

Smart Student Enrollment & Progress Tracker

Problem Statement

Currently, the student enrollment process is completely manual. Students have to physically submit forms or email their requests. They cannot track the status of their enrollment, leading to confusion and delays. Faculty members must manually review and approve requests, which is time-consuming. There is also no proper reporting mechanism for administrators to monitor student progress or enrollment statistics.

Phase 1 — Problem Understanding

The first phase focuses on clearly understanding the problem we are solving. We defined the issue, wrote user stories, and drew a simple process flow.

- **Problem Statement:** Enrollment is manual, students can't track progress, and there is no reporting for Admin.
- **User Stories:** 1) As a Student, I want to request enrollment in a course so I can participate. 2) As a Faculty member, I want to approve/reject enrollment requests so that only eligible students are enrolled. 3) As an Admin, I want to see reports of student enrollment and progress to monitor performance.
- **Process Flow Diagram:** Student → Enrollment Request → Faculty Approval → Enrollment Status Updated → Admin Reporting.
- **Requirement Gathering:**
We began by understanding the current enrollment process at universities. The main issues identified were that enrollment was fully manual, students had no way to track the status of their requests, and faculty had to handle approvals through emails or offline communication. This created confusion, delays, and duplication of work. To resolve this, we gathered requirements from the perspective of all users. Finally, we decided Salesforce automation could simplify and centralize the process.
- **Stakeholder Analysis:**
The project involves three main stakeholders. Students want an easy way to request enrollment in courses and view their progress. Faculty need a structured method to approve or reject requests without managing everything manually. Admins require access to reports and dashboards to monitor student performance and enrollment trends. By

analyzing these stakeholders, we defined clear roles and responsibilities. This ensured that our solution would be user-focused.

- **Business Process Mapping:**

We mapped out the entire enrollment process to visualize how information flows. The process starts when a Student submits an enrollment request. It moves to Faculty for approval or rejection. Once approved, the enrollment status is updated to Enrolled. Finally, Admins access this data in reports and dashboards. This clear mapping helped us identify the key objects required — Student, Course, and Enrollment. We used a flow diagram to illustrate this.

- **Industry-specific Use Case Analysis:**

We studied how real-world universities and institutions handle enrollments. Most rely on either manual paperwork or fragmented systems that do not give students transparency. Our analysis confirmed the need for a digital solution to improve efficiency, reduce errors, and provide visibility. With Salesforce's CRM and automation features, we could design a solution similar to what many modern universities are adopting. This validated our approach.

- **AppExchange Exploration:**

Before starting custom development, we explored Salesforce AppExchange for readymade solutions. While there are education management apps available, they were either too complex or not aligned with our specific use case. Many had extra features we didn't need, which would add unnecessary complexity. After this exploration, we decided to build a custom solution from scratch. This ensured simplicity and full control over functionality.

Verification:

We confirmed that we could explain the problem in two clear sentences and had a process diagram ready. This ensures the team fully understands the goal before starting development.

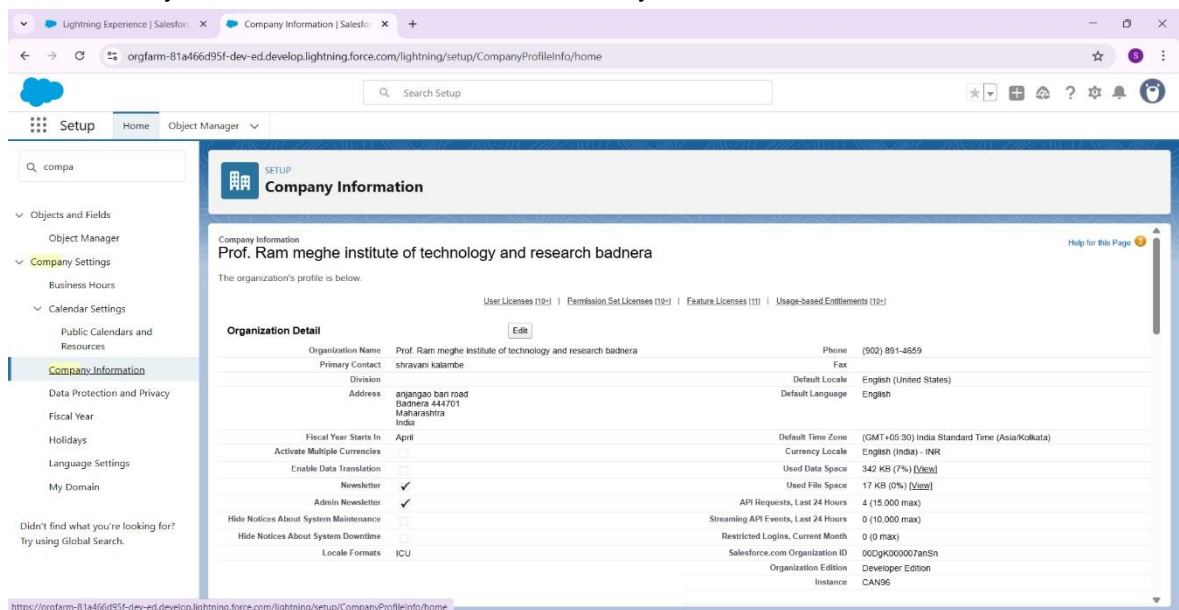
Phase 2 — Org Setup & Security

The second phase involves preparing the Salesforce org to support our solution. This includes setting up organization details, business hours, holidays, roles, profiles, and security settings.

