

Phase 7 Report

Integration & External Access

Project: College Placement & Internship Management System

Batch: 4

Program: TCS Last Mile SmartBridge

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1. Introduction

Phase 7 focuses on integrating Salesforce with external systems for secure data access and API communication. This allows Students, Recruiters, and Placement Officers to access real-time data, fetch external resources, and automate notifications.

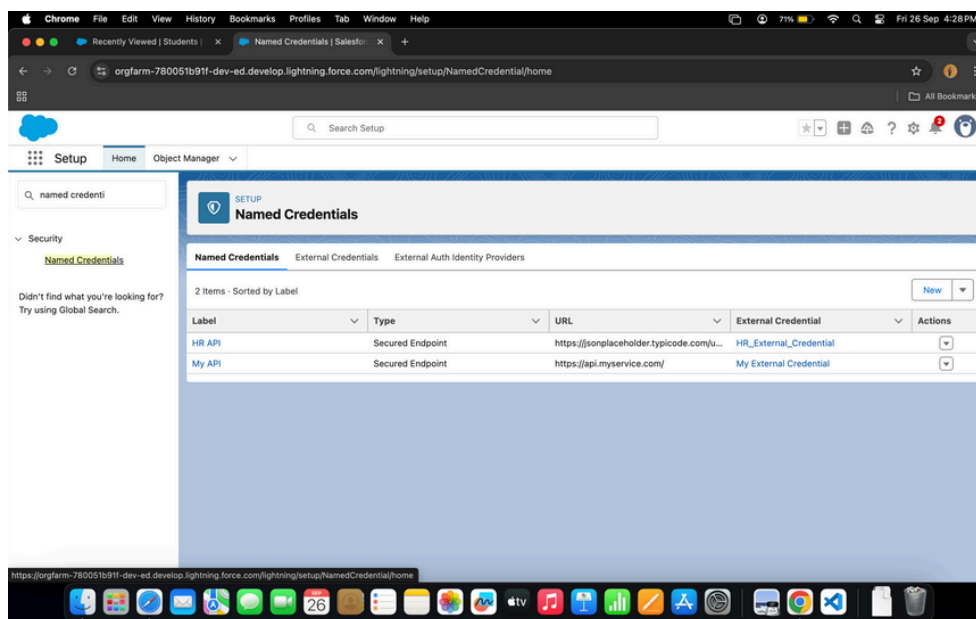
2. Objectives

- Configure Named Credentials for secure external API access.
- Implement REST/SOAP API callouts to fetch or send data.
- Enable Platform Events and Change Data Capture for real-time updates.
- Create External Services connections for third-party integrations.
- Ensure secure authentication using OAuth and Remote Site Settings.

