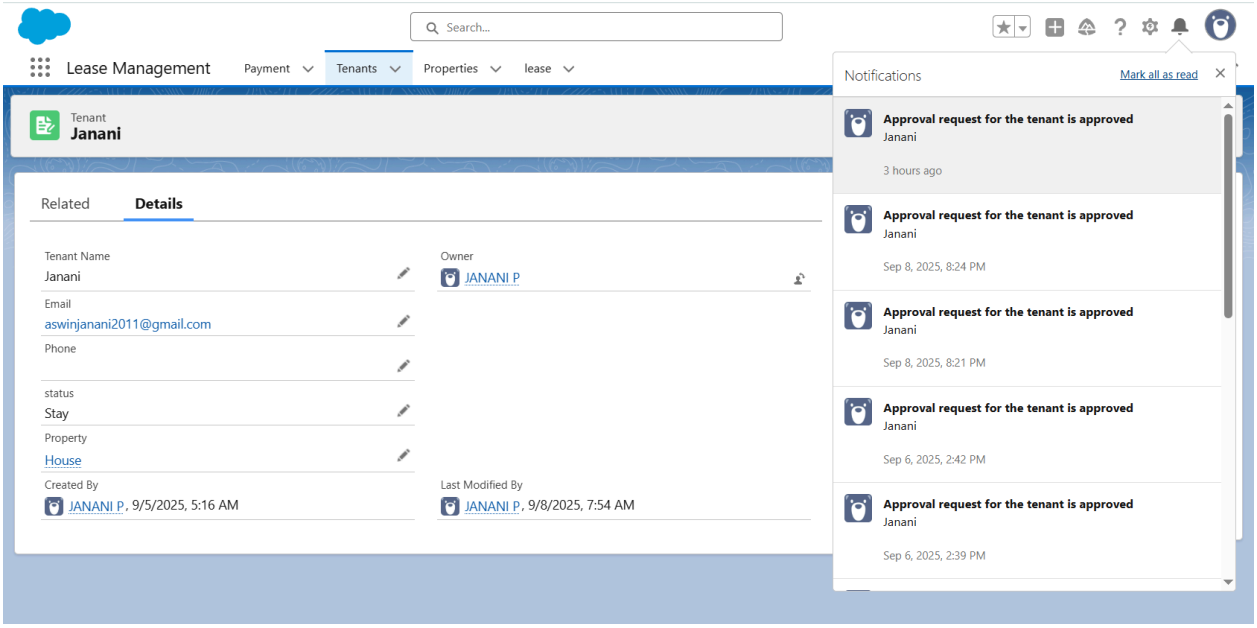




Schedule Apex class




orgfarm-dde364ed15-dev-ed.develop.lightning.force.com/lightning/r/Tenant__c/a01gL00000KbIYlQAN/view
Search...
Lease Management
Payment
Tenants
Properties
lease
Tenant
Janani
New Contact
Edit
New Opportunity
Related
Details
Tenant Name
Janani
Owner
JANANI P
Email
aswinjanani2011@gmail.com
Phone
status
Stay
Property
House
Created By
JANANI P, 9/5/2025, 5:16 AM
Last Modified By
JANANI P, 9/8/2025, 7:54 AM
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.


Search...
Lease Management
Payment
Tenants
Properties
lease
Tenant
Janani
Related
Details
Tenant Name
Janani
Owner
JANANI P
Email
aswinjanani2011@gmail.com
Phone
status
Stay
Property
House
Created By
JANANI P, 9/5/2025, 5:16 AM
Last Modified By
JANANI P, 9/8/2025, 7:54 AM
Notifications
Mark all as read
Approval request for the tenant is approved
Janani
3 hours ago
Approval request for the tenant is approved
Janani
Sep 8, 2025, 8:24 PM
Approval request for the tenant is approved
Janani
Sep 8, 2025, 8:21 PM
Approval request for the tenant is approved
Janani
Sep 6, 2025, 2:42 PM
Approval request for the tenant is approved
Janani
Sep 6, 2025, 2:39 PM

