

PROJECT TITLE

LEASE MANAGEMENT SYSTEM

TEAM MEMBERS:

MANEESH C (714221104023)

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COLLEGE: TAMILNADU COLLEGE OF ENGINEERING

PROJECT OVERVIEW:

A lease management project involves creating a system or application to efficiently handle the processes related to leasing real estate properties, equipment, or other assets. The goal is to streamline and automate various tasks associated with lease agreements, ensuring accurate record-keeping, compliance with regulations, and effective communication between parties involved.

OBJECTIVES:

Business Goals:

- Provide a centralized system for managing leases.
- Enhance compliance with legal and regulatory requirements.
- Reduce manual errors through automation.

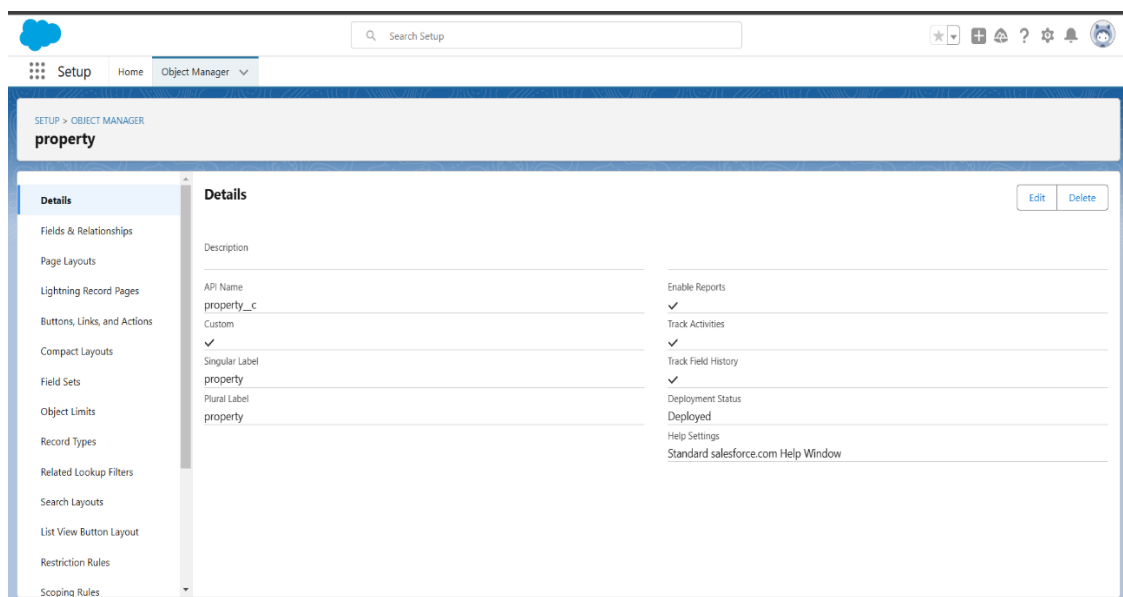
Specific Outcomes:

- Development of a user-friendly interface for lease tracking.
- Integration of automated reminders for renewals and payments.
- Generation of detailed reports for financial and operational insights.

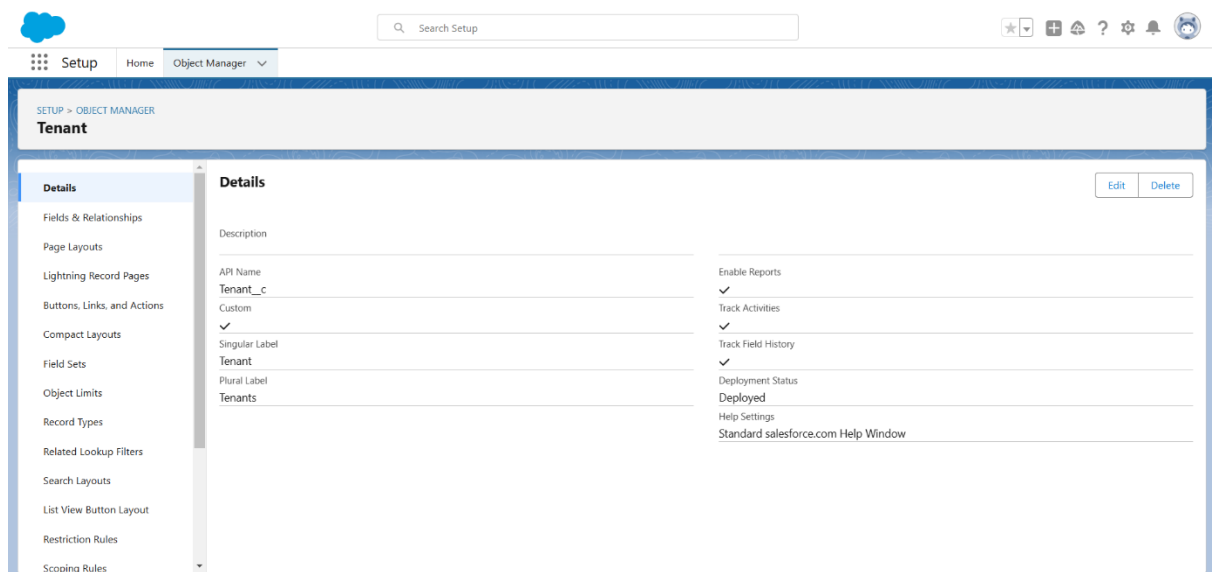
SALESFORCE KEY FEATURES AND CONCEPT UTILIZED :

Custom object:

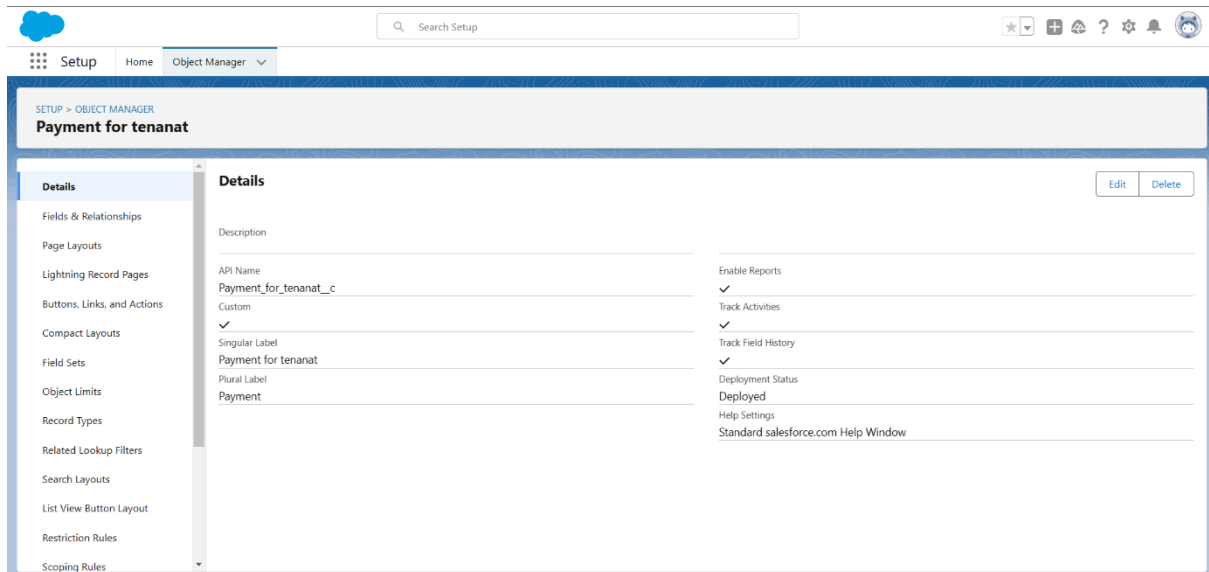
Property object:



