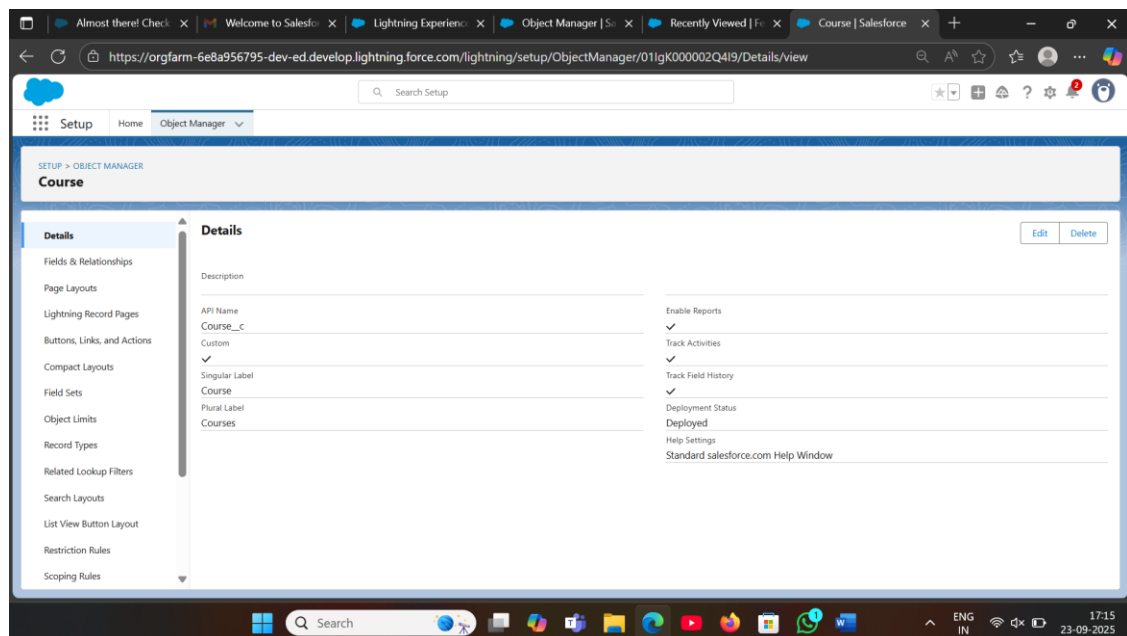
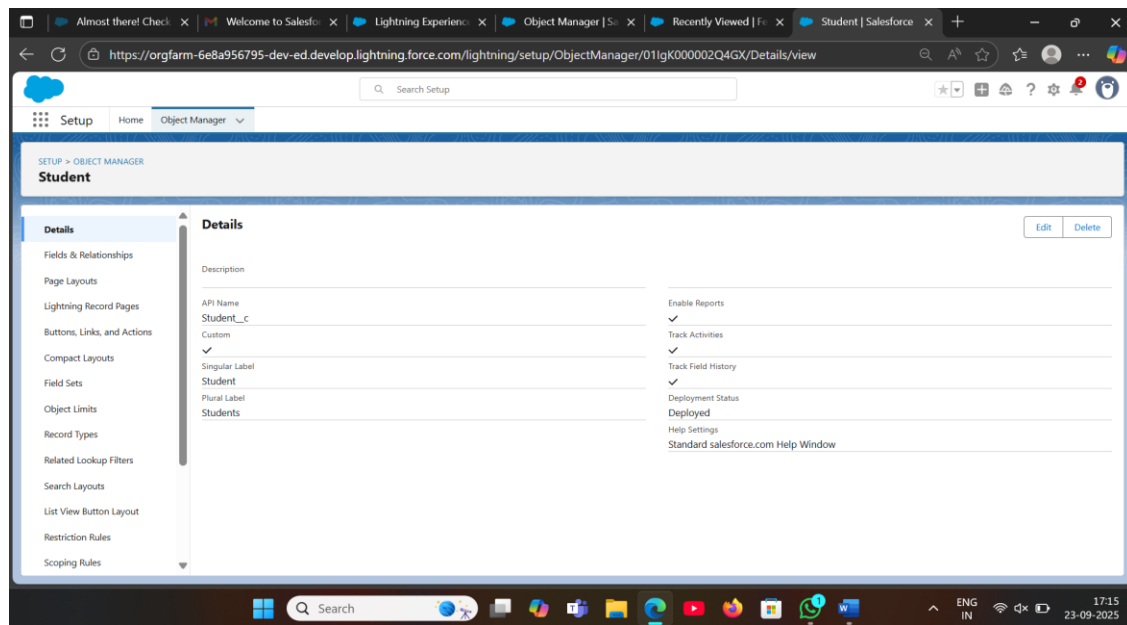


Phase 3: Data Modeling & Relationships

1. Standard & Custom Objects

In this project, we used standard objects like Account and Contact, and created custom objects such as Student, Course, and Enrollment.

