INTERNSHIP TRACKER – SALESFORCE CRM IMPLEMENTATION

Phase 1: Internship Tracker Project

Project Overview

Industry: Education

Project Type: Salesforce CRM Implementation

Target Users: Placement Officers, Students, Recruiters/Companies

Problem Statement

Universities and training institutes often face difficulties in tracking internship opportunities, student applications, and recruiter interactions. Manual processes using spreadsheets and emails lead to missed deadlines, miscommunication, and poor placement outcomes.

The institute requires a Salesforce-based Internship Tracker to:

- Manage internship postings
- Allow students to apply and track applications
- Enable recruiters to shortlist and finalise candidates
- Provide real-time dashboards for placement officers

Use Cases

- Internship Posting: Recruiters/Placement Officers add opportunities into the system.
- Student Applications: Students apply for available internships and receive notifications.
- Review & Shortlisting: Placement Officers review and forward shortlisted students.
- Recruiter Selection: Recruiters finalise candidates and update statuses.
- Reporting: Placement Officers monitor student applications, recruiter participation, and placement outcomes.

Phase 1: Problem Understanding & Industry Analysis

Step 1: Requirement Gathering

- Identified challenges with manual tracking, missed deadlines, and a lack of transparency.
- Documented the need for an automated Salesforce-based solution.

Step 2: Stakeholder Analysis

Placement Officer: Posts internships, monitors progress, and manages shortlisting.

Students: Apply for internships, receive updates, and track application status. **Recruiters:** Post opportunities, shortlist candidates, and finalise selections.

Step 3: Business Process Mapping

Workflow: Internship Posting \rightarrow Student Applications \rightarrow Review \rightarrow Shortlisting \rightarrow Recruiter Final Selection \rightarrow Reporting.

Step 4: Industry Use Case Analysis

Created a Custom Object (Use Case Analysis) with sample records:

- Universities Challenges: Manual tracking of student progress. Solution: Centralised internship tracker.
- **Recruiters** Challenges: Difficulty in filtering the right students quickly. Solution: System-based shortlisting by skills & criteria.
- EdTech Platforms Challenges: Online internships lack structure & validation. Solution:

Platform-based internship tracking & feedback system.

Step 5: AppExchange Exploration

- Explored AppExchange to identify existing solutions.
- Found Enrollment Rx Core Higher Education CRM and similar education cloud apps.- Gap Identified: Most solutions cover admissions/education management, but not internship-specific tracking.
- Deliverable: Screenshots of AppExchange apps uploaded into Salesforce Files.

Phase 1 Deliverables

- Requirements documented in Notes.
- Stakeholders identified (Placement Officer, Student, Recruiter).
- Internship process mapped in Salesforce.
- Custom Object records created for Industry Use Cases.
- AppExchange exploration screenshots uploaded to Salesforce Files.

Phase 2: Org Setup & Configuration

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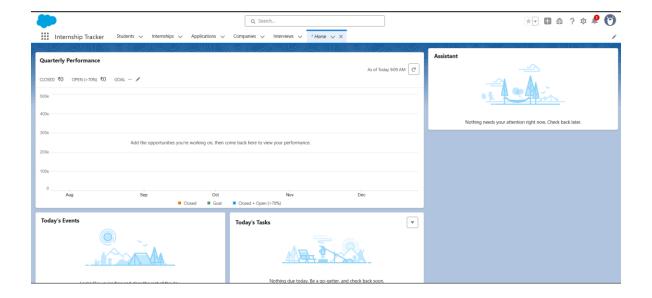
1. Objective

The objective of Phase 2 is to set up and configure the Salesforce Developer Org for the Internship Tracker project. This ensures that all organization details, user roles, profiles, permissions, and sharing models are aligned with the university placement process.

2. Salesforce Edition

A Salesforce Developer Org was chosen for implementation. This environment provides:

- All core functionalities required for CRM customization
- Development, testing, and deployment capabilities
- Free lifetime access, suitable for academic/portfolio projects



3. Company Profile Setup

Configured details in Company Information:

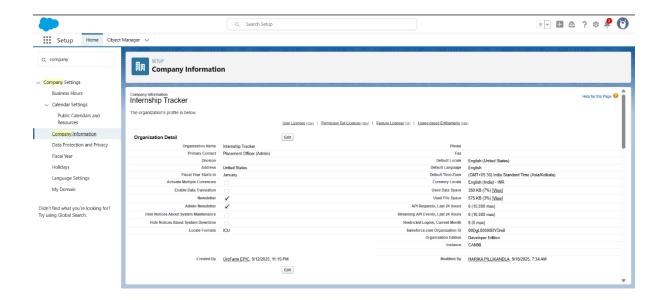
• Organization Name: University/Institute Name

