

Phase 3: Data Modeling & Relationships

- Completion Report

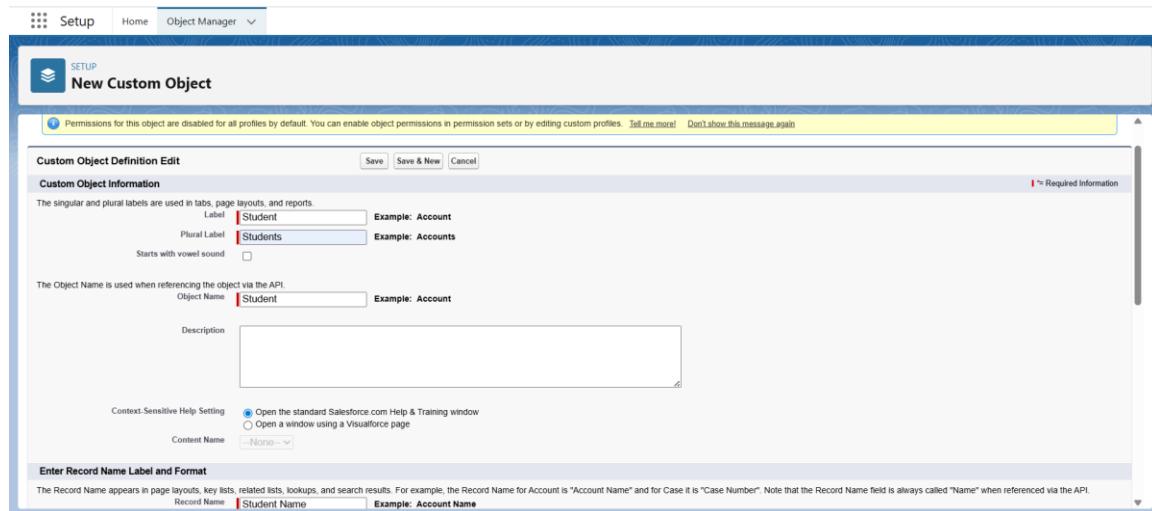
1. Standard & Custom Objects

 **Process Flow:** Setup → Object Manager → New Custom Object → Add Fields. All objects configured in a similar manner, with respective fields as listed above.

Custom objects created for the Assignment & Exam Management System:

Student_c

- Student ID (Text, External ID, Unique)
- First Name, Last Name, Email, Phone
- Guardian (Lookup), Guardian Name, Guardian Contact
- Owner, Created By, Modified By



The screenshot shows the 'New Custom Object' page in the Salesforce Setup interface. The top navigation bar includes 'SETUP', 'Home', and 'Object Manager'. The main title is 'New Custom Object'. Below it, the 'Custom Object Definition Edit' section has tabs for 'Custom Object Information', 'Fields & Relationships', 'Triggers & Flows', and 'Sharing & Permissions'. The 'Custom Object Information' tab is active, showing fields for 'Label' (Student) and 'Plural Label' (Students). A note says 'Starts with vowel sound' with an unchecked checkbox. The 'Object Name' field is set to 'Student' with 'Example: Account'. A large 'Description' text area is empty. Under 'Context-Sensitive Help Setting', the 'Open the standard Salesforce.com Help & Training window' radio button is selected. The 'Content Name' dropdown is set to 'None'. At the bottom, there's a note about Record Name and a 'Save' button.

Guardian_c

- Guardian ID (Auto Number, External ID, Unique)
- First Name, Last Name, Email (Unique), Phone
- Relationship to Student (Picklist)
- Owner, Created By, Modified By

Custom Object Definition Edit

Custom Object Information

The singular and plural labels are used in tabs, page layouts, and reports.

Label	Guardian	Example: Account
Plural Label	Guardians	Example: Accounts

Starts with vowel sound

The Object Name is used when referencing the object via the API.