Custom objects were designed to represent our business data model, where Students can enroll in multiple Courses through the Enrollment object.



Windows taskbar and browser tabs: Welcome to Salesforce: R..., Recently Viewed | Student..., Enrollment | Salesforce, github - Search, Student Management Sys...

Browser address bar: <https://orgfarm-6e8a956795-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01lgK000002Q4ur/Details/view>

Setup > OBJECT MANAGER

Enrollment

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

List View Button Layout

Restriction Rules

Scoping Rules

Details

Description

API Name: Enrollment__c

Custom

Singular Label: Enrollment

Plural Label: Enrollments

Enable Reports: ☒

Track Activities: ☒

Track Field History: ☒

Deployment Status: Deployed

Help Settings: Standard salesforce.com Help Window

Edit Delete

Windows taskbar and browser tabs: Welcome to Salesforce: R..., Recently Viewed | Student..., Attendance | Salesforce, github - Search, Student Management Sys...

Browser address bar: <https://orgfarm-6e8a956795-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01lgK000002Q4wT/Details/view>

Setup > OBJECT MANAGER

Attendance

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

List View Button Layout

Restriction Rules

Scoping Rules

Details

Description

API Name: Attendance__c

Custom

Singular Label: Attendance

Plural Label: Attendances

Enable Reports: ☒

Track Activities: ☒

Track Field History: ☒

Deployment Status: Deployed

Help Settings: Standard salesforce.com Help Window

Edit Delete

Windows taskbar and browser tabs: Welcome to Salesforce: R..., Recently Viewed | Student..., Grade | Salesforce, github - Search, Student Management Sys...

Browser address bar: <https://orgfarm-6e8a956795-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01lgK000002Q4zh/Details/view>

