# Phase 3: Data Modeling & Relationships

In this updated phase, the Salesforce data model is designed for the University 360° Student Lifecycle Management project using Salesforce best practices. Students and Parents are represented as Contacts, not as a separate custom Student object. This approach aligns with Salesforce Education Cloud standards. Faculty and Placement Cell are Users, while additional academic and performance details are managed using custom objects.
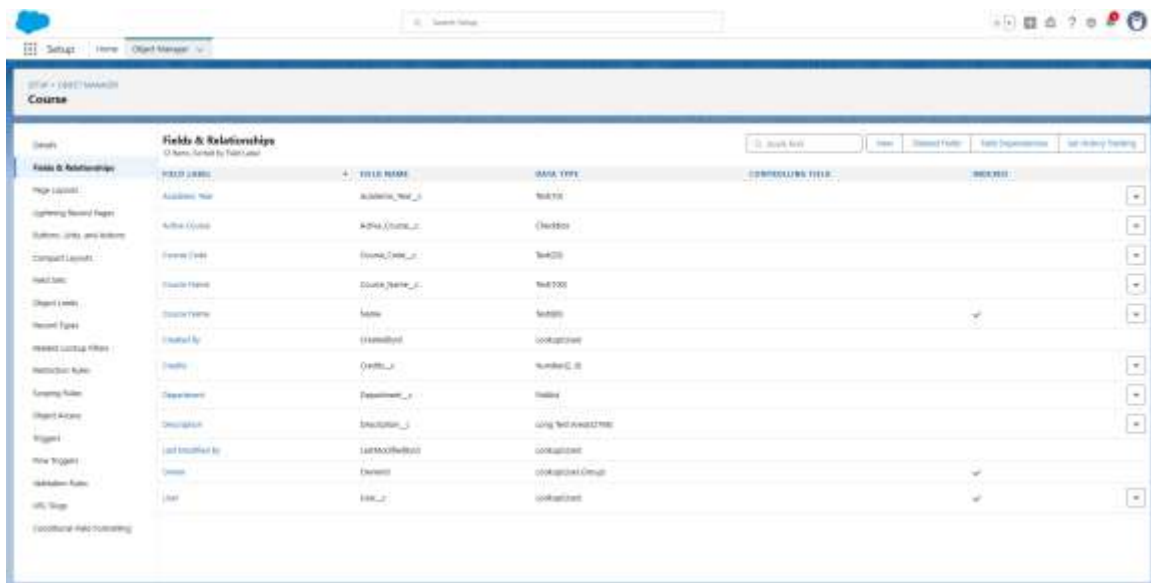
## 1. Objects to Use

Standard Objects:
- Contact → For Students and Parents.
- Account → For Departments/Programs (e.g., CSE, ECE, MBA).
- User → For Faculty, Placement Officers, and Admins.

Custom Objects:
1. Course → Stores course details.
2. Enrollment → Junction object linking Student (Contact) ↔ Course.
3. Exam → Stores exam details.
4. Result → Exam results linked to Exam + Student.
5. Performance Analysis → Used by placement cell for evaluations and readiness analysis.

## 2. Key Fields for Each Object

Student (Contact extended): Roll Number, Department (Account lookup), Year of Study, Status (Active/Graduated/Dropped).

Parent (Contact extended): Relation, Mobile Number, Linked Student (Relationship field).

Course: Course Code, Name, Credits, Semester, Faculty Assigned (Lookup to User).

Enrollment: Student (Lookup to Contact), Course (Lookup to Course), Academic Year, Enrollment Status.

Exam: Exam Name, Type (Midterm/Final/External), Date, Linked Course.

Result: Student (Lookup to Contact), Exam (Lookup to Exam), Marks Obtained, Grade, Status.

Performance Analysis: Student (Lookup to Contact), Evaluated By (Placement Officer – User), Skill Score, Placement Readiness, Notes.

## 3. Relationships

- Student (Contact) ↔ Course → Many-to-many via Enrollment.
- Course ↔ Exam → One-to-many.
- Student (Contact) ↔ Result ↔ Exam → Results per student.
- Student (Contact) ↔ Attendance ↔ Course → Track attendance.
- Student (Contact) ↔ Performance Analysis → Multiple evaluations over time.
- Student (Contact) ↔ Parent (Contact) → Linked via Relationship field.
- Faculty (User) ↔ Course → Faculty assigned to courses.
- Placement Officer (User) ↔ Performance Analysis → Placement cell evaluations.