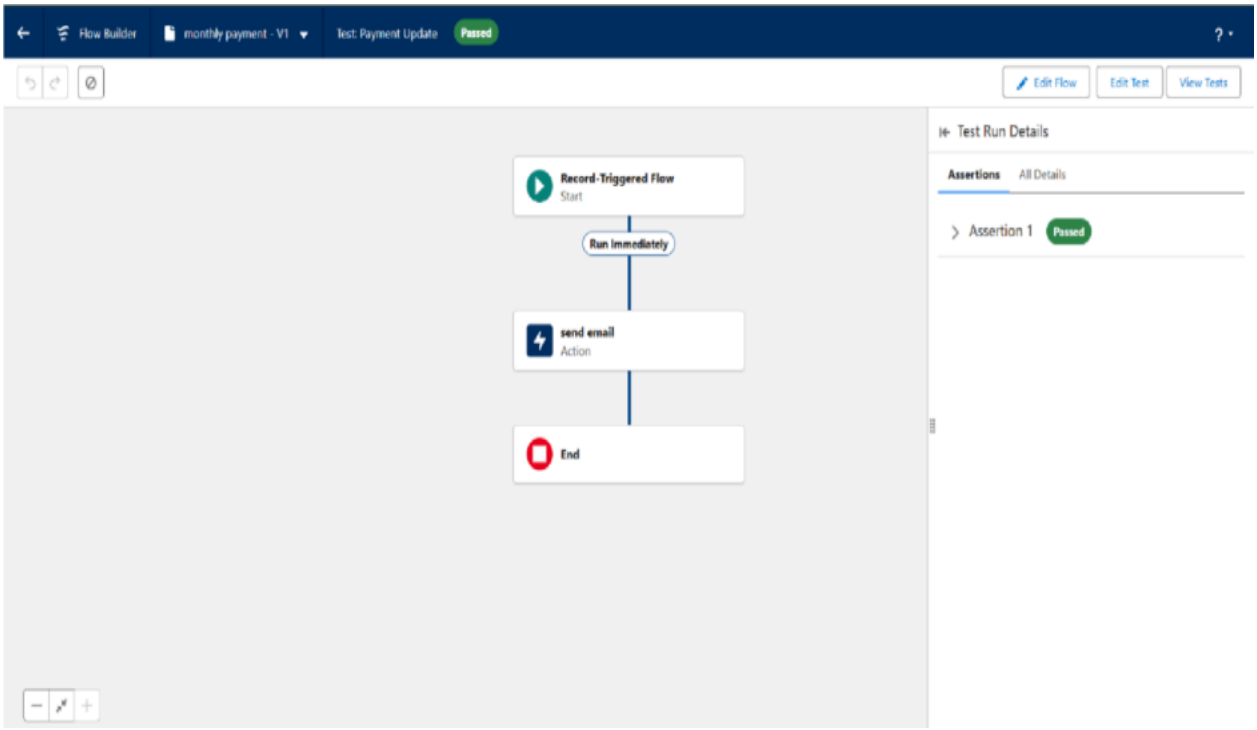
FUNCTIONALAND PERFORMANCE

TESTING

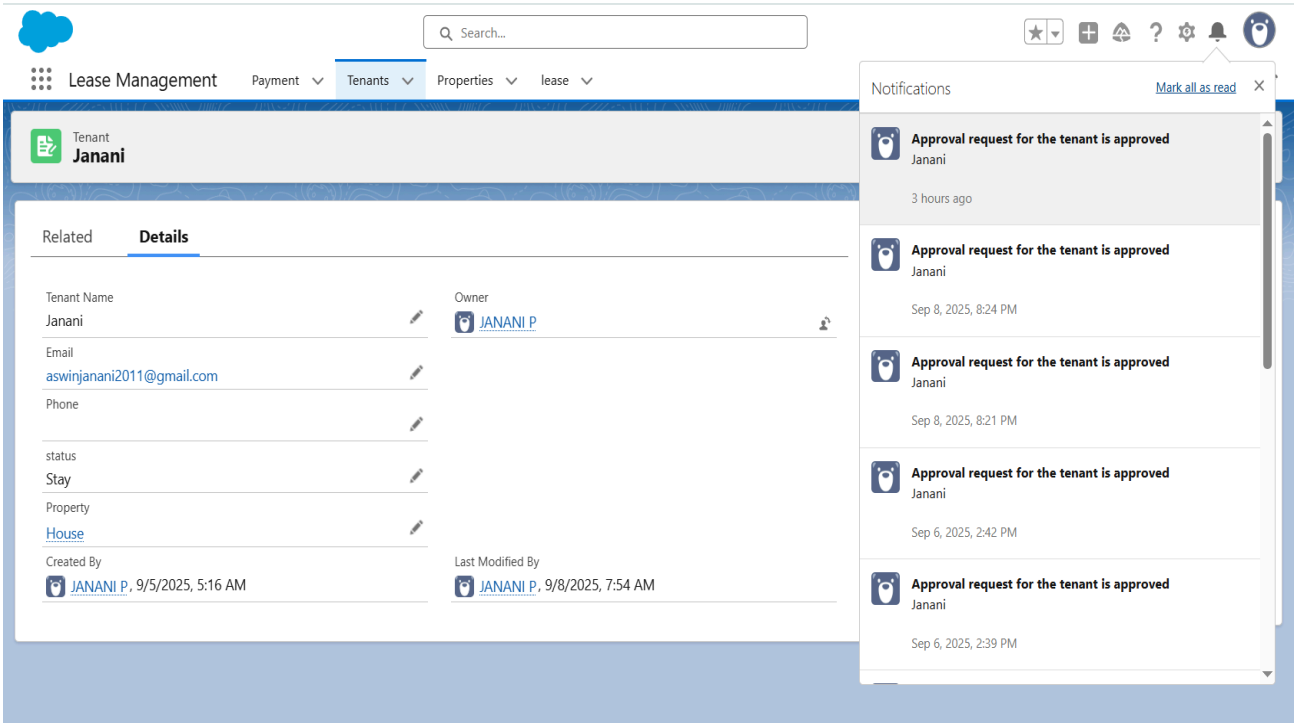