Setup > OBJECT MANAGER

Grade

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Search Layouts

List View Button Layout

Restriction Rules

Scoping Rules

Details

Description

API Name: Grade__c

Custom

Singular Label: Grade

Plural Label: Grades

Enable Reports: ☒

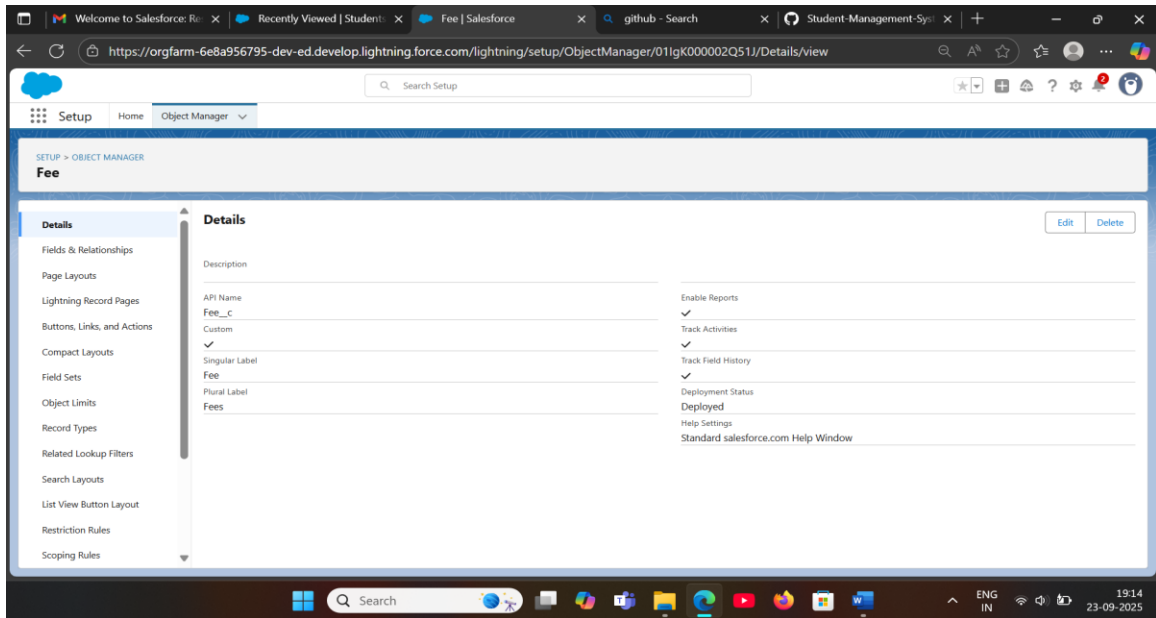
Track Activities: ☒

Track Field History: ☒

Deployment Status: Deployed

Help Settings: Standard salesforce.com Help Window

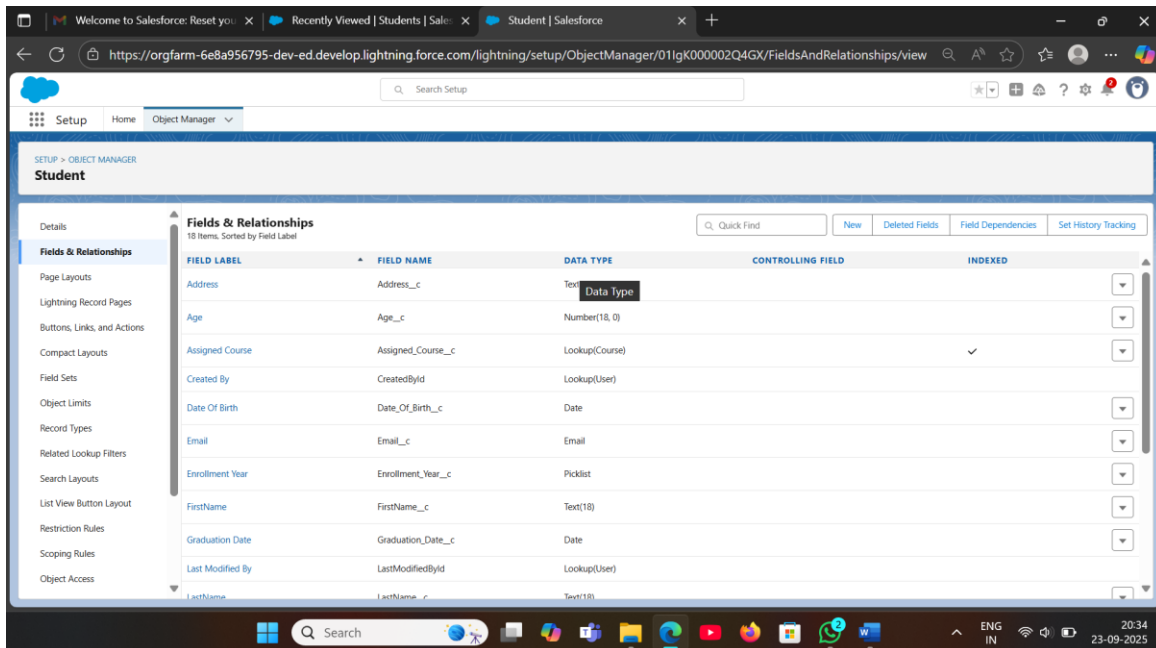
Edit Delete



2. Fields

Custom fields were added to capture additional data for each object. Examples include:

- Student: First Name, Last Name, Email, Phone, Department (Picklist), Roll Number.
- Course: Course Name, Course Code, Duration.
- Enrollment: Enrollment Date, Status.



Course

Fields & Relationships

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Course Code	Course__c	Text(10) (Unique Case Insensitive)		✓
Course Id	Course_Id__c	Auto Number		
Course Name	Name	Text(80)		✓
Course1	Course1__c	Lookup(Course)		✓
Created By	CreatedById	Lookup(User)		
Credits	Credits__c	Number(18, 0)		
Duration	Duration__c	Text(80)		
Instructor	Instructor__c	Lookup(User)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User.Group)		✓
Student	Student__c	Lookup(Student)		✓

