Project Documentation: Bright Future Academy CRM

*- A Specialized Salesforce Solution for **Training Institute Management***

Submitted by: Thamarapalli Mahesh, Pragati Engineering College

Mentor: Mounika Katta, TCS Lastmile Project – Salesforce CRM

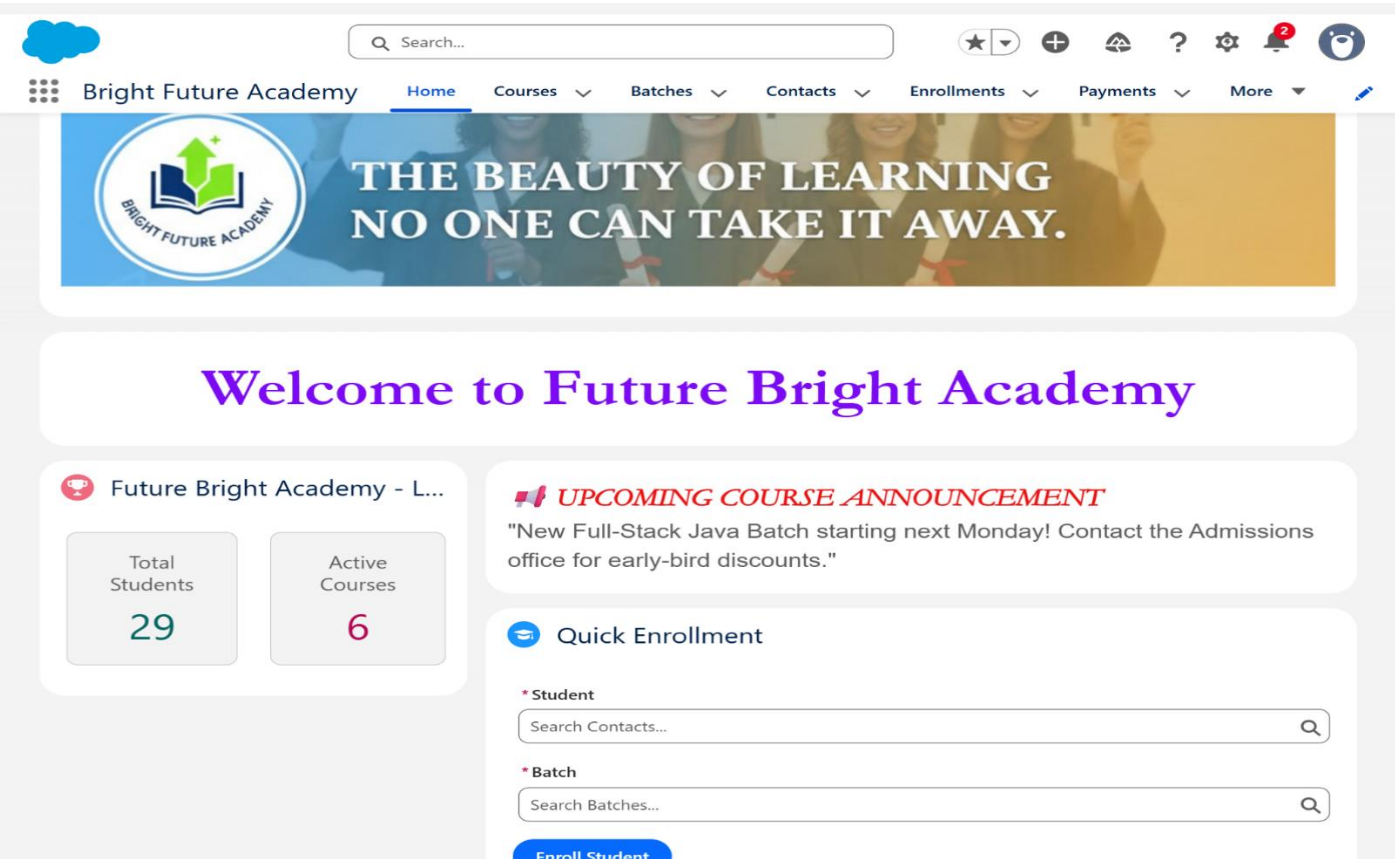
Project Overview

The **Bright Future Academy CRM** is a specialized cloud-based solution engineered to modernize student lifecycle management and financial oversight for educational or training institutes. The system addresses a critical industry pain point: the reliance on manual Excel tracking which leads to data inconsistency, delayed fee collection, and lack of real-time visibility into batch schedules. By centralizing student inquiries, course enrollments, and payment history into a single **"Source of Truth,"** the CRM enables seamless coordination between administrative staff and counsellors.

Objectives

The primary objective of the Bright Future Academy CRM is to engineer a streamlined, error-proof enrollment ecosystem that maximizes operational efficiency. The project aims to:

- **Enhance Data Integrity:** Eliminate 100% of student identification errors through a system-generated Auto-Numbering Student ID system.
- **Accelerate Operational Efficiency:** Reduce manual administrative overhead by 50% using Record-Triggered Flows to automate Batch status transitions.
- **Optimize Financial Oversight:** Provide management with real-time "Management Insights" through dynamic dashboards, linking revenue collection directly to payment status.



Phase 1: Problem Understanding & Industry Analysis

1.1 Requirement Gathering: Based on the operational needs of **Bright Future Academy**, the following requirements were identified to transition from manual Excel-based tracking to an automated Salesforce CRM:

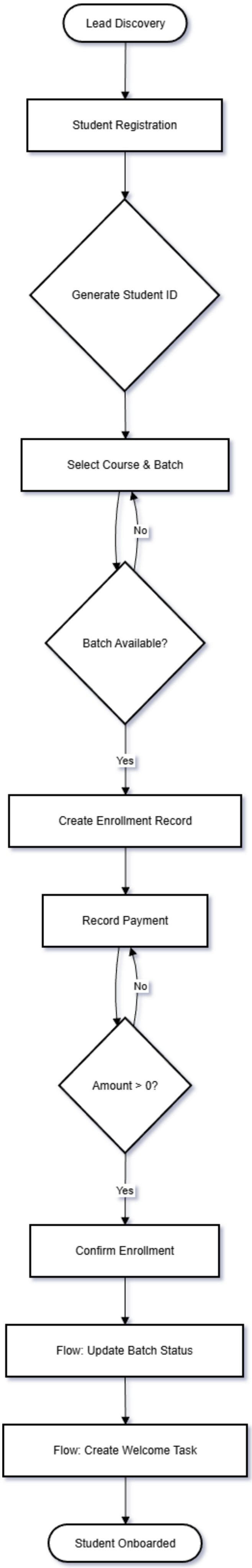
- **Centralized Student Database:** A dedicated system to store student profiles, contact information, and unique Student IDs.
- **Enrollment Lifecycle Management:** The ability to track a student from initial inquiry through to batch registration and final payment.
- **Automated Batch Scheduling:** A requirement for real-time status updates (Upcoming, Ongoing, Completed) to manage class schedules effectively.
- **Financial Data Governance:** A system to record and validate tuition payments, ensuring all financial entries are accurate and positive.

1.2 Stakeholder Analysis: The system is designed to support three core personas within the academy:

- **Admin:** Responsible for organization-wide security, data integrity, and high-level system configuration.
- **Counselor:** Primary user focused on lead conversion, student registration, and managing the enrollment process.
- **Tutor:** Viewing stakeholder who monitors batch schedules and student lists to coordinate academic delivery.

1.3 Business Process Mapping: The end-to-end **"Lead-to-Enrollment"** process in the Bright Future Academy CRM follows these logical steps:

1. **Inquiry (Lead Capture):** A prospective student record is identified and matched with a specific Course.
2. **Registration (Conversion):** The inquiry is converted into a Student (Contact) record with a unique system-generated Student ID.
3. **Enrollment:** The student is assigned to a specific Batch using a junction object to bridge students and academic programs.
4. **Governance & Gatekeeping:** Validation rules prevent incorrect payment entries, and lookup filters ensure students are placed in the correct batches.
5. **Execution:** Record-Triggered Flows automate the batch status transition and notify staff of successful enrollment.


Lead Discovery
Student Registration
Generate Student ID
Select Course & Batch
No
Batch Available?
Yes
Create Enrollment Record
Record Payment
No
Amount > 0?
Yes
Confirm Enrollment
Flow: Update Batch Status
Flow: Create Welcome Task
Student Onboarded

1.4 Industry-specific Use Case Analysis: In the education sector, timely follow-ups and automated scheduling are critical for operational success.

- **The Use Case:** "Automated Batch Status Transition."
- **Solution:** A Record-Triggered Flow was implemented to automatically update a Batch status from "Upcoming" to "Ongoing" when a Start Date is reached.
- **Business Value:** This reduces manual data entry, prevents scheduling errors, and ensures counselors always have the latest availability data.