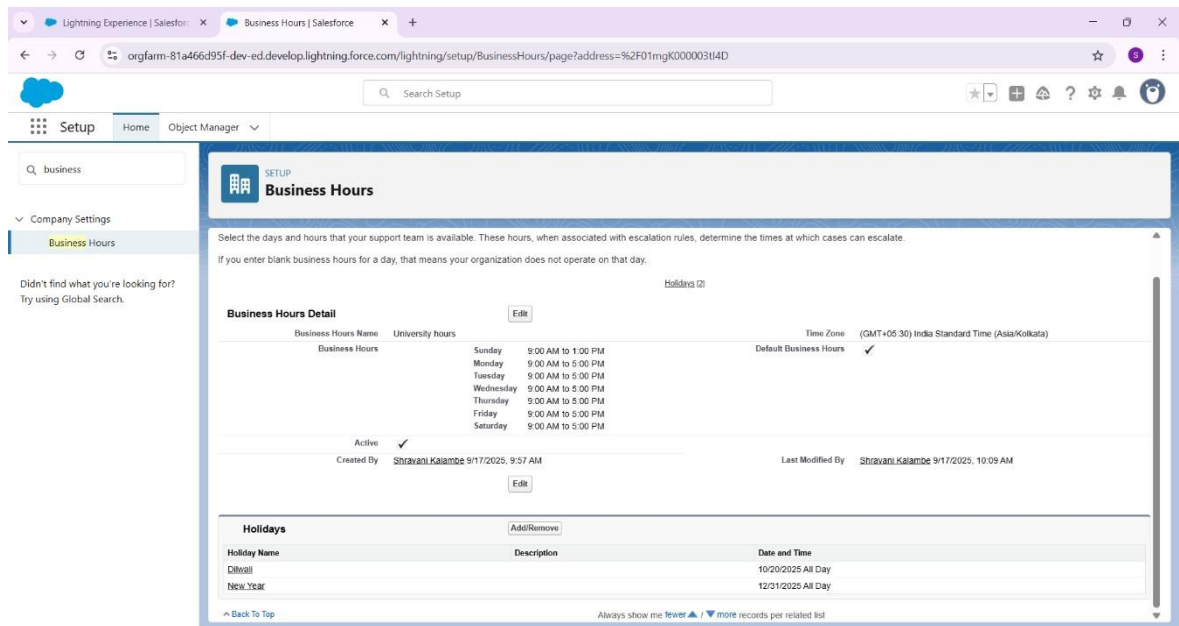
Salesforce Editions:

Salesforce provides different editions like Essentials, Professional, Enterprise, and Developer. For this project, we selected the **Developer Edition** because it offers all customization features at no cost. This edition allows us to create custom objects, write Apex triggers, build Lightning Components, and configure automation flows.

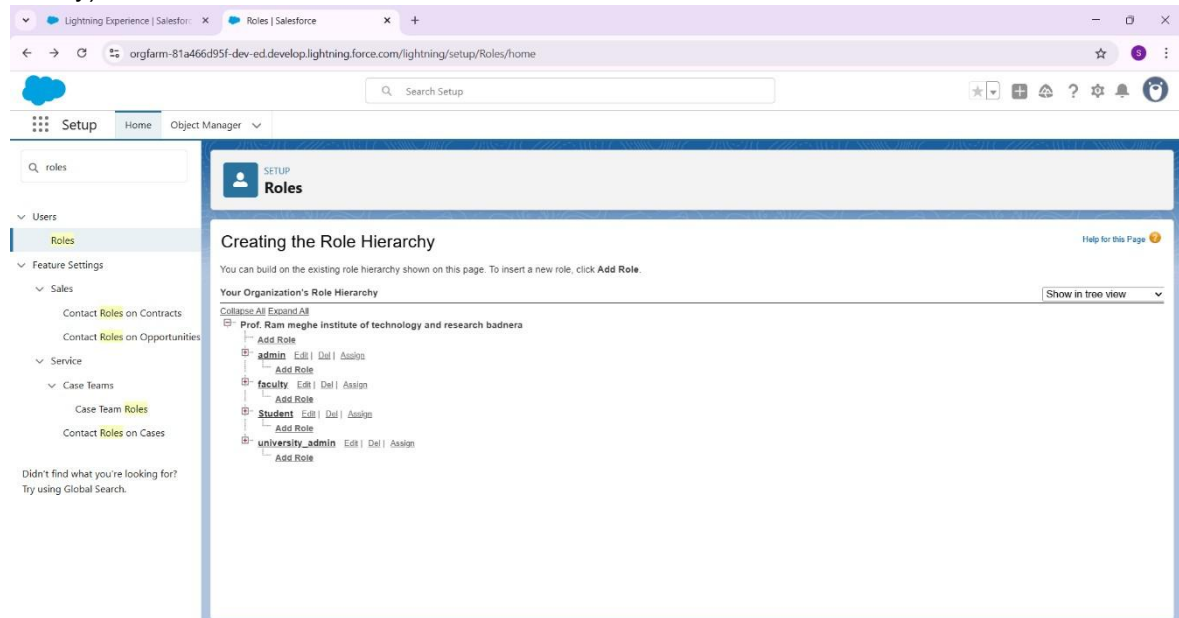
- **Company Profile Setup** : Configured Company Information: Set organization name to ABC University, timezone to Asia/Kolkata, and currency to INR.