Object Name	Guardian	Example: Account
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Description:

Context-Sensitive Help Setting

- Open the standard Salesforce.com Help & Training window
- Open a window using a Visualforce page

Content Name

Record Name: Student Name | Example: Account Name

Course__c

- Course Code (Unique), Name (Indexed)
- Credits, Instructor (Lookup), Schedule Info, Title
- Owner, Created By, Modified By

Fields & Relationships

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Course Code	Course_Code__c	Text(20) (Unique Case Insensitive)		✓
Course Name	Name	Text(80)		✓
Created By	CreatedById	Lookup(User)		
Credits	Credits__c	Number(2, 0)		
Instructor	Instructor__c	Lookup(User)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Schedule Info	Schedule_Info__c	Long Text Area(32768)		
Title	Title__c	Text(255)		

Enrollment__c (Junction Object)

- Enrollment Number (Auto Number)
- Course (Master-Detail), Student (Master-Detail)
- Enrollment Date, Status (Picklist)
- Created By, Modified By

Fields & Relationships					
7 items, Sorted by Field Label					
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	
Course	Course__c	Master-Detail(Course)		✓	▼
Created By	CreatedById	Lookup(User)			▼
Enrollment Date	Enrollment_Date__c	Date			▼
Enrollment Number	Name	Auto Number		✓	▼
Last Modified By	LastModifiedById	Lookup(User)			▼
Status	Status__c	Picklist			▼
Student	Student__c	Master-Detail(Student)		✓	▼

Attendance__c

- Attendance Record (Auto Number), Date
- Enrollment (Lookup), Marked By (Lookup), Status, Remarks
- Owner, Created By, Modified By

Fields & Relationships					
9 items, Sorted by Field Label					
FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	
Attendance Record	Name	Auto Number		✓	▼
Created By	CreatedById	Lookup(User)			▼
Date	Date__c	Date			▼
Enrollment	Enrollment__c	Lookup(Enrollment)		✓	▼
Last Modified By	LastModifiedById	Lookup(User)			▼
Marked By	Marked_By__c	Lookup(User)		✓	▼
Owner	OwnerId	Lookup(User,Group)		✓	
Remarks	Remarks__c	Text Area(255)			▼
Status	Status__c	Picklist			▼

Grade__c

- Grade Number (Auto Number)
- Enrollment (Lookup), Student (Lookup), Subject (Lookup Course)
- Teacher (Lookup), Marks, Grade Date
- Owner, Created By, Modified By

Fields & Relationships					
10 Items, Sorted by Field Label					
FIELD LABEL		FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By		CreatedById	Lookup(User)		
Enrollment		Enrollment__c	Lookup(Enrollment)		✓
Grade Number		Name	Auto Number		✓
Grade Date		Grade_Date__c	Date		
Last Modified By		LastModifiedById	Lookup(User)		
Marks		Marks__c	Number(3, 0)		
Owner		OwnerId	Lookup(User,Group)		✓
Student		Student__c	Lookup(Student)		✓
Subject		Subject__c	Lookup(Course)		✓
Tutor		Tutor__c	Lookup(Contact)		

2. Page Layouts

Configured for Student__c as an example:

 **Process Flow: Setup → Object Manager → Student → Page Layouts → Student Layout → Drag fields into sections → Save.**

Page Layouts					
PAGE LAYOUT NAME		CREATED BY	MODIFIED BY	Page Layout Assignment	
Student Layout		Harshal Alaspure, 9/14/2025, 7:52 PM	Harshal Alaspure, 9/16/2025, 10:13 AM		

Fields grouped into Student Information and Guardian Info sections, with related lists (Guardians, Enrollments, Grades).

The screenshot shows the Salesforce Object Manager interface for the 'Student' object. The 'Page Layouts' tab is selected. The layout configuration includes fields for First Name, Last Name, Student ID, and various lookup fields like Section, Guardian, and Owner. The layout also includes sections for Information and System Information.

Other objects (Guardian, Course, Enrollment, Attendance, Grade) had layouts configured similarly with their relevant fields.

6. Lookup vs Master-Detail vs Hierarchical Relationships

Lookup Relationship: Attendance linked to Enrollment via Lookup.

Master-Detail Relationship: Enrollment links to Student and Course.

Hierarchical Relationship: User roles such as Teacher under Academic_Admin.

7. Junction Objects

Enrollment_c functions as a junction object connecting Student_c and Course_c. It enables many-to-many relationships between students and courses.

The screenshot shows the Salesforce Object Manager interface for the 'Enrollment' object. The 'Fields & Relationships' tab is selected. The table lists fields such as Course, Created By, Enrollment Date, Enrollment Number, Last Modified By, Status, and Student, along with their respective field labels, data types, controlling fields, and indexing status.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Course	Course_c	Master-Detail(Course)		✓
Created By	CreatedById	Lookup(User)		
Enrollment Date	Enrollment_Date_c	Date		
Enrollment Number	Name	Auto Number		✓
Last Modified By	LastModifiedById	Lookup(User)		
Status	Status_c	Picklist		
Student	Student_c	Master-Detail(Student)		✓