

Phase 3 — Data Modelling & Relationships (Student CRM)

1. Standard & Custom Objects

- Contact (Standard) → Can be used for Parent details if needed.
- Student__c (Custom) → Store student info: Roll No, DOB, Parent Info, Admission Status.
- Course__c (Custom) → Stores courses/classes: Course Name, Course Code, Credits, Faculty.
- Enrollment__c (Custom) → Junction object linking Student ↔ Course. Fields: Enrollment Date, Status.
- Grade__c (Custom) → Stores exam results: Subject, Marks, GPA. Lookups: Student, Course.
- Fee__c (Custom) → Stores fee details: Type, Amount, Due Date, Status. Lookup: Student.

2. Fields

- Student__c: Roll_No, DOB, Parent__c (Lookup to User), Assigned_Teacher__c (Lookup to User), Admission_Status.
- Course__c: Course_Code, Credits, Faculty.
- Enrollment__c: Enrollment_Date, Status.
- Grade__c: Subject, Marks, Grade, GPA, Student (Lookup), Course (Lookup).
- Fee__c: Fee_Type, Amount, Due_Date, Status, Student (Lookup).

3. Record Types

- Fee__c → Record Types: Tuition Fee, Exam Fee, Hostel Fee.
- Grade__c → Record Types: Internal Exam, Final Exam.
- Assign different Page Layouts for each record type.

4. Page Layouts & Related Lists

- Student Page Layout → Show related: Courses (via Enrollment), Grades, Fees.
- Course Page Layout → Show related: Enrolled Students.
- Teacher View → Show only assigned students.
- Parent View → Show child's details, grades, and fees (Read-only).

5. Lightning Record Pages & Compact Layouts

- Student Record Page → Student details + related lists (Grades, Fees).
- Fee Compact Layout → Show Type, Amount, Due Date, Status.
- Grade Compact Layout → Show Subject, Marks, GPA.

6. Tabs & App Navigation

- In your Student CRM app, add tabs: Students, Courses, Enrollments, Grades, Fees, Reports, Dashboards.

7. Schema Builder (ERD)

- Open Schema Builder in Salesforce.
- Drag: Student, Course, Enrollment, Grade, Fee, User.
- Verify relationships:
 - - Student ↔ Course (via Enrollment).
 - - Student ↔ Grade.
 - - Student ↔ Fee.
 - - Student ↔ Teacher (Assigned_Teacher__c).
 - - Student ↔ Parent (Parent__c).

8. Security & Field-Level Visibility

- Teacher Profile → Read/Edit Student & Grade, no Fee access.
- Parent Profile → Read-only access to their child's Student, Grade, Fee.
- Finance Profile → Full Fee access, Read-only Student.
- Admin Profile → Full access.

9. Sample Data & Testing

- Create 3–5 sample Students.
- Assign them to Courses via Enrollment.
- Add Grades (Internal + Final Exam).
- Add Fee records (Paid + Pending).
- Test as:
 - - Teacher → sees assigned students only.
 - - Parent → sees child's record only.
 - - Finance → manages fees.
 - - Admin → sees everything.

10. System Behaviour to Validate

- Student record shows linked Courses, Grades, Fees.
- Teachers can only access their students.
- Parents see only their child's data via portal.
- Finance users manage all fee records.
- Admin has global visibility.