PROJECT REPORT

ON

Implementing CRM For Result Tracking of a Candidate with Internal Marks - (DEV)

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1. INTRODUCTION

1.1. Overview

The Result Tracking CRM system is a comprehensive web application designed to efficiently manage academic results for candidates within an educational institution. It grants administrators the ability to create and oversee core data, including Semesters, Candidates, Courses, and Lecturers. Lecturers are empowered to enter Internal Results for candidates in their specific courses and semesters. However, the Dean possesses exclusive authority to update Internal Results following re-evaluation, which candidates can request for any Internal Results. The system prioritizes data integrity, security, and accountability, offering a streamlined platform to track and manage results throughout the candidates' academic journey.

1.2. Purpose

The purpose of the Result Tracking CRM system is to streamline and enhance the management of academic results for candidates in an educational institution. By providing administrators with the tools to create and manage essential data such as Semesters, Candidates, Courses, and Lecturers, the system ensures a centralized and organized approach to result tracking. Lecturers are granted the ability to input Internal Results for their respective courses and semesters, while the Dean holds exclusive authority to update Internal Results after re-evaluation, initiated by candidates. The system aims to promote data integrity, security, and accountability, offering a user-friendly and efficient platform to monitor and manage candidate results throughout their academic journey.

2. PROBLEM DEFINITION AND DESIGN THINKING

2.1. Problem Definition:

The educational institution faces challenges in effectively managing and tracking academic results for candidates. The existing process lacks efficiency and organization, making it difficult for administrators to create and maintain essential data like Semesters, Candidates, Courses, and Lecturers. Additionally, there is a need for a structured system that allows Lecturers to record Internal Results for candidates while

granting exclusive authority to the Dean for updating marks after re-evaluation, which candidates can request. Data integrity, security, and accountability are also major concerns. Therefore, there is a pressing problem to be addressed through the development of a Result Tracking CRM system that streamlines result management, enhances data security, and ensures transparency in the academic result tracking process.

2.2. Design Thinking Approach:

Design Thinking is a problem-solving and innovation methodology that emphasizes a human-centric approach to tackle complex challenges. Here are the step-by-step approaches to Design Thinking:

- Empathize:

The first step is to empathize with the people who are facing the problem. This involves understanding their needs, emotions, and perspectives. Conduct interviews, surveys, observations, and engage in active listening to gain insights into the users' experiences.

- Define:

Based on the empathy phase, define the problem statement and the challenges that need to be addressed. Reframe the problem in a user-centric manner to ensure a clear understanding of what needs to be solved.

- Ideate:

Encourage brainstorming sessions with a diverse group of stakeholders to generate a wide range of ideas and potential solutions. There should be no judgment during this phase, and creativity should be fostered to explore unconventional possibilities.

- Prototype:

Select the most promising ideas from the ideation phase and create low-fidelity prototypes or mock-ups of the proposed solutions. Prototyping allows for quick experimentation and feedback gathering from users.

- Test:

Test the prototypes with the target audience to gather feedback and insights. This iterative process helps in refining the solutions and identifying areas for improvement. Keep an open mind to iterate and refine the prototypes as necessary.

- Iterate:

Based on the feedback received during testing, refine the solutions and go back to previous stages if needed. Repeat the ideation, prototyping, and testing until a viable and user-validated solution is achieved.

- Implement:

Once a validated solution is obtained, it is time to implement the final design. This may involve development, production, or deployment, depending on the nature of the solution.

- Evaluate:

After implementation, continuously monitor and evaluate the solution's performance. Collect data and feedback from users to measure its effectiveness and make improvements if necessary.

- Scale:

If the solution proves successful, consider scaling it up to a larger audience or implementing it in other relevant contexts.

3. RESULT

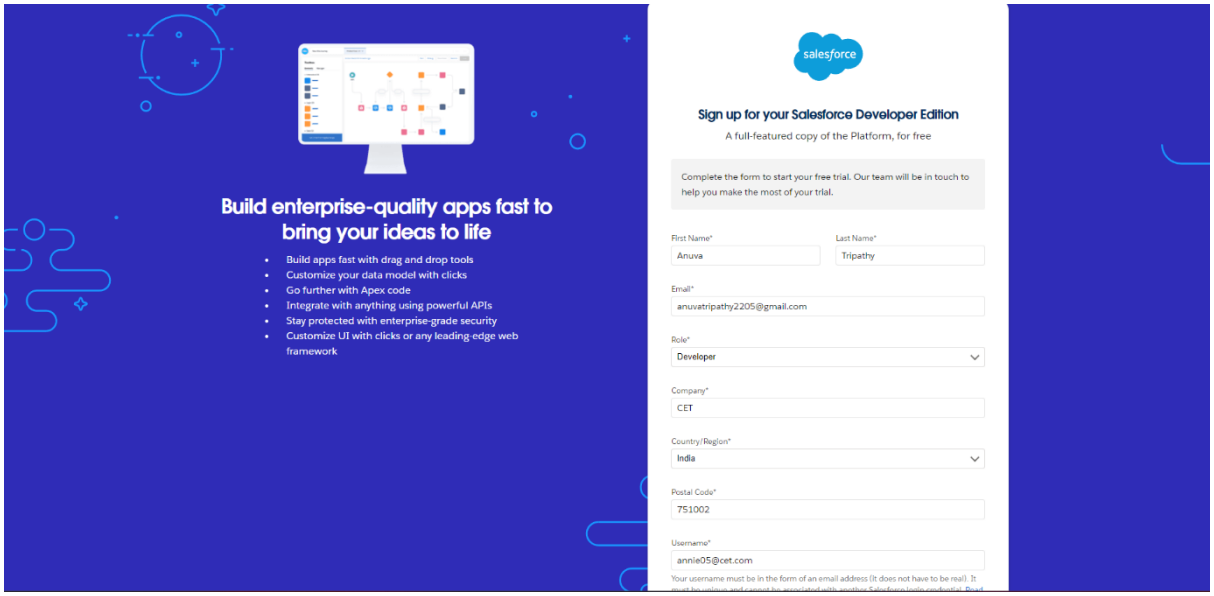
3.1. Data-model:

OBJECT NAME	FIELD LABEL	DATA TYPE
Semester	Semester Name	Text (Standard Field)
	Course	Lookup (Course Details)
Candidate	Candidate Name	Text (Standard Field)
	Candidate Role Number	Auto Number
	Semester Name	Lookup (Semester)
Lecturer Details	Lecturer Name	Text (Standard Field)
	Lecturer Role	Text
	Course	Lookup (Course Details)
Course Details	Course Name	Text (Standard Field)
	Duration	Number
Internal Results	Candidate	Lookup (Candidate)
	Candidate Role Number	Formula
	Course	Lookup (Course Details)
	Marks	Number

3.2. Activity and Screenshot:

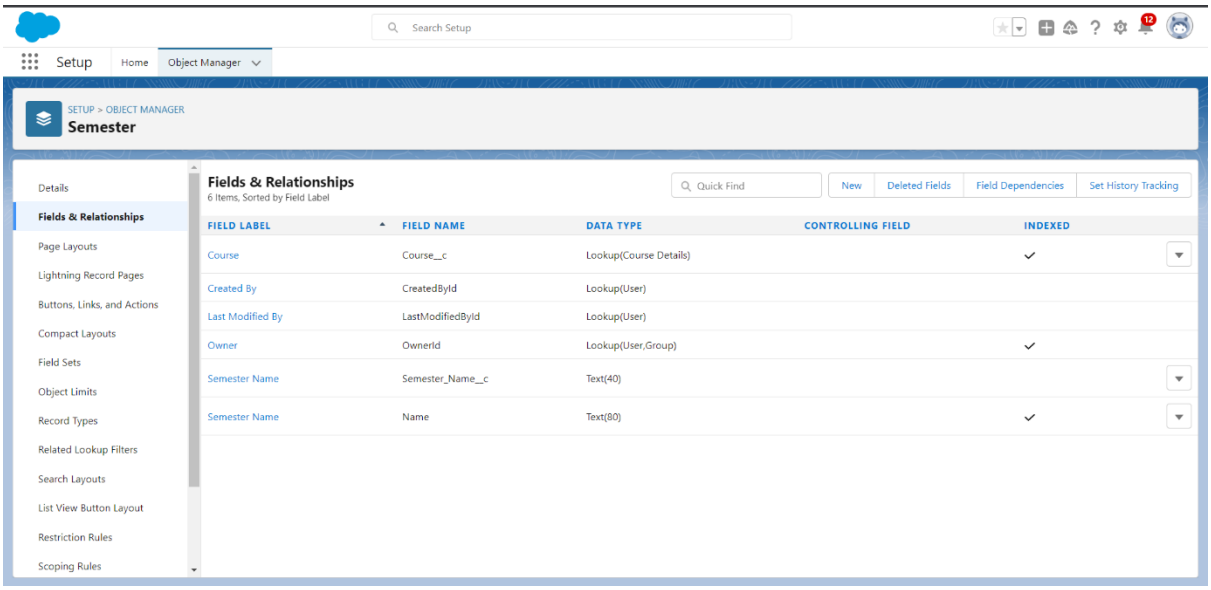
Creation of Developer Account

Created Developer Account using the given Link present in the Developer Edition Link.