• Default Time Zone: Local time zone

• Language: English (or chosen language)

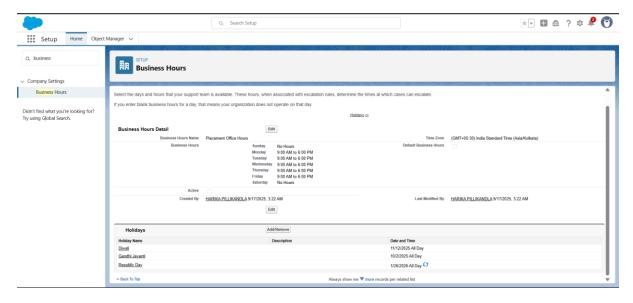
• Currency: INR (or USD depending on use case)

• Fiscal Year: Configured as academic cycle-based



4. Business Hours & Holidays

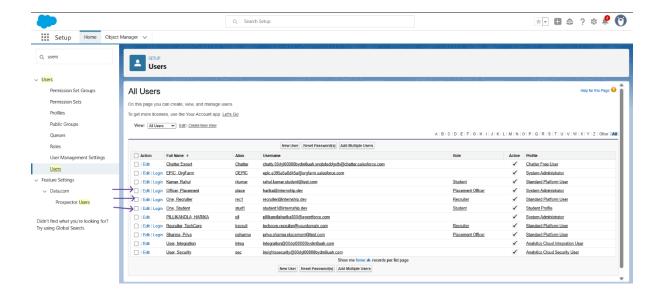
- Defined Business Hours: Mon–Fri, 9 AM 5 PM
- Added Holidays: University holidays, exam breaks, public holidays



5. User Setup

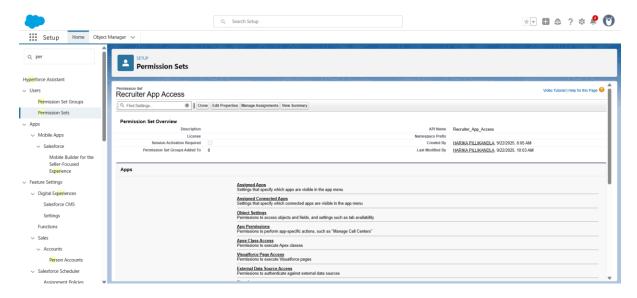
Created users to represent stakeholders:

- **Placement Officer** Admin privileges
- Students Limited access, can apply & view own records
- **Recruiters** External access for posting internships & reviewing applications



6. Profiles & Permission Sets

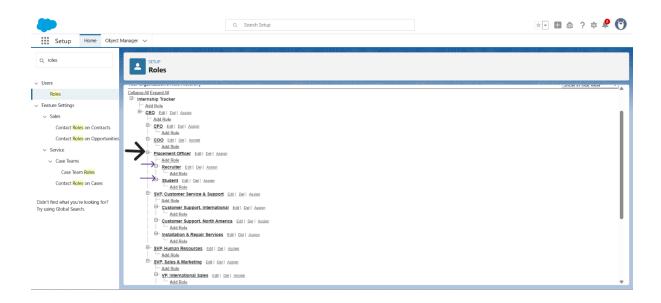
- Profiles: Defined baseline access for Students, Recruiters, Placement Officer
- Permission Sets: Used for special access (like Reports/Dashboards)



7. Roles

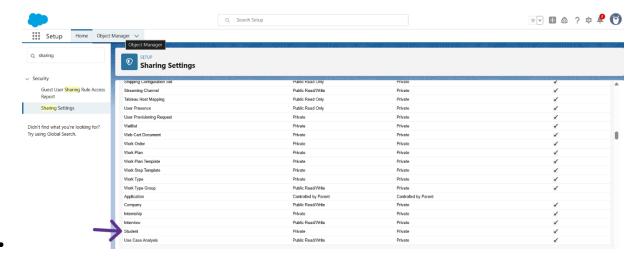
Created a Role Hierarchy:

- Placement Officer Top level (full access)
- Students Below officer (limited access)
- **Recruiters** Parallel to students (independent access)



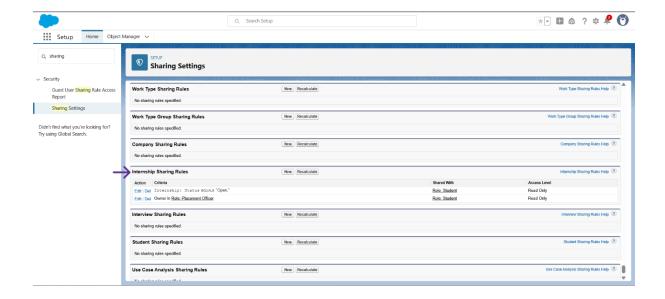
8. Organization-Wide Defaults (OWD) & Sharing Rules

