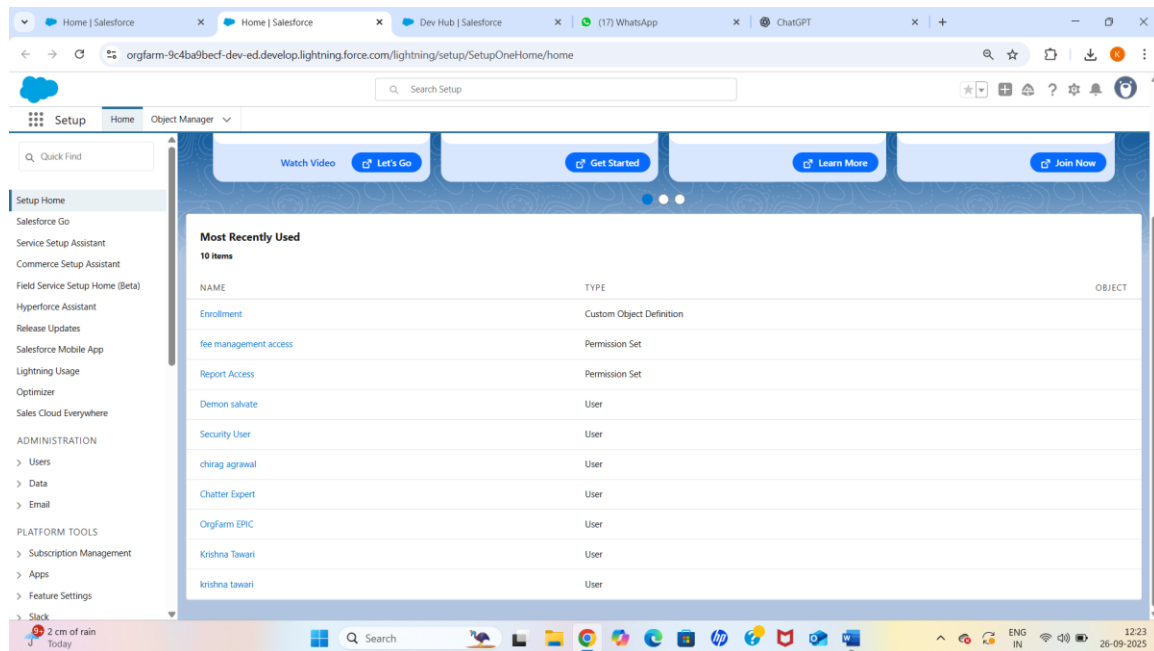


# Phase 3: Data Modeling & Relationships

## 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.



## 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.

Home | Salesforce | Enrollment | Salesforce | Dev Hub | Salesforce | (17) WhatsApp | ChatGPT

orgfarm-9c4ba9becf-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/011gK000002UMH/FieldsAndRelationships/view

Search Setup

Setup Home Object Manager

Enrollment

Details

Fields & Relationships

8 Items, Sorted by Field Label

Quick Find New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
course	course_c	Text(10)		
Created By	CreatedById	Lookup(User)		
Enrollment Date	Enrollment_Date_c	Date		
Enrollment name	Enrollment_name_c	Text(10)		
Enrollment Name	Name	Text(80)		✓
Grade	Grade_c	Text(10)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User.Group)		✓

30°C Partly sunny

Home | Salesforce | student | Salesforce | Dev Hub | Salesforce | (17) WhatsApp | ChatGPT

orgfarm-9c4ba9becf-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/011gK00000116pp/FieldsAndRelationships/view

Search Setup

Setup Home Object Manager

student

Details

Fields & Relationships

12 Items, Sorted by Field Label

Quick Find New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
class	class_c_c	Picklist		
course	course_c	Checkbox		
Created By	CreatedById	Lookup(User)		
Email	Email_c	Text(10)		
First name	First_name_c	Text(10)		
Last Modified By	LastModifiedById	Lookup(User)		
Last name	Last_name_c	Text(10)		
Owner	OwnerId	Lookup(User.Group)		✓
phone number	phone_number_c	Phone		
student Email	student_Email_c	Email		
student id	student_id_c	Number(18, 0)		
student Name	Name	Text(80)		✓