Performance Testing

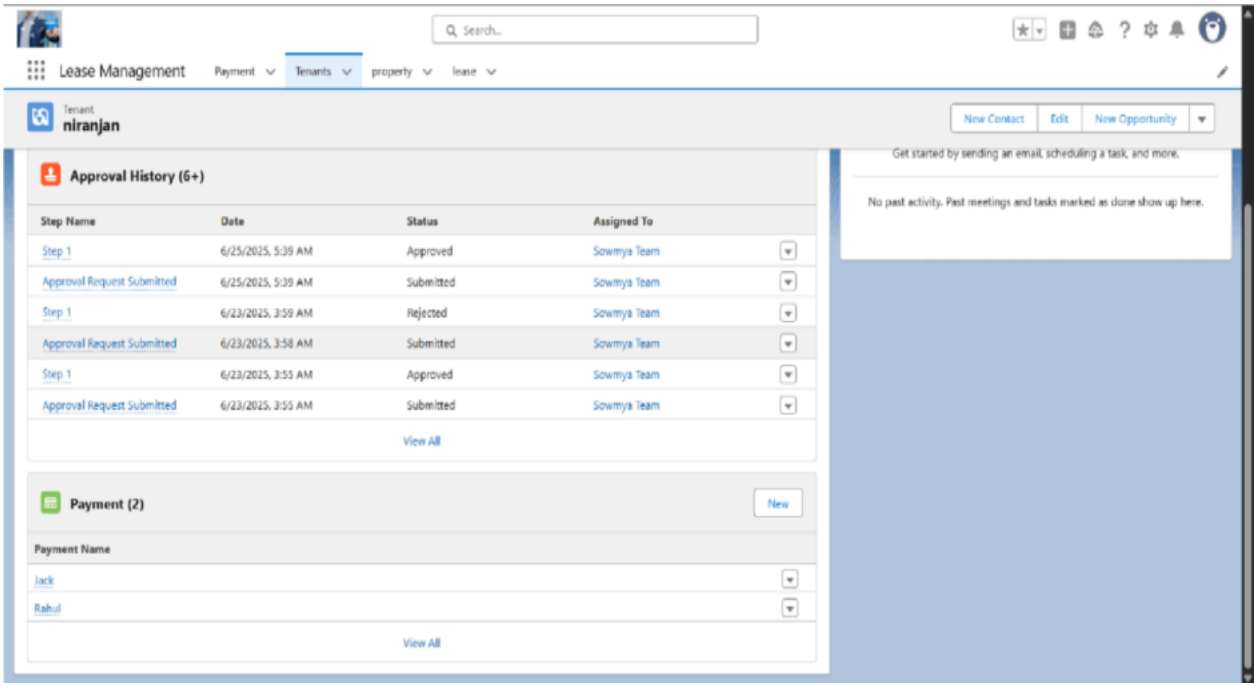
- Trigger validation by entering duplicate tenant-property records