Enrollment

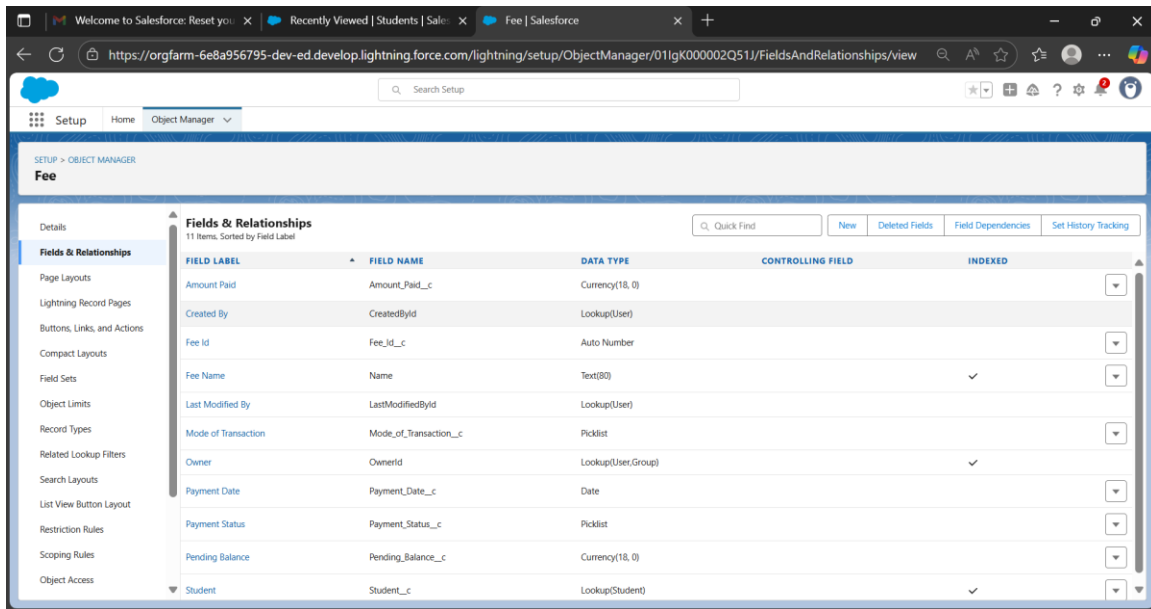
Fields & Relationships

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Completion Status	Completion_Status__c	Picklist		
Course	Course__c	Master-Detail(Course)		✓
Course1	Course1__c	Lookup(Course)		✓
Created By	CreatedById	Lookup(User)		
Enrollment Date	Enrollment_Date__c	Date		
Enrollment Name	Name	Text(80)		✓
Grade	Grade__c	Text(5)		
Last Modified By	LastModifiedById	Lookup(User)		
Status	Status__c	Picklist		
Student	Student__c	Master-Detail(Student)		✓
Student1	Student1__c	Lookup(Student)		

Grade

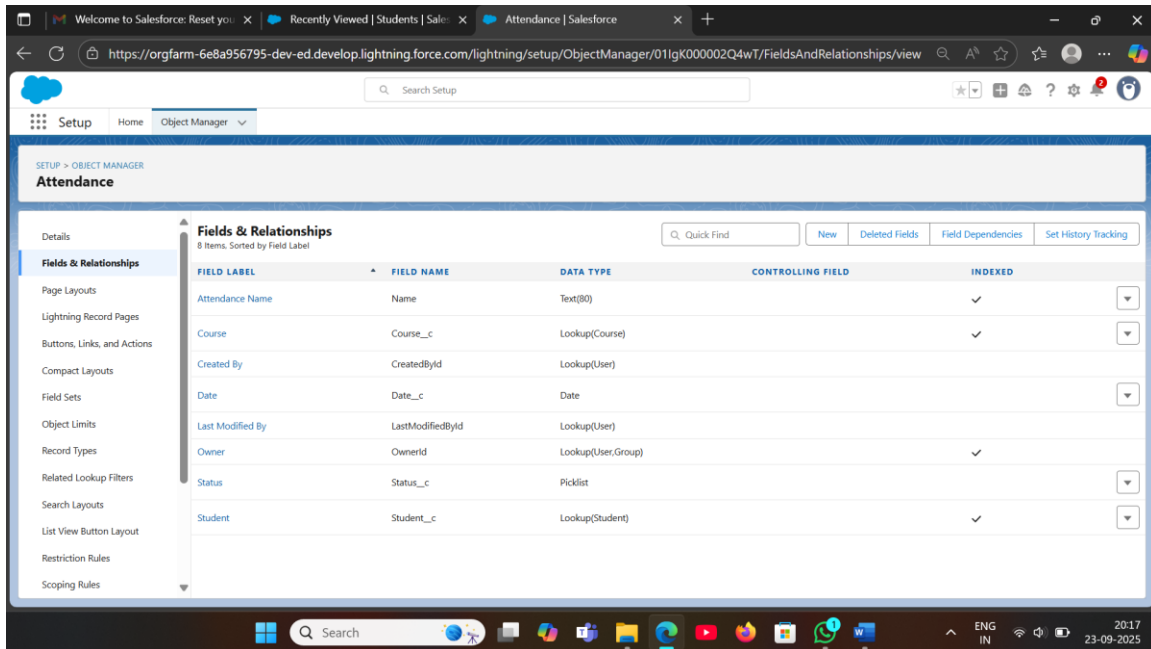
Fields & Relationships

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Course	Course__c	Lookup(Course)		✓
Created By	CreatedById	Lookup(User)		
GPA	GPA__c	Number(4, 2)		
Grade	Grade__c	Picklist		
Grade Name	Name	Text(80)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Marks	Marks__c	Number(3, 0)		
Owner	OwnerId	Lookup(User.Group)		✓
Student	Student__c	Lookup(Student)		✓