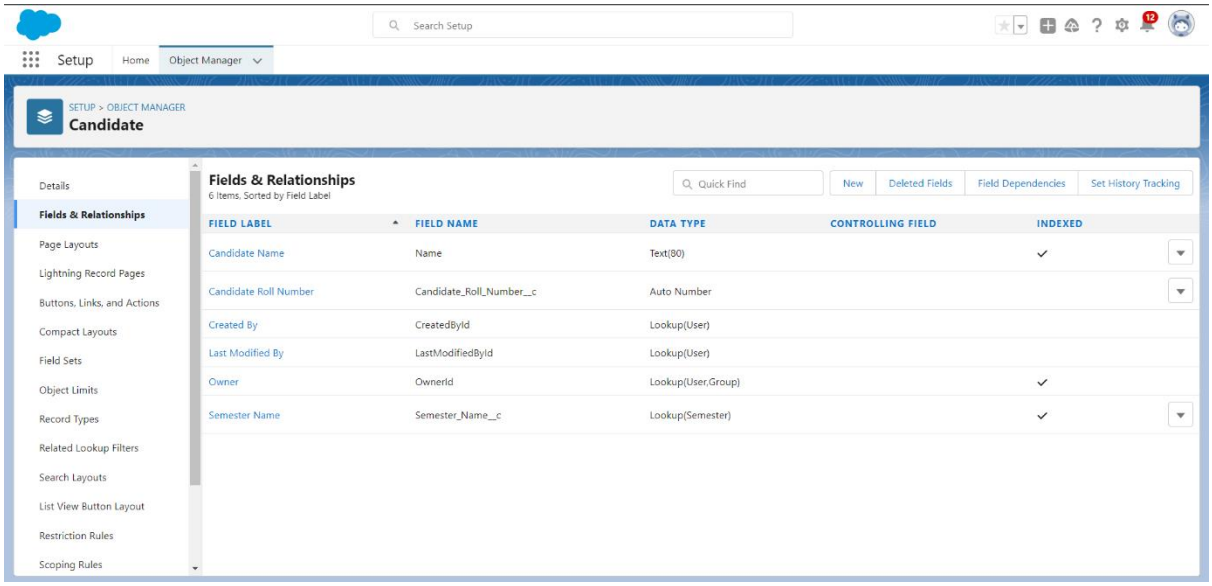
Creation of Semester Object

Created Object named Semester as displayed in below image.



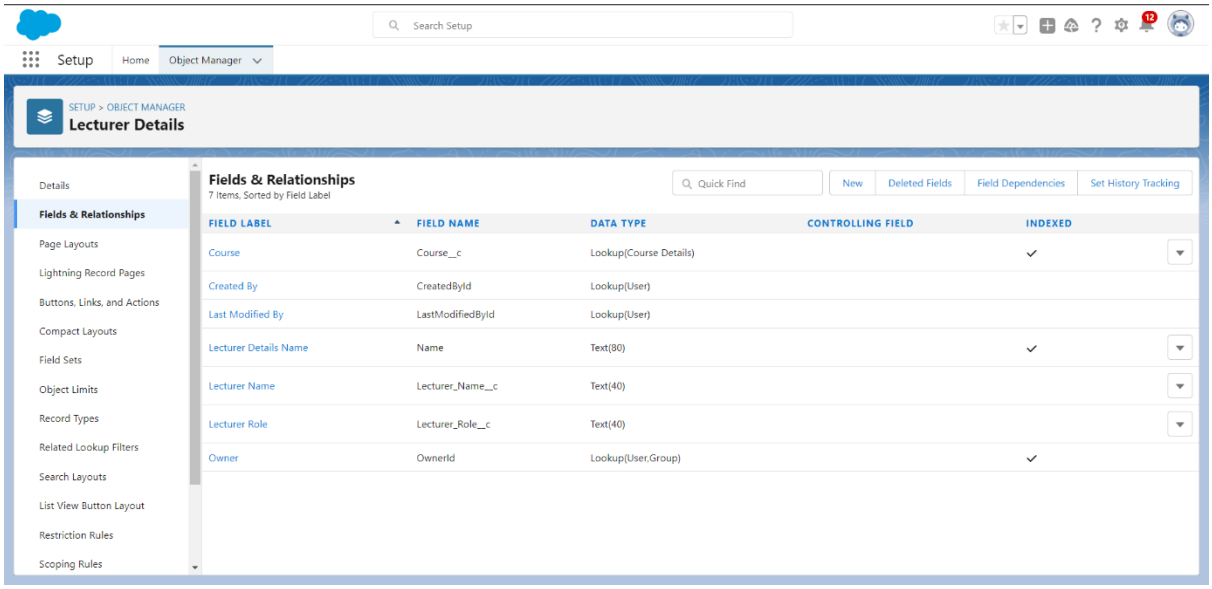
Creation of Candidate Object

Created Object named Candidate as displayed in below image.