30°C Partly sunny

Home | Salesforce x course | Salesforce x Dev Hub | Salesforce x (18) WhatsApp x ChatGPT x +

orgfarm-9c4b2bced-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01gk0000026Me9/FieldsAndRelationships/view

Setup Home Object Manager

SETUP > OBJECT MANAGER

**COURSE**

Details

**Fields & Relationships**  
7 items, Sorted by Field Label

Quick Find New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
course code	course_code_c	Number(16, 0)		
course id	course_id_c	Number(16, 0)		
course Name	Name	Text(80)		✓
Created By	CreatedById	Lookup(User)		
Duration	Duration_c	Time		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User, Group)		✓

Page Layouts  
Lightning Record Pages  
Buttons, Links, and Actions  
Compact Layouts  
Field Sets  
Object Limits  
Record Types  
Related Lookup Filters  
Restriction Rules  
Scoping Rules  
Object Access  
Triggers  
Flow Triggers  
Validation Rules

17°C Cloudy Search 12:46 26-09-2023

Home | Salesforce x teacher | Salesforce x Dev Hub | Salesforce x (18) WhatsApp x ChatGPT x +

orgfarm-9c4b2bced-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01gk000002Lk4HB/FieldsAndRelationships/view

Setup Home Object Manager

SETUP > OBJECT MANAGER

**teacher**

Details

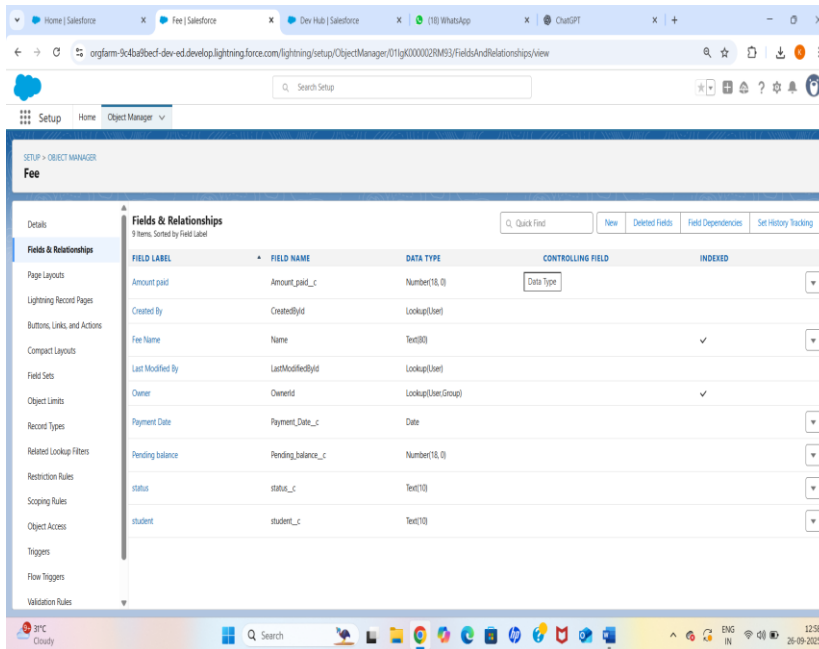
**Fields & Relationships**  
7 items, Sorted by Field Label

Quick Find New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
email	email_c	Text(10)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User, Group)		✓
Phone	Phone_c	Number(16, 0)		
Subject	Subject_c	Text(10)		
teacher Name	Name	Text(80)		✓