The screenshot shows the Salesforce Setup interface for the 'Fee' object. The 'Fields & Relationships' section is active, displaying a list of 11 fields. The left sidebar contains navigation links for various setup areas. The table lists fields with their labels, names, data types, and whether they are indexed or controlling fields.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Amount Paid	Amount_Paid__c	Currency(18, 0)		
Created By	CreatedById	Lookup(User)		
Fee Id	Fee_Id__c	Auto Number		
Fee Name	Name	Text(80)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Mode of Transaction	Mode_of_Transaction__c	Picklist		
Owner	OwnerId	Lookup(User/Group)		✓
Payment Date	Payment_Date__c	Date		
Payment Status	Payment_Status__c	Picklist		
Pending Balance	Pending_Balance__c	Currency(18, 0)		
Student	Student__c	Lookup(Student)		✓

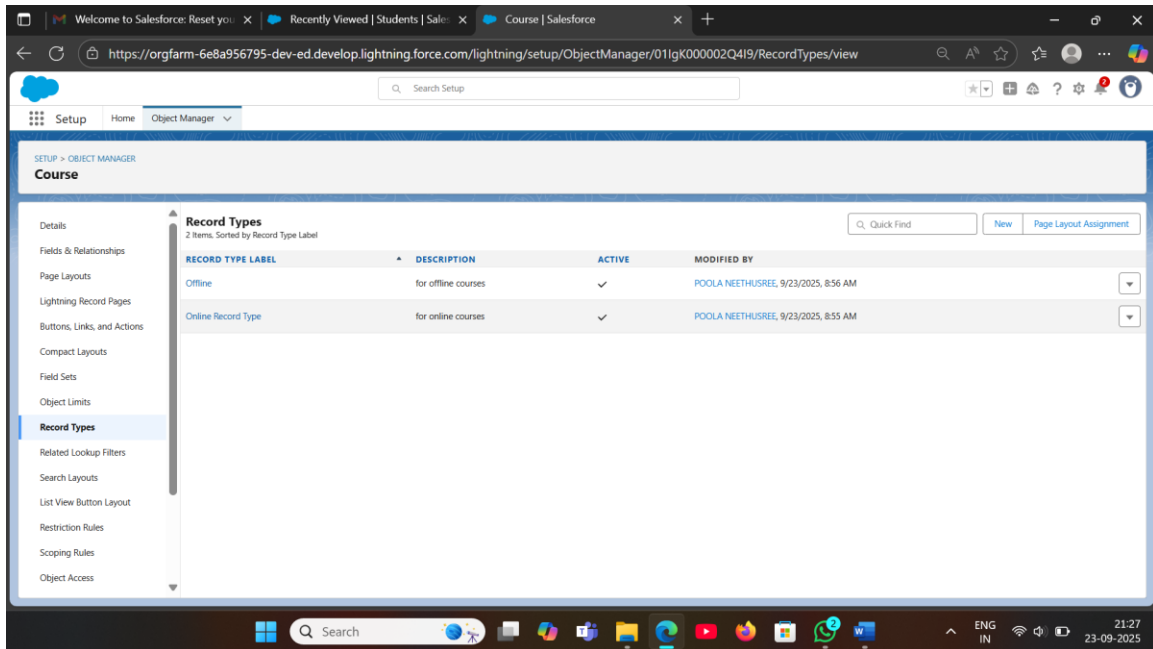


The screenshot shows the Salesforce Setup interface for the 'Attendance' object. The 'Fields & Relationships' section is active, displaying a list of 8 fields. The left sidebar contains navigation links for various setup areas. The table lists fields with their labels, names, data types, and whether they are indexed or controlling fields.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Attendance Name	Name	Text(80)		✓
Course	Course__c	Lookup(Course)		✓
Created By	CreatedById	Lookup(User)		
Date	Date__c	Date		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User/Group)		✓
Status	Status__c	Picklist		
Student	Student__c	Lookup(Student)		✓