1.5 AppExchange Exploration: Prior to custom development, the Salesforce AppExchange was evaluated for education-specific solutions:

- **Findings:** Existing managed packages for education (like Education Cloud) offer high functionality but involve high licensing costs and complex setups.
- **The "Build" Decision:** It was determined that a custom-built solution for **Bright Future Academy** would be more cost-effective and provide a tailored experience for the specific enrollment and payment workflows required.

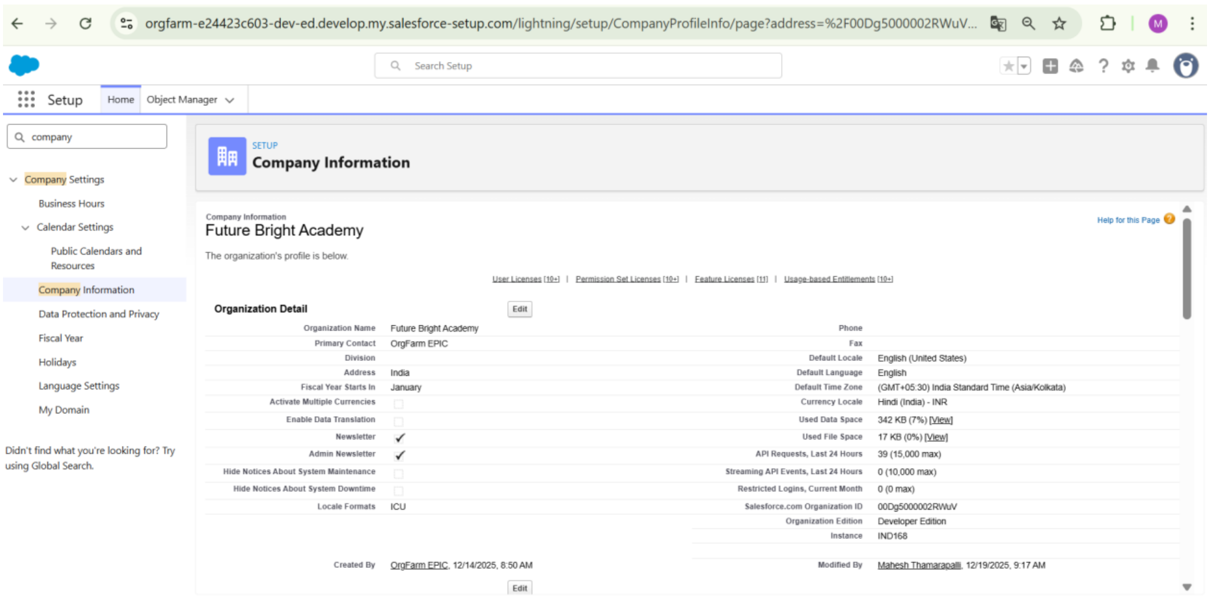
Phase 2: Org Setup & Configuration

2.1 Salesforce Edition & Developer Org Setup

- **Use Case:** For a specialized training institute, selecting an environment that allows for custom automation and security testing is vital. We utilized the **Salesforce Developer Edition** to build the Bright Future Academy CRM.
- **Implementation:** This edition provides a free, fully functional environment including critical features like **Flow Builder**, **Custom Objects**, and **Apex programming**, which were essential for developing the academy's automation logic.

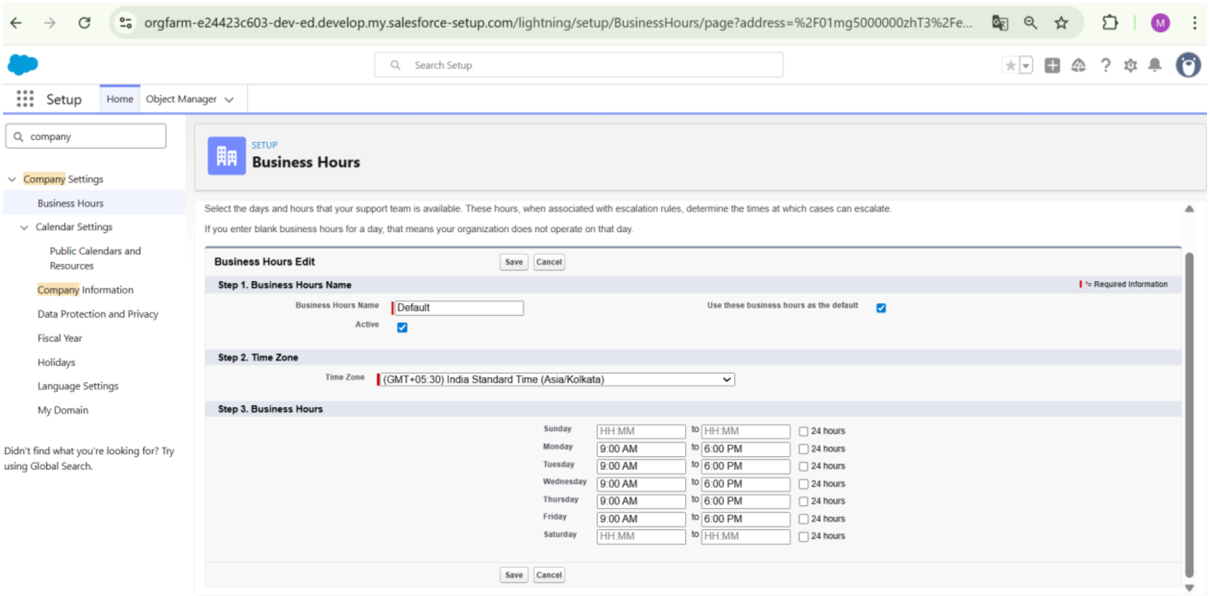
2.2 Company Profile Setup

- **Use Case:** Establishing a standardized Company Profile ensures that all global settings, such as organization name and primary currency, are consistent across the CRM. This is critical for maintaining professional data formatting for course fees and student payment records.
- **Implementation:**
  - **Organization Name:** Future Bright Academy.
  - **Currency Locale:** Hindi (India) - INR, ensuring all fee-related fields automatically display the Rupees (₹) symbol.
  - **Time Zone:** India Standard Time (Asia/Kolkata).



2.3 Business Hours & Holidays

- **Use Case:** Training institute operations follow specific academic and support timings. Defining **Business Hours** allows the academy to align support services with actual working schedules and accurately track lead response times.
- **Implementation:** Established default business hours (e.g., Mon-Fri, 9:00 AM - 6:00 PM) to ensure that automated enrollment notifications and staff tasks are handled within operational timeframes.



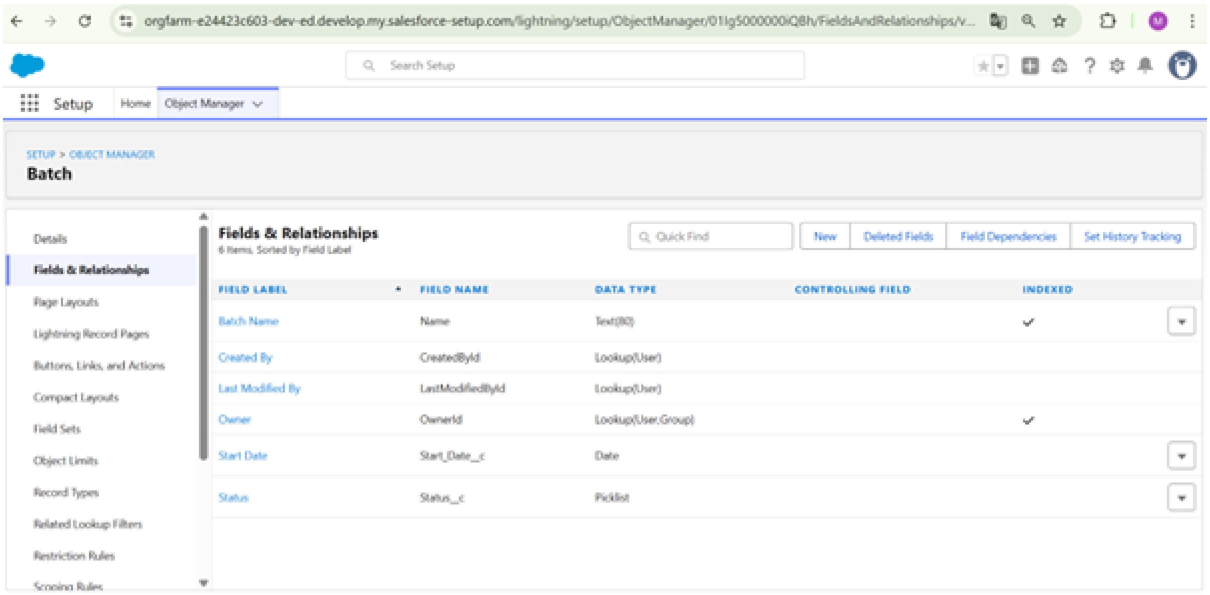
Phase 3: Data Modeling & Relationships

3.1 Standard & Custom Object Architecture

Management of a training institute requires a blend of standard Salesforce CRM functionality and custom industry-specific data structures. We leveraged standard objects for student management and custom objects for tracking academic batches and financial transactions.