Tenant Object :



Payment object :

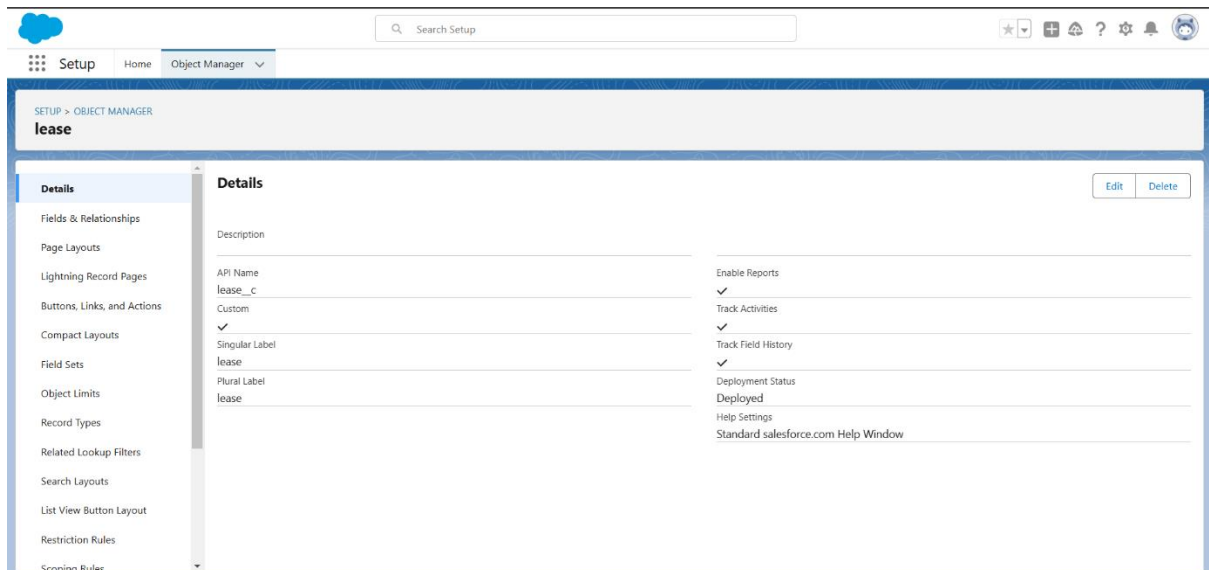


The screenshot shows the Salesforce Setup interface for the 'Payment for tenant' object. The left sidebar contains a list of configuration options: Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, Restriction Rules, and Scoping Rules. The main content area is titled 'Payment for tenant' and includes a search bar. The 'Details' section is expanded, showing the following fields and values:

| Field | Value |
|---------------------|-------------------------------------|
| Description | |
| API Name | Payment_for_tenant__c |
| Custom | ✓ |
| Singular Label | Payment for tenant |
| Plural Label | Payment |
| Enable Reports | ✓ |
| Track Activities | ✓ |
| Track Field History | ✓ |
| Deployment Status | Deployed |
| Help Settings | Standard salesforce.com Help Window |

Buttons for 'Edit' and 'Delete' are located in the top right corner of the details section.

Lease object :



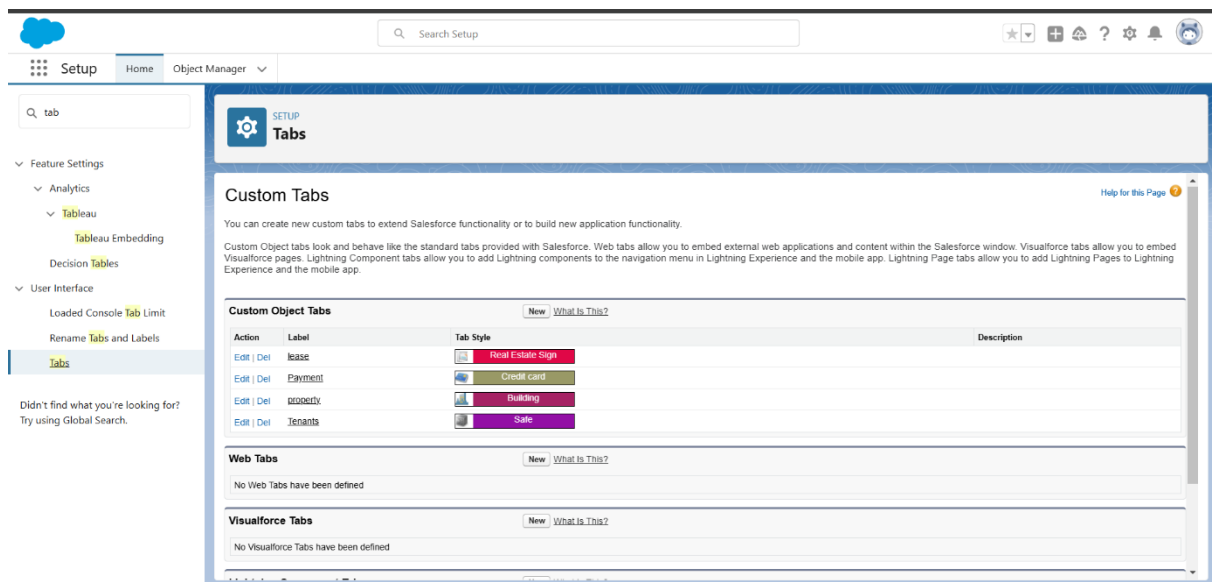
The screenshot shows the Salesforce Setup interface for the 'lease' object. The left sidebar contains a list of configuration options: Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, Restriction Rules, and Scoping Rules. The main content area is titled 'lease' and includes a search bar. The 'Details' section is expanded, showing the following fields and values:

| Field | Value |
|---------------------|-------------------------------------|
| Description | |
| API Name | lease__c |
| Custom | ✓ |
| Singular Label | lease |
| Plural Label | lease |
| Enable Reports | ✓ |
| Track Activities | ✓ |
| Track Field History | ✓ |
| Deployment Status | Deployed |
| Help Settings | Standard salesforce.com Help Window |

Buttons for 'Edit' and 'Delete' are located in the top right corner of the details section.