Business Hours & Holidays: To ensure system automations respect working times, we configured Business Hours. We created “University Hours” as Monday to Friday, 9 AM–5 PM. Next, we added two holidays — Diwali and Christmas. These holidays were associated with University Hours so that approval processes and escalation rules would pause during non-working days. This ensures the system operates realistically according to the academic calendar.



Roles: We created sample users to represent real stakeholders. Prof. Rahul was added as a Faculty member with a Salesforce license, which grants full CRM access. Student One was created with a Salesforce Platform license, which provides limited access but is ideal for selfservice students. Defining correct licenses ensures users only consume the necessary features. This step also allowed us to simulate real scenarios by logging in as different roles. Defined Roles: Admin (top level), Faculty (reports to Admin), and Student (reports to Faculty).



Profiles: Created Profiles: Cloned Standard User to create Faculty and Student profiles with appropriate permissions.

- ### OWD (Org-Wide Defaults):

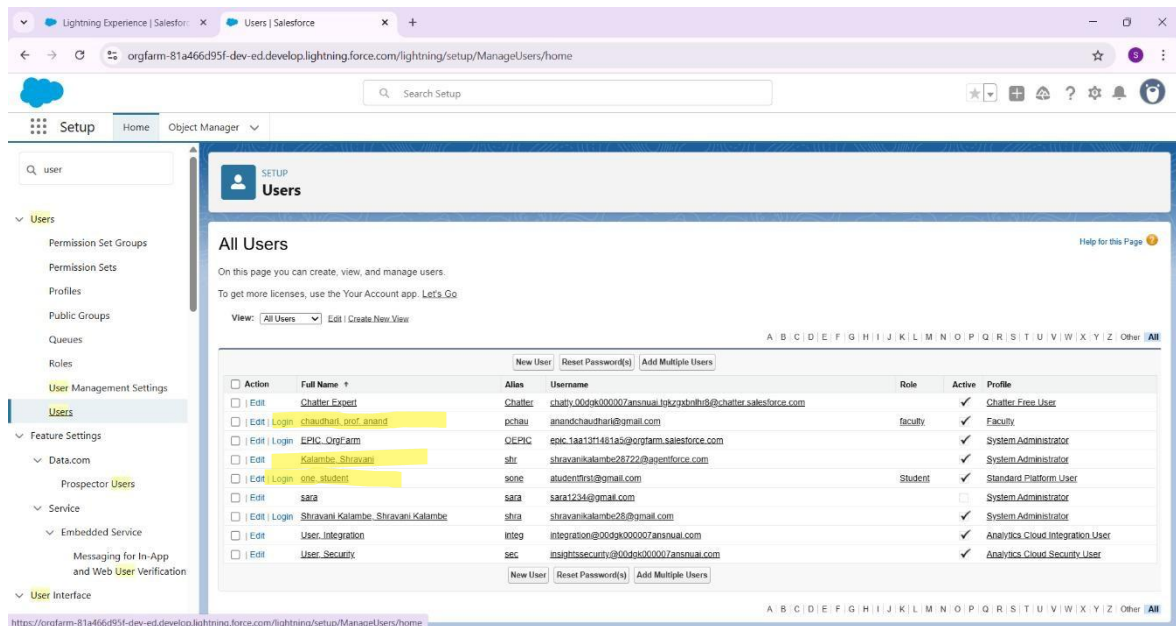
- Student__c = Private (a student can only see their own record).
- Course__c = Public Read Only (everyone can view courses).
- Enrollment__c = Controlled by Parent (visibility depends on the linked Student and Course).

The screenshot shows the Salesforce Lightning Experience interface. The top navigation bar includes the Salesforce logo, the text 'Lightning Experience | Salesforce', and several tabs. The main header area contains a search bar and a navigation menu with 'Setup', 'Home', and 'Object Manager'. The left sidebar shows the 'Setup' menu with 'Sharing Settings' highlighted. The main content area displays the 'Sharing Settings' page, which includes a table of sharing settings for various objects. The table has three columns: the object name, the sharing method, and a checkbox indicating if the setting is enabled. The 'mentor' row is highlighted. Below the table, there is a section for 'Other Settings' with a link to 'Other Settings Help'.