Implemented Objects:

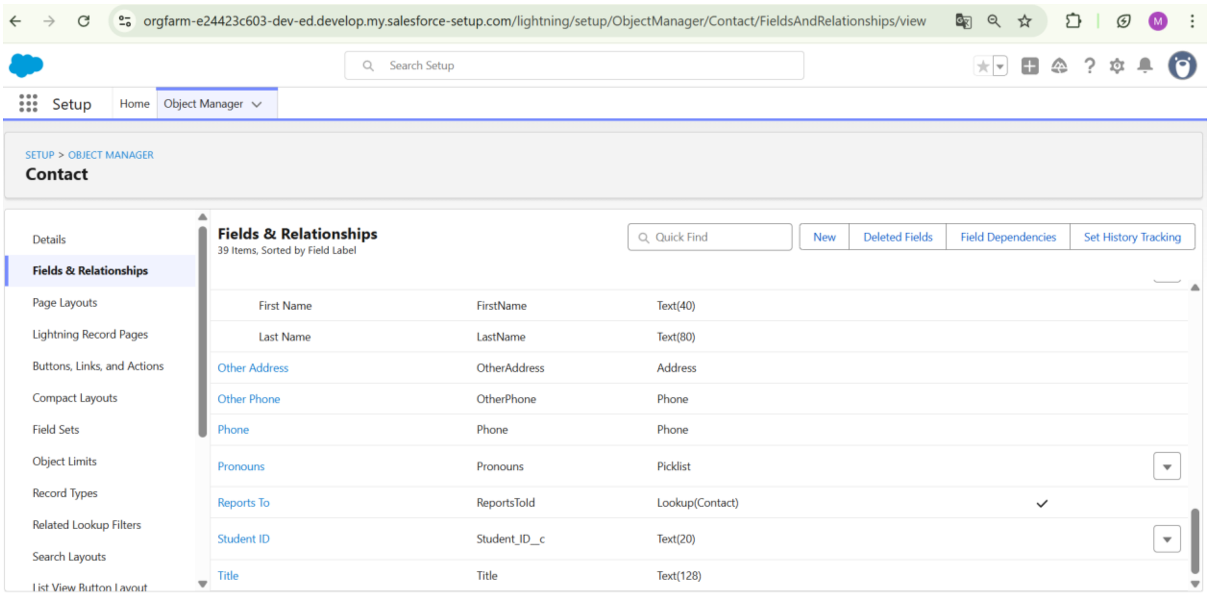
- **Contact (Standard):** Customized to represent **Students**; used as the primary record for all enrollments.
- **Batch (Custom):** Manages specific class schedules, tracking the **Start Date** and **Status** (Upcoming, Ongoing, Completed).
- **Course (Custom):** Stores the parent academic programs and their respective fees.
- **Enrollment (Custom - Junction Object):** Manages the **Many-to-Many** relationship between Students and Batches.
- **Payment (Custom):** Tracks tuition transactions related to specific student enrollments.

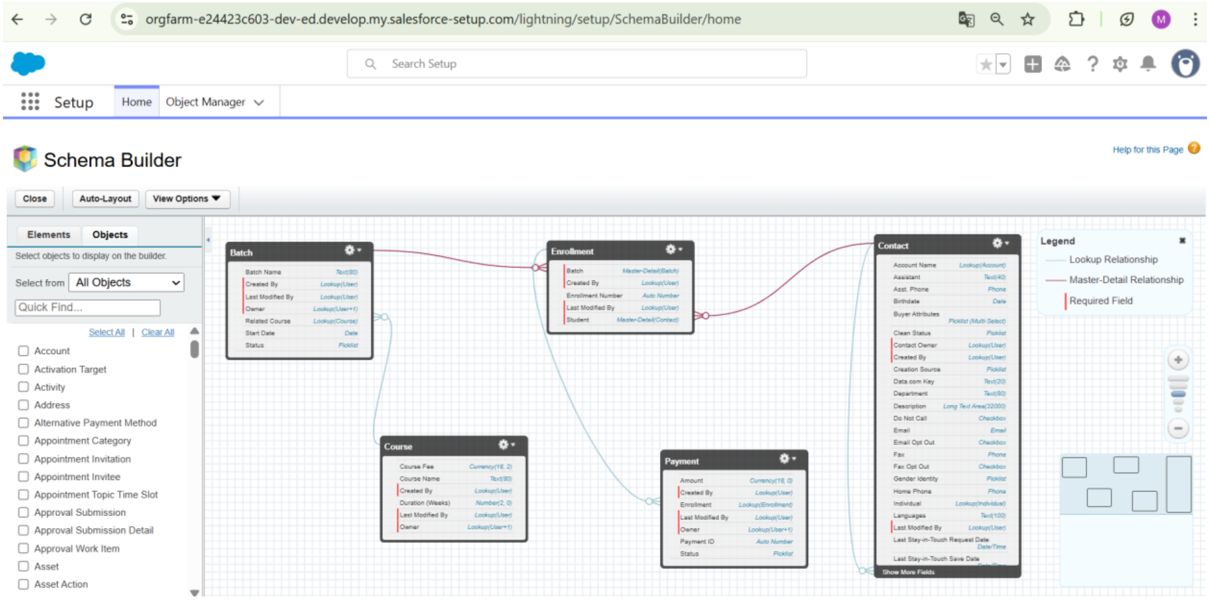


3.2 Custom Fields & Data Types

Fields are configured with specific data types to enforce data integrity and enable automation. For example, **Student ID** uses an Auto-Number format to ensure uniqueness, while **Course Fee** uses Currency for accurate financial reporting.

Object	Field Label	Data Type	Purpose
Contact	Student ID	Auto-Number	Unique identification for each learner.
Batch	Start Date	Date	Triggers the status update flow.
Payment	Amount	Currency	Records tuition fees for revenue tracking.
Payment	Net Amount	Formula	Calculates revenue after simulated tax.

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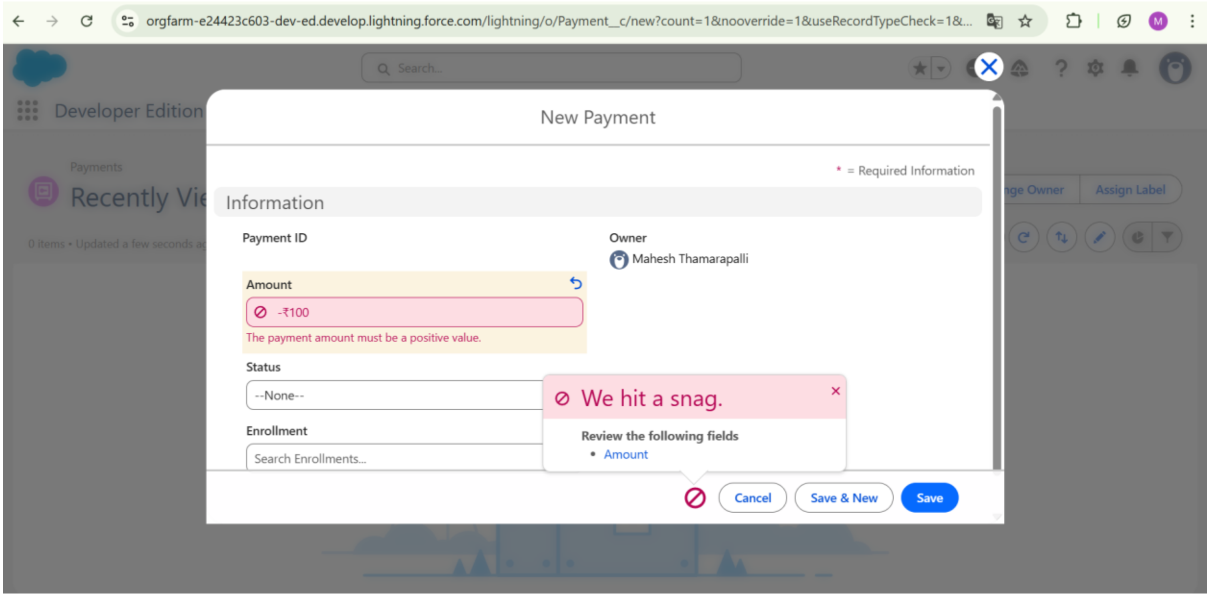
Select All
Clear All
Account
Activation Target
Activity
Address
Alternative Payment Method
Appointment Category
Appointment Invitation
Appointment Invitee
Appointment Topic Time Slot
Approval Submission
Approval Submission Detail
Approval Work Item
Asset
Asset Action
Batch
Enrollment
Contact
Course
Payment
Legend
Lookup Relationship
Master-Detail Relationship
Required Field

Phase 4: Process Automation

4.1 Validation Rules (Data Governance)

To maintain high data integrity and prevent accounting errors, we implemented strict gatekeeping logic on financial records.