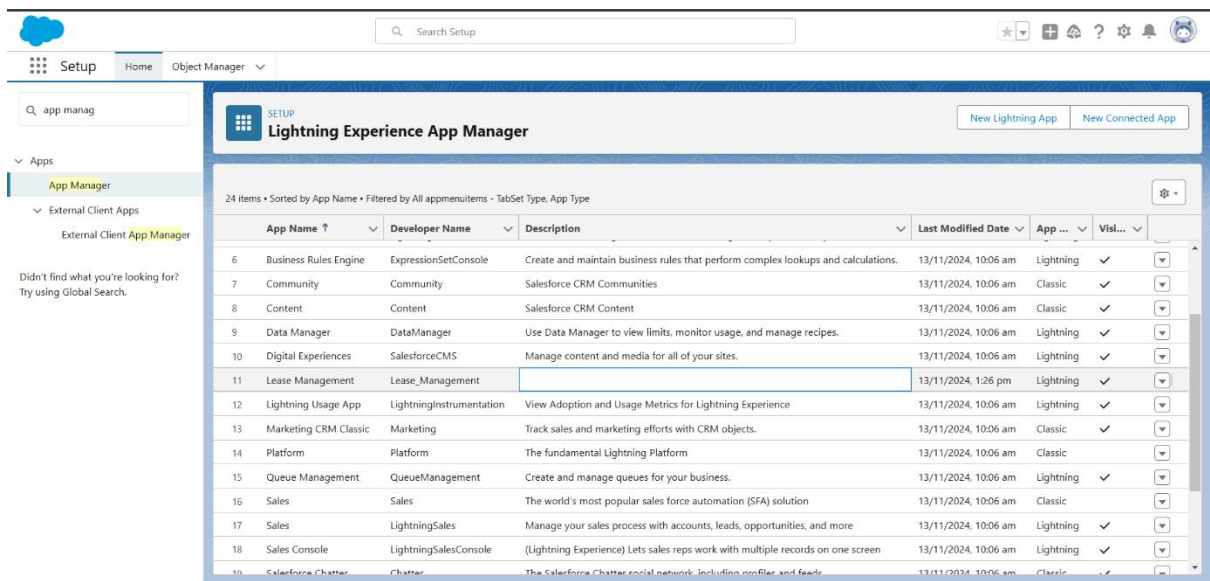
TAB :

Creating a custom tab :



THE LIGHTNING APP:

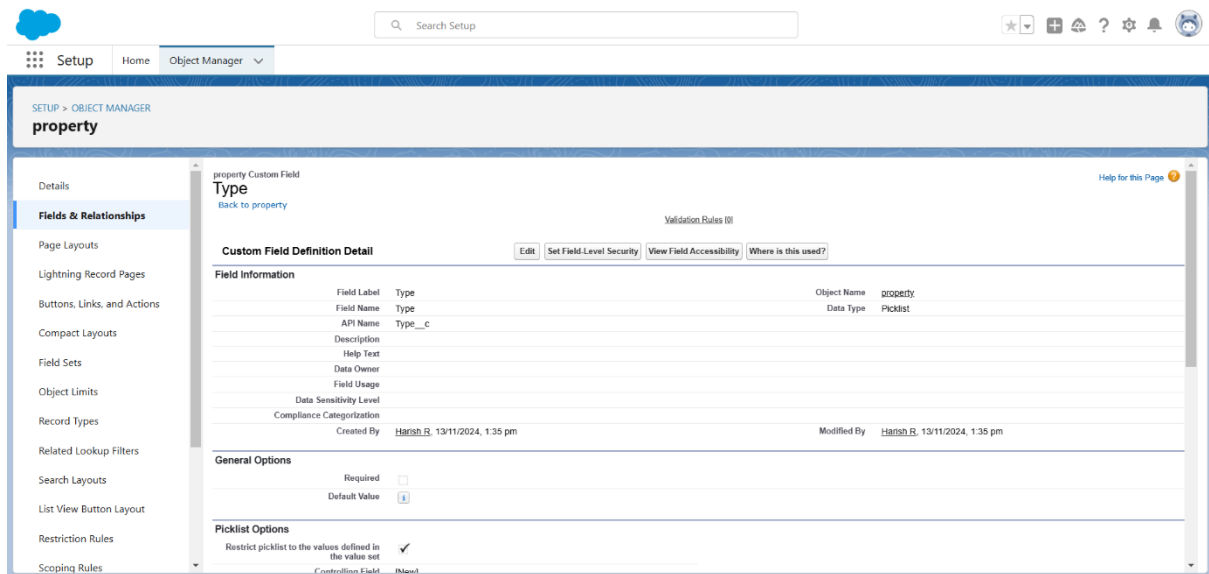
Creating a lightning app :



FIELD :

Creation of fields for the property object :

TYPE :

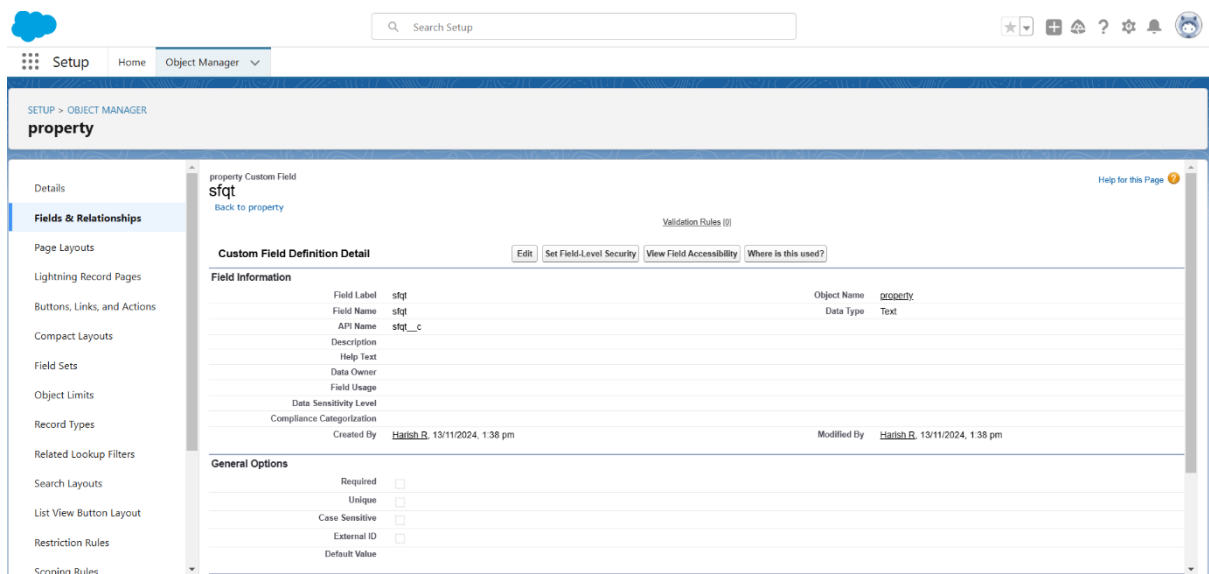


The screenshot shows the Salesforce Setup interface for creating a custom field for the 'property' object. The left sidebar contains navigation links: Details, Fields & Relationships (selected), Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, Restriction Rules, and Scoping Rules. The main content area is titled 'property Custom Field Type' and includes a 'Back to property' link. Below the title is a 'Validation Rules (0)' section. The 'Custom Field Definition Detail' section has tabs for 'Edit', 'Set Field-Level Security', 'View Field Accessibility', and 'Where is this used?'. The 'Field Information' section contains a table with the following data:

| Field Label | Type | Object Name |
|---------------------------|-------------------------------|-------------------------------|
| Type | Type | property |
| Field Name | Type | Data Type |
| API Name | Type__c | Picklist |
| Description | | |
| Help Text | | |
| Data Owner | | |
| Field Usage | | |
| Data Sensitivity Level | | |
| Compliance Categorization | | |
| Created By | Harish R. 13/11/2024, 1:35 pm | Modified By |
| | | Harish R. 13/11/2024, 1:35 pm |

The 'General Options' section includes a 'Required' checkbox (unchecked) and a 'Default Value' field containing '1'. The 'Picklist Options' section includes a 'Restrict picklist to the values defined in the value set' checkbox (checked) and a 'Controller Field' dropdown menu.