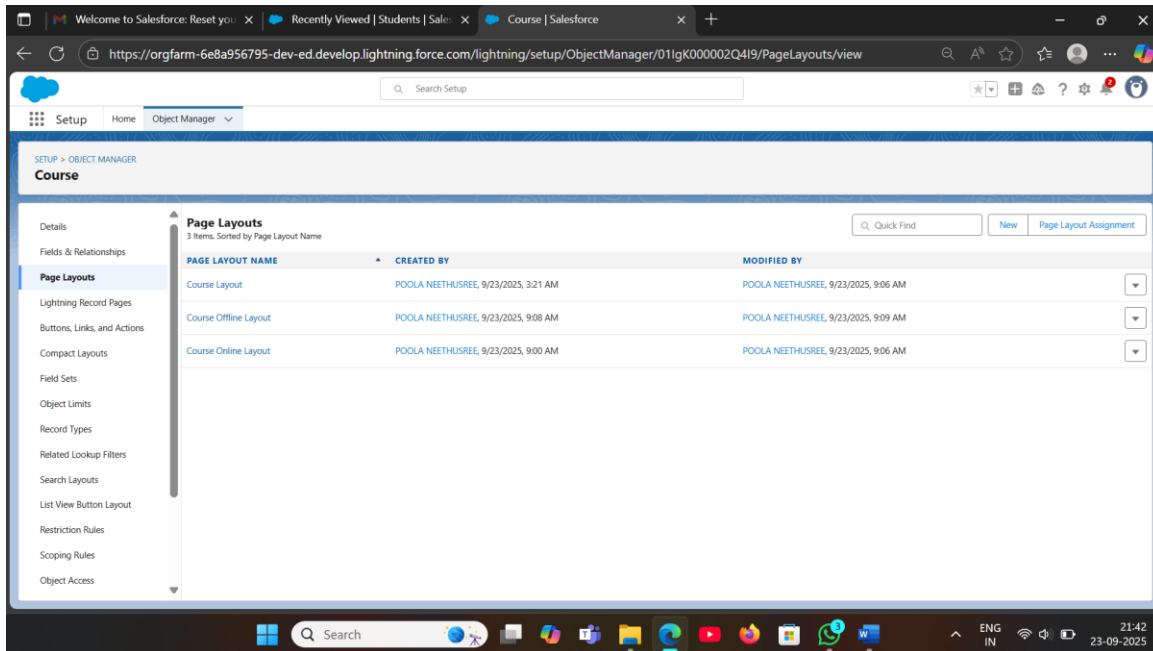
3. Record Types

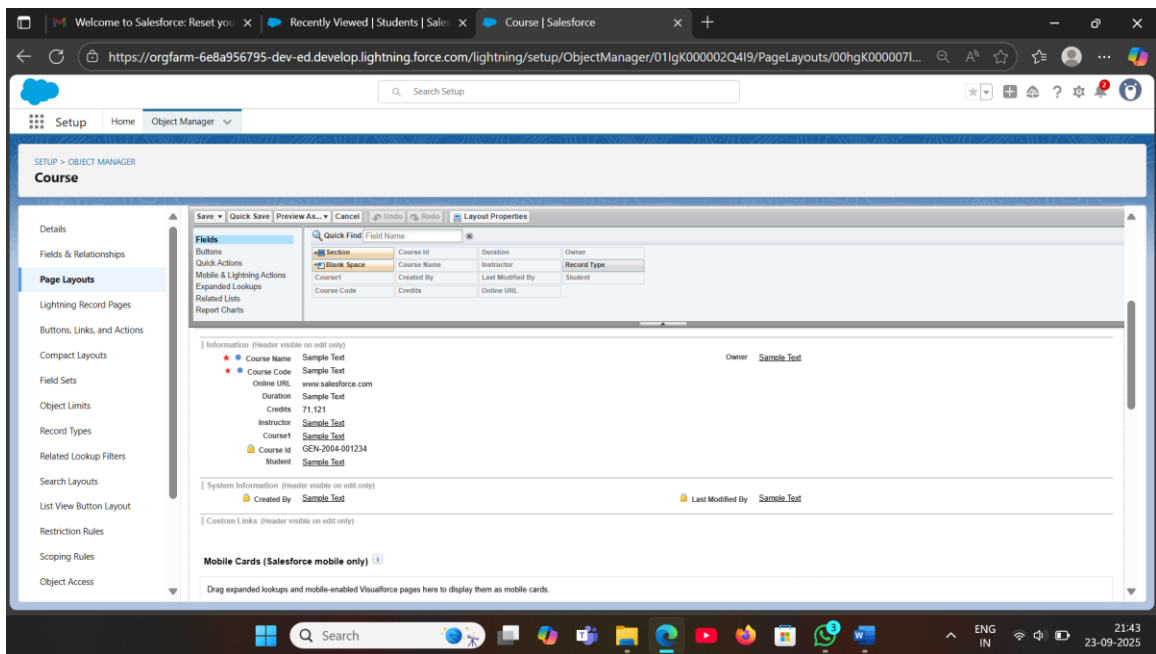
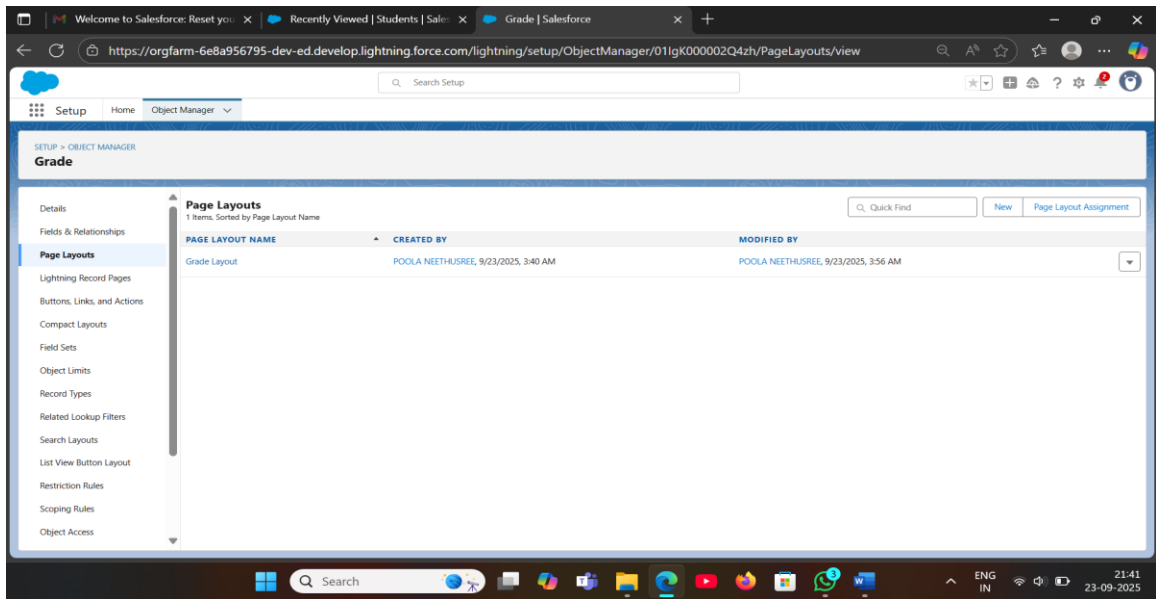
Record types were created on the Course object to differentiate between Online and Offline courses. Each record type uses