- Validation Rule checking



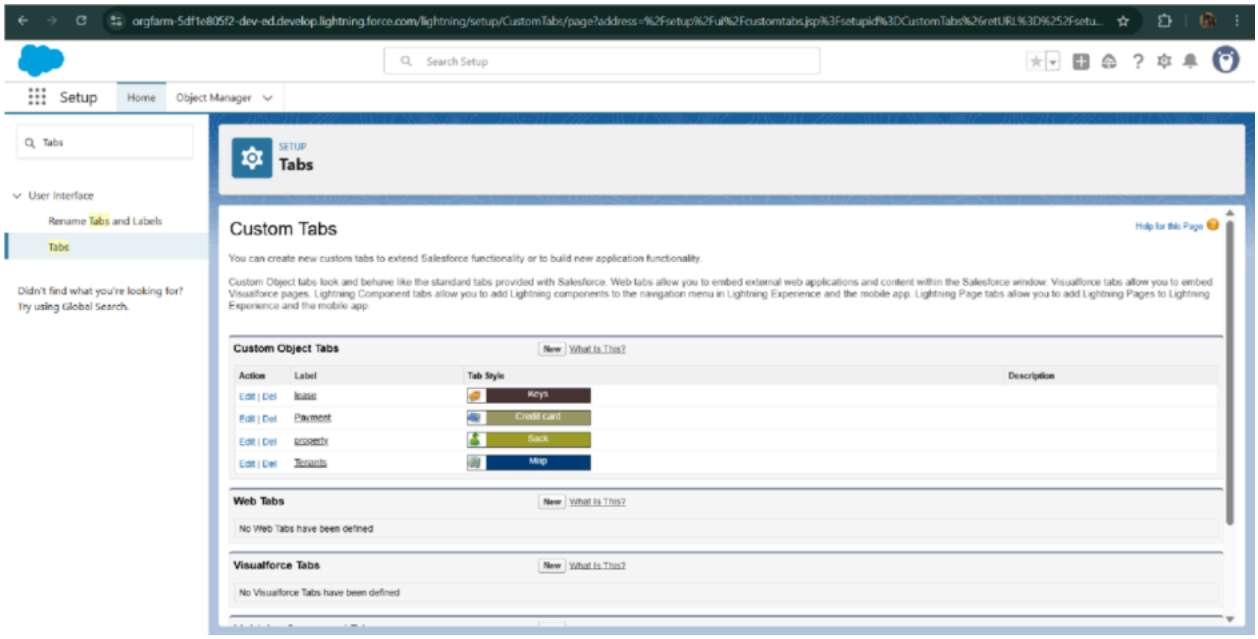
- Test flows on payment update

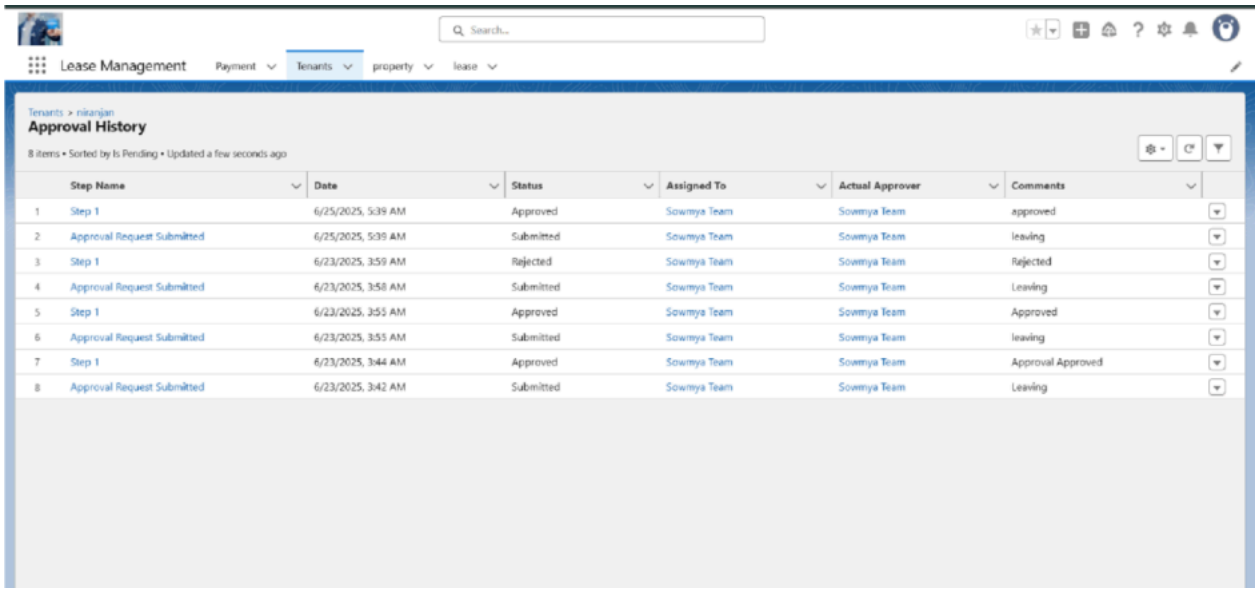



Search...
Lease Management
Payment
Tenants
property
lease
Tenant
niranjan
New Contact
Edit
New Opportunity
Approval History (6+)
Step Name
Date
Status
Assigned To
Step 1
6/25/2025, 5:39 AM
Approved
Sowmya Team
Approval Request Submitted
6/25/2025, 5:39 AM
Submitted
Sowmya Team
Step 1
6/23/2025, 3:59 AM
Rejected
Sowmya Team
Approval Request Submitted
6/23/2025, 3:58 AM
Submitted
Sowmya Team
Step 1
6/23/2025, 3:55 AM
Approved
Sowmya Team
Approval Request Submitted
6/23/2025, 3:55 AM
Submitted
Sowmya Team
View All
Payment (2)
New
Payment Name
Jack
Rahul
View All
Get started by sending an email, scheduling a task, and more.
No past activity. Past meetings and tasks marked as done show up here.