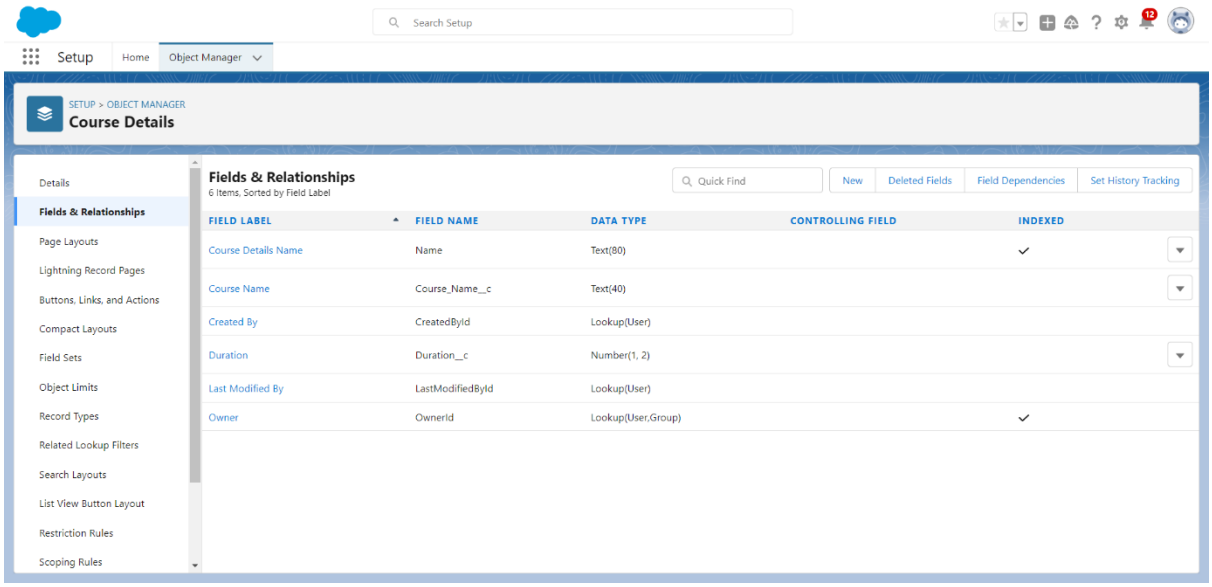
Creation of Lecturer Details Object

Created Object named Lecturer Details as displayed in below image.



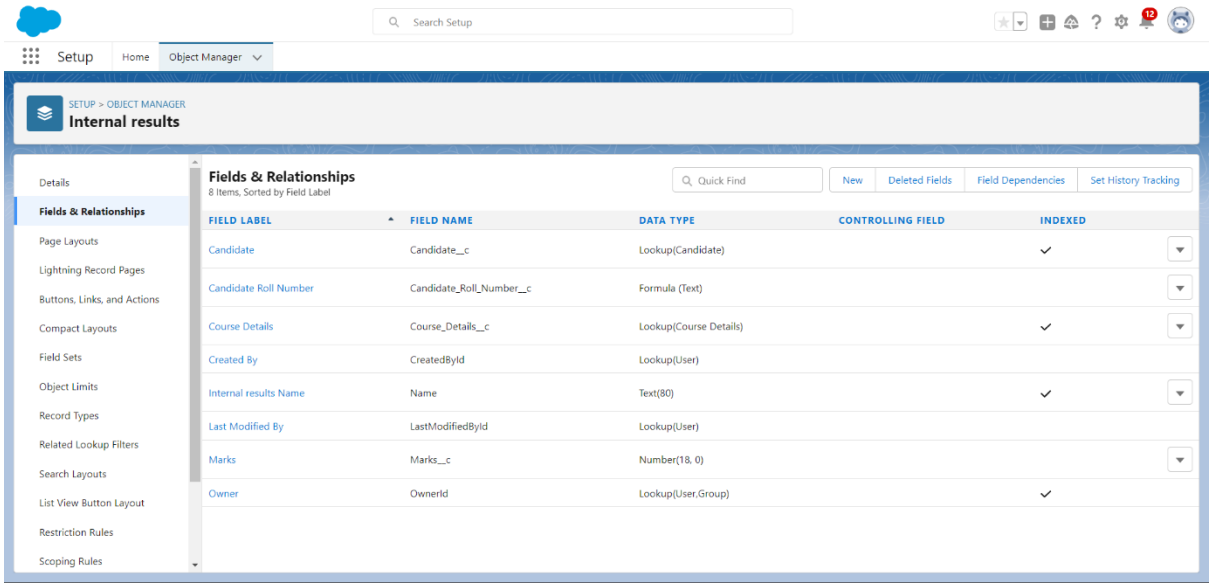
Creation of Course Details Object

Created Object named Course Details as displayed in below image.