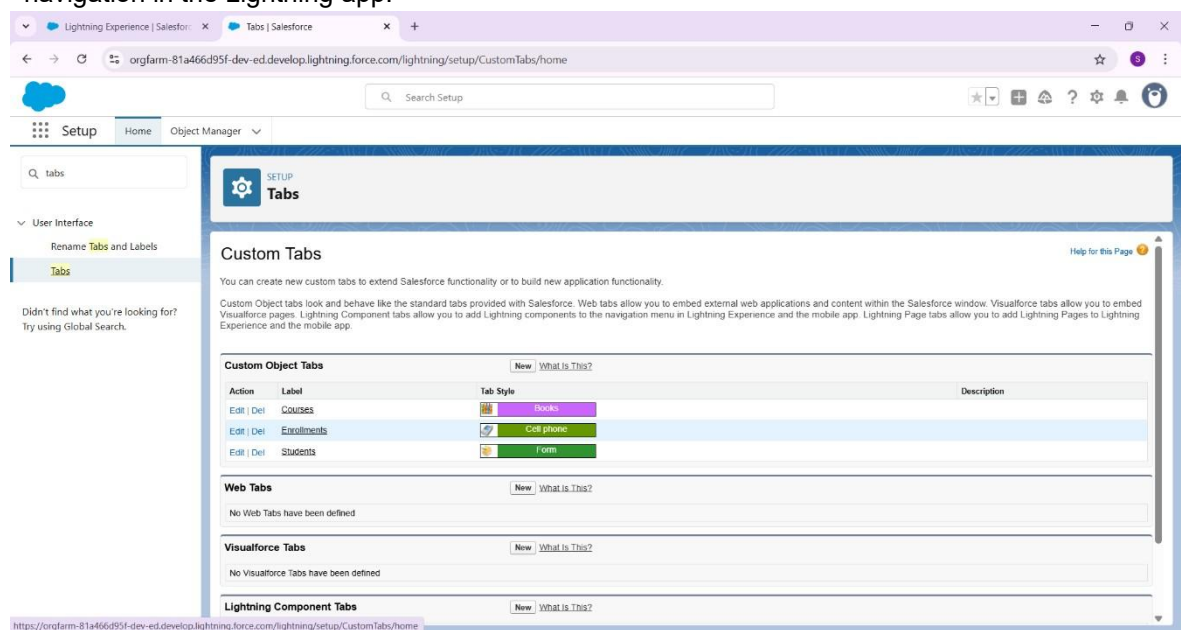
Object	Sharing Method	Enabled
Sharing Carrier Method	Public Read Only	<input checked="" type="checkbox"/>
Shipping Configuration Set	Public Read Only	<input checked="" type="checkbox"/>
Streaming Channel	Public Read/Write	<input checked="" type="checkbox"/>
Tableau Host Mapping	Public Read Only	<input checked="" type="checkbox"/>
User Provisioning Request	Public Read Only	<input checked="" type="checkbox"/>
Work Plan	Private	<input checked="" type="checkbox"/>
Work Plan Template	Private	<input checked="" type="checkbox"/>
Work Step Template	Private	<input checked="" type="checkbox"/>
Work Type	Private	<input checked="" type="checkbox"/>
Work Type Group	Public Read/Write	<input checked="" type="checkbox"/>
Course	Public Read Only	<input checked="" type="checkbox"/>
Enrollment	Private	<input checked="" type="checkbox"/>
mentor	Public Read/Write	<input checked="" type="checkbox"/>
Student	Private	<input checked="" type="checkbox"/>

Other Settings: [Other Settings Help](#)

User Setup & Licenses: Created Users: Prof. Rahul (Faculty profile) and Student One (Student profile) with respective roles and licenses.



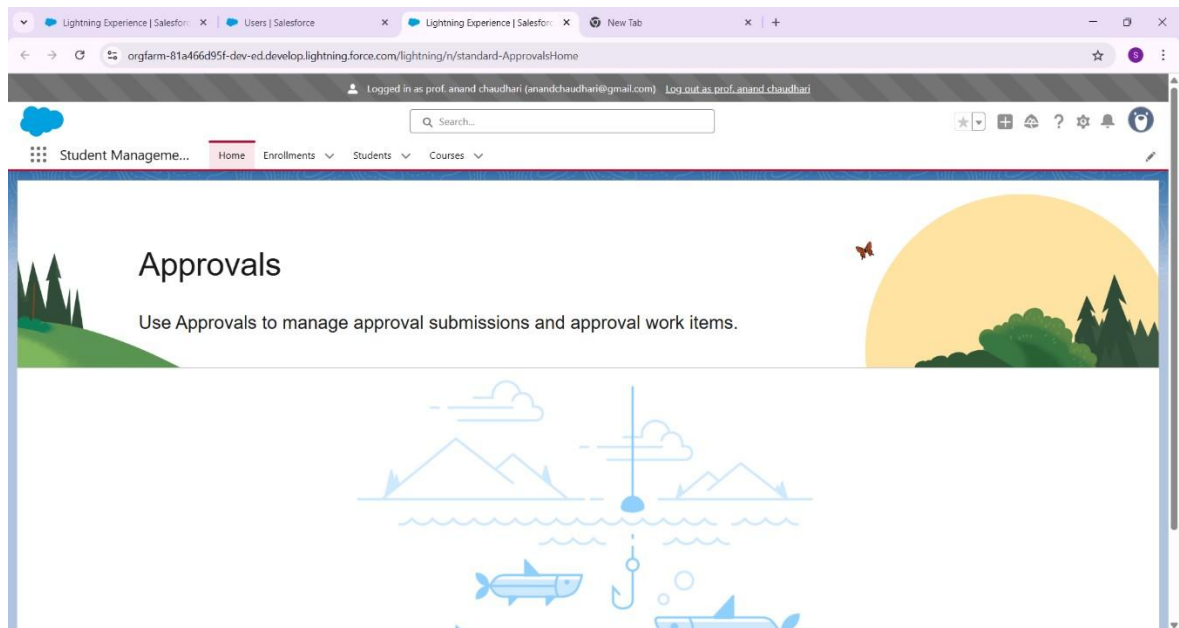
- Created Custom Tabs: Student, Course, and Enrollment objects now have tabs to allow navigation in the Lightning app.