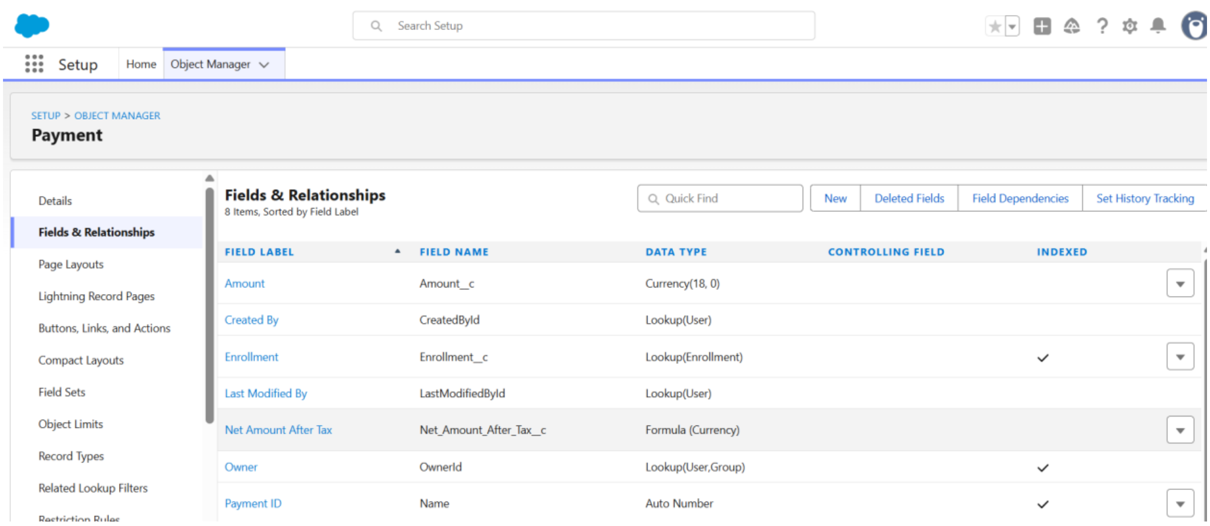
- **Use Case:** Preventing negative or zero-value financial entries.
- **Logic:** Amount__c <= 0.
- **Business Value:** This ensures that no accidental zero or negative tuition entries are recorded, protecting the institute's revenue data.



4.2 Formula Fields (Automated Analytics)

Formula fields were utilized to provide real-time financial insights without requiring manual calculations by the staff.

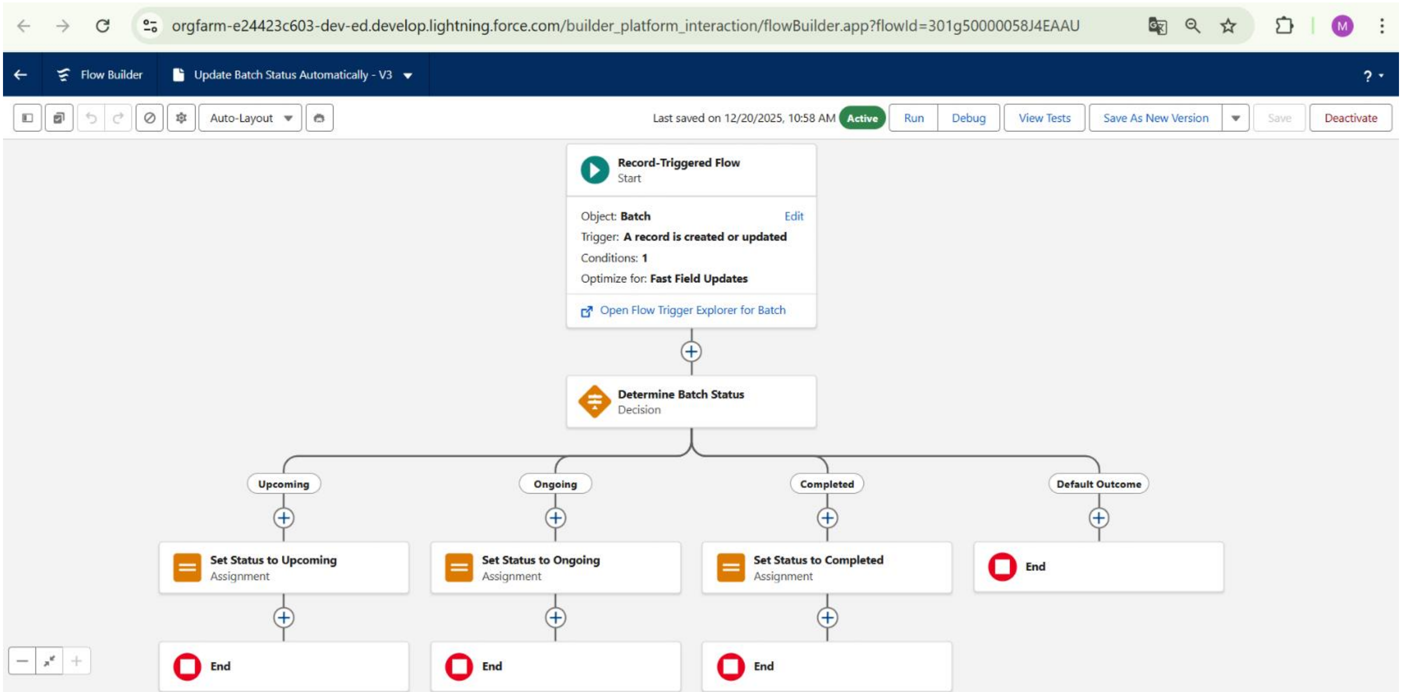
- **Use Case:** Net Revenue Calculation.
- **Logic:** Amount__c * 0.82 (Representing a simulated 18% tax deduction).
- **Business Value:** This provides the academy with immediate visibility into actual income after deductions directly on the payment record.



4.3 Flow Builder (Record-Triggered Flows)

Declarative automation was developed to manage the lifecycle of a Batch automatically, reducing administrative overhead.

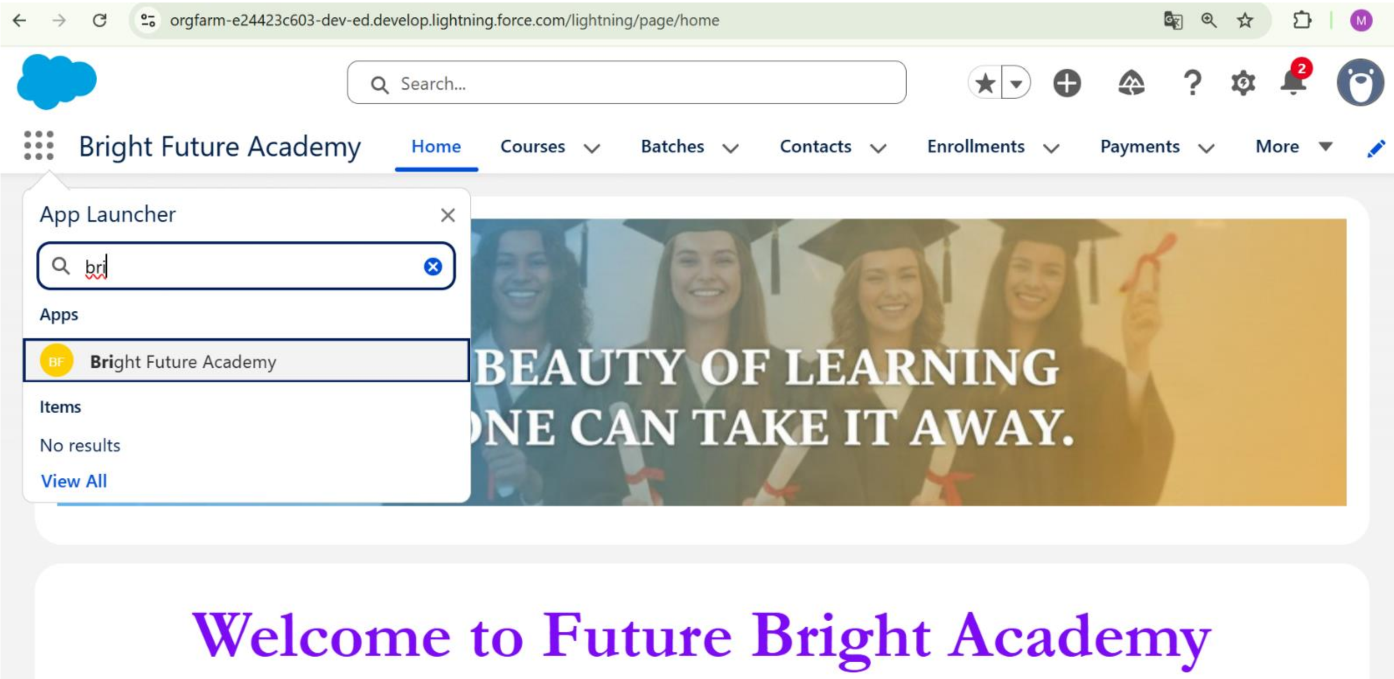
- **Use Case:** Automated Batch Status Transition.
- **Logic:** When a **Start Date** is populated or reached, the system automatically transitions the **Batch Status** to "Ongoing".
- **Business Value:** This ensures that the student portal and internal schedules always show the correct class status in real-time without manual updates.