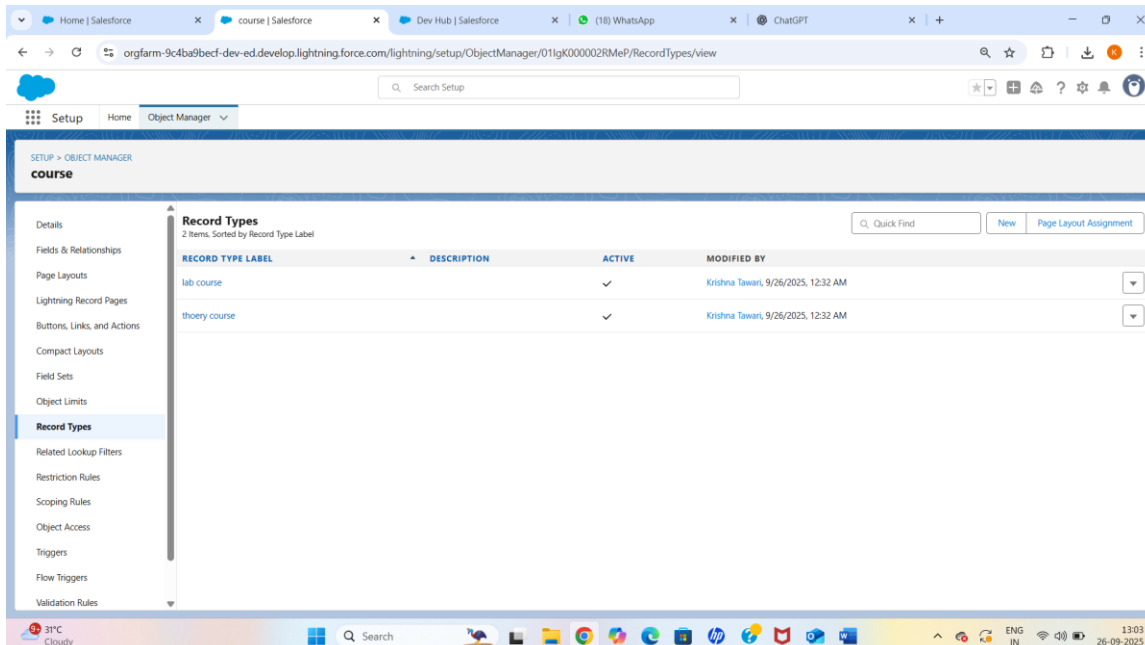
Page Layouts  
Lightning Record Pages  
Buttons, Links, and Actions  
Compact Layouts  
Field Sets  
Object Limits  
Record Types  
Related Lookup Filters  
Restriction Rules  
Scoping Rules  
Object Access  
Triggers  
Flow Triggers  
Validation Rules

17°C Cloudy Search 12:51 26-09-2023



### 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

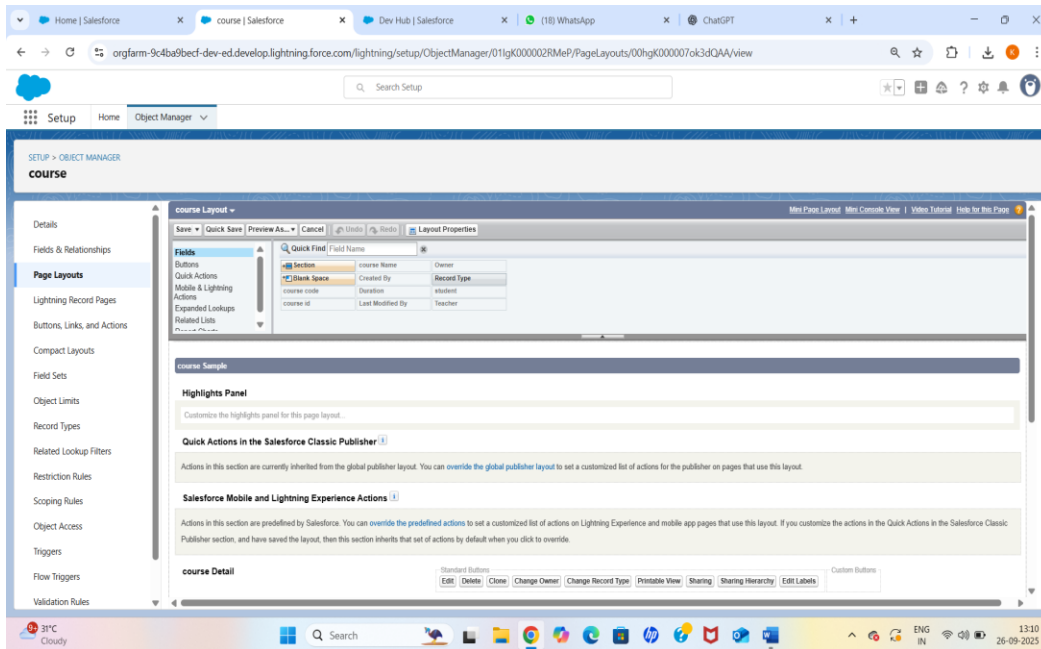
Page layouts were customized to organize fields and related lists in a user-friendly way. Different page layouts were assigned based on record type.