SFQT :



The screenshot shows the Salesforce Setup interface for creating a custom field for the 'property' object. The left sidebar contains navigation links: Details, Fields & Relationships (selected), 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, and Scoping Rules. The main content area is titled 'property Custom Field sfqt' and includes a 'Back to property' link. Below the title is a 'Validation Rules (0)' section. The 'Custom Field Definition Detail' section has tabs for 'Edit', 'Set Field-Level Security', 'View Field Accessibility', and 'Where is this used?'. The 'Field Information' section contains a table with the following data:

| Field Label | sfqt | Object Name |
|---------------------------|-------------------------------|-------------------------------|
| sfqt | sfqt | property |
| API Name | sfqt__c | Data Type |
| Description | | Text |
| Help Text | | |
| Data Owner | | |
| Field Usage | | |
| Data Sensitivity Level | | |
| Compliance Categorization | | |
| Created By | Harish R. 13/11/2024, 1:38 pm | Modified By |
| | | Harish R. 13/11/2024, 1:38 pm |

The 'General Options' section includes a 'Required' checkbox (unchecked), a 'Unique' checkbox (unchecked), a 'Case Sensitive' checkbox (unchecked), an 'External ID' checkbox (unchecked), and a 'Default Value' field.

Creation of fields for the tenant object :

EMAIL :

Setup

Home

Object Manager

Search Setup

Star

Share

Help

Settings

Notifications

Profile

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

Tenant Custom Field

Email

Back to Tenant

Validation Rules 00

Custom Field Definition Detail

Edit

Set Field-Level Security

View Field Accessibility

Where is this used?

Field Information

| | | | |
|---------------------------|---------------------|-------------|----------------------|
| Field Label | Email | Object Name | Tenant |
| Field Name | Email | Data Type | Email |
| API Name | Email__c | | |
| Description | | | |
| Help Text | | | |
| Data Owner | | | |
| Field Usage | | | |
| Data Sensitivity Level | | | |
| Compliance Categorization | | | |
| Created By | Harish B. | Modified By | Harish B. |
| | 13/11/2024, 1:41 pm | | 18/11/2024, 10:58 pm |

General Options

| | |
|---------------|-------------------------------------|
| Required | <input checked="" type="checkbox"/> |
| Unique | <input type="checkbox"/> |
| External ID | <input type="checkbox"/> |
| Default Value | |

Validation Rules

New

Validation Rules Help

PHONE :

Setup

Home

Object Manager

Search Setup

Star

Share

Help

Settings

Notifications

Profile

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

Tenant Custom Field

phone

Back to Tenant

Validation Rules 00

Custom Field Definition Detail

Edit

Set Field-Level Security

View Field Accessibility

Where is this used?

Field Information

| | | | |
|---------------------------|--|-------------|---------------------|
| Field Label | phone | Object Name | Tenant |
| Field Name | phone | Data Type | Phone |
| API Name | phone__c | | |
| Description | | | |
| Help Text | | | |
| Data Owner | | | |
| Field Usage | | | |
| | Tenant Custom Field phone - Salesforce - Developer Edition | | |
| Compliance Categorization | | | |
| Created By | Harish B. | Modified By | Harish B. |
| | 13/11/2024, 1:42 pm | | 13/11/2024, 1:42 pm |

General Options

| | |
|---------------|--------------------------|
| Required | <input type="checkbox"/> |
| Default Value | |

Validation Rules

New

Validation Rules Help

No validation rules defined.

STATUS :

Setup

Home

Object Manager

Search Setup

Star

Share

Help

Settings

Notifications

Avatar

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

Tenant Custom Field

status

Back to Tenant

Validation Rules (0)

Custom Field Definition Detail

Edit

Set Field-Level Security

View Field Accessibility

Where is this used?

Field Information

| | | | |
|---------------------------|---------------------|-------------|---------------------|
| Field Label | status | Object Name | Tenant |
| Field Name | status | Data Type | Picklist |
| API Name | status__c | | |
| Description | | | |
| Help Text | | | |
| Data Owner | | | |
| Field Usage | | | |
| Data Sensitivity Level | | | |
| Compliance Categorization | | | |
| Created By | Harish R. | Modified By | Harish R. |
| | 13/11/2024, 1:44 pm | | 13/11/2024, 1:44 pm |

General Options

Tenant Custom Field: status - Salesforce - Developer Edition

Default Value

1

Picklist Options

Restrict picklist to the values defined in the value set

✓

Controlled Field

Manual

Creation of fields for the lease object :

START DATE :

Setup

Home

Object Manager

Search Setup

Star

Share

Help

Settings

Notifications

Avatar

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

Lease Custom Field

start date

Back to lease

Validation Rules (1)

Custom Field Definition Detail

Edit

Set Field-Level Security

View Field Accessibility

Where is this used?

Field Information

| | | | |
|---------------------------|---------------------|-------------|---------------------|
| Field Label | start date | Object Name | lease |
| Field Name | start_date | Data Type | Date |
| API Name | start_date__c | | |
| Description | | | |
| Help Text | | | |
| Data Owner | | | |
| Field Usage | | | |
| Data Sensitivity Level | | | |
| Compliance Categorization | | | |
| Created By | Harish R. | Modified By | Harish R. |
| | 13/11/2024, 1:45 pm | | 13/11/2024, 1:45 pm |

General Options

lease Custom Field: start date - Salesforce - Developer Edition

Default Value

Validation Rules

New

Validation Rules Help

| Action | Rule Name | Error Message | Active | Modified By |
|--------|-----------|---------------|--------|-------------|
|--------|-----------|---------------|--------|-------------|

END DATE :

Setup

Home

Object Manager

Search Setup

Star

Plus

Refresh

Help

Settings

Notifications

Profile

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

lease Custom Field

End date

Back to lease

Validation Rules (0)

Custom Field Definition Detail

Edit

Set Field-Level Security

View Field Accessibility

Where is this used?