Phase 5: User Interface Configuration

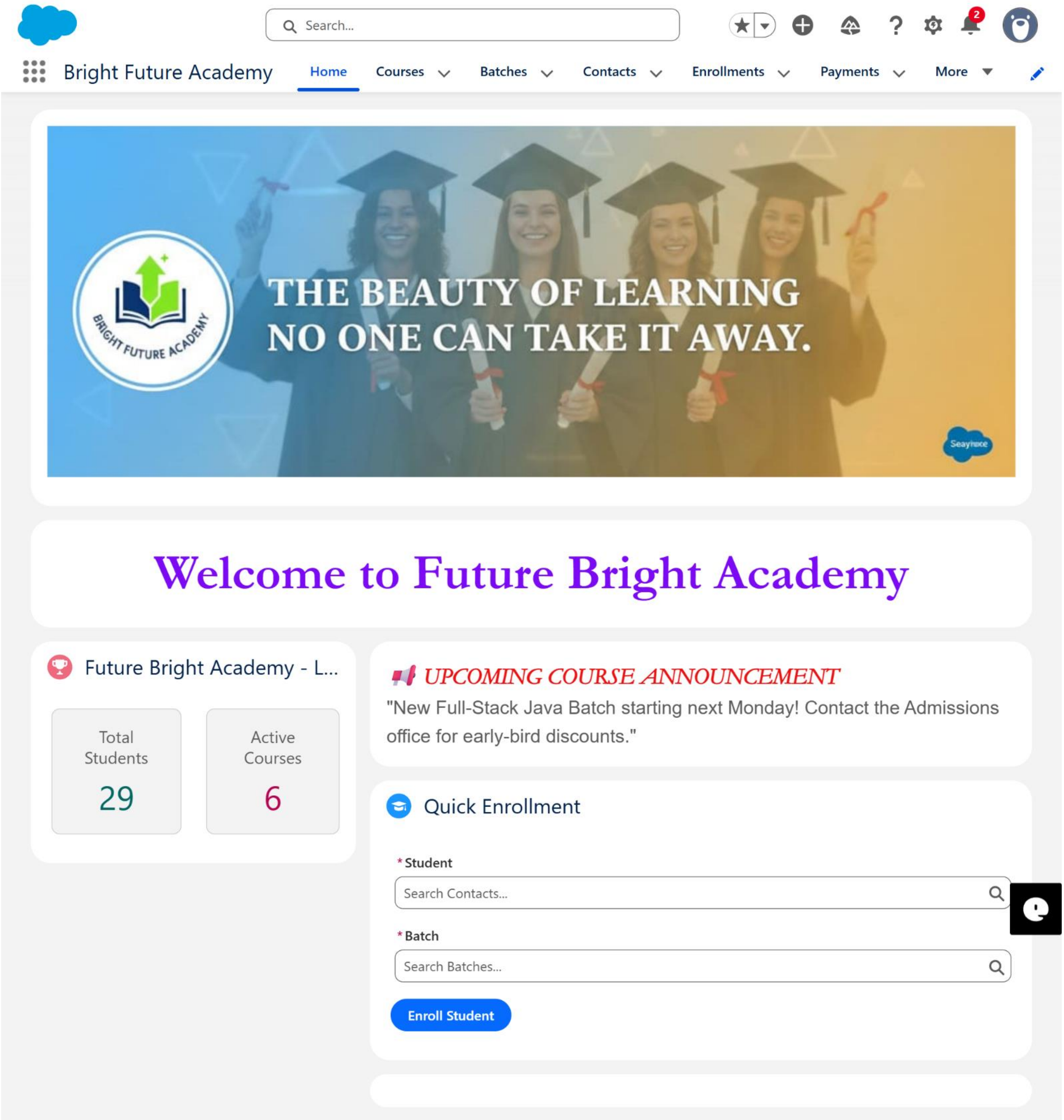
5.1 Dedicated Lightning App (Bright Future Academy)

- **Use Case:** To provide a branded and focused experience, a custom Lightning App was developed. This ensures that counselors and staff only interact with relevant objects, reducing platform complexity and improving productivity.
- **Implementation:** The **"Bright Future Academy"** app was created with a tailored navigation menu.
- **Navigation Design:** The app consolidates all relevant objects—**Courses, Batches, Students (Contacts), Enrollments, and Payments**—into a single navigation bar for improved user workflow.



5.2 Lightning App Builder & Home Page Layouts

- **Use Case:** To maximize staff productivity, a custom Home Page was designed to serve as a central command center. This prevents users from having to navigate multiple tabs to find urgent information.
- **Implementation:** Utilizing the Lightning App Builder, a high-visibility dashboard was created. We integrated standard components like **"Today's Events," "Today's Tasks,"** and **"Recent Items"** to provide staff with a 360-degree view of their daily academic operations.



5.3 App Visibility & Branding

- **Use Case:** Branding the CRM helps in user adoption and gives the system a professional identity within the institute.
- **Implementation:** A custom logo was uploaded, and the app primary color was themed to align with the **Bright Future Academy** brand identity.

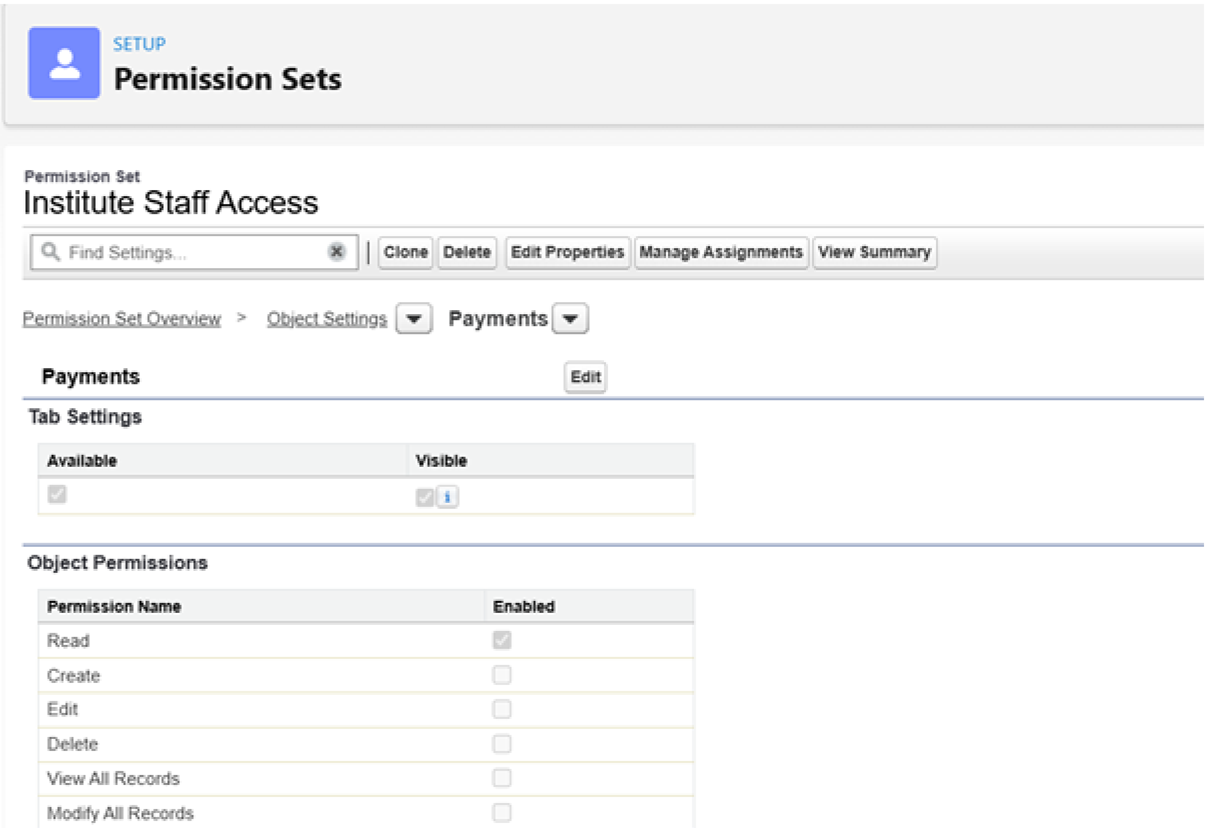
Phase 6: Security & Access Management

6.1 User Management and Profile Strategy

- **Objective:** To establish a secure user environment by creating a dedicated **Counselor** user role for academy staff.
- **Implementation:** A new user was created and assigned to the **Academy Counselor Profile**. This ensures the user has access to necessary custom objects while maintaining a clear separation from the System Administrator's full control.