- OWD set to:
 - o Students → Private (can only see their own applications)
 - Placement Officer → Full access via role hierarchy
- Sharing rules allow Recruiters to view relevant Internship records



9. Sandbox & Deployment Basics

- Created a Sandbox for testing customizations safely
- Planned to use Change Sets to migrate from Sandbox to Production



10. Outcomes

At the end of Phase 2:

- A secure Salesforce environment was established
- Clear role hierarchy between Placement Officer, Students, and Recruiters
- OWD and sharing ensured data privacy while supporting collaboration
- Foundation ready for Phase 3 (Data Modeling)

11. Deliverables

- Phase 2 Documentation (this file)
- Configured Salesforce Org with:
 - o Users, Roles, and Profiles
 - o OWD & Sharing Rules
 - o Business Hours & Holidays
- Sandbox ready for development

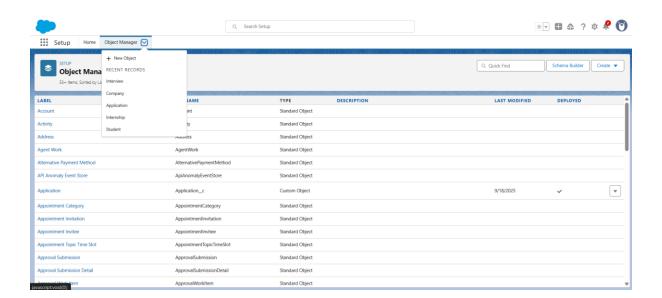
Phase 3 – Data Modeling & Relationships Requirements

1. Custom Objects

You need to create and document the following objects:

- **Student** stores student details (name, contact info, skills, etc.)
- Company stores recruiter/company details
- **Internship** stores internship details (role, stipend, skills required, status)
- **Application** stores student applications to internships
- Interview junction object linking Student and Company for interviews

Requirement: Each object must include all necessary fields relevant to the workflow.



2. Fields & Relationships

For each object, you must define relevant fields. Examples:

Object Key Fields

Student Name, Email, Contact, Skills, GPA, Application

Lookup

Company Name, Contact Person, Email, Industry

Internship Role, Skills Required, Stipend, Status

(Open/Closed), Record Type

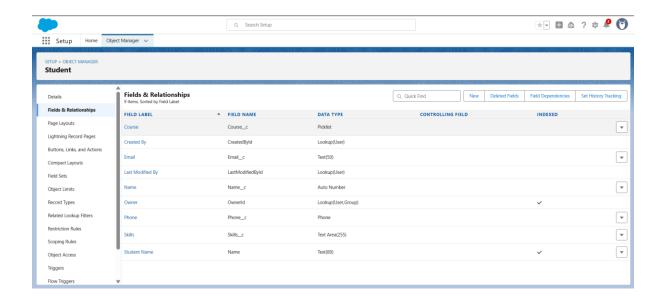
Application Student Lookup, Internship Lookup, Status,

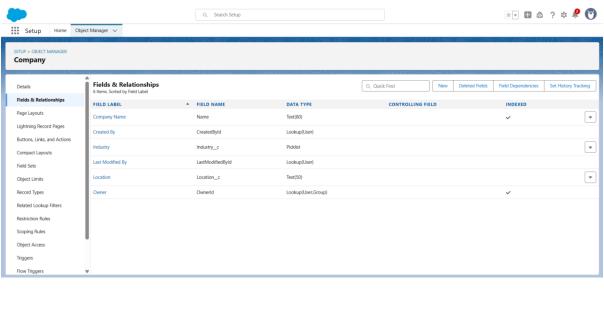
Applied Date

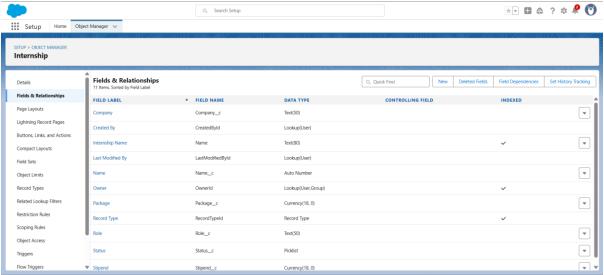
Interview Student Lookup, Company Lookup, Interview

