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| **Date** | 3 August 2025 |
| **Team ID** | LTVIP2025TMID30830 |
| **Project name** | Lease management |
| **Maximum Marks** |  |

**What is a data flow diagram(DFD)?**

Here’s a complete response including both Data Flow Diagrams (DFDs) and User Stories for your Lease Management Project, tailored for inclusion in your report or presentation.

**Core Objective of the Process Flow**

To provide a **systematic, error-free, and automated method** for handling all key leasing operations:

* Property and tenant setup
* Lease creation and validation
* Approval workflows
* Payment tracking
* Communication automation
* Dashboard reporting

**🔁 Process Flow Phases**

**🔹 1. Initiation Phase**

* The process starts with the **user logging into Salesforce** and accessing the **Lease Management Lightning App**.
* The user creates new records for **properties** and **tenants**, forming the base data.

**🔹 2. Lease Record Creation**

* The user creates a **Lease** record linking a tenant to a property.
* The system enforces **validation rules**, such as:
  + Lease end date must be after start date.
  + No duplicate tenant assignments to the same property.

**🔹 3. Approval Workflow**

* Once submitted, the lease enters an **automated approval process**.
* Managers review, approve, or reject the lease. The system sends **email alerts** accordingly.

**🔹 4. Automation Phase**

* If approved, the lease status changes to **Active**.
* The system schedules **monthly rent reminders** using **Apex scheduled classes**.
* Notifications are sent automatically without user intervention.

**🔹 5. Payment Logging**

* Rent payments are **recorded manually** or **pulled from integrated systems**.
* Payments are stored under the **Payment object**, linked to tenants and properties.

**🔹 6. Reporting & Monitoring**

* Dashboards and reports provide visibility into:
  + Active leases
  + Overdue payments
  + Lease expirations
  + Occupancy trends

**⚙️ Key Technologies Enabling the Flow**

| **Component** | **Role in Process Flow** |
| --- | --- |
| **Salesforce Objects** | Structure data for Properties, Tenants, Leases, Payments |
| **Validation Rules** | Enforce business constraints at data-entry level |
| **Apex Triggers** | Prevent logical errors (e.g., duplicate tenants per property) |
| **Approval Processes** | Route lease records for review and authorization |
| **Email Templates** | Send system-generated communication |
| **Scheduled Apex** | Automate rent reminders and backend processes |
| **Dashboards** | Provide real-time visibility and insights |

**✅ Benefits of This Process Flow**

* Reduces manual effort and human errors.
* Maintains high data accuracy and consistency.
* Supports accountability through approval workflows.
* Enhances communication via automated alerts.
* Provides operational transparency through dashboards.

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| Property Manager |

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| Lease Management |

| System |

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| Salesforce Database |

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**User Stories – Lease Management System:**

**🔹 Admin / Salesforce Administrator**

1. **As an Admin**, I want to create custom objects and relationships so that property, tenant, lease, and payment data are correctly structured.
2. **As an Admin**, I want to configure validation rules and approvals so that business rules are automatically enforced.
3. **As an Admin**, I want to manage user access and permissions so that only authorized users can view or edit data.

**🔹 Property Manager / Staff**

1. **As a Property Manager**, I want to add property records so I can maintain an inventory of all available units.
2. **As a Property Manager**, I want to assign tenants to properties and create leases so that tenant agreements are recorded.
3. **As a Property Manager**, I want to approve lease requests so that only valid and verified leases go live.
4. **As a Property Manager**, I want to view dashboards to monitor lease statuses, payment trends, and tenant activity.

**🔹 Tenant (Future Scope)**

1. **As a Tenant**, I want to receive rent reminders so I don’t miss due payments.
2. **As a Tenant**, I want to receive notifications for lease approvals or rejections.
3. *(Future)* **As a Tenant**, I want to log in to a self-service portal so I can view my lease and payment history.

**🔹 Developer**

1. **As a Developer**, I want to write Apex triggers and classes to automate duplicate checks and rent reminders.
2. **As a Developer**, I want to ensure flows and handlers execute quickly so that the system stays performant.

**Conclusion**

The process flow designed for the Lease Management System ensures a **structured, efficient, and error-free path** from lease creation to rent collection. By leveraging Salesforce’s automation tools—such as validation rules, approval workflows, Apex triggers, and scheduled jobs—the system handles complex business operations with minimal manual intervention.