

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 ready-made 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:

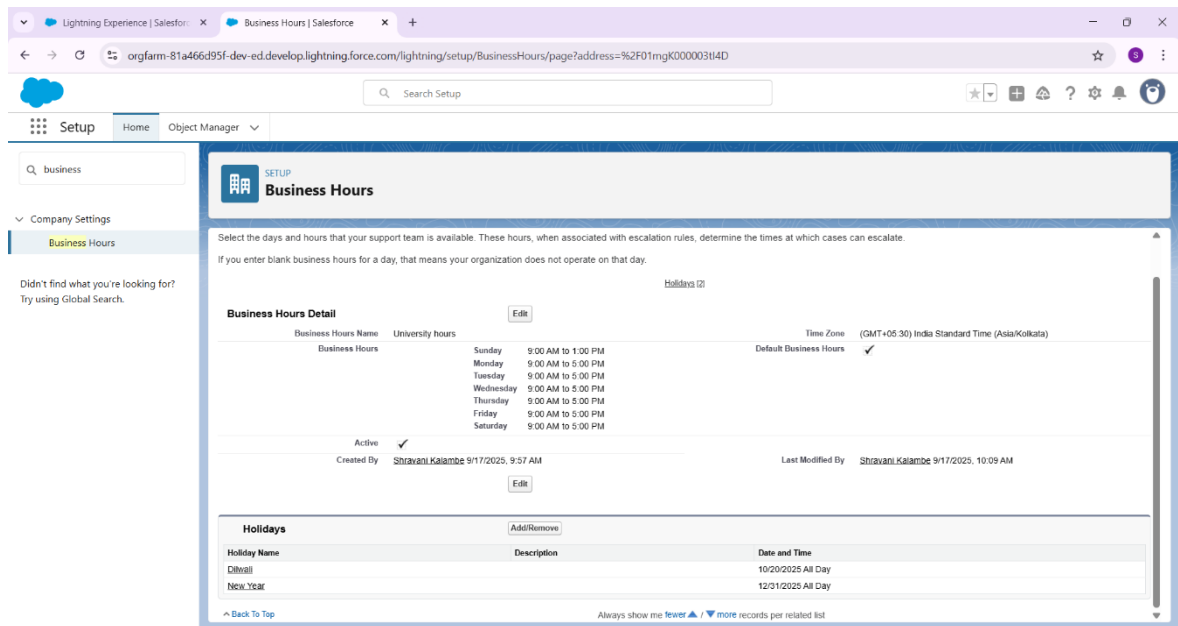
Salesforce provides different editions like Essentials, Professional, Enterprise, and Developer. For this project, we selected the **Developer Edition** because it offers all customization features at no cost. This edition allows us to create custom objects, write Apex triggers, build Lightning Components,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