The screenshot shows the Salesforce Setup page for the 'teacher' object. The left sidebar lists various setup options, with 'Page Layouts' selected. The main content area displays a table of page layouts for the 'teacher' object. The table has three columns: 'PAGE LAYOUT NAME', 'CREATED BY', and 'MODIFIED BY'. There is one row listed: 'teacher Layout', created by 'Krishna Tawari' on 9/26/2025 at 12:18 AM, and modified by 'Krishna Tawari' on 9/26/2025 at 12:21 AM. The top of the page shows the 'teacher' object name and a search bar. The bottom of the page shows the Windows taskbar with the date 26-09-2025 and time 13:11.

PAGE LAYOUT NAME	CREATED BY	MODIFIED BY
teacher Layout	Krishna Tawari, 9/26/2025, 12:18 AM	Krishna Tawari, 9/26/2025, 12:21 AM

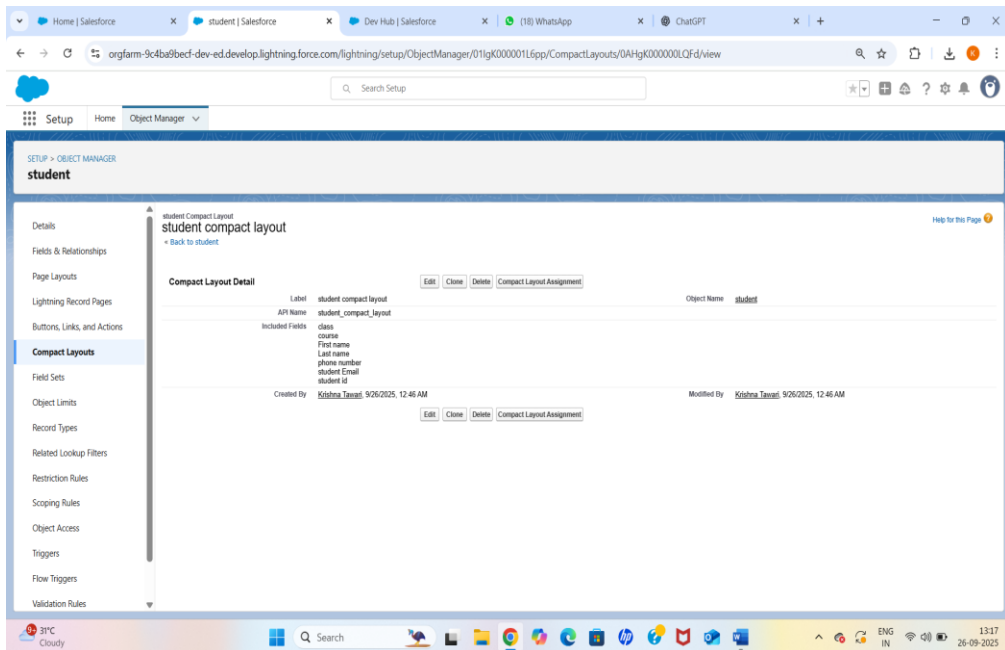
The screenshot shows the Salesforce Setup page for the 'student' object. The left sidebar lists various setup options, with 'Page Layouts' selected. The main content area displays a table of page layouts for the 'student' object. The table has three columns: 'PAGE LAYOUT NAME', 'CREATED BY', and 'MODIFIED BY'. There are three rows listed: 'post graduate', 'student Layout', and 'teacher student'. All three were created by 'Krishna Tawari' on 9/26/2025. The 'post graduate' layout was created at 12:43 AM and modified at 12:44 AM. The 'student Layout' was created at 7:44 AM and modified at 12:01 AM. The 'teacher student' layout was created at 12:44 AM and modified at 12:44 AM. The top of the page shows the 'student' object name and a search bar. The bottom of the page shows the Windows taskbar with the date 26-09-2025 and time 13:15.