Field information

| | | | |
|---------------------------|-------------------------------|-------------|-------------------------------|
| Field Label | End date | Object Name | lease |
| Field Name | End_date | Data Type | Date |
| API Name | End_date__c | | |
| Description | | | |
| Help Text | | | |
| Data Owner | | | |
| Field Usage | | | |
| Data Sensitivity Level | | | |
| Compliance Categorization | | | |
| Created By | Harish R. 13/11/2024, 1:46 pm | Modified By | Harish R. 13/11/2024, 1:46 pm |

General Options

Required

Default Value

Validation Rules

New

Validation Rules Help

No validation rules defined.

Creation of fields for the payment for tenant object :

PAYMENT DATE :

Setup

Home

Object Manager

Search Setup

Star

Plus

Refresh

Help

Settings

Notifications

Profile

SETUP > OBJECT MANAGER

Payment for tenanat

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

Payment for tenanat Custom Field

Payment date

Back to Payment for tenanat

Validation Rules (0)

Custom Field Definition Detail

Edit

Set Field-Level Security

View Field Accessibility

Where is this used?

Field information

| | | | |
|---------------------------|-------------------------------|-------------|-------------------------------|
| Field Label | Payment date | Object Name | Payment for tenanat |
| Field Name | Payment_date | Data Type | Date |
| API Name | Payment_date__c | | |
| Description | | | |
| Help Text | | | |
| Data Owner | | | |
| Field Usage | | | |
| Data Sensitivity Level | | | |
| Compliance Categorization | | | |
| Created By | Harish R. 13/11/2024, 1:47 pm | Modified By | Harish R. 13/11/2024, 1:47 pm |

General Options

Required

Default Value

Validation Rules

New

Validation Rules Help

No validation rules defined.

AMOUNT :

Setup

Home

Object Manager

Search Setup

Star

Share

Help

Settings

Notifications

Profile

Setup > OBJECT MANAGER

Payment for tenanat

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

Payment for tenanat Custom Field

Amount

Back to Payment for tenanat

Payment for tenanat Custom Field: Amount - Salesforce - Developer Edition

Custom Field Definition Detail

Field Information

| | | | |
|---------------------------|---------------------|-------------|---------------------|
| Field Label | Amount | Object Name | Payment for tenanat |
| Field Name | Amount | Data Type | Number |
| API Name | Amount__c | | |
| Description | | | |
| Help Text | | | |
| Data Owner | | | |
| Field Usage | | | |
| Data Sensitivity Level | | | |
| Compliance Categorization | | | |
| Created By | Harish R | Modified By | Harish R |
| | 13/11/2024, 1:48 pm | | 13/11/2024, 1:48 pm |

General Options

| | |
|---------------|--------------------------|
| Required | <input type="checkbox"/> |
| Unique | <input type="checkbox"/> |
| External ID | <input type="checkbox"/> |
| AI Prediction | <input type="checkbox"/> |
| Default Value | |

CHECK FOR PAYMENT :

Setup

Home

Object Manager

Search Setup

Star

Share

Help

Settings

Notifications

Profile

Setup > OBJECT MANAGER

Payment for tenanat

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

Payment for tenanat Custom Field

check for payment

Back to Payment for tenanat

Validation Rules (0)

Custom Field Definition Detail

Field Information

| | | | |
|---------------------------|----------------------|-------------|---------------------|
| Field Label | check for payment | Object Name | Payment for tenanat |
| Field Name | check_for_payment | Data Type | Picklist |
| API Name | check_for_payment__c | | |
| Description | | | |
| Help Text | | | |
| Data Owner | | | |
| Field Usage | | | |
| Data Sensitivity Level | | | |
| Compliance Categorization | | | |
| Created By | Harish R | Modified By | Harish R |
| | 13/11/2024, 1:49 pm | | 13/11/2024, 1:49 pm |

General Options

| | |
|---------------|--------------------------|
| Required | <input type="checkbox"/> |
| Default Value | |

Creation of lookup fields :

PROPERTY :

cloud

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

lease Custom Field

property

Back to lease

Validation Rules

Custom Field Definition Detail

Field Information

| | | | |
|---------------------------|---------------------|-------------|---------------------|
| Field Label | property | Object Name | lease |
| Field Name | property | Data Type | Lookup |
| API Name | property__c | | |
| Description | | | |
| Help Text | | | |
| Data Owner | | | |
| Field Usage | | | |
| Data Sensitivity Level | | | |
| Compliance Categorization | | | |
| Created By | Harish R | Modified By | Harish R |
| | 13/11/2024, 1:51 pm | | 13/11/2024, 1:51 pm |

Lookup Options

| | | | |
|------------|----------|-------------------------|-------|
| Related To | property | Child Relationship Name | lease |
|------------|----------|-------------------------|-------|

TENANT :

cloud

Search Setup

Setup

Home

Object Manager

SETUP > OBJECT MANAGER

Payment

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Object Access

Validation Rules

Conditional Field Formatting

Payment Custom Field

Tenant

Back to Payment Fields

Validation Rules

Custom Field Definition Detail

Field Information

| | | | |
|---------------------------|---------------------|-------------|---------------------|
| Field Label | Tenant | Object Name | Payment |
| Field Name | Tenants | Data Type | Lookup |
| API Name | Tenants__c | | |
| Description | | | |
| Help Text | | | |
| Data Owner | | | |
| Field Usage | | | |
| Data Sensitivity Level | | | |
| Compliance Categorization | | | |
| Created By | Harish R | Modified By | Harish R |
| | 13/11/2024, 2:02 pm | | 13/11/2024, 2:02 pm |

Lookup Options

| | | | |
|---|--------------------------------|-------------------------|-----------|
| Related To | Tenant | Child Relationship Name | Payments1 |
| Related List Label | Payments (Tenant) | | |
| Required | | | |
| What to do if the lookup record is deleted? | Clear the value of this field. | | |

MASTER DETAIL RELATIONSHIP :

| Master-Detail Options | | | |
|----------------------------|--|--|-------------------------|
| Related To | Tenant | | Child Relationship Name |
| Related List Label | property | | property |
| Sharing Setting | Read/Write: Allows users with at least Read/Write access to the Master record to create, edit, or delete related Detail records. | | |
| Reparentable Master Detail | <input type="checkbox"/> | | |

Validation rule :

To create a validation rule to an lease object :

Setup

Home

Object Manager

Search Setup

Star

Share

Help

Settings

Notifications

Profile

SETUP > OBJECT MANAGER

lease

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

lease Validation Rule

[Back to lease](#)

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 | Harish R. | Modified By | Harish R. |
| | 13/11/2024, 2:13 pm | | 13/11/2024, 2:13 pm |

Edit

Clone

Email Template :

CREATE EMAIL TEMPLATE FOR TENANT LEAVING :

Setup

Home

Object Manager

Search Setup

Star

Share

Help

Settings

Notifications

Profile

classic

Email

Classic Email Templates

Classic Letterheads

Didn't find what you're looking for?

Try using Global Search.