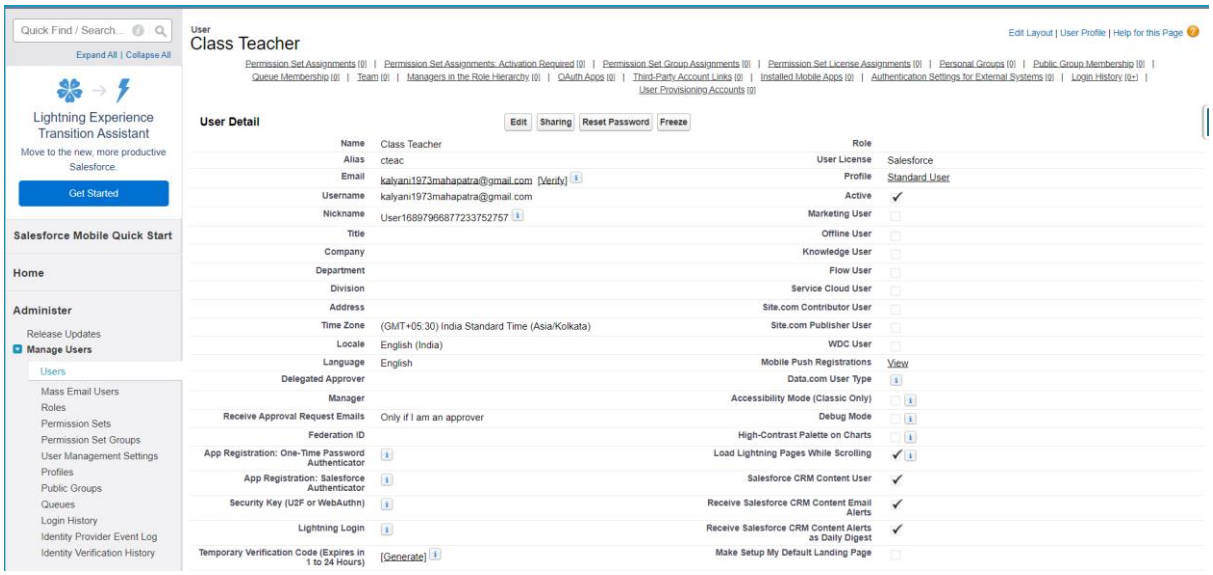
Creation of Internal Results Object

Created Object named Internal Results as displayed in below image.



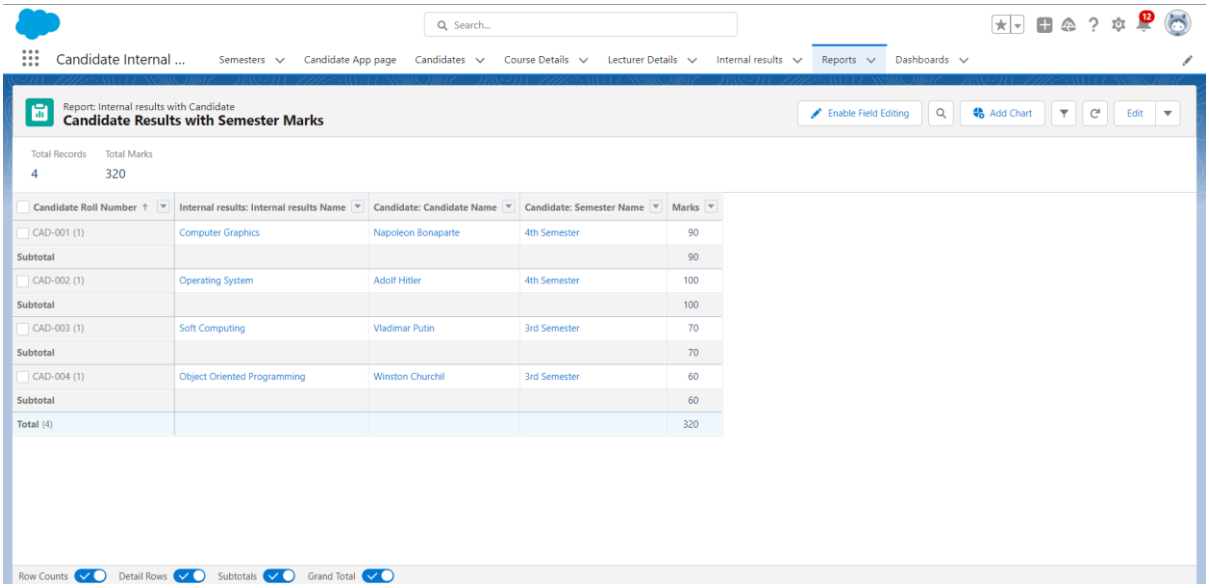
Creation of Lightning App

Created Lightning App Class Teacher as displayed in below image.