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

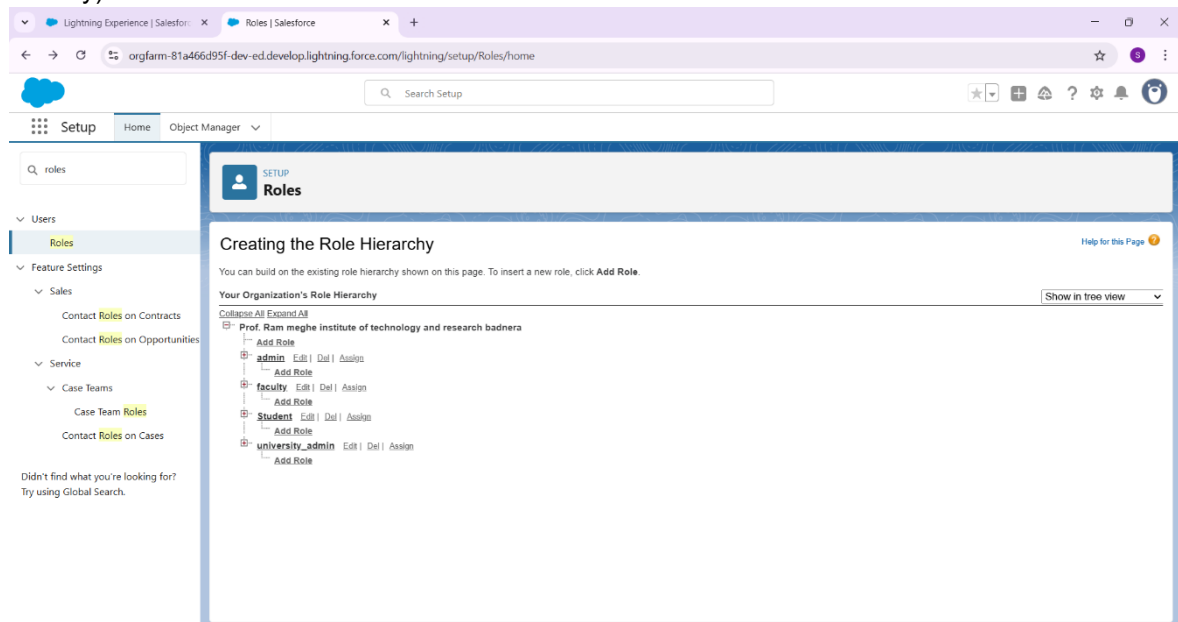
The screenshot displays the Salesforce Setup interface for a Developer Edition org. The left sidebar shows the 'Setup' menu with 'Company Information' selected. The main content area is titled 'Company Information' and shows the organization's profile. The organization name is 'Prof. Ram meghe institute of technology and research badnera'. The profile is divided into two sections: 'Organization Detail' and 'System Settings'. The 'Organization Detail' section includes fields for Organization Name, Primary Contact, Division, Address, Phone, Fax, Default Locale, and Default Language. The 'System Settings' section includes fields for Fiscal Year Starts In, Activate Multiple Currencies, Enable Data Translation, Newsletter, Admin Newsletter, Hide Notices About System Maintenance, Hide Notices About System Downtime, Locale Formats, Default Time Zone, Currency Locale, Used Data Space, Used File Space, API Requests, Last 24 Hours, Streaming API Events, Last 24 Hours, Restricted Logins, Current Month, Salesforce.com Organization ID, Organization Edition, and Instance.

Organization Detail	
Organization Name	Prof. Ram meghe institute of technology and research badnera
Primary Contact	shrawan kalambe
Division	
Address	angangao bari road badnera 444701 Maharashtra India
Phone	(902) 891-4659
Fax	
Default Locale	English (United States)
Default Language	English
Fiscal Year Starts In	April
Activate Multiple Currencies	<input type="checkbox"/>
Enable Data Translation	<input type="checkbox"/>
Newsletter	<input checked="" type="checkbox"/>
Admin Newsletter	<input checked="" type="checkbox"/>
Hide Notices About System Maintenance	<input type="checkbox"/>
Hide Notices About System Downtime	<input type="checkbox"/>
Locale Formats	ICU
Default Time Zone	(GMT+05:30) India Standard Time (Asia/Kolkata)
Currency Locale	English (India) - INR
Used Data Space	342 KB (7%) View
Used File Space	17 KB (0%) View
API Requests, Last 24 Hours	4 (15,000 max)
Streaming API Events, Last 24 Hours	0 (10,000 max)
Restricted Logins, Current Month	0 (0 max)
Salesforce.com Organization ID	00DgK000007anSn
Organization Edition	Developer Edition
Instance	CAN96

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 self-service 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.

