

# LoanEase: Salesforce Loan Management CRM

## Phase 3: Data Modeling & Relationships

### Standard & Custom Objects

In the LoanEase CRM application, we primarily used custom objects to model the key entities involved in the loan management process. The choice of custom objects allows full flexibility over fields, relationships, and business logic specific to the loan domain.

- **Custom Objects Created:**
  - **Loan:** The central object that stores details about each loan sanctioned to customers. Key fields include Loan Amount, Customer Name, Interest Rate, Loan Type, Status, and Loan Duration (Start and End Dates).
  - **EMI (Equated Monthly Installment):** Linked directly to loans, EMIs represent scheduled payments customers must make. Fields include EMI Amount, Due Date, Installment Number, Status, and a reference to the parent Loan.
  - **Payment:** Represent actual payment transactions made by customers against EMIs. Includes fields like Amount Paid, Payment Date, Payment Mode (Cash, Online, Cheque), and Status, with a lookup to the related EMI.
- **Standard Objects Not Used Explicitly:**
  - While Salesforce standard objects like Account or Contact could be used to represent customers, this project scope kept the focus on loan-specific entities modeled through custom objects for clarity and control.

### Fields

Each custom object in the LoanEase CRM includes fields specifically tailored to capture necessary business data related to loans, EMIs, and payments. Below is a summary of key fields per object:

- **Loan Object Fields:**
  - Customer Name (Text): Name of the loan applicant.
  - Loan Amount (Currency): Total amount sanctioned.
  - Interest Rate (Number): Rate of interest applicable.
  - Loan Type (Picklist): Category such as Home Loan, Car Loan, Personal Loan, Education Loan.
  - Status (Picklist): Current loan status like New, Approved, Closed.
  - Start Date / End Date (Date): Loan duration period.
- **EMI Object Fields:**
  - EMI Name (Text): Unique name or number for EMI.
  - Loan (Lookup): Reference to the parent Loan.
  - EMI Amount (Currency): Monthly installment amount.
  - Due Date (Date): EMI due date.
  - Status (Picklist): Paid, Due, Overdue.
  - Installment Number (Number): Sequence of EMI in loan schedule.
- **Payment Object Fields:**
  - Payment Name (Text): Identifier for the payment transaction.
  - EMI (Lookup): Reference to the related EMI.
  - Amount Paid (Currency): Amount paid during the transaction.
  - Payment Date (Date): Date of payment.
  - Payment Mode (Picklist): Mode of payment such as Cash, Online, Cheque.
  - Status (Picklist): Payment status like Success, Failed, Pending.

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Setup Home Object Manager

SETUP > OBJECT MANAGER

Loan

Details

Fields & Relationships

13 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)		
Customer Name	Customer_Name__c	Text(118)		
End Date	End_Date__c	Date		
Interest Rate	Interest_Rate__c	Percent(118, 0)		
Last Modified By	LastModifiedById	Lookup(User)		
Loan Amount	Loan_Amount__c	Currency(118, 0)		
Loan Number	Name	Text(80)		✓
Loan Type	Loan_Type__c	Picklist		
Owner	OwnerId	Lookup(User,Group)		✓
Record Type	RecordTypeId	Record Type		✓
Start Date	Start_Date__c	Date		
Status	Status__c	Picklist		

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Setup Home Object Manager

SETUP > OBJECT MANAGER

EMI

Details

Fields & Relationships

9 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)		
EMI Amount	EMI_Amount__c	Currency(118, 0)		
EMI Due Date	EMI_Due_Date__c	Date		
EMI Name	Name	Text(80)		✓
Installment Number	Installment_Number__c	Number(118, 0)		
Last Modified By	LastModifiedById	Lookup(User)		
Loan	Loan__c	Lookup(Loan)		✓
Owner	OwnerId	Lookup(User,Group)		✓
Status	Status__c	Picklist		

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Setup Home Object Manager

SETUP > OBJECT MANAGER

Payment

Details

Fields & Relationships

9 Items, Sorted by Field Label

Quick Find New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount Paid	Amount_Paid__c	Currency(118, 0)		
Created By	CreatedById	Lookup(User)		
EMI	EMI__c	Lookup(EMI)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Payment Date	Payment_Date__c	Date		
Payment Mode	Payment_Mode__c	Picklist		
Payment Name	Name	Text(80)		✓
Status	Status__c	Picklist		