a specific page layout to show relevant fields.



4. Page Layouts

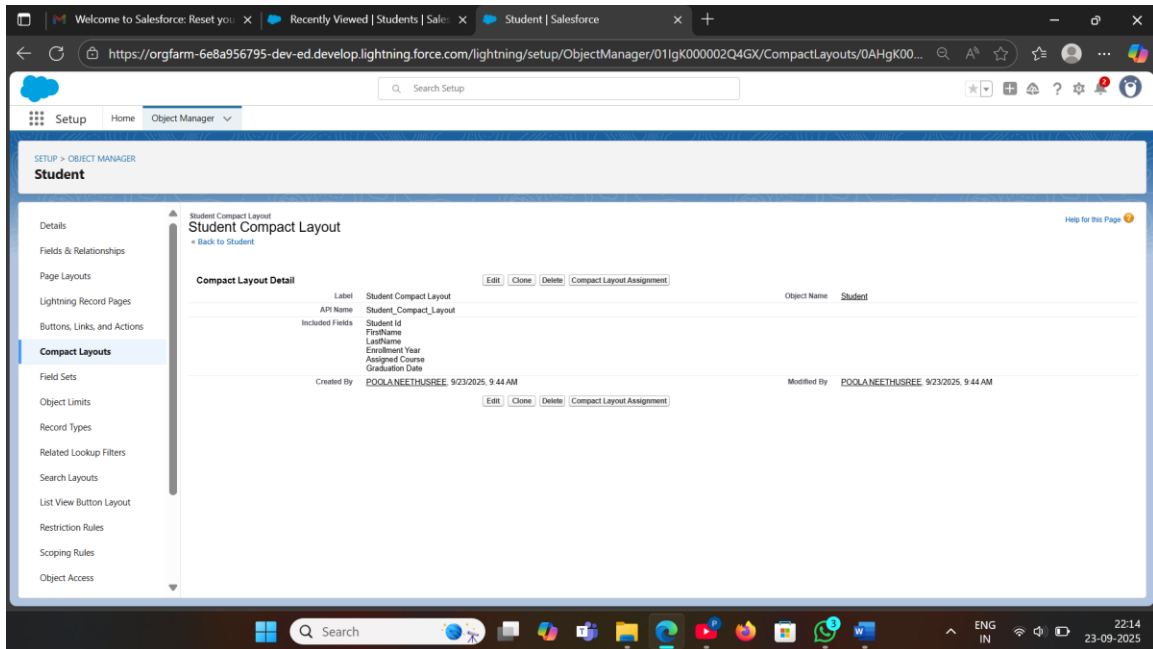
Page layouts were customized to organize fields and related lists in a user-friendly way. Different page layouts were assigned based on record type.