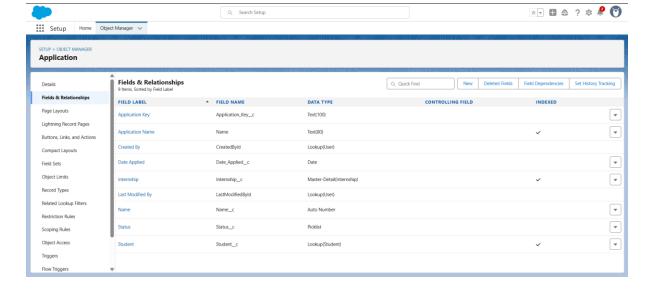
Date, Feedback

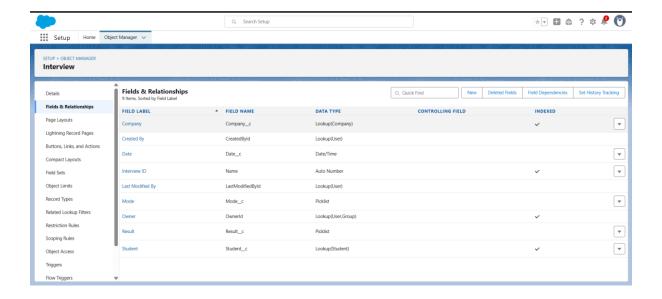
Requirement: Include field type, required/not required, and relationships.





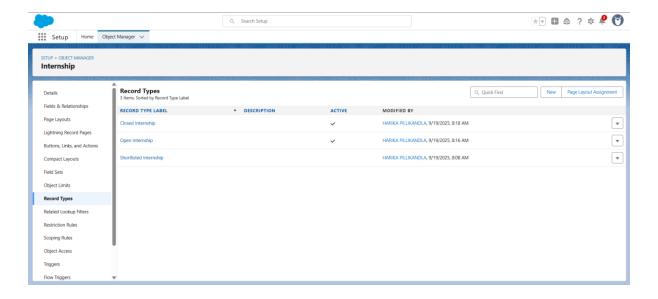






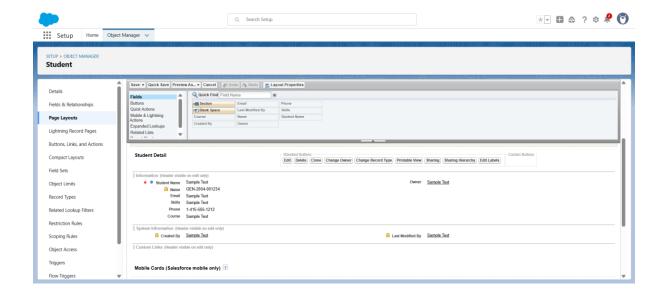
3. Record Types

- Internship object must have record types: Open, Closed, Shortlisted
- Requirement: Show record type setup for workflows and approval automation.



4. Page Layouts

- Student Layout Fields for Placement Officers to view applications
- Internship Layout Fields for Recruiters/Officers to view internship info
- Requirement: Include screenshots showing fields arrangement and sections.

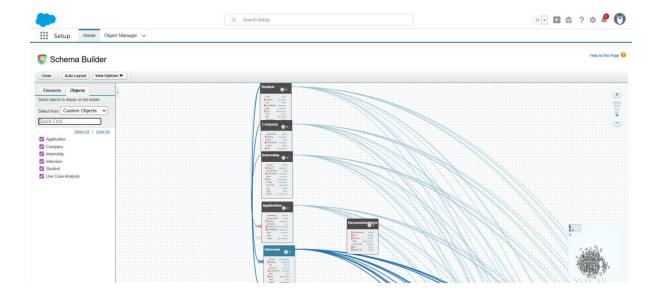


5. Relationships

Define object relationships:

- Lookup Relationship: Student → Application
- Master-Detail Relationship: Application → Internship
- Junction Object: Interview links Student and Company

Requirement: Show relationships in Schema Builder with all relevant objects.



6. Schema Builder

- Requirement: Create a visual diagram showing all objects and their relationships.
- Include all fields and relationships, and show junction objects.

7. Validation & Rules (Optional)

- Include any unique fields, lookup validations related to the data model.
- **Example**: Prevent duplicate applications using unique Student–Internship combination.

8. Deliverables

- 1. Custom Objects List of objects and their purpose
- 2. **Fields** Key fields for each object
- 3. Record Types Setup for Internship object
- 4. Page Layouts Screenshots of Student & Internship layouts
- 5. Relationships Schema Builder diagram
- 6. **Optional:** Notes on validation rules, field-level security

Phase 4: Process Automation (Admin Tools)

Purpose

This phase focuses on automating key business processes using declarative (admin-friendly) tools in Salesforce. The goal is to reduce manual effort, enforce data integrity, and ensure timely communication between students, recruiters, and placement officers.