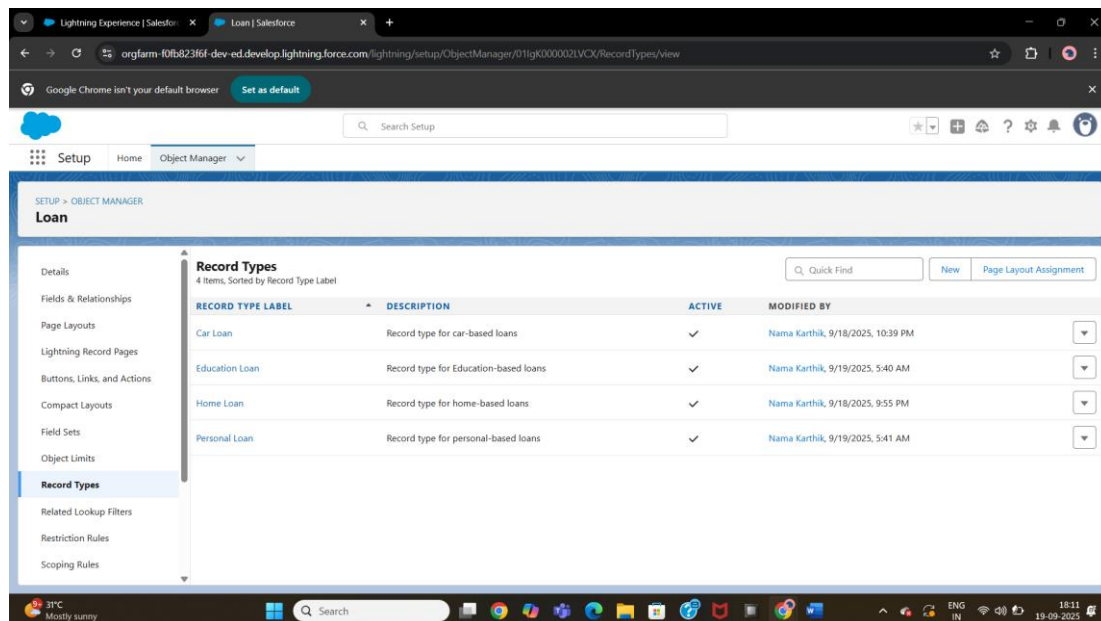
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## Record Types

To support different business processes and tailor data entry for various loan categories, record types were created for the Loan object. Each record type represents a distinct loan type with specific layouts and picklist values as relevant for the loan process.

- **Loan Record Types Created:**

- Home Loan
- Car Loan
- Personal Loan
- Education Loan



## Page Layouts

Page layouts were customized for the Loan, EMI, and Payment objects to organize the user interface efficiently and enhance usability. Key fields were grouped logically, with necessary sections for each object to streamline data entry and review.

- **Loan Layout:**
  - Placed customer details, loan amount, interest rate, loan type, and status in prominent sections.
  - Related lists for EMIs and Payments were added for easy navigation from a Loan record.
  - Different page layouts were assigned to record types to tailor field visibility.
- **EMI Layout:**
  - Fields such as EMI Amount, Due Date, Status, and Installment Number arranged in a clear format.
  - Lookup to the parent Loan object included.
  - Related list of Payments configured.
- **Payment Layout:**
  - Displays payment details including payment amount, date, mode, and status.
  - Lookup reference to the related EMI.
  - Organized for quick data entry and review.

## Compact Layouts

Compact layouts were configured for Loan, EMI, and Payment objects to optimize key field display in the highlights panel and for Salesforce mobile app users. These layouts summarize critical information at the top of each record, improving readability and quick access.