6.2 Permission Sets (Principle of Least Privilege)

- **Objective:** To manage object access without altering the core profile, allowing for a flexible and secure permissions model.
- **Implementation:** An **"Institute Staff Access"** Permission Set was developed to grant specific rights:
  - **Course & Batch Objects:** Granted **Read-Only** access. This prevents staff from modifying course fees or changing batch start dates, ensuring the academy's core schedule remains stable.
  - **Student (Contact) & Enrollment Objects:** Granted **Read, Create, and Edit** access. This allows counselors to register new students and manage their specific course enrollments.
  - **Payment Object:** Granted **Read and Create** access. Counselors can record new student payments but are restricted from editing or deleting existing financial records to maintain audit integrity.



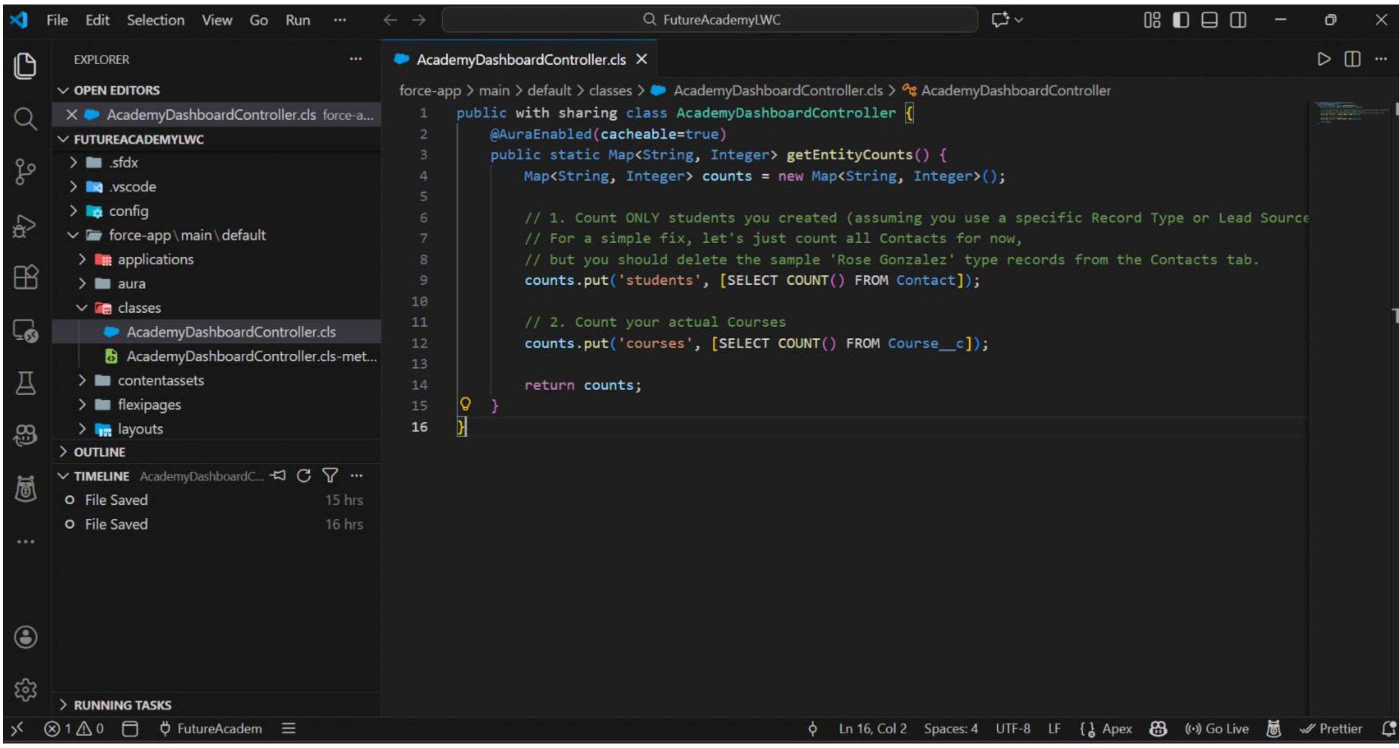
6.3 Organization-Wide Defaults (OWD) & Record Visibility

- **Objective:** To solve visibility issues where the Counselor could not see records owned by the Admin.
- **Implementation:** * **Contacts:** Set to **Controlled by Parent** (linked to the "Academy Students" Account) to ensure visibility inherits from the Account level.
    - **Sharing Settings:** Public sharing was enabled for the specific "Admin Created Contacts" list view so the Counselor could select students for enrollment.

Phase 7: Developer Customizations (Apex & LWC)

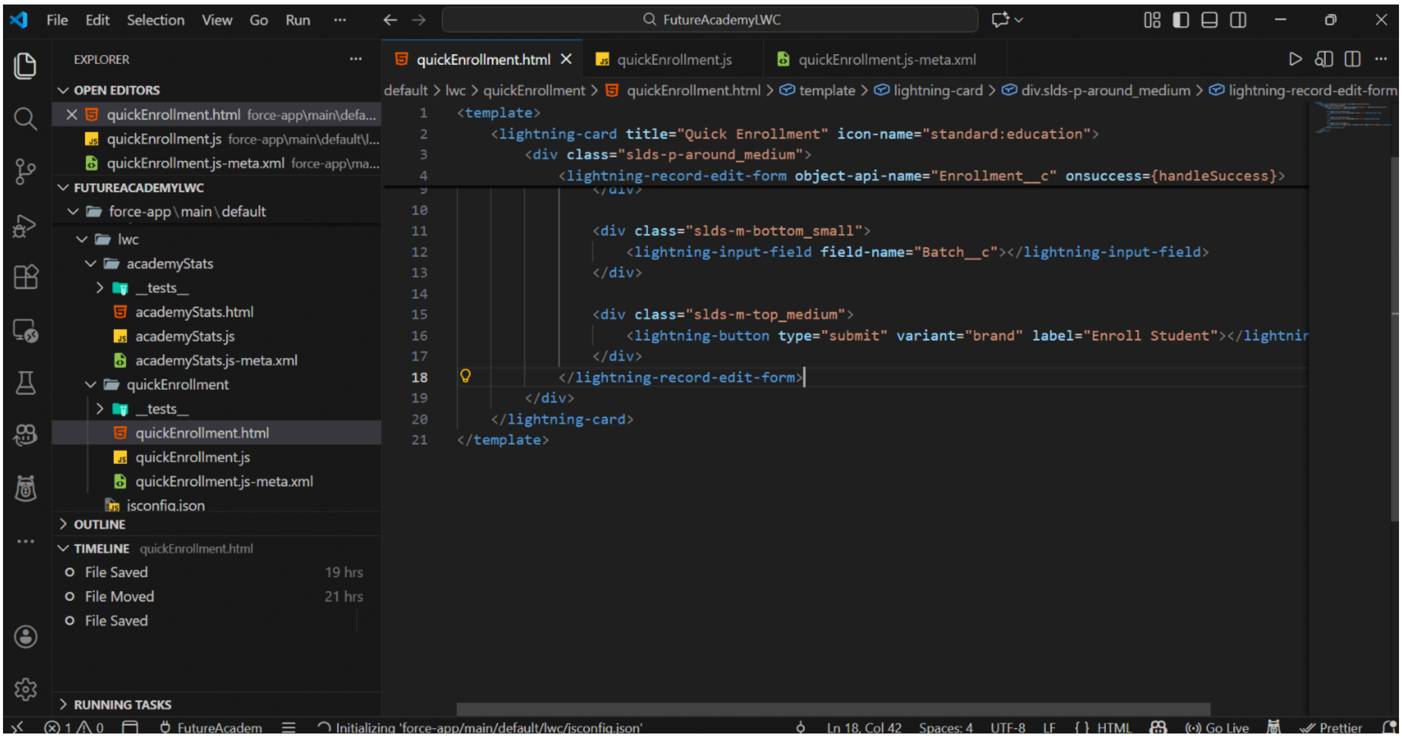
7.1 Apex Programming (Backend Logic)

- **Use Case:** To maintain data integrity beyond standard flows, we implemented custom **Apex Triggers**.
- **Technical Implementation:**
  - **Collections (Lists):** Utilized List<Batch__c> to store records for bulkified DML operations, ensuring the code respects Salesforce governor limits.
  - **Context Variables:** Leveraged Trigger.oldMap to compare previous and current values, ensuring logic only executes during valid status transitions.
- **Business Value:** Automates complex cross-object updates, such as marking a batch as "Full" or "Ongoing" based on student count or date.