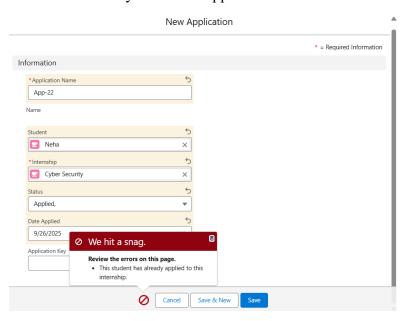
Key Components

- Validation Rules
- Workflow Rules
- Process Builder
- Approval Processes
- Record-Triggered Flows
- Email Alerts & Custom Notifications

Implementation Steps

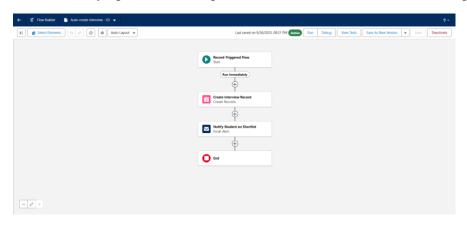
1. Validation Rules

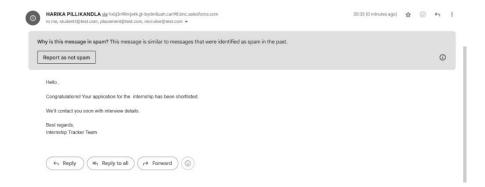
- Prevent duplicate applications by checking if a student has already applied to the same internship.
- o Ensure stipend is greater than zero for paid internships.
- o Validate mandatory fields like application date and student email.



2. Workflow Rules

- o Trigger email alerts to recruiters when a new internship is posted.
- o Automatically update internship status to "Closed" when the end date passes.





3. Process Builder

- o Auto-update application status to "Under Review" when a student applies.
- Set internship status to "Filled" when maximum applications are reached.

4. Approval Process

- Officer. Applications with stipend > ₹50,000 require approval from the Internship
- o Includes initial submission, approval/rejection steps, and final status update.

5. Record-Triggered Flow

- o Auto-create Interview_c record when Application_c status changes to "Shortlisted".
- Send email to student with interview details.

6. Email Alerts & Notifications

- Notify students when their application is approved or rejected.
- Alert Internship Officer when new high-value applications are submitted.

- Reduces manual tracking and errors.
- Ensures consistent data entry and validation.
- Improves communication and transparency.
- Enhances user experience with timely updates.

Phase 5: Apex Programming (Developer Tools)

Purpose

This phase introduces custom backend logic using Apex to handle complex scenarios that cannot be achieved through declarative tools. It ensures scalability, performance, and precise control over data operations.

Key Components

- Apex Classes
- Triggers
- SOQL/SOSL Queries
- Collections
- Batch, Queueable, and Scheduled Apex
- Exception Handling & Test Coverage

Implementation Steps

1. Apex Classes

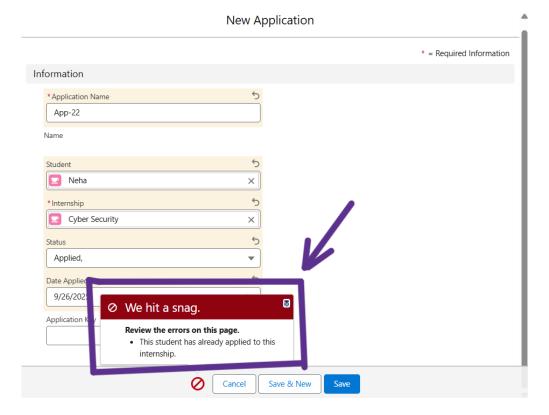
- ApplicationManager: Handles application logic like filtering and reporting.
- o PlacementReportGenerator: Generates placement statistics.