SETUP

Classic Email Templates

tenant leaving

[Help for this Page](#)

Preview your email template below:

Email Template Detail

Edit

Delete

Clone

| | | | |
|----------------------|---------------------|-------------------|---------------------|
| Email Template Name | tenant leaving | Available For Use | ✓ |
| Template Unique Name | tenant_leaving | Last Used Date | |
| Encoding | Unicode (UTF-8) | Times Used | |
| Author | Harish R. HarishR | | |
| Description | | | |
| Created By | Harish R. | Modified By | Harish R. |
| | 13/11/2024, 2:16 pm | | 13/11/2024, 2:16 pm |

Edit

Delete

Clone

Email Template

Send Test and Verify Message Fields

Subject

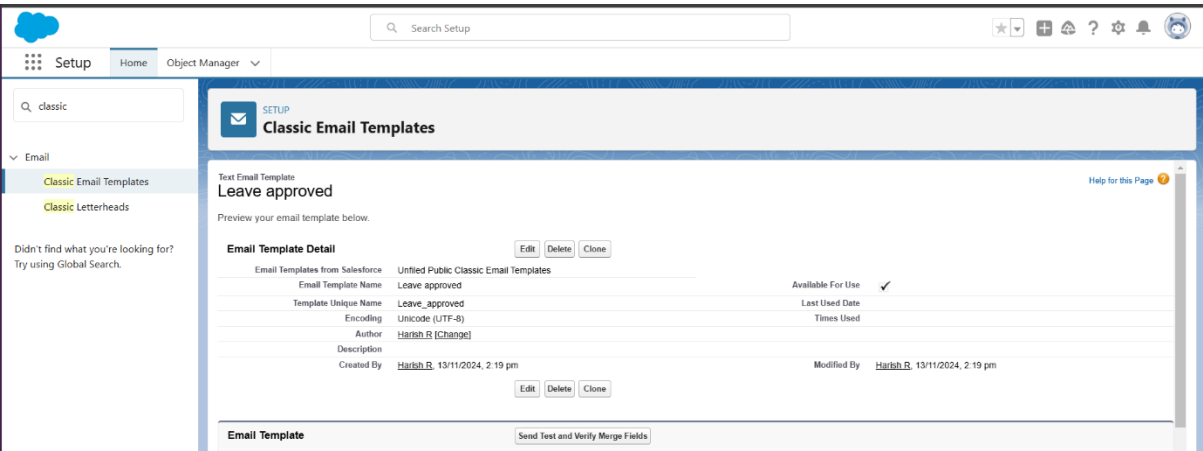
request for approve the lease

Plain Text Preview

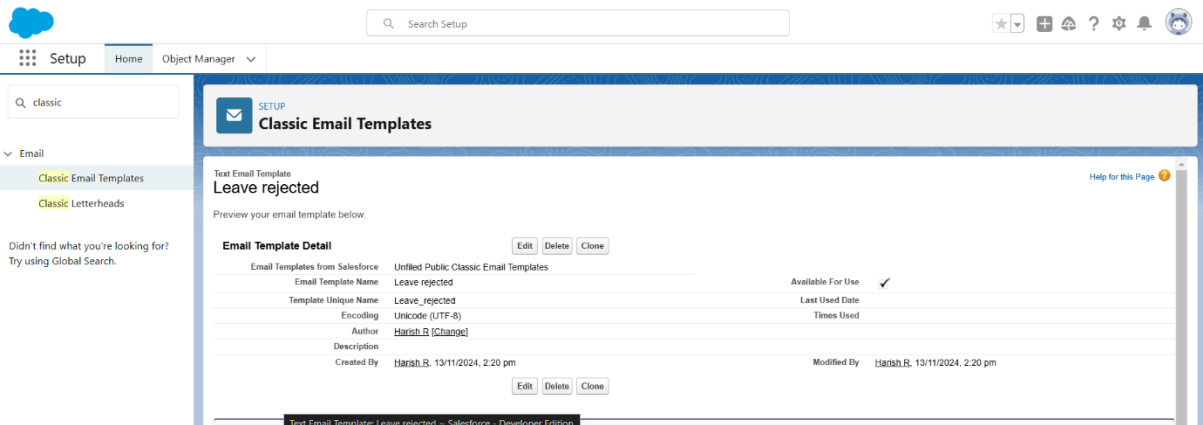
Dear {Name__c, FirstName}

Please approve my lease

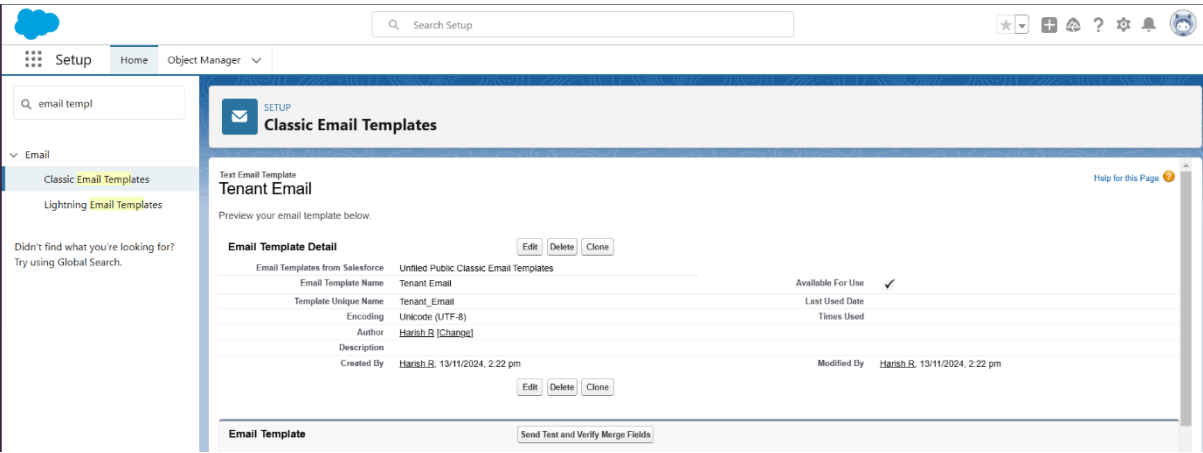
CREATE EMAIL TEMPLATE FOR LEAVE APPROVED :



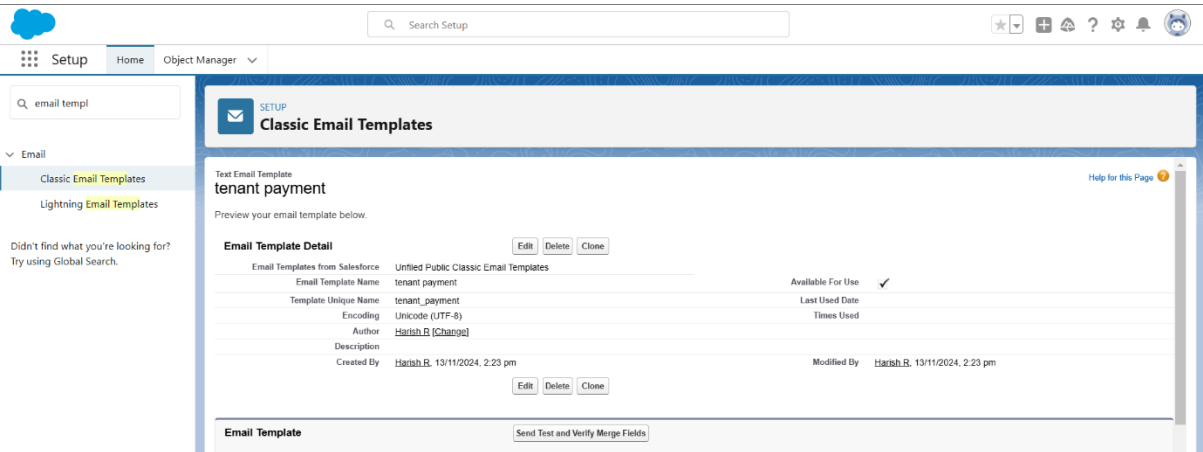
CREATE EMAIL TEMPLATE FOR REJECTION FOR LEAVE:



CREATE EMAIL TEMPLATE FOR MONTHLY PAYMENT :

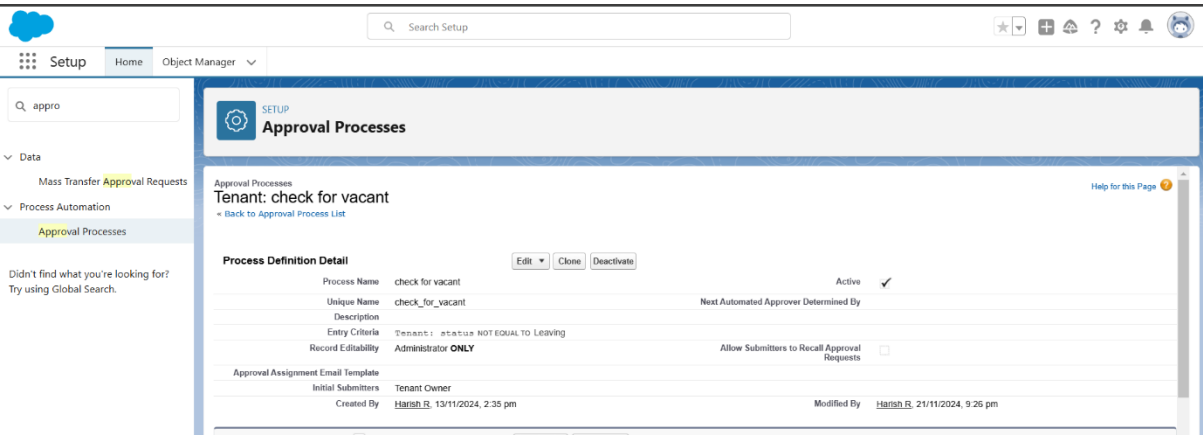


CREATE EMAIL TEMPLATE FOR SUCCESSFUL PAYMENT:

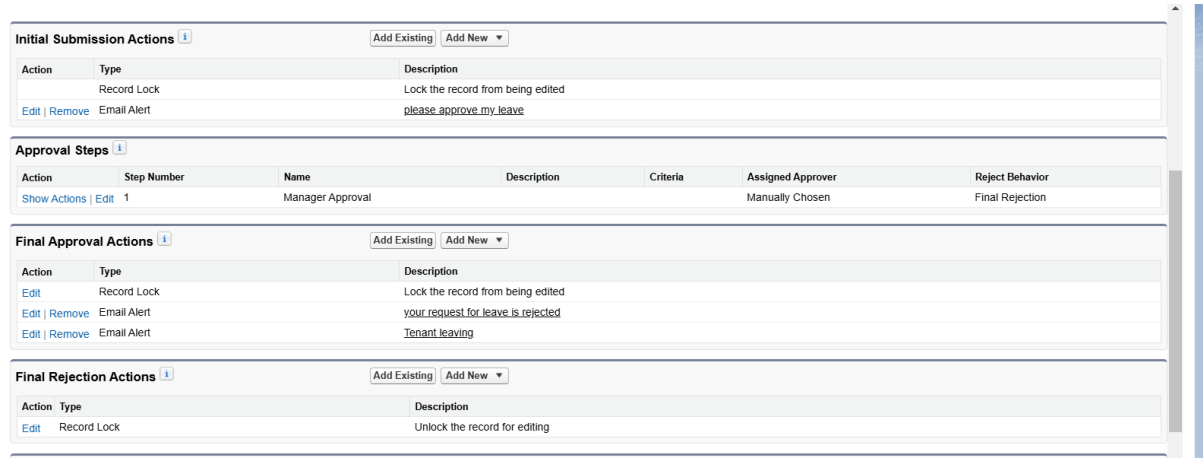


Approval process :

CREATE APPROVAL PROCESS FOR CHECK FOR VACANT :



INITIAL SUBMISSION ACTION , FINAL APPROVAL ACTION , FINAL REJECTION ACTION :

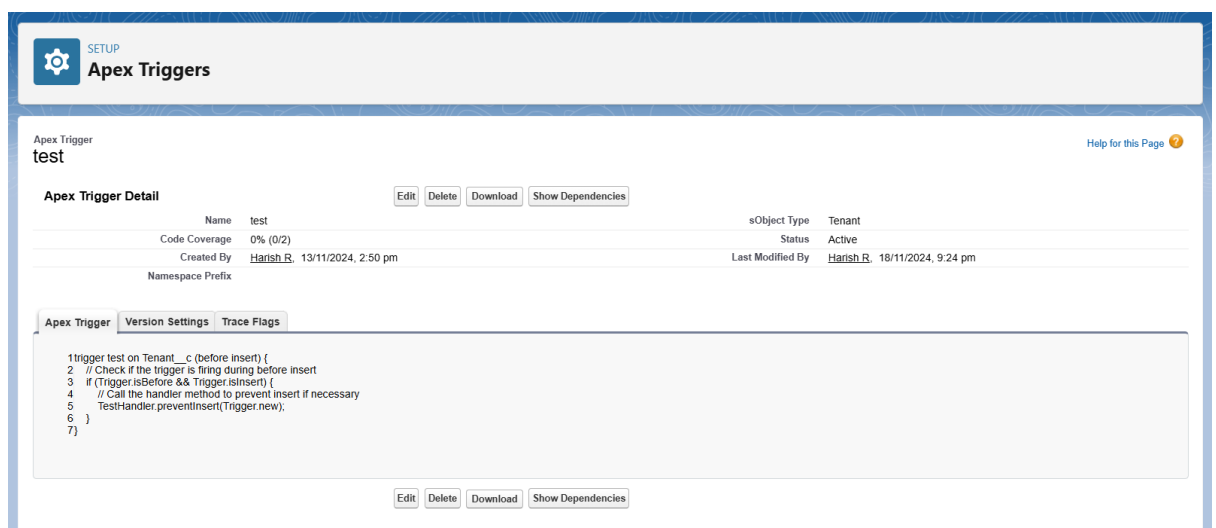


Apex trigger :

CREATE AN APEX TRIGGER :

Trigger Code:

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



CREATE AN APEX HANDLER CLASS :

Apex logic:

```
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');
  }
}
}
}

```

Apex Classes

Apex Class: **TestHandler** [Help for this Page](#)