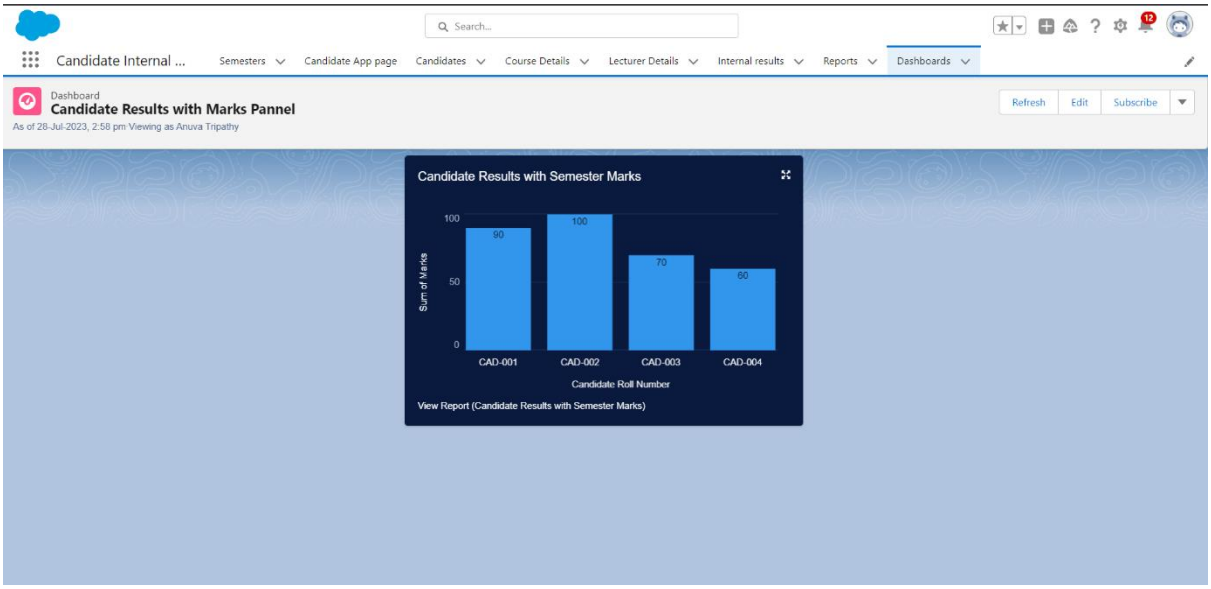
Creation of Report

Created a Candidate Results with Semester Marks report as displayed in below image.



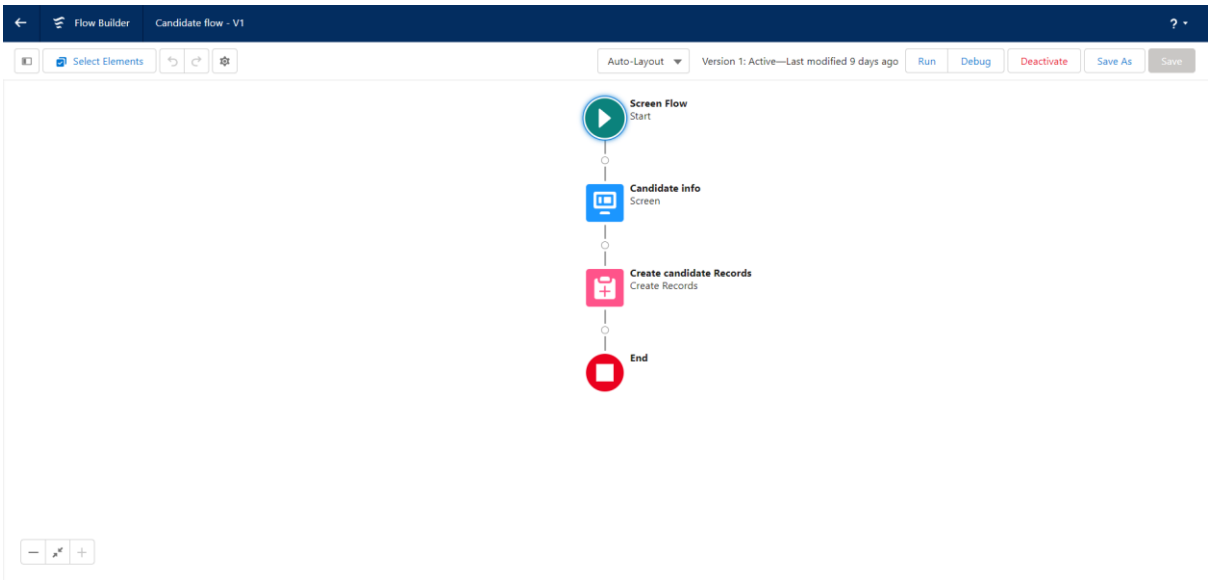
Creation of Dashboards

Created the Dashboard for Candidate Results as displayed in below image.