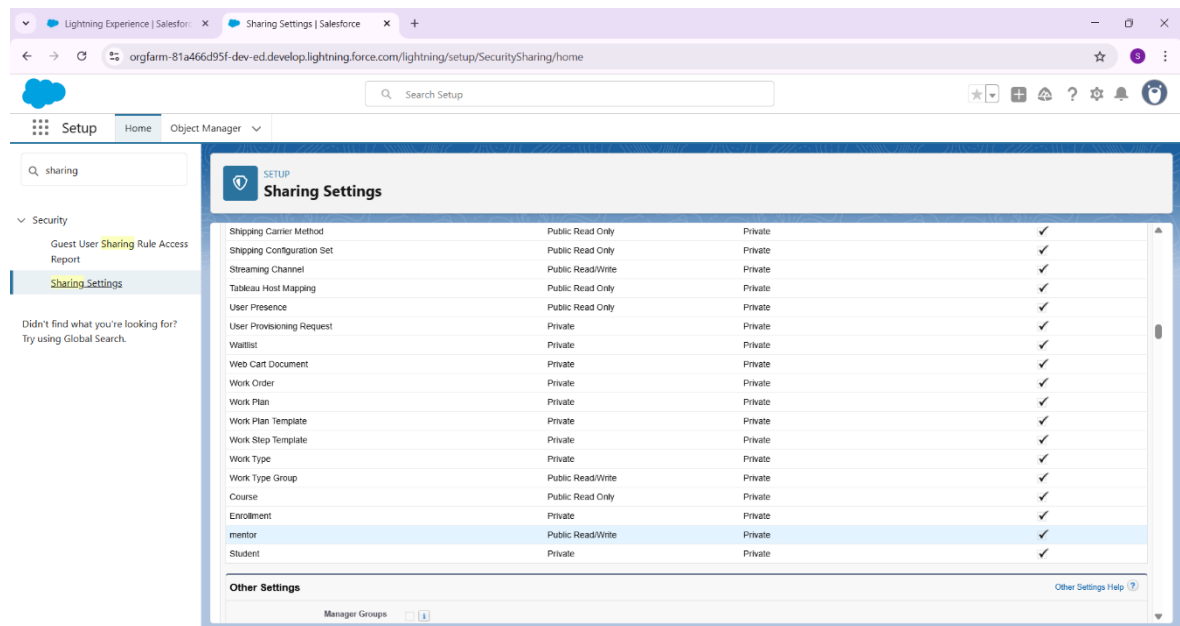
- Configured Sharing Settings: Student__c = Private

OWD (Org-Wide Defaults):

Org-Wide Defaults establish the baseline visibility for all objects. We configured:

- 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).

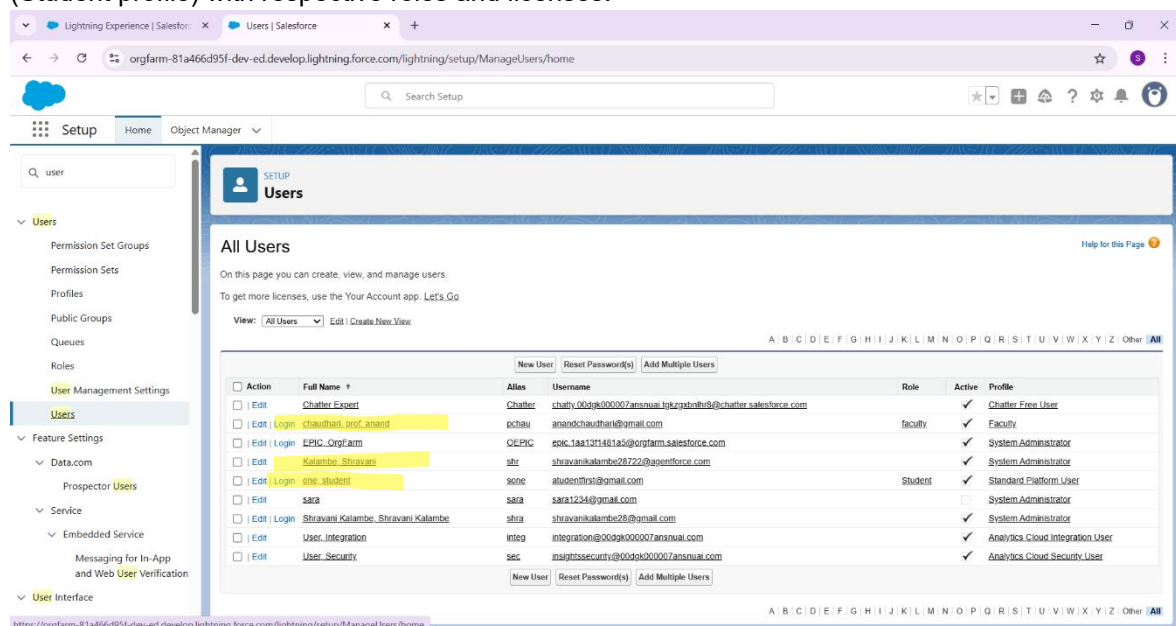
This ensures data privacy while maintaining transparency where required.



The screenshot shows the Salesforce Setup page for Sharing Settings. The left sidebar contains a search bar and a navigation menu with 'Security' expanded, showing 'Guest User Sharing Rule Access Report' and 'Sharing Settings'. The main content area is titled 'Sharing Settings' and displays a table of sharing settings for various objects. The table has columns for the object name, sharing model, and a checkbox for 'Public Read/Write'. The 'mentor' and 'Student' objects are highlighted in blue.