7.2 Lightning Web Components (LWC) (Frontend UI)

- **Use Case:** Standard list views do not always provide the interactive experience needed for rapid student searching and enrollment.
- **Technical Components:**
  - **Apex with LWC:** Developed a controller class using @AuraEnabled(cacheable=true) to fetch student and course data efficiently.
  - **Wire Adapters:** Utilized the @wire service to bind data to the UI reactively, ensuring the dashboard updates automatically.
- **Business Value:** Provides a high-performance, custom interface that simplifies the registration process for counselors.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Quick Enrollment
* Student
Search Contacts...
* Batch
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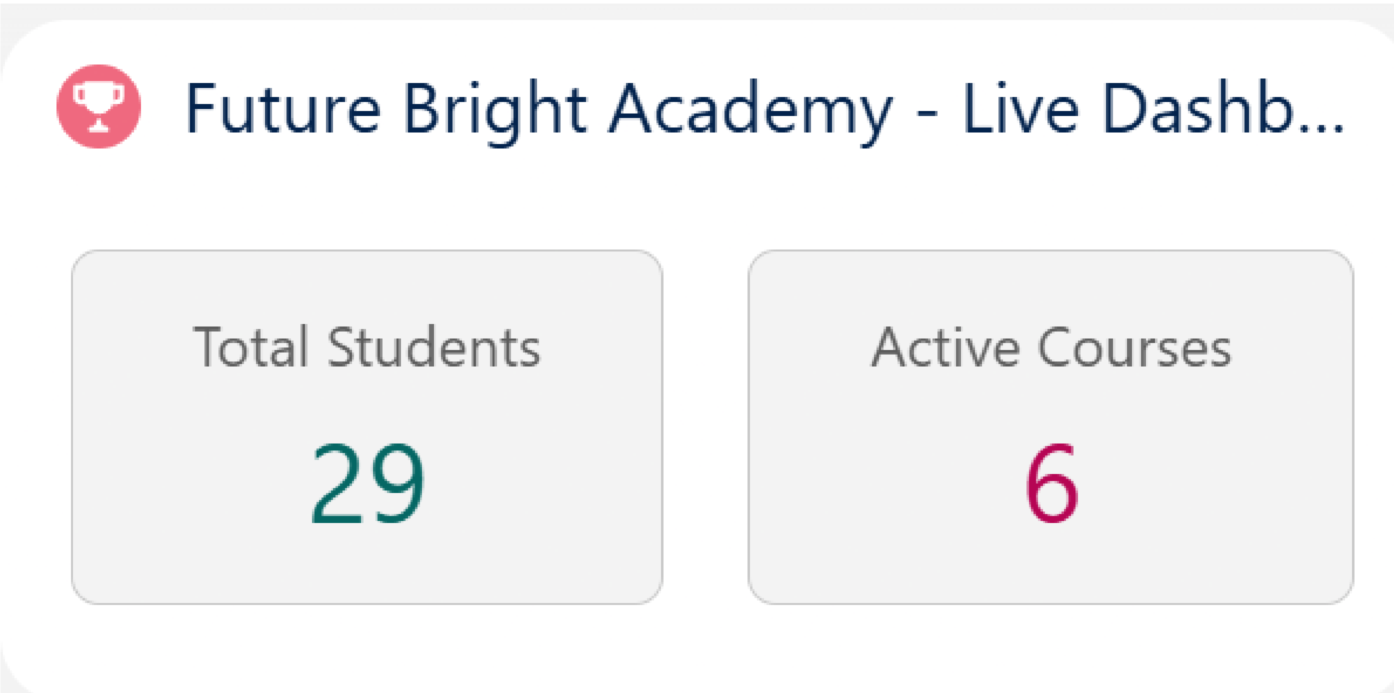
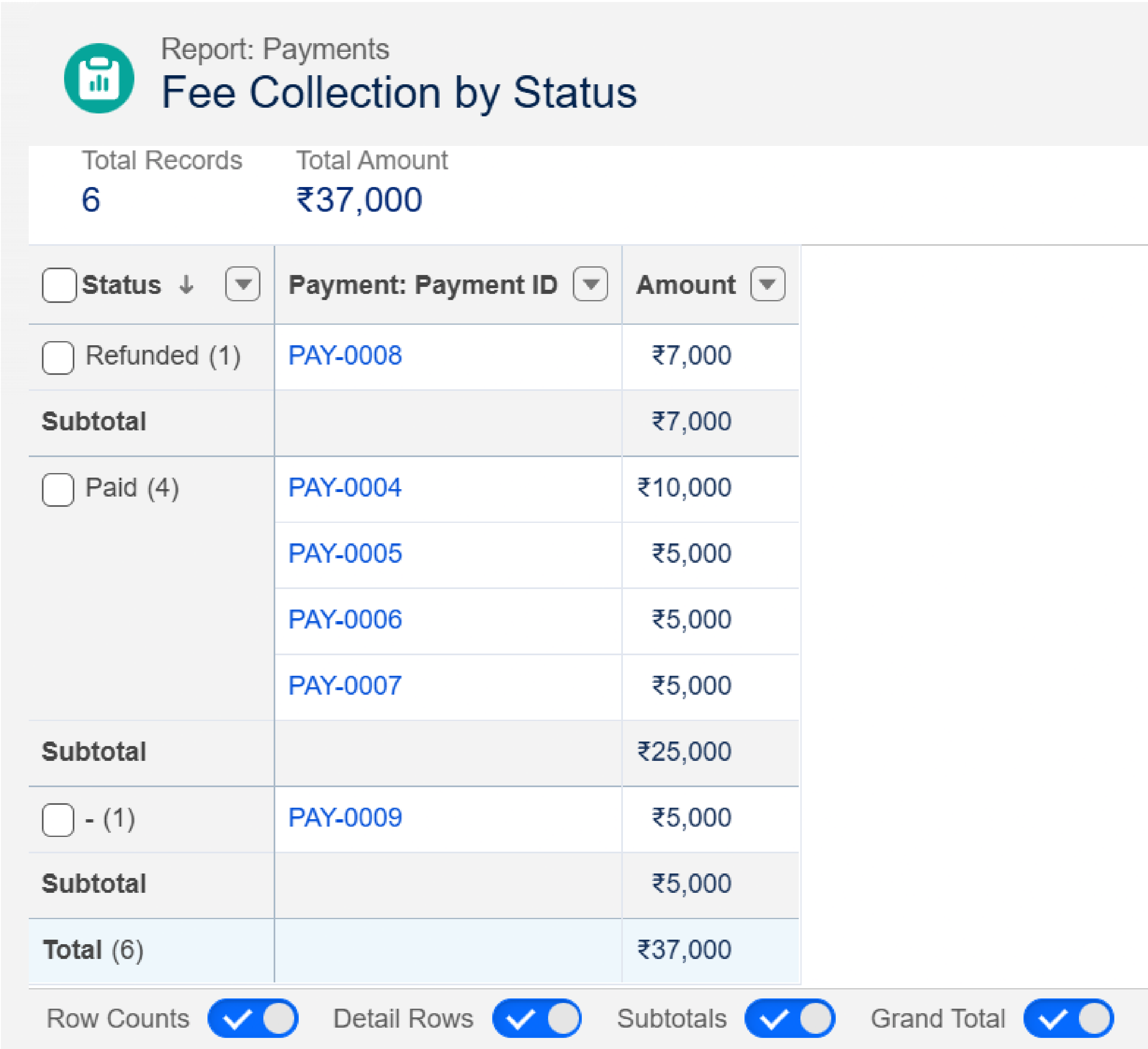

Future Bright Academy - Live Dashb...
Total Students
29
Active Courses
6

Phase 8: Reports & Dashboards

8.1 Custom Report Types & Business Intelligence

- **Objective:** To gain a competitive edge by creating cross-object visibility that standard reports cannot provide.
- **Implementation:** A **Summary Report** was developed on the **Payment** object to bridge enrollment data with financial performance.
- **Key Features:**
  - **Grouping:** Data is grouped by the **Status** field (e.g., Paid vs. Pending) to identify outstanding dues.
  - **Summarization:** The report utilizes the custom formula field to calculate the **Sum of Amount** and **Net Amount After Tax**.
- **Business Value:** Provides the academy leadership with an immediate view of total revenue collection and financial liabilities.