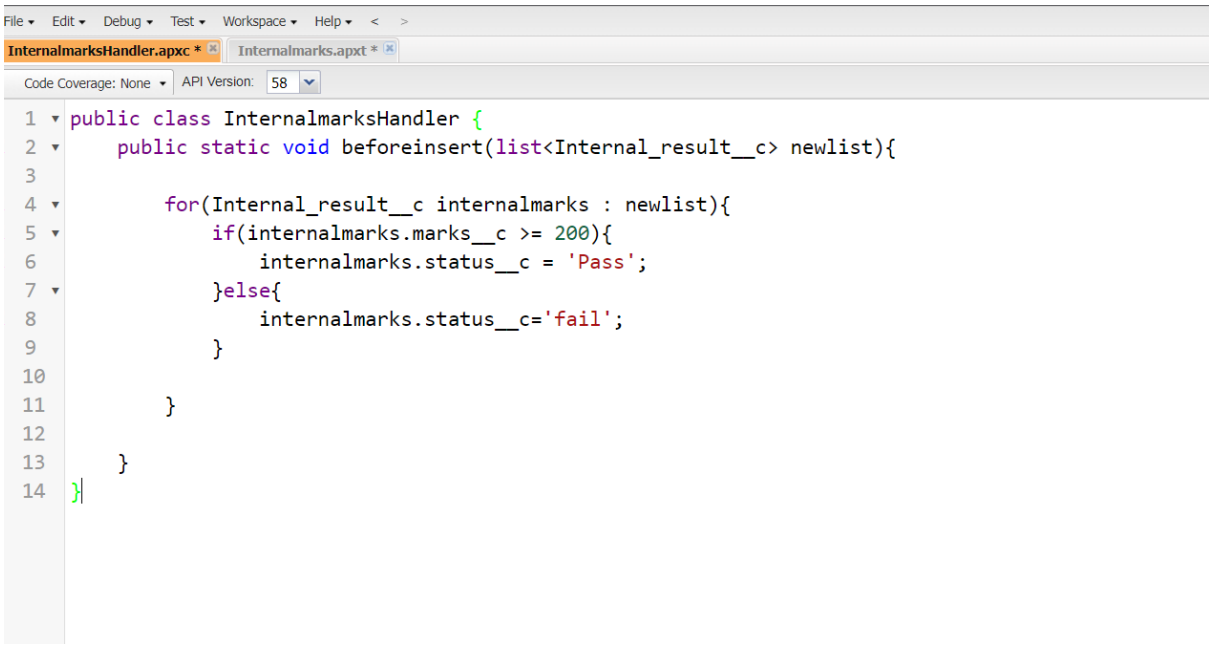
Creation of Flows

Created the Flow Builder with required elements as displayed in below image.



Creation of Trigger

Created the two files of Apex Class and Apex Triggers as displayed in below image respectively.

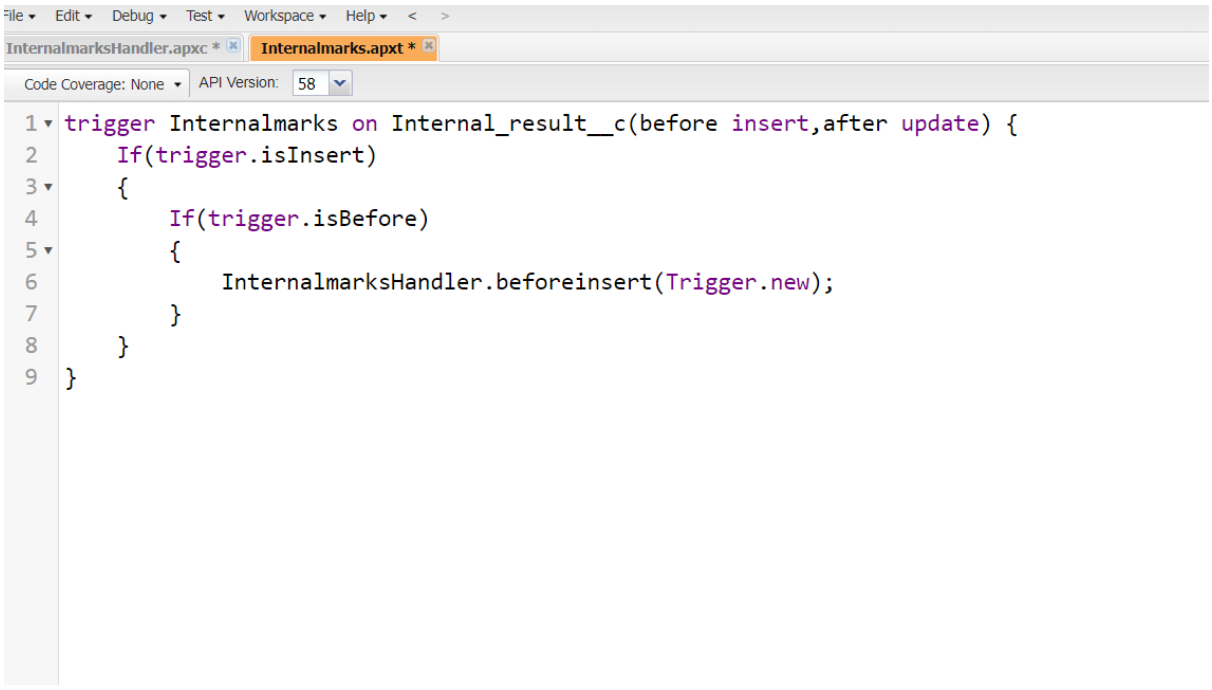


```
public class InternalmarksHandler {
    public static void beforeinsert(list<Internal_result__c> newlist){

        for(Internal_result__c internalmarks : newlist){
            if(internalmarks.marks__c >= 200){
                internalmarks.status__c = 'Pass';
            }else{
                internalmarks.status__c='fail';
            }

        }

    }
}
```



```
trigger Internalmarks on Internal_result__c(before insert,after update) {
    If(trigger.isInsert)
    {
        If(trigger.isBefore)
        {
            InternalmarksHandler.beforeinsert(Trigger.new);
        }
    }
}
```