Apex Class Detail [Edit](#) [Delete](#) [Download](#) [Security](#) [Show Dependencies](#)

| Name | TestHandler | Status | Active |
|------------------|--------------------------------|------------------|--------------------------------|
| Namespace Prefix | | Code Coverage | 0% (0/14) |
| Created By | Harish R , 18/11/2024, 9:39 pm | Last Modified By | Harish R , 18/11/2024, 9:40 pm |

Class Body [Class Summary](#) [Version Settings](#) [Trace Flags](#)

```

1 public class TestHandler {
2     public static void preventInsert(List<Tenant__c> newTenants) {
3         // Collect property IDs from the incoming Tenant records
4         Set<Id> propertyIds = new Set<Id>();
5         for (Tenant__c tenant : newTenants) {
6             if (tenant.Property__c != null) {
7                 propertyIds.add(tenant.Property__c);
8             }
9         }
10
11         // Query the database to find existing tenants linked to these properties
12         Map<Id, Tenant__c> existingPropertyMap = new Map<Id, Tenant__c>();
13         if (!propertyIds.isEmpty()) {
14             for (Tenant__c existingTenant : [
15                 SELECT Id, Property__c
16                 FROM Tenant__c
17                 WHERE Property__c IN :propertyIds
18             ]) {
19                 existingPropertyMap.put(existingTenant.Property__c, existingTenant);
20             }
21         }
22     }
23 }

```

TESTING THE TRIGGER :

property lease Payment

New Tenant

* = Required Information

Information

* Tenant Name Owner Harish R

* Email

phone

status

property

We hit a snag.

Review the errors on this page.

- This property is already assigned to another tenant.

Flows :

CREATE FLOW FOR MONTHLY PAYMENT :



Schedule class :

CREATE AN APEX CLASS :

Apex logic:

```
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});
    }
}
}

```

DETAILED STEPS TO SOLUTION DESIGN:

System Design:

- Data Models: Structure to store lease details, tenant information, payment history, and property specifications.

User Interface Design:

- Dashboard with an overview of active leases, upcoming renewals, and payments.
- Lease agreement creation/edit forms.

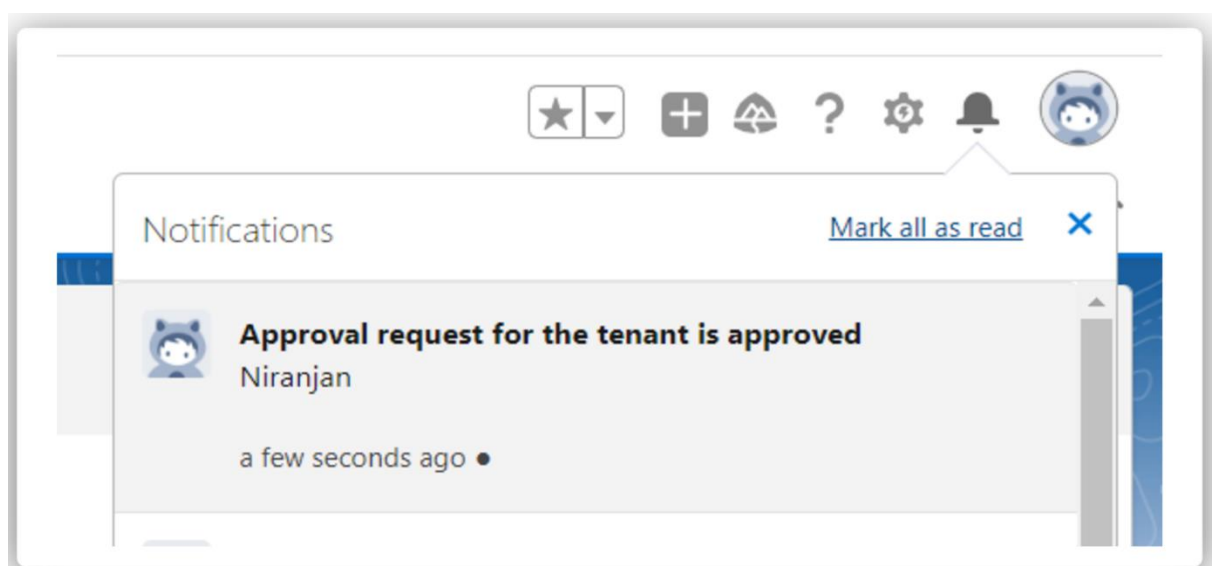
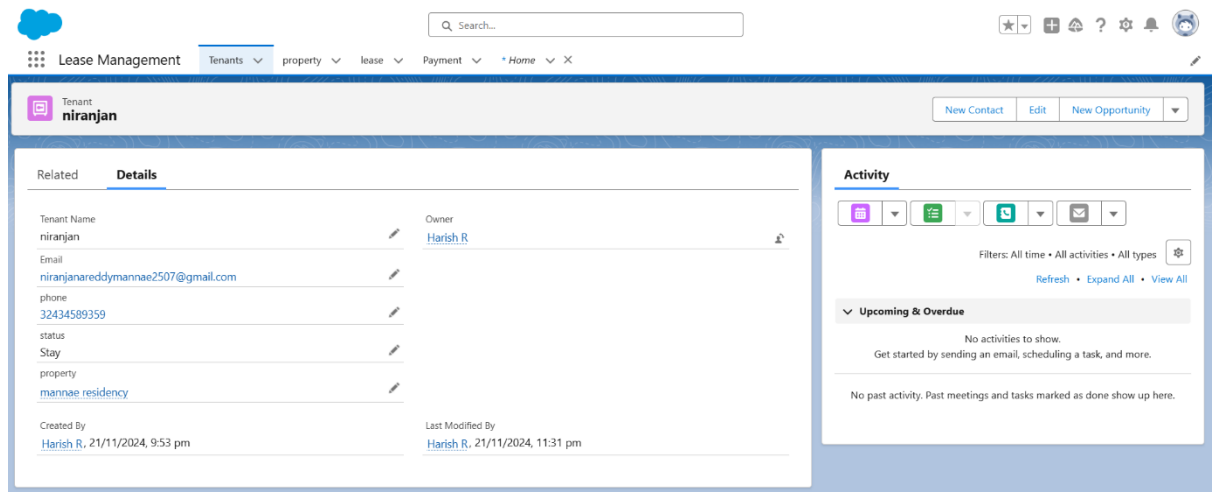
Business Logic:

- Automated calculation of late fees.
- Renewal process automation.

TESTING AND VALIDATION:

Testing Approach:

1. Unit Testing: Validate individual functionalities like lease creation, payment tracking, and reminders.
2. Integration Testing: Ensure seamless interaction between modules (e.g., database and notification system).
3. User Interface Testing: Evaluate the usability and responsiveness of the application.
4. Performance Testing: Measure system efficiency under various loads.



KEY SCENARIOS ADDRESSED:

- Scenario 1: A tenant requests to update their lease details.
- Scenario 2: An alert is sent for an upcoming payment due.
- Scenario 3: A landlord generates a detailed report for all active leases in the last quarter.

Conclusion:

The Lease Management System project successfully automates lease-related processes, providing a centralized and user-friendly solution. It ensures accurate record-keeping, improves regulatory compliance, and facilitates effective communication among stakeholders. The system's analytics and reporting capabilities contribute to better decision-making and operational efficiency.