Object	Sharing Model	Public Read/Write	
Shipping Carrier Method	Public Read Only	Private	✓
Shipping Configuration Set	Public Read Only	Private	✓
Streaming Channel	Public Read/Write	Private	✓
Tableau Host Mapping	Public Read Only	Private	✓
User Presence	Public Read Only	Private	✓
User Provisioning Request	Private	Private	✓
Walllist	Private	Private	✓
Web Cart Document	Private	Private	✓
Work Order	Private	Private	✓
Work Plan	Private	Private	✓
Work Plan Template	Private	Private	✓
Work Step Template	Private	Private	✓
Work Type	Private	Private	✓
Work Type Group	Public Read/Write	Private	✓
Course	Public Read Only	Private	✓
Enrollment	Private	Private	✓
mentor	Public Read/Write	Private	✓
Student	Private	Private	✓

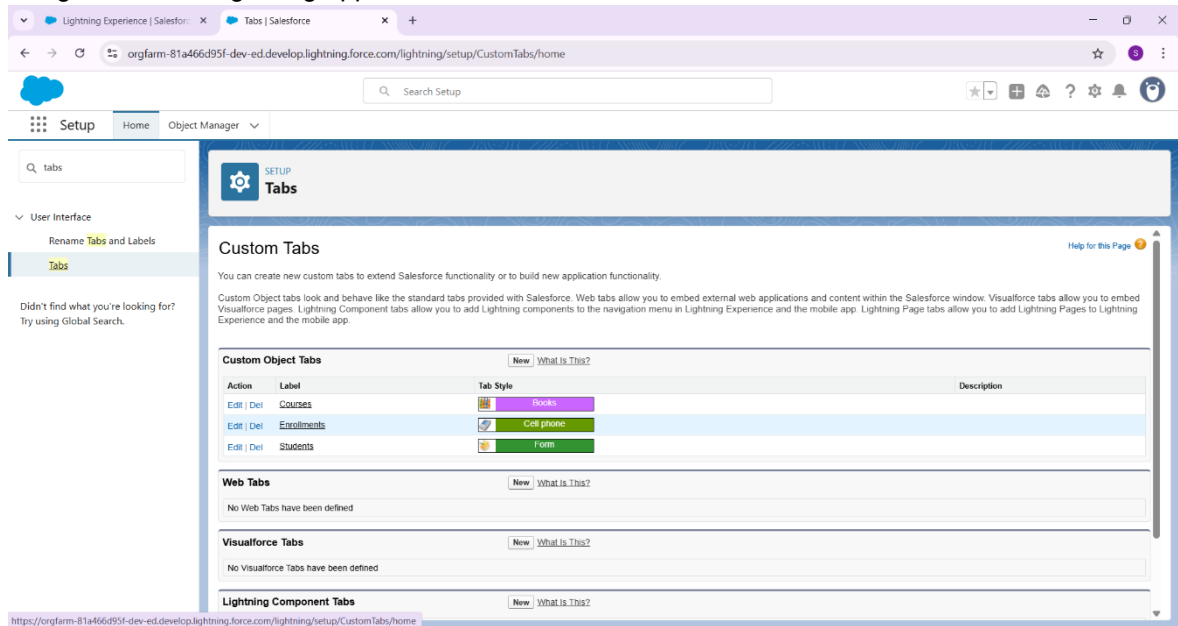
User Setup & Licenses: Created Users: Prof. Rahul (Faculty profile) and Student One (Student profile) with respective roles and licenses.



The screenshot shows the Salesforce Setup page for Users. The left sidebar contains a search bar and a navigation menu with 'Users' expanded, showing 'Permission Set Groups', 'Permission Sets', 'Profiles', 'Public Groups', 'Queues', 'Roles', 'User Management Settings', 'Users', 'Feature Settings', 'Data.com', 'Prospector Users', 'Service', 'Embedded Service', 'Messaging for In-App and Web User Verification', and 'User Interface'. The main content area is titled 'Users' and displays a table of all users. The table has columns for 'Action', 'Full Name', 'Alias', 'Username', 'Role', 'Active', and 'Profile'. The 'Chatter Expert' and 'Chatter' users are highlighted in yellow.