4. TRAILHEAD PROFILE PUBLIC URL:

My Trailhead profile public URL is:
https://www.salesforce.com/trailblazer/anuvat05

5. ADVANTAGES AND DISADVANTAGES:

Advantages of implementing Result Tracking CRM for educational institutions:

1. **Data Efficient Result Management:** The CRM automates the entire result management process, from exam scheduling to result publication, saving time and effort for staff and ensuring accurate and timely results for students.

2. **Centralized Student Data:** The CRM allows educational institutions to store and manage large amounts of student data in a centralized system. This streamlines data access and updates, making it easier to track academic performance and monitor progress over time.

3. **Improved Reporting and Analysis:** Result Tracking CRM systems often come with built-in reporting and analytics capabilities. This allows educational institutions to generate comprehensive reports on student performance, identifying trends and areas for improvement.

4. **Enhanced Communication:** The CRM facilitates seamless communication between faculty, students, and administrators, fostering a collaborative and supportive learning environment.

5. **Improved Decision-Making:** Access to real-time data and insights empowers administrators and faculty to make informed decisions about curriculum, student support, and institutional strategies.

Disadvantages of implementing Result Tracking CRM for educational institutions:

1. **Integration Challenges:** Integrating the CRM with existing systems, such as the Learning Management System (LMS) or Student Information System (SIS), can be complex and time-consuming. Incompatibility issues may arise, leading to disruptions during the integration process.

2. **Maintenance and Updates:** Ongoing maintenance and updates are necessary to keep the CRM system running smoothly. Regular updates may involve downtime, affecting day-to-day operations.

3. **Staff Resistance:** Introducing a new CRM system may face resistance from some staff members who are accustomed to traditional methods of result tracking. Convincing them to adopt the new system may be a challenge.

4. **Overemphasis on Data:** Relying solely on data-driven decision-making may overlook qualitative aspects of education, such as individual learning styles and non-academic achievements.

5. **Vendor Reliability:** The success of a CRM implementation depends on the reliability and support from the CRM vendor. If the vendor faces financial difficulties or discontinues support, it may pose challenges for the institution.

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6. APPLICATION

Applications of Result Tracking CRM in educational institutions:

1. **Automated Result Management:** The primary application of the CRM is automating the entire result management process. It simplifies the creation of exam schedules, grading, and result publication, reducing manual effort and ensuring accurate and timely results.

2. **Data Analysis and Reporting:** Result Tracking CRM systems often come with built-in reporting and analytics features. Educational institutions can utilize these capabilities to generate comprehensive reports on student performance, analyze trends, and identify areas for improvement.

3. **Student Progress Monitoring:** The CRM allows faculty and administrators to monitor individual student progress over time. They can track academic performance, identify struggling students, and provide personalized support and interventions.

4. **Data Retention and Compliance:** The CRM can be configured to retain student data for specific periods to comply with legal and regulatory requirements related to data retention in the education sector.

5. **Academic Planning and Curriculum Management:** The CRM aids in academic planning, allowing institutions to assess course offerings, manage course enrollment, and optimize curriculum based on student performance data.

7. CONCLUSION

Implementing a Result Tracking CRM in educational institutions offers a wide array of benefits and opportunities for enhancing efficiency, data management, and student support. By automating the result management process, centralizing student data, and providing robust security measures, the CRM streamlines administrative tasks and ensures the accuracy and timeliness of result publication. The system's analytical capabilities enable educators and administrators to gain valuable insights into student performance, identifying areas for improvement and tailoring support to individual needs.

8. FUTURE SCOPE

Some potential future developments and opportunities for Result Tracking CRM:

1. **Personalized Learning Pathways:** With a more comprehensive understanding of individual student strengths and weaknesses, Result Tracking CRM can help tailor personalized learning pathways for each student.

2. **IoT Integration:** The Internet of Things (IoT) can contribute to data collection and analysis. IoT devices within classrooms, such as smart boards and sensors, can capture valuable data that can be integrated into the CRM system for a more comprehensive view of student learning experiences.

3. **Artificial Intelligence (AI) Integration:** AI can play a significant role in data analysis and predictive modeling. By integrating AI capabilities into the CRM, educational institutions can gain deeper insights into student performance trends, early warning systems for at-risk students, and personalized learning recommendations.

4. **Blockchain for Data Security:** Blockchain technology can enhance data security by providing a decentralized and immutable data storage system. This can strengthen data privacy and protection, ensuring student information remains secure from unauthorized access.

5. **Global Collaboration and Benchmarking:** Future CRM systems may facilitate global collaboration among educational institutions, enabling benchmarking of student performance against international standards and best practices.