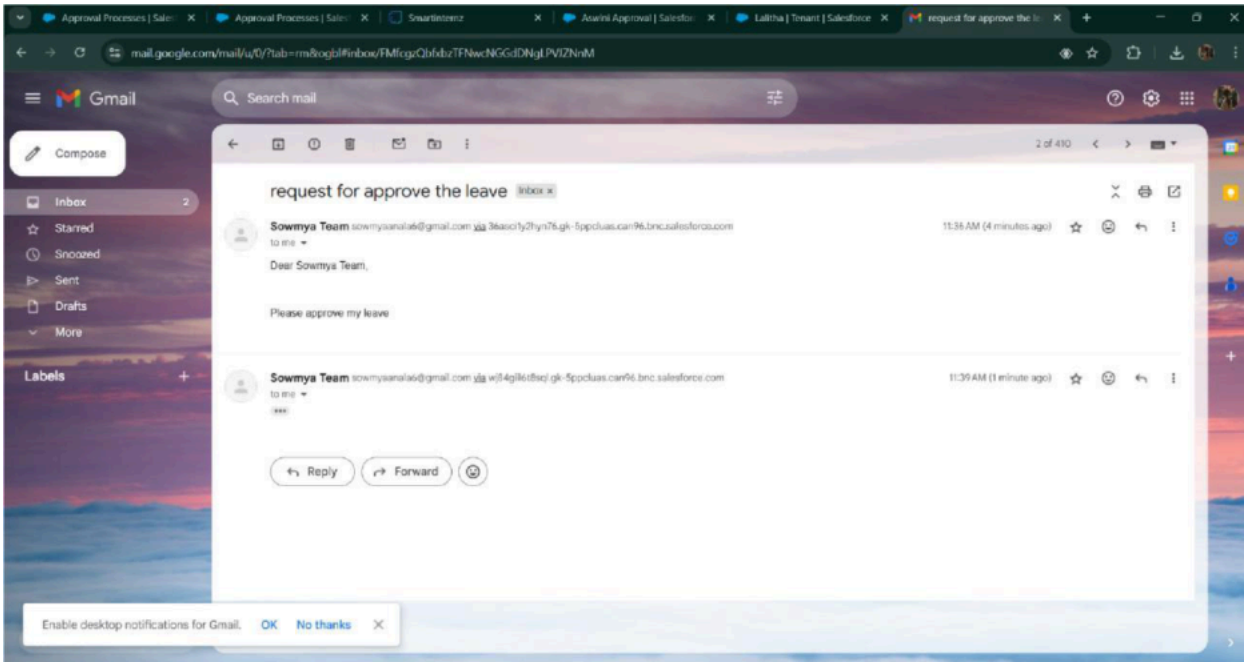
RESULTS

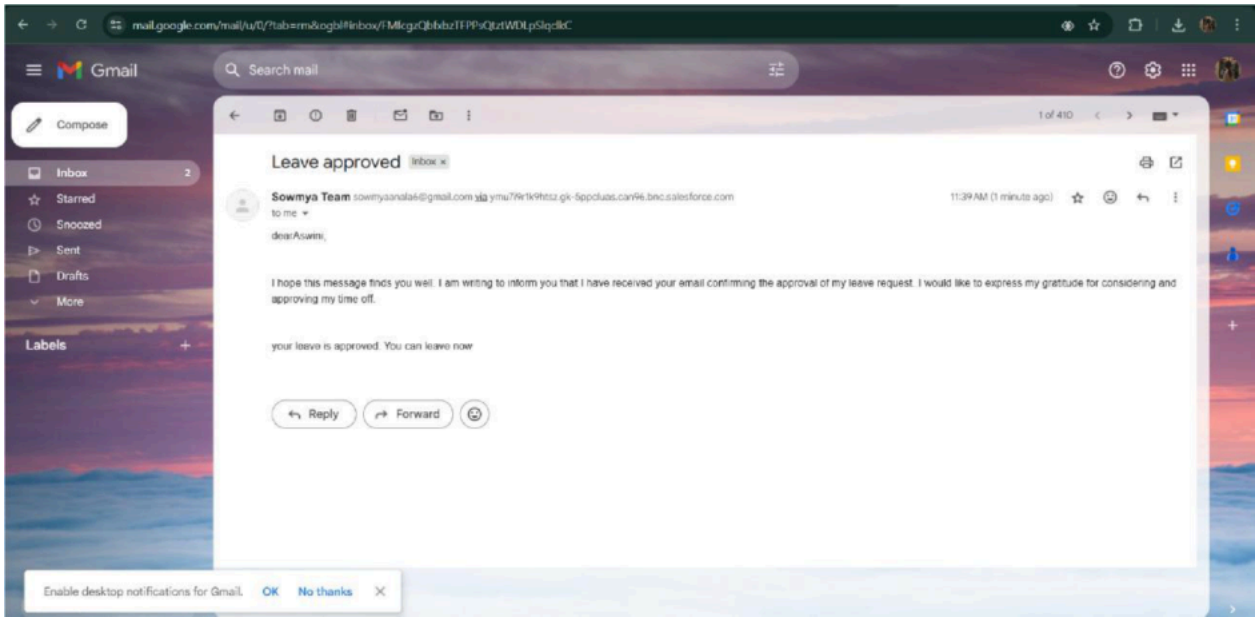
Output Screenshots



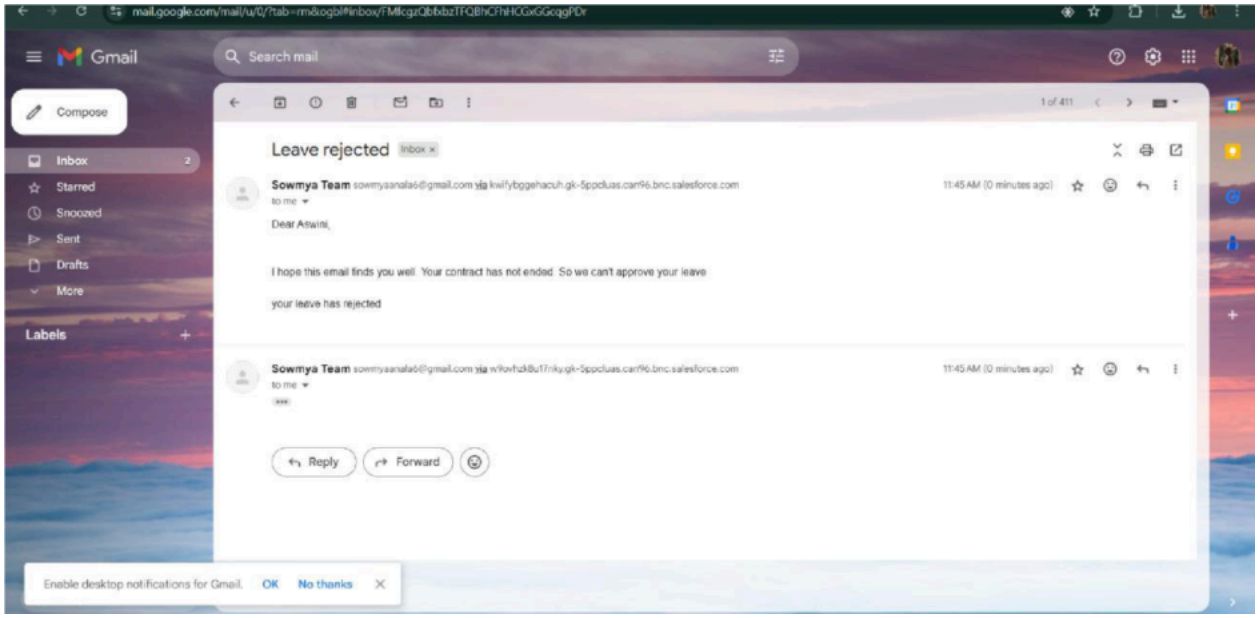


- Request for approve the leave

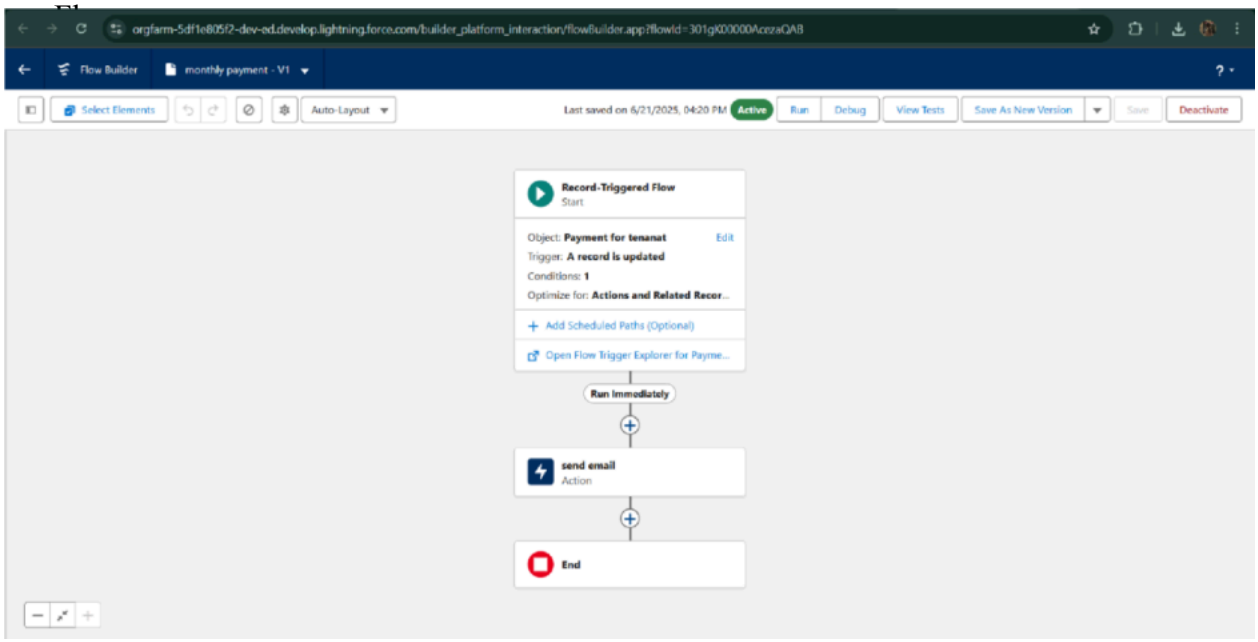




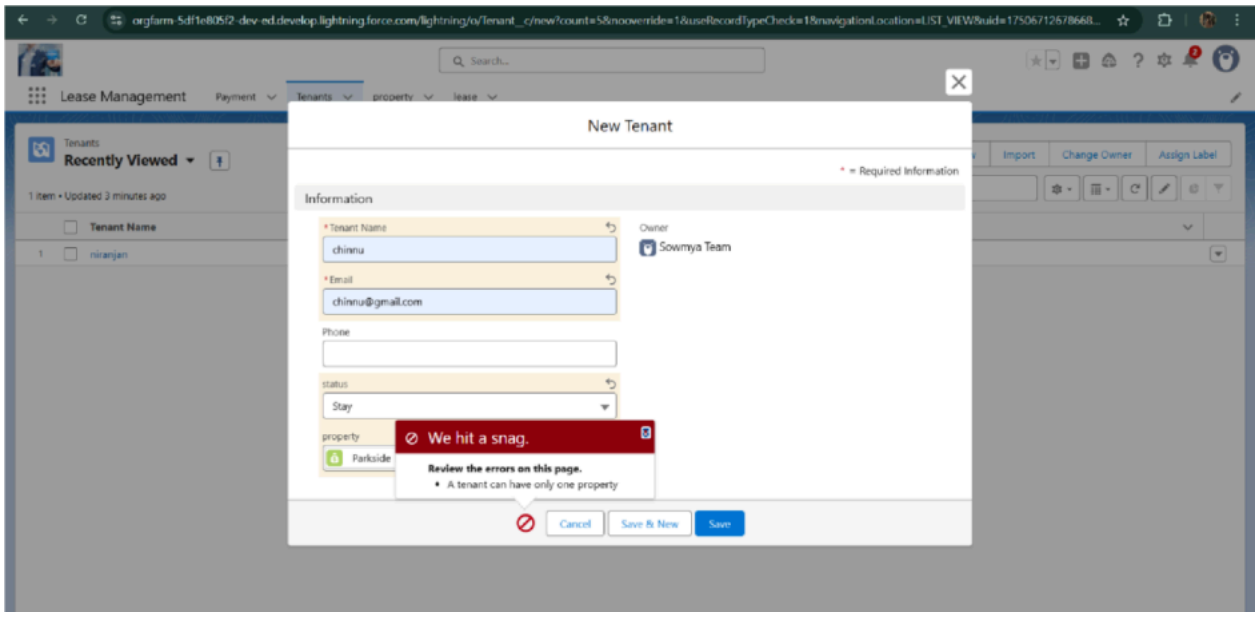
- Leave rejected



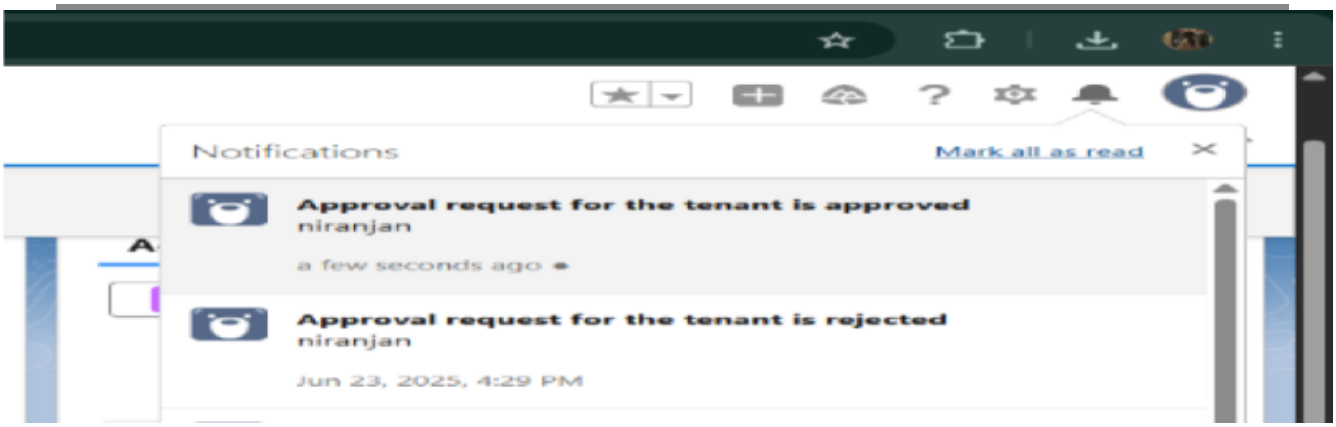
Fl



- Trigger error messages



- Approval process notifications



ADVANTAGE

Lower Upfront Costs: Leasing eliminates large capital expenditures, allowing businesses to preserve cash for other needs.

Flexibility: Businesses can easily upgrade assets at the end of a lease term helping to avoid obsolescence.

Tax Benefits: Lease payments are often deductible as operating expenses, providing a tax providing a tax advantage for the lessee.

DISADVANTAGE

Higher Long-Term Costs: While initial costs are lower, the total cost of leasing can be higher than buying over the asset's lifespan.

No Ownership Equity: At the end of the lease, lessees do not gain ownership of the asset, and their payments do not build equity.

Restrictions: Leased assets often come with limitations, such as mileage caps for vehicles or restrictions on customization.