2. Apex Trigger

- o Prevents duplicate student applications using composite key logic.
- o Trigger Code:

```
trigger PreventDuplicateApplications on Application__c (before insert) {
    Set<String> studentInternshipPairs = new Set<String>();
    for (Application__c app : Trigger.new) {
        if (app.Student__c != null && app.Internship__c != null) {
            String key = app.Student__c + '-' + app.Internship__c;
            studentInternshipPairs.add(key);
        }
    }
    List<Application c> existingApps = [
```

```
SELECT Id, Student c, Internship c
               FROM Application c
               WHERE Student c IN :studentInternshipPairs
            ];
            for (Application c app : Trigger.new) {
               String key = app. Student c + '-' + app. Internship c;
               if (existingApps.anyMatch(e => e.Student_c + '-' + e.Internship_c ==
         key)) {
                  app.addError('This student has already applied to this internship.');
               }
File • Edit • Debug • Test • Workspace • Help • <
PreventDuplicateApplications.apxt ×
  Code Coverage: None 🕶 API Version: 64 💌
  1 * trigger PreventDuplicateApplications on Application_c (before insert) {
         Set<String> comboKeys = new Set<String>();
 3 ▼
         for (Application__c app : Trigger.new) {
 4 •
             if (app.Student__c != null && app.Internship__c != null) {
                 comboKeys.add(app.Student__c + '-' + app.Internship__c);
  5
         }
  8
  9 🔻
         List<Application__c> existingApps = [
             SELECT Student_c, Internship_c FROM Application_c
  10
  11
             WHERE Student_c != null AND Internship_c != null
 12
 13
  14
         Set<String> existingKeys = new Set<String>();
 15 ▼
         for (Application__c app : existingApps) {
             existingKeys.add(app.Student_c + '-' + app.Internship_c);
 16
  17
 18
 19 ▼
         for (Application_c app : Trigger.new) {
  20
             String key = app.Student__c + '-' + app.Internship__c;
             if (existingKeys.contains(key)) {
 21 🔻
 22
                 app.addError('This student has already applied to this internship.');
  23
 24
         }
 25 }
```



1. Collections

- Use Lists to store shortlisted students.
- Use Maps to group applications by internship ID.

2. Batch & Queueable Apex

- o Batch job to update internship status nightly.
- o Queueable job to sync recruiter data from external system.

3. Scheduled Apex

o Run nightly job to check for expired internships and update status.

4. Exception Handling & Test Coverage

- Use try-catch blocks to handle null pointer or DML exceptions.
- Write test classes with 75%+ coverage for all triggers and classes.

- Enables advanced logic and automation.
- Improves data accuracy and performance.
- Supports bulk operations and async processing.

• Ensures reliability through robust testing.

Phase 6: User Interface Development

Purpose

This phase focuses on building a clean, intuitive, and role-based user interface using Lightning App Builder and custom components. The goal is to ensure that students, recruiters, and internship officers can interact with the system efficiently and enjoyably.

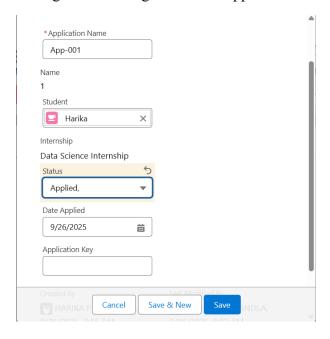
Key Components

- Lightning App Builder
- Custom Record Pages
- Tabs and Utility Bar
- Lightning Web Components (LWC)
- Wire Adapters and Imperative Apex
- Navigation Service

Implementation Steps

1. Lightning App Builder

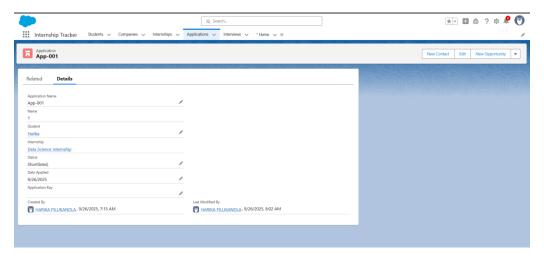
- o Created a custom app named Internship Tracker.
- o Added tabs for Students, Internships, Applications, and Interviews.
- o Configured branding and set the app as default for relevant profiles.



2. Custom Record Pages

o Designed record pages for Student c, Internship c, and Application c.

- o Included related lists, quick actions, and highlight panels.
- o Used dynamic visibility rules to show/hide components based on user role.



3. Tabs and Utility Bar

- o Tabs: Added navigation for each object and dashboard.
- Utility Bar: Included a Notifications tab and a Quick Dashboard tab for real-time insights.

4. Lightning Web Components

- Upcoming Interviews Component: Displays interviews scheduled for the logged-in student.
- Internship Summary Card: Shows internship details and application count for recruiters.

5. Wire Adapters and Imperative Apex

- o Used @wire to fetch internship data based on filters (e.g., location, stipend).
- Used imperative Apex to fetch student applications on button click for recruiters.

6. Navigation Service

- Implemented navigation from dashboard to specific internship records.
- Redirected users to Application c record after successful submission.

- Provides a modern, responsive UI tailored to each user role.
- Improves usability and reduces training time.
- Enhances visibility into key data like interviews and application status.