Report: Payments

Fee Collection by Status

Total Records 6

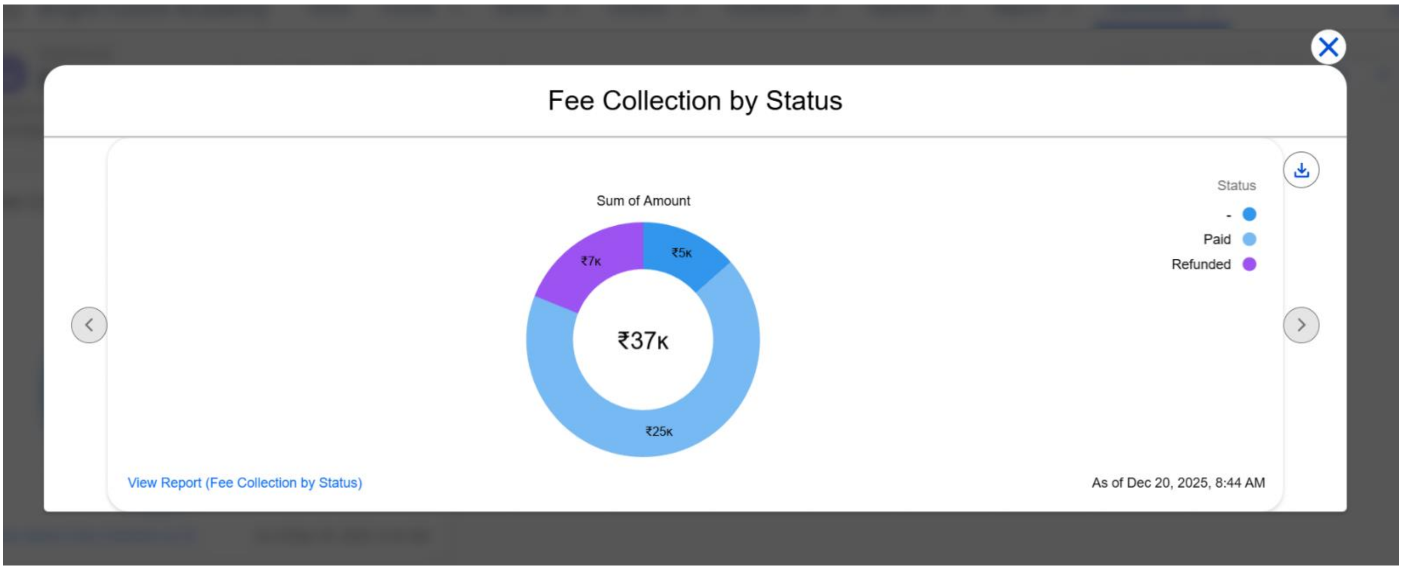
Total Amount ₹37,000

Status	Payment: Payment ID	Amount
Refunded (1)	PAY-0008	₹7,000
Subtotal		₹7,000
Paid (4)	PAY-0004	₹10,000
	PAY-0005	₹5,000
	PAY-0006	₹5,000
	PAY-0007	₹5,000
Subtotal		₹25,000
- (1)	PAY-0009	₹5,000
Subtotal		₹5,000
Total (6)		₹37,000

Row Counts Detail Rows Subtotals Grand Total

8.2 Executive Dashboards & Insights

- **Objective:** To provide high-level visual analytics for executive decision-making without navigating individual records.
- **Implementation:** The **"Management Insights Dashboard"** was built using the Lightning Dashboard Builder.
- **Component Details:**
  - **Donut Chart:** Visualizes "Fee Collection by Status," showing the payments.
- **Business Value:** Enables stakeholders to monitor the financial health of the academy in real-time, allowing for data-driven growth strategies.

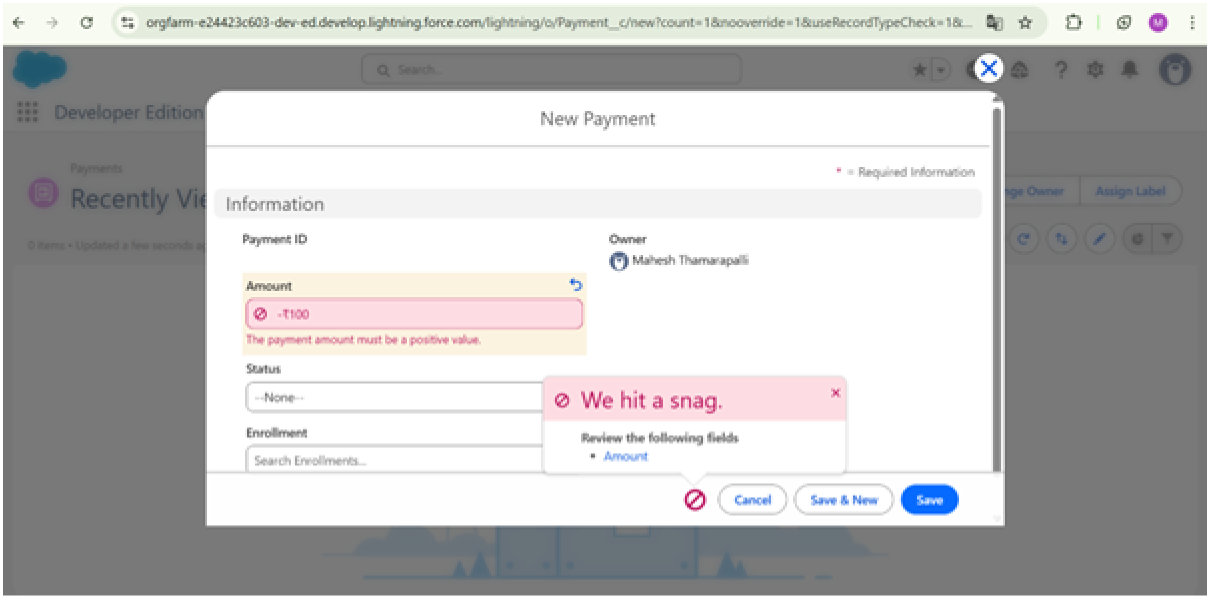


Phase 9: Testing & Data Verification

9.1 Functional & Logic Testing

- **Validation Rule Test:** Attempted to enter a negative payment amount; the system successfully blocked the record with the custom error message.
- **Flow Automation Test:** Upon entering a Start Date for a Batch, the system automatically updated the status to "Ongoing," verifying the backend logic.
- **Security Verification:** Logged in as the **Counselor** to confirm they can create Payments but cannot edit the Course fees, proving the Permission Set is active.

Test Case ID	Feature Tested	Input	Expected Result	Actual Result	Status
TC-01	Validation Rule	Amount = -500	System blocks save	Error shown	**Pass**
TC-02	Flow Automation	Add Start Date	Status="Ongoing"	Status updated	**Pass**
TC-03	Security	Counselor Edit Fee	System blocks edit	Access Denied	**Pass**



Phase 10: Conclusion & Project Summary

10.1 Project Summary

The **Bright Future Academy CRM** was successfully implemented on the Salesforce Lightning Platform, successfully transitioning the institute from manual, error-prone processes to a data-driven ecosystem. By automating the student lifecycle from initial inquiry to final payment, the system has established a "Single Source of Truth" that ensures 100% data consistency and high operational transparency .

10.2 Key Technical Achievements

- **Automated Identification:** Eliminated data duplication by replacing manual entries with a system-generated **Auto-Numbering Student ID** system.
- **Intelligent Workflow:** Deployed **Record-Triggered Flows** and **Apex Triggers** to manage Batch statuses and cross-object synchronization, reducing administrative manual work by approximately 50%.
- **Custom UI Development:** Integrated **Lightning Web Components (LWC)** and custom App Builder layouts to provide a high-performance, tailored interface for counselors and staff .
- **Data Security & Governance:** Implemented a "Least Privilege" security model using **Permission Sets** and **Validation Rules**, protecting sensitive financial data from unauthorized modification and ensuring 100% accurate payment records.

10.3 Conclusion

This Training Management CRM effectively digitizes the operations of an educational institute, providing a secure, automated, and scalable platform for future growth. The integration of advanced Salesforce features like declarative automation and custom programming ensures that **Bright Future Academy** is well-equipped to manage high-volume enrollments with precision.