

## Phase 3: Data Modelling & Relationships

### Goal

Build a robust data model in Salesforce (or any CRM/DB platform) to store and relate information about books, members, publishers, and transactions.

### Custom Objects & Fields

#### 1.Book

- Purpose: Stores information about each book in the library.
- Key Fields:

Field Name	Data Type	Details
Title	Text (255)	Name of the book.
Author	Text (255)	Name(s) of author(s).
ISBN	Text (13)	Unique identifier for the book.
Category	Lookup → Category	Links the book to a genre.
Quantity	Number (3,0)	Total stock count.
Publisher	Lookup → Publisher	Identifies the publisher.
Issued Count	Roll-up(Count)	Number of books issued.
Available_Quantity	Formula (Number)	Quantity__c - Issued_Count__c
Book_Status	Picklist	Values: Available, Reserved, Out of Stock.

#### 2.Member

- Purpose: Stores details of library members.
- Key Fields:

Field Name	Data Type	Details
Name	Text (255)	Member's full name.
Email	Email	Member's email address.
Student_ID	Text (20)	Unique student/member ID.

Contact Info	Phone/Text	Member's contact number.
Books_Issued	Roll-Up Summary	Counts open (unreturned) transactions related to this member.
Outstanding_Fines	Currency	Total unpaid fines (roll-up from Book Transactions).

### 3. Book Transaction

- Purpose: Tracks every book issue and return.
- Key Fields:

Field Name	Data Type	Details
Transaction_Type	Picklist	Values: Issue, Return.
Date_Issued	Date	Date of issuing the book.
Due_Date	Date	Date by which the book should be returned.
Return_Date	Date	Date when the book is actually returned.
Fine	Currency	Automatically calculated if overdue.
Book	Master-Detail → Book	Links transaction to the specific book.
Member	Master-Detail → Member	Links transaction to the borrowing member.

### 4. Publisher

- Purpose: Stores publisher details.
- Key Fields:

Field Name	Data Type	Details
Name	Text (255)	Publisher's name.
Address	Text Area	Full address.
Contact	Phone	Publisher's contact number.

## 5.Category

- Purpose: Classifies books into genres.
- Key Fields:

Field Name	Data Type	Details
Genre	Text (255)	Example: Fiction, Science, Technology.
Description	Text Area	Details of the category.