Phase 7: Integration & External Access

Purpose

This phase connects Salesforce with external systems to simulate real-world integrations. It enables secure data exchange, real-time updates, and external access for recruiters—all while maintaining platform security and scalability.

Key Components

- Named Credentials & External Services
- REST Callouts
- Platform Events & Change Data Capture (CDC)
- Salesforce Connect
- OAuth Authentication

Implementation Steps

1. Named Credentials & External Services

- o Created a Named Credential for a mock recruiter API.
- o Configured authentication type (e.g., OAuth 2.0 or Password).
- o Used External Services to define schema and auto-generate Apex actions.

2. REST Callouts

- o Developed Apex class to perform GET callout to fetch recruiter details.
- o POST callout used to send selected student data to external HR system.
- o Handled response parsing and error logging.

3. Platform Events & CDC

- o Defined a Platform Event: InternshipStatusChanged e.
- o Published event when internship status changes to "Filled".
- o Subscribed to student record changes using CDC to trigger notifications.

4. Salesforce Connect

- o Linked to an external student database using OData.
- o Displayed external student records in a related list on Student c page.
- Enabled read-only access for recruiters to view external profiles.

5. OAuth Authentication

- Enabled secure login for recruiters via OAuth flow.
- Configured connected app with scopes and callback URL.
- Stored access tokens securely and refreshed them as needed.

- Enables seamless integration with external systems.
- Supports real-time updates and event-driven architecture.
- Provides secure access for external users like recruiters.
- Demonstrates enterprise-grade connectivity and scalability.

Phase 8: Reports & Dashboards

Purpose

This phase ensures that your system is populated with accurate data, protected against duplication, and ready for deployment. It also introduces version control and packaging strategies to support scalability and portability.

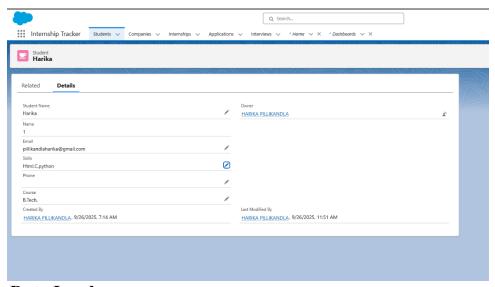
Key Components

- Data Import Wizard & Data Loader
- Duplicate Rules
- Data Export & Backup
- Change Sets
- Managed vs Unmanaged Packages
- VS Code & SFDX Setup

Implementation Steps

1. UI-Based Data Input

- Student__c and Internship__c records were created directly through the Salesforce UI to ensure clean and controlled demo data.
- Key fields like Name, Email, Skills, Stipend, and Location were manually populated for each record.
- This approach supports testing of validation rules, duplicate prevention, and reporting accuracy without relying on CSV imports.



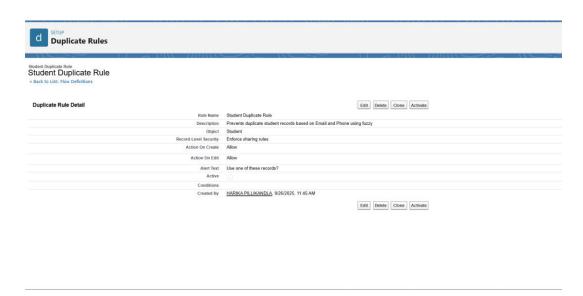
2. Data Loader

o Used for bulk import of Application c and Interview c records.

- Ensured CSV files were clean and matched field API names.
- o Logged success and error files for audit.

3. Duplicate Rules

- Created rules for Student_c to prevent duplicate entries based on Email and Phone.
- o Enabled fuzzy matching and alert messages.
- o Tested by attempting to insert duplicate records manually.



4. Data Export

- o Scheduled weekly export of internship and application data.
- o Enabled backup retention for audit and rollback purposes.

5. Change Sets

- o Created outbound change sets for:
 - Validation Rules
 - Flows and Approval Processes
 - Apex Classes and Triggers
- o Uploaded to target sandbox and deployed after testing.

6. Managed vs Unmanaged Packages

o Used Unmanaged Package for internal deployment and demo.

 Documented steps to convert to Managed Package for AppExchange readiness.

7. VS Code & SFDX

- Set up VS Code with Salesforce Extension Pack.
- Created scratch orgs for isolated testing.
- Used SFDX commands for metadata pull, push, and version control.

- Ensures clean, reliable data for demo and production.
- Prevents duplication and maintains data integrity.
- Supports scalable deployment and version control.
- Demonstrates professional-grade development practices.

Phase 9: Reporting, Dashboards & Security Review

Purpose

This phase focuses on visualizing key metrics and securing sensitive data. It empowers stakeholders with insights while ensuring compliance and controlled access.