Action	Full Name	Alias	Username	Role	Active	Profile
<input type="checkbox"/> Edit	Chatter Expert	Chatter	chatty.000000007@ansuailightningforce.com		✓	Chatter Free User
<input type="checkbox"/> Edit Login	Chaitani, Prof. Anand	pcbau	anandchaitani@gmail.com	faculty	✓	Faculty
<input type="checkbox"/> Edit Login	EPIC_OrgFarm	epic	epic.1aa131481a5@orgfarm.salesforce.com		✓	System Administrator
<input type="checkbox"/> Edit	Kalambe, Shrawani	shr	shrawanikalambe28722@apexforce.com		✓	System Administrator
<input type="checkbox"/> Edit Login	one student	sone	abudent1st@gmail.com	Student	✓	Standard Platform User
<input type="checkbox"/> Edit	sara	sara	sara1234@gmail.com		✓	System Administrator
<input type="checkbox"/> Edit Login	Shrawani Kalambe, Shrawani Kalambe	shra	shrawanikalambe28@gmail.com		✓	System Administrator
<input type="checkbox"/> Edit	User Integration	integ	integration@00d9g000007@ansuailightningforce.com		✓	Analytics Cloud Integration User
<input type="checkbox"/> Edit	User Security	sec	insightssecurity@00d9g000007@ansuailightningforce.com		✓	Analytics Cloud Security User

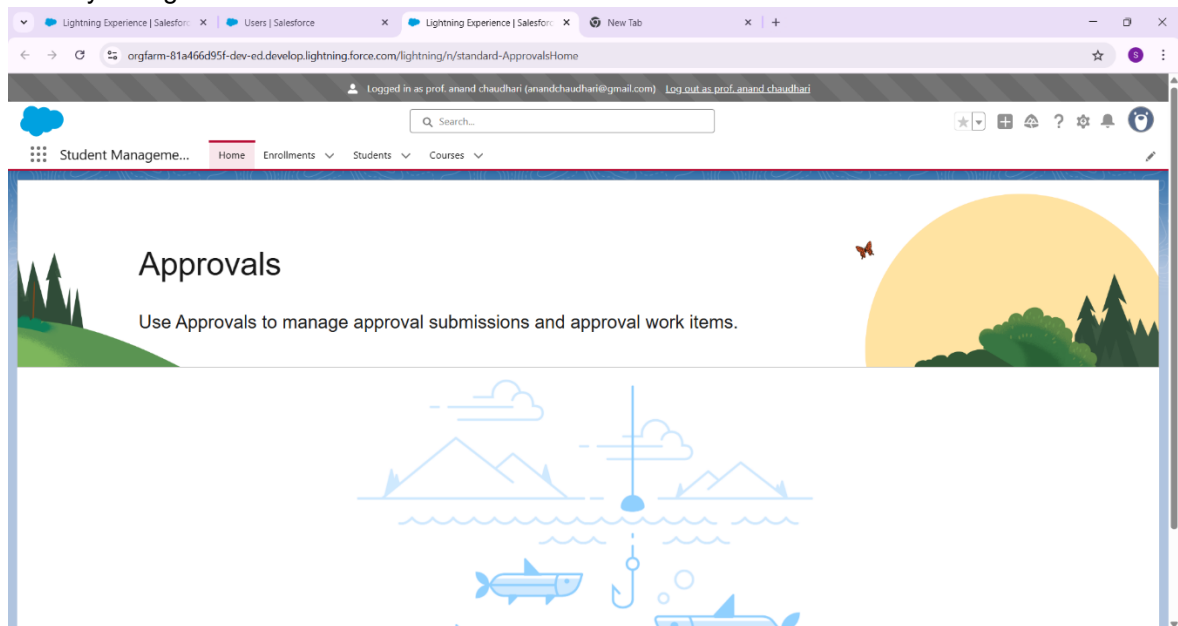
- Created Custom Tabs: Student, Course, and Enrollment objects now have tabs to allow navigation in the Lightning app.



- 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 Salesforce Object Manager interface with the 'Course' object selected. The table lists various objects, including 'Course__c' as a Custom Object created on 9/19/2025.

Object Name	API Name	Object 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 selected. The table lists 'Enrollment__c' as a Custom Object created on 9/19/2025.