- **Loan Compact Layout:**
  - Displays Loan Amount, Customer Name, Status, Loan Type, and Interest Rate for quick overview.
- **EMI Compact Layout:**
  - Shows EMI Amount, Due Date, Status, and Installment Number to provide

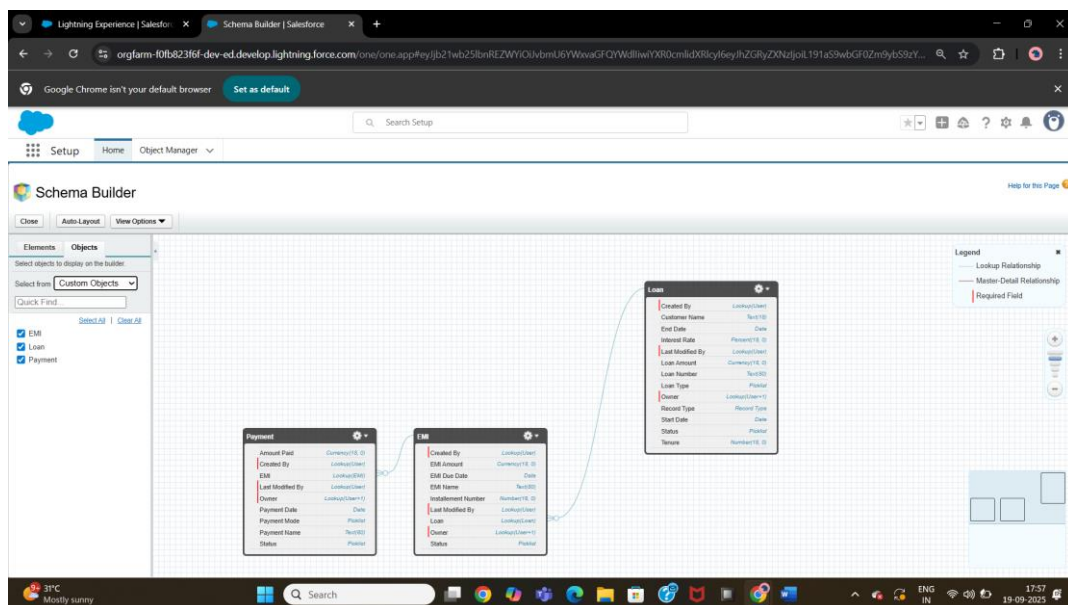
insights on repayment schedules.

- **Payment Compact Layout:**
  - Highlights Payment Date, Amount Paid, Payment Mode, and Status to track payment transactions promptly.

## Schema Builder

Schema Builder was used to visually design and validate the data model and relationships for the LoanEase CRM application. It provided a clear graphical representation of the custom objects and their connections, ensuring the architecture aligned with the business requirements.

- The Schema Builder diagram shows:
  - Loan object linked to multiple EMI records via a lookup/master-detail relationship.
  - Each EMI can have multiple Payment records connected by a similar relationship.
- This visualization confirmed that the parent-child hierarchies were correctly implemented between Loans, EMIs, and Payments.
- The tool helped validate data integrity and guided the field and relationship configuration.



## Lookup vs Master-Detail vs Hierarchical Relationships

In this project, two types of relationships were primarily used to model the associations between the custom objects:

- **Master-Detail Relationship:**
  - Between Loan and EMI: Each EMI record is a child of a Loan and cannot exist without a parent Loan. Deleting a Loan will cascade delete all related EMI records.
  - Between EMI and Payment: Each Payment is tied to a specific EMI. Payments cannot exist independently of EMIs, ensuring data integrity. This relationship also supports roll-up summary fields to aggregate child data.
- **Lookup Relationship:**
  - Not used in this phase of the project as all child objects (EMIs, Payments) require strict parent linkage.

- **Hierarchical Relationship:**

- Not applicable in this project as no user hierarchy or special User object relationships were needed.

## **Junction Objects**

- In the current LoanEase CRM project, junction objects were not utilized as the data model did not require many-to-many relationships between objects. The implemented structure is primarily hierarchical with one-to-many relationships between Loans, EMLs, and Payments.
- If future enhancements require representing complex many-to-many mappings (e.g., a Loan linked to multiple Guarantors and vice versa), junction objects would be introduced to facilitate these relationships.

## **External Objects**

- External objects were not part of project scope since all relevant data was stored natively within Salesforce custom objects. LoanEase CRM operates entirely with Salesforce data.
- Should integration with external systems (like third-party loan processing or credit score services) be required later, external objects would be configured to surface such data within Salesforce while maintaining data integrity and user experience.