- Added Tabs to Student Management App: Ensured Students, Courses, and Enrollments are visible to Admin and Faculty.

Login Access Policies:

Salesforce allows admins to log in as other users to test profiles and permissions. We used this feature to verify the experience of both Faculty and Students. Logging in as Prof. Rahul confirmed he could view Courses and Enrollments but not other Students. Logging in as Student One confirmed they only had access to their own data. This final step ensured our security configuration was correct..



Verification:

Logged in as Faculty and confirmed they could see the Courses and Enrollments tabs but not other students' records. Logged in as Student and confirmed they could only see their own data. This ensured security settings worked as expected.

Phase 3 — Data Modeling & Relationships

1. Standard & Custom Objects

Information: Objects are database tables.

What We Did: Created 3 custom objects: Student__c, Course__c, Enrollment__c.

Verification: Objects appear in Object Manager.

The first screenshot shows the 'Course' object in the Object Manager. It is a Custom Object created on 9/19/2025. Below it, a list of standard objects is visible, including Credential Stuffing Event Store, Credit Memo, Credit Memo Invoice Application, Credit Memo Line, Custom Library, Customer, D&B Company, Data Kit Deployment Log, Data Use Legal Basis, Data Use Purpose, Delivery Estimation Setup, and Digital Wallet.

Object Name	API Name	Type	Created Date	Status
Course	Course__c	Custom Object	9/19/2025	✓
Credential Stuffing Event Store	CredentialStuffingEventStore	Standard Object		
Credit Memo	CreditMemo	Standard Object		
Credit Memo Invoice Application	CreditMemoInvApplication	Standard Object		
Credit Memo Line	CreditMemoLine	Standard Object		
Custom Library	DataMaskCustomValueLibrary	Standard Object		
Customer	Customer	Standard Object		
D&B Company	DandBCompany	Standard Object		
Data Kit Deployment Log	DataKitDeploymentLog	Standard Object		
Data Use Legal Basis	DataUseLegalBasis	Standard Object		
Data Use Purpose	DataUsePurpose	Standard Object		
Delivery Estimation Setup	DeliveryEstimationSetup	Standard Object		
Digital Wallet	DigitalWallet	Standard Object		

The second screenshot shows the 'Enrollment' object in the Object Manager. It is a Custom Object created on 9/19/2025. Below it, a list of standard objects is visible, including Entitlement and Entitlement Contact.

Object Name	API Name	Type	Created Date	Status
Enrollment	Enrolment__c	Custom Object	9/19/2025	✓
Entitlement	Entitlement	Standard Object		
Entitlement Contact	EntitlementContact	Standard Object		

The third screenshot shows the 'Student' object in the Object Manager. It is a Custom Object created on 9/22/2025. Below it, a list of standard objects is visible, including Skill Requirement, Social Persona, Store, Store Buyer Group, and Store Catalog. The 'Student' object is highlighted, and its description 'to add information of the student' is visible.

Object Name	API Name	Type	Description	Created Date	Status
Skill Requirement	SkillRequirement	Standard Object			
Social Persona	SocialPersona	Standard Object			
Store	WebStore	Standard Object			
Store Buyer Group	WebStoreBuyerGroup	Standard Object			
Store Catalog	WebStoreCatalog	Standard Object			
Student	student__c	Custom Object	to add information of the student	7/29/2025	✓
Student	Student__c_c	Custom Object		9/22/2025	✓

2. Fields

Information: Store attributes of each object.

- Student__c → Student_ID, DOB, Program, GPA, Email

Object Manager | Salesforce x Recently Viewed | Courses | Salesforce x Student | Salesforce x +

orgfarm-81a466d95f-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01gK000002PWJlV/FieldsAndRelationships/view

Setup Home Object Manager

SETUP > OBJECT MANAGER
Student

Details

Fields & Relationships
10 Items, Sorted by Field Label

Quick Find New Deleted Fields Field Dependencies Set History Tracking

Created By	CreatedById	Lookup(User)	
DOB__c	DOB__c_c	Date	
Email__c	Email__c_c	Email	
Flag_For_Counseling__c	Flag_For_Counseling__c_c	Checkbox	
GPA__c	GPA__c_c	Number(2, 2)	
Last Modified By	LastModifiedById	Lookup(User)	
Owner	OwnerId	Lookup(User,Group)	✓
Program__c	Program__c_c	Picklist	
Student Number	Name	Text(80)	✓
Student_ID__c	Student_ID__c_c	Text(18)	

- Course__c → Course_Code, Capacity, Mode.