Object Name	API Name	Object 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 selected. The table lists 'student__c' and 'Student__c' as Custom Objects. The 'student__c' object was created on 7/29/2025 with the description 'to add information of the student', and 'Student__c' was created on 9/22/2025.

Object Name	API Name	Object 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

The screenshot shows the Salesforce Object Manager interface for the 'Student' object. The left sidebar contains a navigation menu with options: Details, Fields & Relationships (selected), 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, and Scoping Rules. The main content area is titled 'Fields & Relationships' and shows a list of 10 fields. The fields are: Created By (Lookup(User)), DOB__c (Date), Email__c (Email), Flag_For_Counseling__c (Checkbox), GPA__c (Number(2, 2)), Last Modified By (Lookup(User)), Owner (Lookup(User, Group)), Program__c (Picklist), Student Number (Text(80)), and Student_ID__c (Text(18)). The 'Student Number' and 'Student_ID__c' fields are marked as 'Required' with a checkmark in the 'Required' column.

Field Label	Field Name	Data Type	Controlling Field	Indexed
Created By	CreatedById	Lookup(User)		
DOB__c	DOB__c	Date		
Email__c	Email__c	Email		
Flag_For_Counseling__c	Flag_For_Counseling__c	Checkbox		
GPA__c	GPA__c	Number(2, 2)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User, Group)		
Program__c	Program__c	Picklist		
Student Number	Name	Text(80)		
Student_ID__c	Student_ID__c	Text(18)		

- Course__c → Course_Code, Capacity, Mode.

The screenshot shows the Salesforce Object Manager interface for the 'Course' object. The left sidebar contains a navigation menu with options: Details, Fields & Relationships (selected), 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, and Scoping Rules. The main content area is titled 'Fields & Relationships' and shows a list of 8 fields. The fields are: Capacity__c (Number(18, 0)), Course Name (Text(80)), Course_Code__c (Text(40)), Created By (Lookup(User)), Last Modified By (Lookup(User)), Mode__c (Picklist), Owner (Lookup(User, Group)), and Record Type (Record Type). The 'Course Name' and 'Record Type' fields are marked as 'Required' with a checkmark in the 'Required' column.

Field Label	Field Name	Data Type	Controlling Field	Indexed
Capacity__c	Capacity__c	Number(18, 0)		
Course Name	Name	Text(80)		
Course_Code__c	Course_Code__c	Text(40)		
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Mode__c	Mode__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.

The screenshot shows the Salesforce Setup interface for the 'Course' object. The left sidebar contains a navigation menu with options like Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types (selected), Related Lookup Filters, Search Layouts, List View Button Layout, and Restriction Rules. The main content area is titled 'Record Types' and shows a table with 2 items, sorted by Record Type Label. The table has columns for Record Type Label, Description, Active status, and Modified By. The 'On-Campus' record type is active and was modified by Shravani Kalambe on 9/23/2025 at 11:49 AM. The 'Online' record type is also active and was modified by Shravani Kalambe on 9/23/2025 at 11:47 AM. There are 'New' and 'Page Layout Assignment' buttons at the top right of the table.

RECORD TYPE LABEL	DESCRIPTION	ACTIVE	MODIFIED BY
On-Campus		✓	Shravani Kalambe, 9/23/2025, 11:49 AM
Online		✓	Shravani Kalambe, 9/23/2025, 11:47 AM