CONCLUSION

Summary of Achievements

The Salesforce implementation for Lease Management has successfully streamlined and automated critical aspects of the leasing lifecycle. Key accomplishments include:

1. Comprehensive Lease Lifecycle Management

- o Implemented a robust system to manage lease agreements, from creation and amendments to renewals and terminations.

2. Automated Payment Processes

- o Enabled scheduled rent tracking, payment reminders, and overdue alerts, reducing manual oversight and improving cash flow management.

3. Efficient Expiration and Renewal Workflows

- o Automated notifications and streamlined renewal processes, ensuring timely follow-ups and improved lease retention rates.

4. Enhanced Property and Tenant Management

- o Centralized information for properties, units, and tenants, improving operational visibility and collaboration.

5. Actionable Insights and Reporting

o Delivered custom reports and dashboards to monitor revenue, lease performance, and occupancy metrics, supporting data-driven decision-making.

6. Improved User Experience

o Provided intuitive interfaces and mobile accessibility for leasing agents, property managers, and tenants, enhancing productivity and satisfaction.

7. Secure and Scalable Solution

o Ensured role-based access, field-level security, and compliance with legal requirements, enabling a reliable and scalable system for lease management.

8. Integration with External Systems

o Established seamless connections with payment gateways and accounting systems for end-to-end process automation.

REFERENCE

1. International Journal of Advanced Research in Science, Communication and Technology (IJARSCT): https://ijarsct.co.in/Paper7646.pdf.

2. Lease-Management-System-on-Salesforce: https://github.com/VedantRajGaur/Lease-Management-System-on-Salesforce.

3. Github lease Management: https://github.com/mukunthan893/NM_LEASE-MANAGEMENT

4. Salesforce documentation: Build an Integrated Real Estate CRM for Tenant Management.

APPENDIX

- **Source Code:** Provided in Apex Classes and Triggers

Test.apxt:

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

testHandler.apxc:

```
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');
            }
        }
    }
}
```

MothlyEmailScheduler.apxc:

```
global class MonthlyEmailScheduler implements Schedulable {
    global void execute(SchedulableContext sc) { Integer
    currentDay = Date.today().day(); if (currentDay == 1) {
    sendMonthlyEmails();
        }
    } public static void
sendMonthlyEmails() { List<Tenant__c>
tenants = [SELECT Id, Email__c FROM
Tenant__c]; for (Tenant__c tenant :
tenants) {
        String recipientEmail = tenant.Email__c;
        String emailContent = 'I trust this email finds you well. I am writing to remind you
    that the monthly rent is due Your timely payment ensures the smooth functioning of our
    rental arrangement and helps maintain a positive living environment for all.';
```

```
                String emailSubject = 'Reminder: Monthly Rent Payment Due';
                Messaging.SingleEmailMessage email = new

                Messaging.SingleEmailMessage(); email.setToAddresses(new

                String[]{recipientEmail}); email.setSubject(emailSubject);

                email.setPlainTextBody(emailContent);

                  Messaging.sendEmail(new Messaging.SingleEmailMessage[]{email});

            }

        }

    }
```