PAGE LAYOUT NAME	CREATED BY	MODIFIED BY
post graduate	Krishna Tawari, 9/26/2025, 12:43 AM	Krishna Tawari, 9/26/2025, 12:44 AM
student Layout	Krishna Tawari, 7/29/2025, 7:44 AM	Krishna Tawari, 9/26/2025, 12:01 AM
teacher student	Krishna Tawari, 9/26/2025, 12:44 AM	Krishna Tawari, 9/26/2025, 12:44 AM



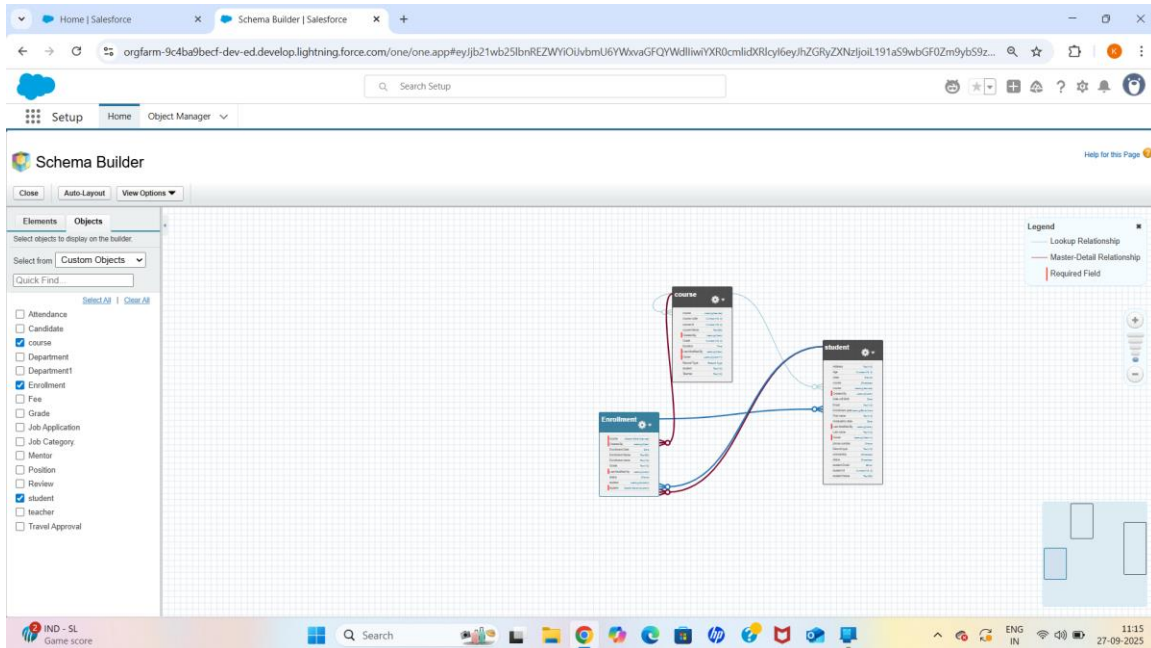
## 5. Compact Layouts

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
<a href="#">Edit</a>   <a href="#">Erase</a>	Training material	✓	libram_system	
<a href="#">Edit</a>   <a href="#">Erase</a>	advertisement	✓	libram_system	
<a href="#">Edit</a>   <a href="#">Erase</a>	subscribers	✓	libram_system	
<a href="#">Edit</a>   <a href="#">Erase</a>	persons detail	✓	libram_system	
<a href="#">Edit</a>   <a href="#">Erase</a>	product	✓	libram_system	

The bottom of the image shows a Windows taskbar with various application icons and a system tray displaying the date and time as 14:22 on 26-09-2025.