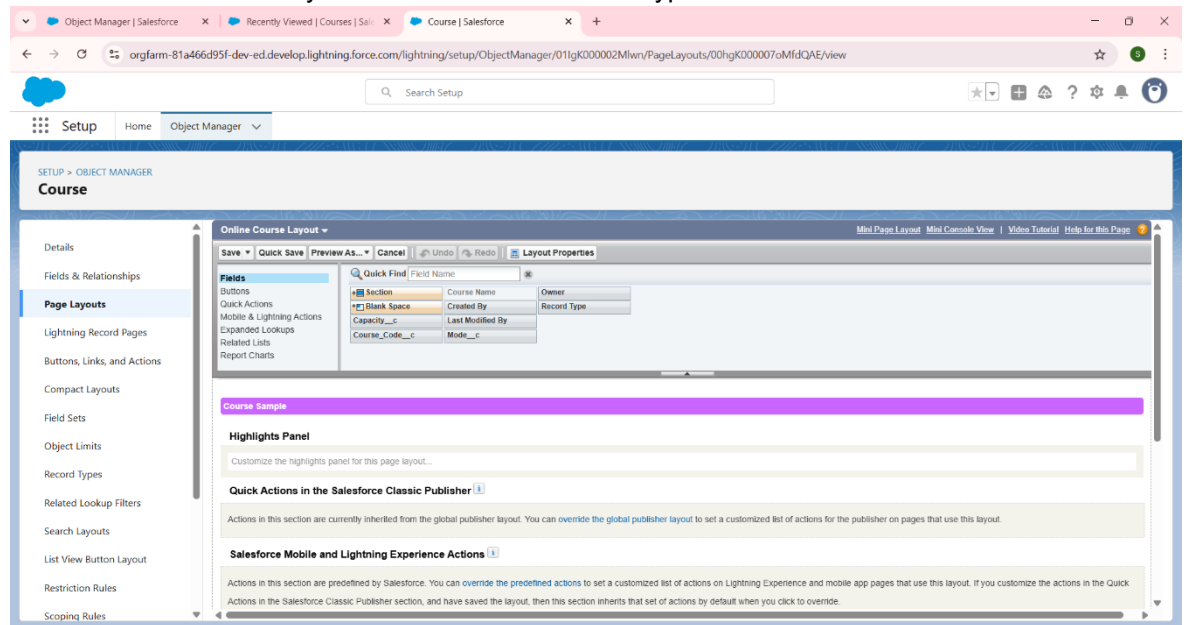
4. Page Layouts

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.

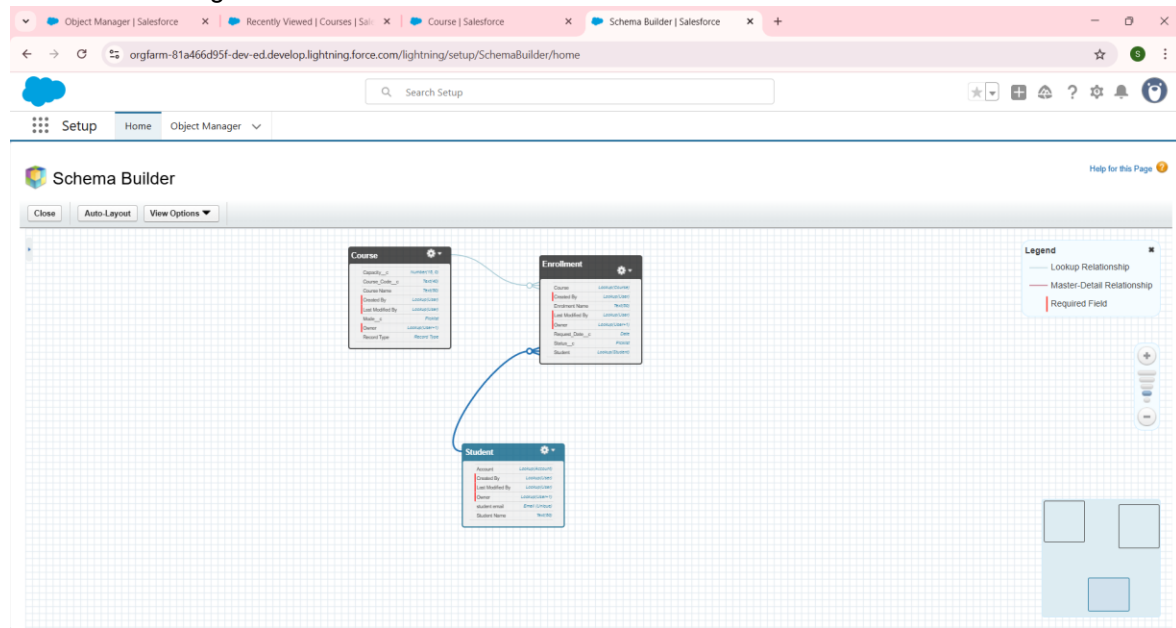
Verification: Compact layout visible on top of record page.

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 for 'riya sharma'. The 'Related' tab is active, displaying a list of 'Enrollments (1)'. The list shows one enrollment record with the 'Enrolment Name' field set to 'riya sharma'. The 'Activity' tab is also visible, showing a list of activities. The 'Upcoming & Overdue' section indicates 'No activities to show' and provides instructions on how to get started by sending an email, scheduling a task, and more.

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.