Object Manager | Salesforce x Recently Viewed | Courses | Salesforce x Course | Salesforce x +

orgfarm-81a466d95f-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01gK000002Mlwn/FieldsAndRelationships/view

Setup Home Object Manager

SETUP > OBJECT MANAGER
Course

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
Capacity__c	Capacity__c_c	Number(18, 0)		
Course Name	Name	Text(80)		✓
Course_Code__c	Course_Code__c_c	Text(40)		
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Mode__c	Mode__c_c	Picklist		
Owner	OwnerId	Lookup(User,Group)		✓
Record Type	RecordTypeId	Record Type		✓

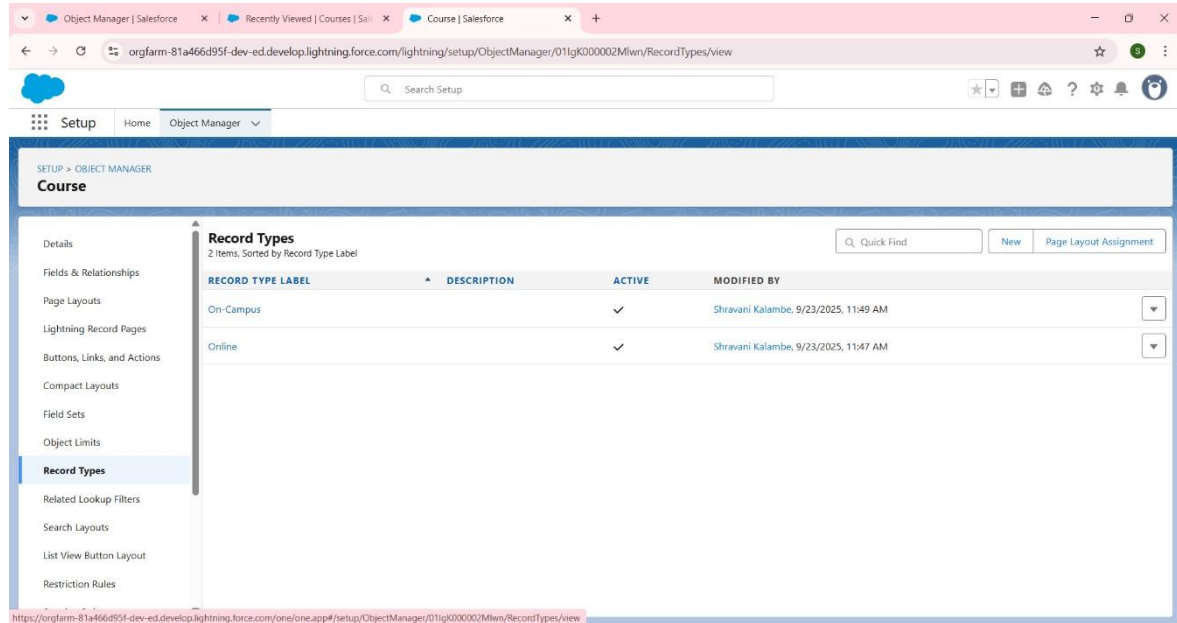
- Enrollment__c → Status, Request Date, Student__c (lookup), Course__c (lookup).
Verification: Fields visible on page layouts and records.

3. Record Types

Information: Different business processes per object.

For Course__c → Record Types: Online, On-Campus.

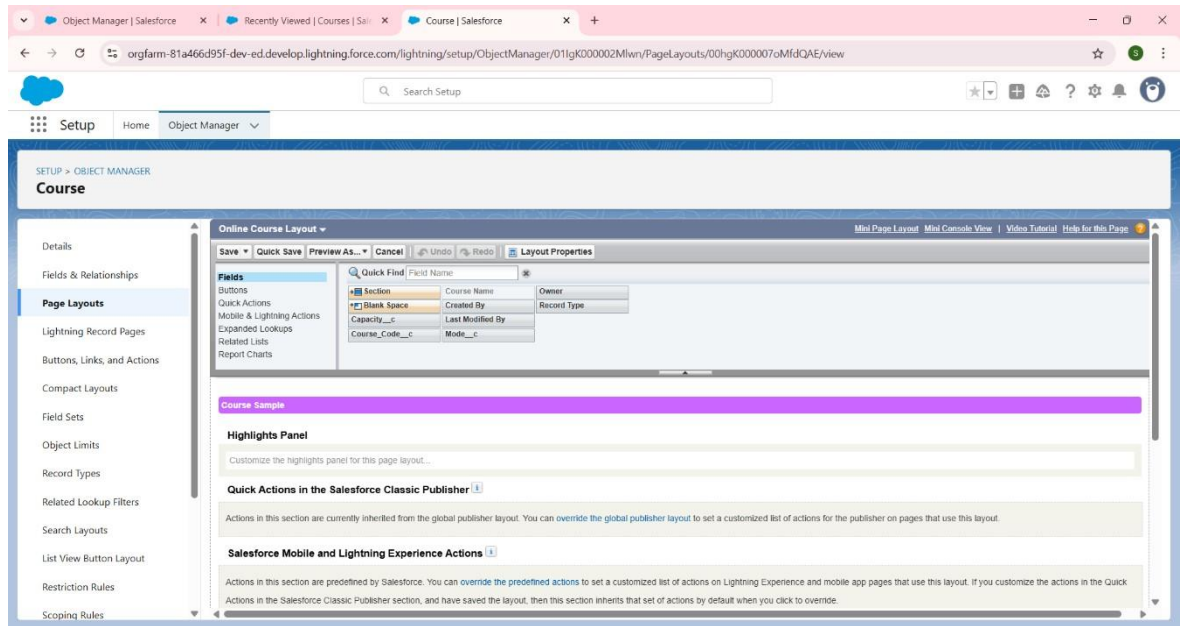
Verification: When creating Course, Salesforce asks for record type → correct layout shown.