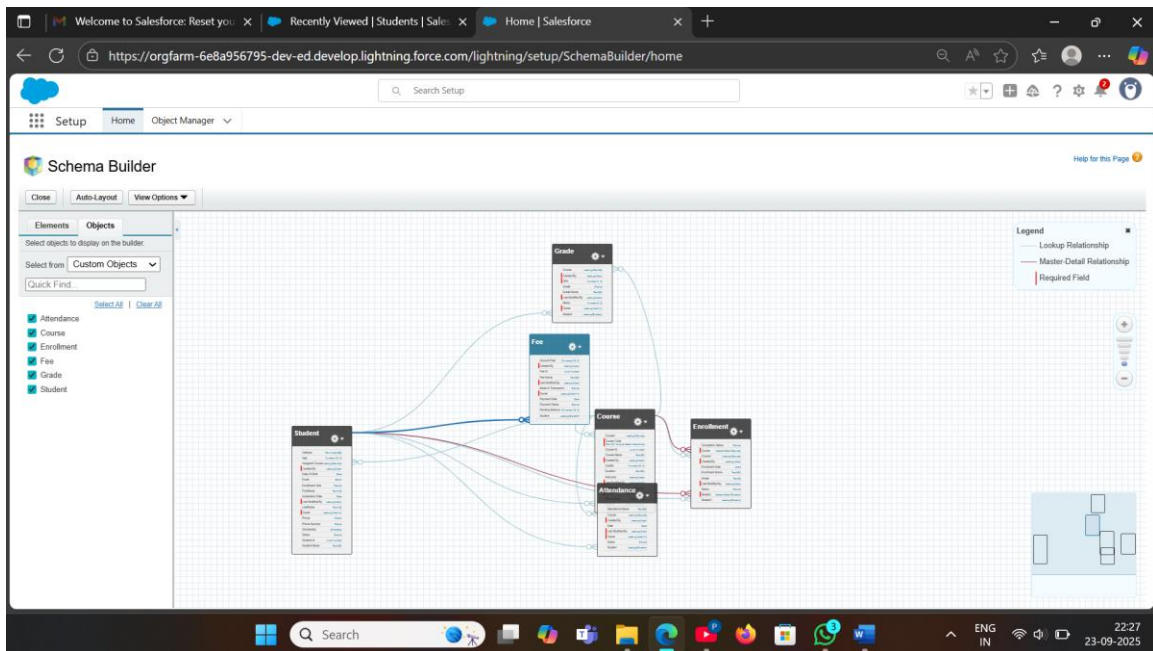
5. Compact Layouts

Compact layouts were configured to display key information (Name, Email, Department for Student) in the highlights panel.



6. Schema Builder

Schema Builder was used to visualize relationships between Student, Course, and Enrollment objects, making it easier to validate the data model.



7. Lookup vs Master-Detail vs Hierarchical Relationships

Relationships were created as follows:

- Student ↔ Course: Many-to-Many relationship implemented using the Enrollment junction

object.

- Lookup relationships were used where child records can exist independently.
- Master-Detail relationships were used for Enrollment to ensure cascading delete behavior and roll-up summary fields.

8. Junction Objects

Enrollment object was created as a junction object with two master-detail fields:

- Student (Master-Detail)
- Course (Master-Detail)

9. External Objects

An external object was configured to fetch reference data about available training materials from an external system, allowing real-time access without data duplication.

The screenshot shows the Salesforce Setup interface for External Objects. The left sidebar contains navigation links for Setup, Home, and Object Manager. The main content area is titled 'External Objects' and includes a 'New External Object' button. Below this is a table listing existing external objects.

Action	Label	Deployed	External Data Source	Description
Edit Erase	Certification	✓	Resources	
Edit Erase	Library Resource	✓	Resources	
Edit Erase	Partner Course	✓	Resources	
Edit Erase	Training Material	✓	Resources	