Key Components

- Custom Reports
- Dashboards
- Field-Level Security
- Sharing Rules
- Audit Trail
- Login IP Ranges

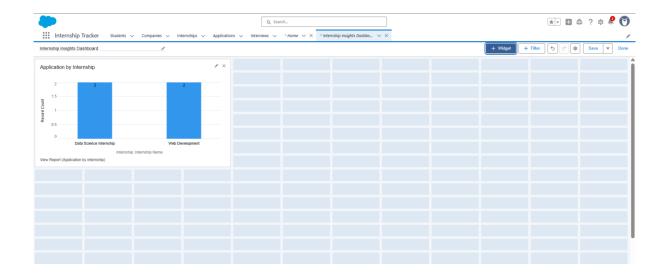
Implementation Steps

1. Reports

- o Created reports for:
 - Applications by Internship
 - Recruiter Participation
 - Placement Success Rate
- Used filters, groupings, and summary formulas.
- o Exported reports for documentation and review.

2. Dashboards

- Designed Internship Overview Dashboard:
 - Pie chart: Filled vs Open Internships
 - Bar chart: Applications per Internship
 - Table: Top-performing students
- Created Student Dashboard
- Application status breakdown
- Upcoming interviews
- o Approval status



3. Field-Level Security

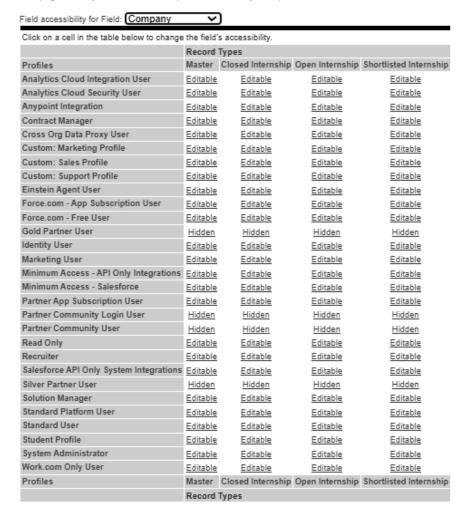
- o Restricted visibility of sensitive fields like Stipend and Interview Feedback.
- o Configured profiles for Students, Recruiters, and Officers.
- Verified access using "View Field Accessibility".

Field Accessibility

Internship

« Back to Custom Object: Internship

This page allows you to view Internship field accessibility for a particular field



4. Sharing Rules

- Internship c: Shared with Recruiters based on criteria (e.g., Location).
- Application c: Shared with Internship Officers only.
- Used role hierarchy and manual sharing for exceptions.

5. Audit Trail

- Enabled field history tracking for key objects.
- Reviewed Setup Audit Trail for configuration changes.

6. Login IP Ranges

Restricted recruiter access to trusted IP ranges.

• Configured in profile settings to prevent unauthorized access.

- Provides actionable insights for decision-making.
- Enhances transparency and performance tracking.
- Protects sensitive data and enforces access control.
- Demonstrates enterprise-level security and governance.

Phase 10: Final Presentation & Demo Day

Purpose

This phase wraps up the project with a professional showcase. It highlights the problem-solving journey, demonstrates the working solution, and prepares handoff materials for future use or portfolio display.

Key Components

- Pitch Presentation
- Live Demo Walkthrough
- Feedback Collection
- Handoff Documentation
- Portfolio Showcase

Implementation Steps

1. Pitch Presentation

- o Slide 1: Problem Statement Manual internship tracking is inefficient.
- Slide 2: Solution Overview Automated, scalable Salesforce app.
- Slide 3: Impact Reduced admin effort, improved placement visibility.

2. Live Demo Walkthrough

- \circ Student applies \rightarrow Validation triggers \rightarrow Interview auto-created.
- o Recruiter selects student → Dashboard updates → Approval process triggered.
- o Show dashboards, flows, and LWC components in action.

3. Feedback Collection

- o Created Google Form or Salesforce Survey.
- o Included rating scale, comments, and suggestions.
- o Shared with mentors and stakeholders post-demo.

4. Handoff Documentation

- Included:
- o ERD diagram showing object relationships.
- Flow diagrams for automation logic.

- o Setup guide for deployment and testing.
- o Apex trigger and test class documentation.

5. Portfolio Showcase

- Published demo video on LinkedIn.
- Added screenshots and highlights to personal website or resume.
- Included GitHub repo or unmanaged package link (optional).

- Demonstrates end-to-end solution with real-world relevance.
- Builds confidence and credibility with stakeholders.
- Provides reusable assets for future projects or job interviews.
- Celebrates your achievement and technical growth.