4. Page Layouts

Information: Define UI for records.

- Online Course Layout → fields like Platform, Meeting Link.
- On-Campus Layout → fields like Classroom, Campus Location. **Verification:** Different layouts show based on record type.



5. Compact Layouts

Information: Show key fields in highlights panel.

Student Compact Layout = Name, Program, GPA.

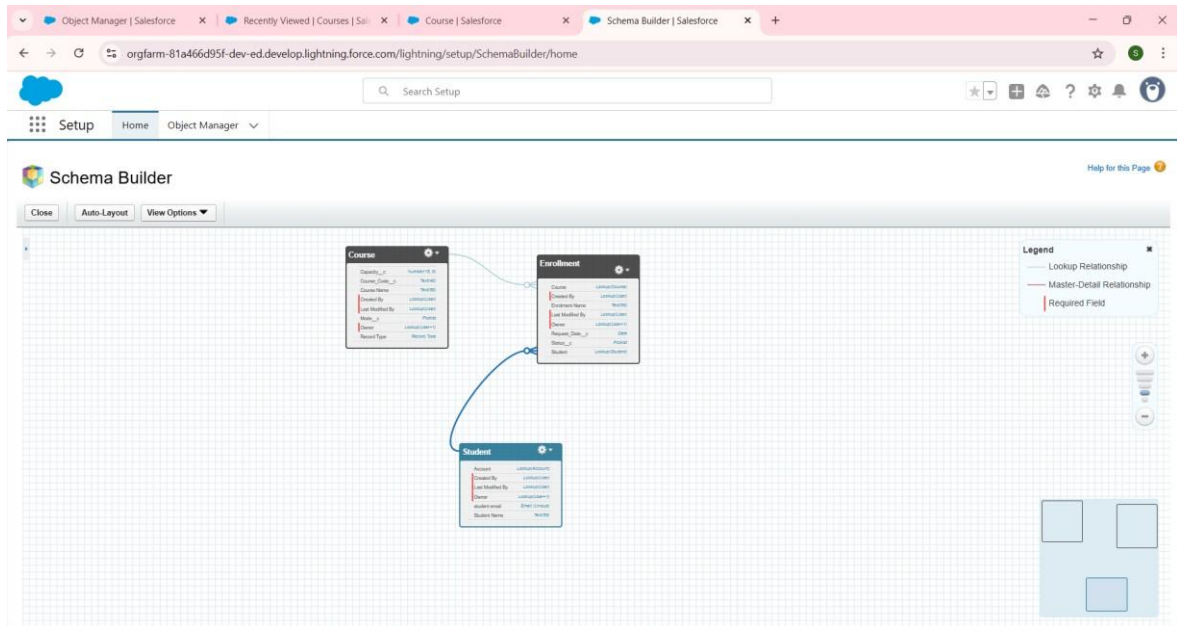
Verification: Compact layout visible on top of record page.

6. Schema Builder

Information: Visual tool to see object relationships.

What We Did: Used Schema Builder to check links between Student, Course, Enrolment.

Verification: Diagram shows Enrollment linked to Student & Course.



7. Lookup vs Master-Detail vs Hierarchical

Information: Relationship types.

Used **Lookup** relationships for Enrollment → Student and Enrollment → Course. **Verification:** Enrollment records display in related lists on Student & Course.

The screenshot shows the Salesforce Student record page for a student named Riya Sharma. The page displays a list of related enrollments under the 'Related' tab. The enrollment list shows the enrollment name, the student's name, and a 'View All' link. The 'Activity' tab on the right shows no activities to show.

8. Junction Objects

Information: Object to connect 2 objects in many-to-many. Enrollment__c acts as junction between Student & Course.

Verification: One Student can enroll in many Courses; One Course can have many Students.

9. External Objects

Information: Used for connecting external DBs. Not used in this project. **Verification:** N/A.

End of Phase 3 Verification:

- Created Student record.
- Created Course record.
- Created Enrollment linking Student + Course.
- Related lists working. • Record Types tested.

Phase 4: Process Automation (Admin)

1. Validation Rules

We implemented a **Validation Rule** on the Student__c object to ensure that the **Date of Birth (DOB__c)** is mandatory. This helps maintain accurate student records and prevents saving incomplete data. The rule uses the formula ISBLANK(DOB__c) and shows an error message if left empty. This runs automatically when a record is created or edited.