## 4. Record Types & Page Layouts

Record Types:
- Student: UG vs PG.
- Exam: Internal vs External.
- Performance Analysis: Semester Review vs Placement Review.

Page Layouts:
- Faculty Layout → Courses taught, attendance, results entry.
- Placement Cell Layout → Performance analysis, reports, dashboards.
- Admin Layout → Full access to student lifecycle.

## 5. Schema Builder View (Simplified)

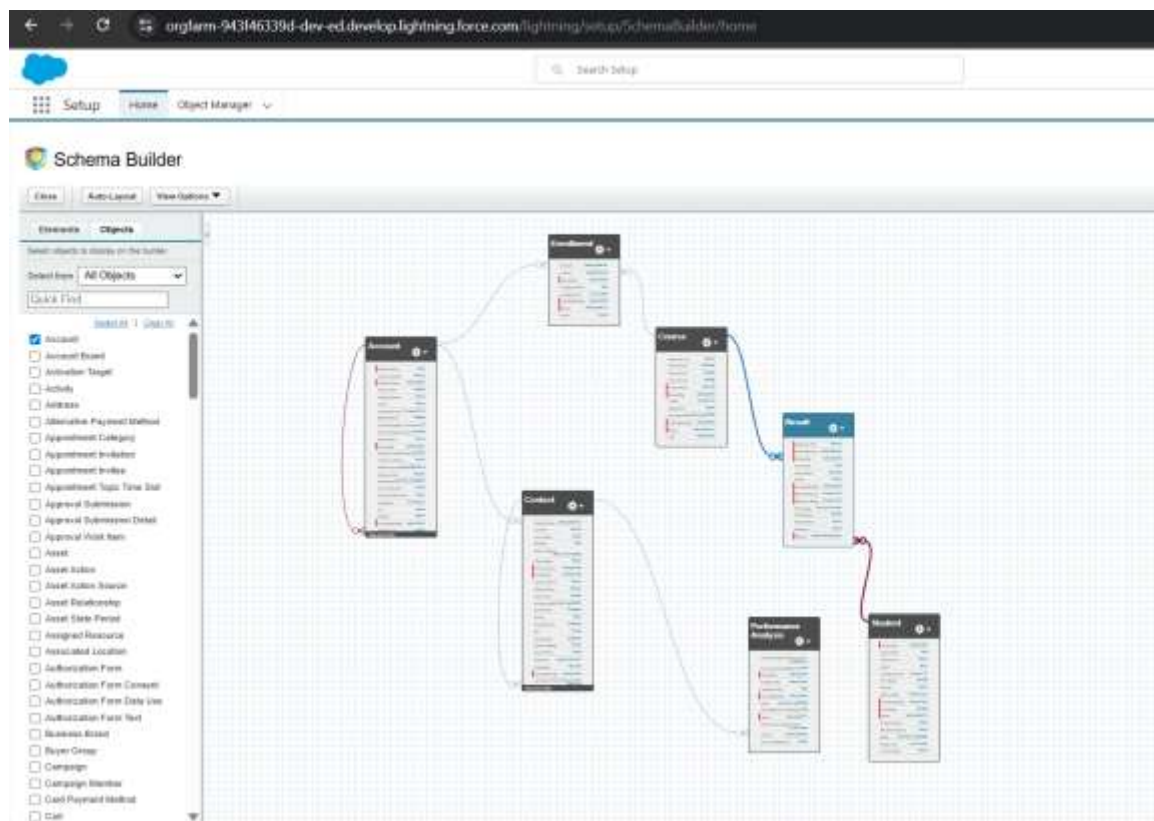Student (Contact) ——< Enrollment >—— Course ——< Exam >—— Result
Student (Contact) ——< Attendance >—— Course
Student (Contact) ——< Performance Analysis
Student (Contact) —— Parent (Contact) (Relationship)
Faculty (User) ——< Course (Assigned)
Placement Officer (User) ——< Performance Analysis



## 6. External Objects (Optional)

If the university uses an external LMS or ERP system, Salesforce Connect can be used to link external data. For example, exam scores or course materials stored externally can be accessed directly within Salesforce without duplication.

## Outcome of Updated Phase 3

At the end of this updated Phase 3, the Salesforce University Org will have:
- Students and Parents stored as Contact records, avoiding duplication.
- Departments represented as Accounts.

- Faculty and Placement Cell as Users.
- Academic and performance details stored in custom objects.
- Well-defined relationships supporting student lifecycle management and placement readiness analysis.
This approach ensures alignment with Salesforce Education Cloud best practices.