PHASE 3 – PROJECT DESIGN PHASE

DATE	03 November 2025
TEAM ID	NM2025TMID06704
PROJECT NAME	LEASE MANAGEMENT SYSTEM
MAXIMUM MARKS	4 Marks

Goals of the Architecture
- Provide system safeguards using validations, triggers, and approval processes to automate lease management and enforce data integrity.
- Maintain data consistency and integrity across tenant, property, lease, and payment relationships.
- Reduce manual monitoring and errors by automating routine processes (reminders, approvals, assignments).

Key Components
- **Salesforce Custom Objects**
  - Property_c
  - Tenant_c
  - Lease_c
  - Payment_for_Tenant_c

- **Relationships**
  - Master-detail and lookup relationships (e.g., Tenant to Property, Payment to Tenant)
  - Validation rules to enforce business logic
- **Automation & Business Logic**
  - Salesforce Flows for scheduled actions and notifications (monthly payments, approvals)
  - Apex Triggers for record integrity (one tenant per property)
  - Approval Process for tenant leave/status changes
  - Email templates for tenant and manager notifications

Development Phases
1. **Create custom** objects (Property, Tenant, Lease, Payment for Tenant) and necessary fields.

2. **Establish relationships** (e.g., master-detail Tenant–Property, lookups for Payment).
3. **Build automation**
     o Validation rules for logical constraints
     o Apex triggers to ensure data integrity
     o Flows for payment processing and automated emails
     o Approval process for lease actions
4. **User Interface**
     o Configure Lightning App and Tabs for streamlined user experience
5. **Notification & Communication**
     o Email templates for reminders, approvals, successes, and rejections

Solution Architecture Description

The proposed solution leverages Salesforce's object-oriented structure and automation tools to ensure robust, error-proof management of leases and payments. Custom objects and relationships form the data model, while validation rules and Apex triggers enforce business constraints such as unique tenant-property assignments and valid lease date ranges.

Record-triggered Flows and scheduled Apex classes automate payment reminders and confirmations. Approval processes handle tenant leave requests, enabling efficient multi-stage review and notifications.

Operational benefits include consistent, reliable data; automatic notifications and reminders; a reduction in manual tracking and errors; and a transparent workflow for both tenants and property managers.

Example - Solution Architecture Diagram
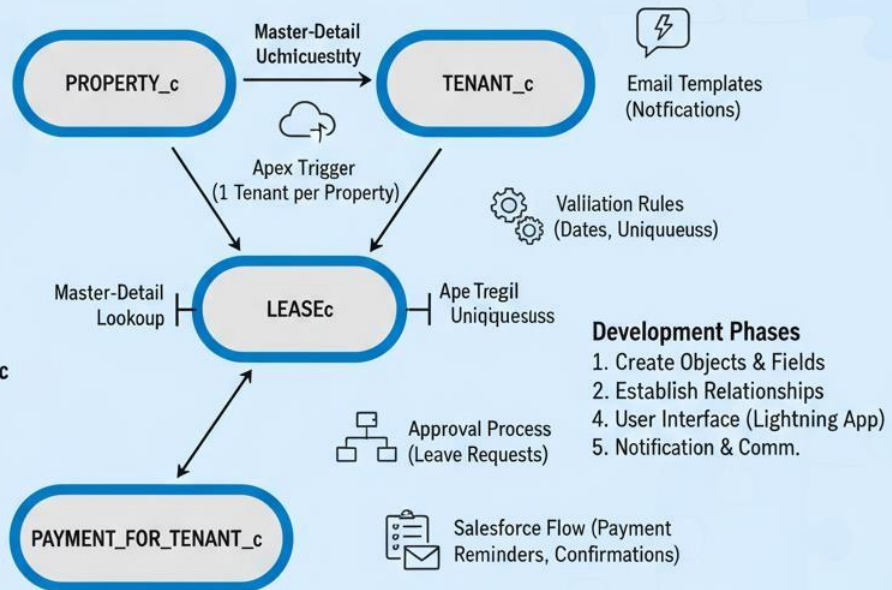
Salesforce Lease Management Solution Architecture

PROPERTY_c — Master-Detail Uchicuestity → **TENANT_c**

Email Templates (Notfications)

Apex Trigger (1 Tenant per Property)

Valiation Rules (Dates, Uniqueuess)

Master-Detail Lookup — **LEASEc** — Ape Tregil Uniqquesuss

PAYMENT_FOR_TENANT_c

Approval Process (Leave Requests)

Salesforce Flow (Payment Reminders, Confirmations)

Key Components
- Custom Objects
- PROPERTY_c RROPERY_c
- Relationships
- Master-detail, Lookup Llclusfoup
- Valication Rules

Automation & Business Logic
- Flows, Apex Triggers Approval Process
- Email Templates

Development Phases
1. Create Objects & Fields
2. Establish Relationships
4. User Interface (Lightning App)
5. Notification & Comm.

Operational Benefits: Data Consistency, Automated Notifications, Reduced Errors, Transparent Workflows