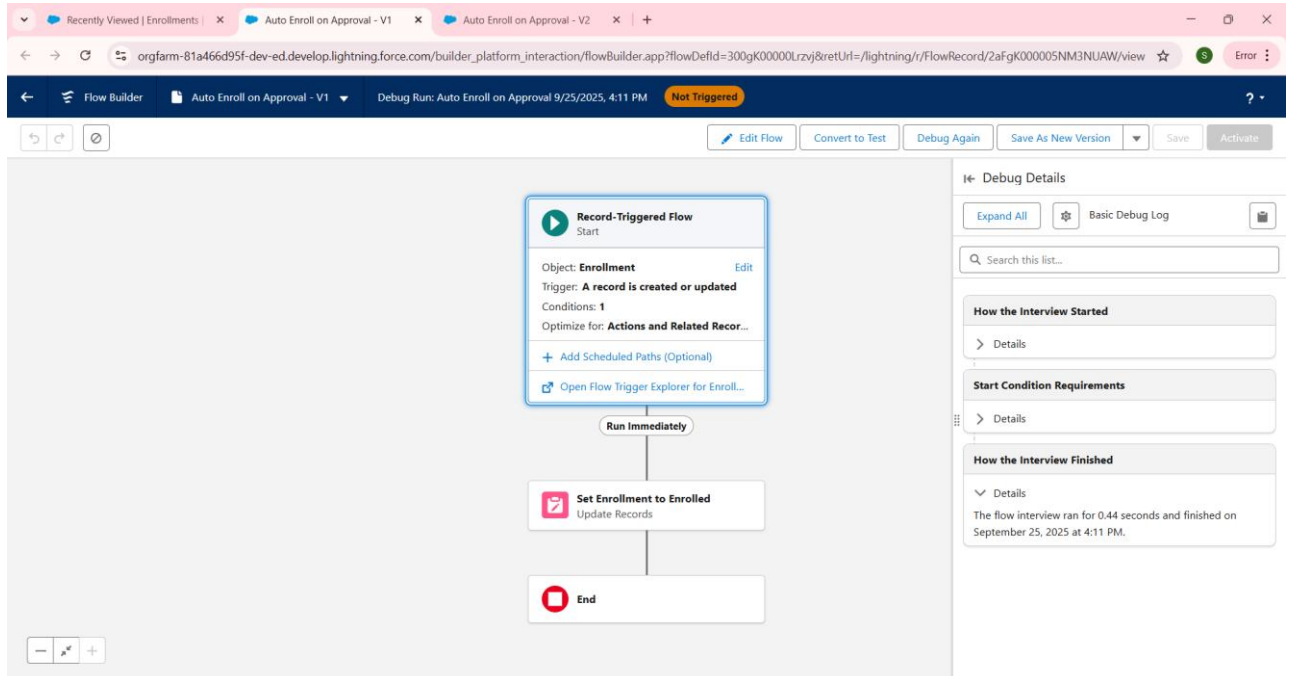
The screenshot displays the Salesforce Lightning interface for editing a student record. The main form, titled "Edit student 2", contains the following fields and information:

- Student Name:** student 2
- student email:** student2@gmail.com
- Account:** Search Accounts...
- DOB__c:** A red border highlights this field, and an error message "Please enter Date of Birth." is displayed below it.
- Owner:** Shravani Kalambe
- Created By / Last Modified By:** Shravani Kalambe, 9/25/2025, 9:54 AM

The background shows the "Student Management" sidebar with a "Details" tab selected, displaying related information for "student 2". The top navigation bar includes links for Home, Enrollments, Students, and Courses. The bottom of the form has buttons for "Cancel", "Save & New", and "Save".

2. Workflow Rules

Although **Workflow Rules** are legacy tools, we planned to use modern alternatives like **Flows**. Traditionally, workflow rules help automate actions like field updates, email alerts, or tasks based on record criteria. In our project, we replaced workflows with **Record-Triggered Flows** and **Approval Processes** for better flexibility. If needed, simple workflows can still be added for quick alerts or updates.



3. Process Builder

Salesforce is phasing out **Process Builder** in Favor of **Flows**, so we did not use it directly. Instead, all process automation (like auto-enrolment after approval) was implemented via **Flows**. Process Builder is useful for multi-step logic and was previously used for approval actions, field updates, and related record changes. In our solution, its functionality is fully replaced by Flow Builder.

4. Approval Process

An **Approval Process** was created for Enrollment__c to manage enrollment requests. When the status is set to "Requested", it gets routed to a user in the **faculty role** for review. Upon approval, the status automatically updates to "Approved"; if rejected, it changes to "Rejected". This ensures formal authorization before enrolling a student into a course.

5. Flow Builder

We used a **Record-Triggered Flow** on Enrollment__c to detect when a record is approved. It automatically updates the status to "**Enrolled**" if the previous status wasn't already approved. Flow Builder replaced older tools like Workflow and Process Builder. More Flow types (Screen, Auto-launched, Scheduled) can be added later for GPA recalculation or student re-evaluation.

6. Email Alerts

While not implemented directly yet, **Email Alerts** can be used to notify students or faculty. For example, an alert can be sent to a student when their enrollment is approved or rejected. This can be set up within an **Approval Process** or **Flow** using predefined templates and recipients. It enhances communication without manual effort.

7. Field Updates

We used **Field Updates** as part of the Approval Process to change the Status__c field. On **final approval**, the status is updated to "Approved", and on **rejection**, it's set to "Rejected". This is a key part of automating the enrolment workflow and ensures the record reflects the latest state of the approval lifecycle.

8. Tasks

Although not implemented yet, **Tasks** can be auto-created using Flows to assign follow-up actions. For example, if a student's GPA drops below 2.0, a task could be assigned to a counsellor to intervene. Tasks help ensure accountability and follow-through on critical actions without manual assignment.

9. Custom Notifications

Custom Notifications can be configured via **Flows** to notify users inside the Salesforce UI or mobile app. We can notify students or faculty when key events occur — like successful enrollment or when GPA triggers a counselling flag. These are more modern than email and appear directly in the Salesforce bell icon.