3. Steps Performed

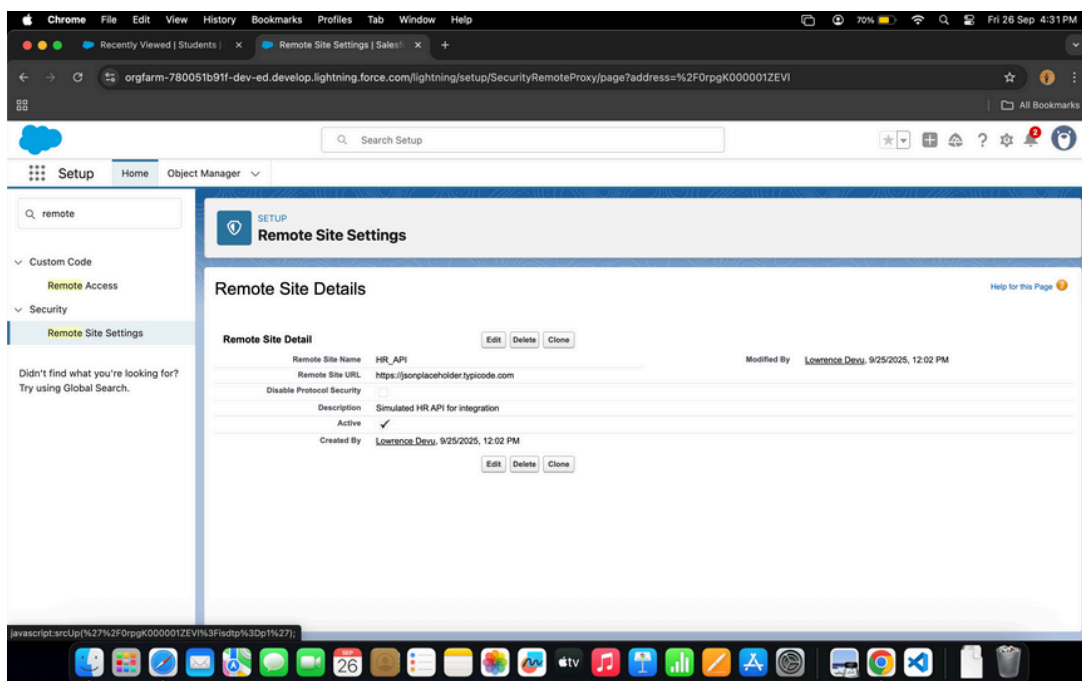
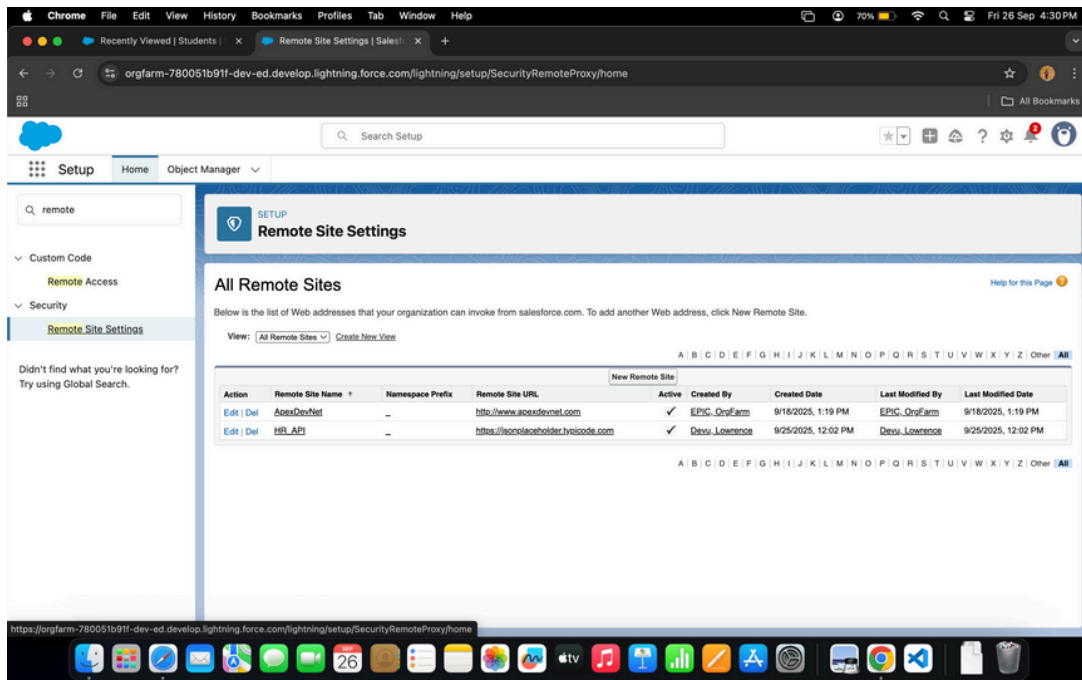
3.1 Named Credentials

- Created Named Credentials for external HR API to fetch company and job data.
- Configured authentication using OAuth 2.0 with token refresh.



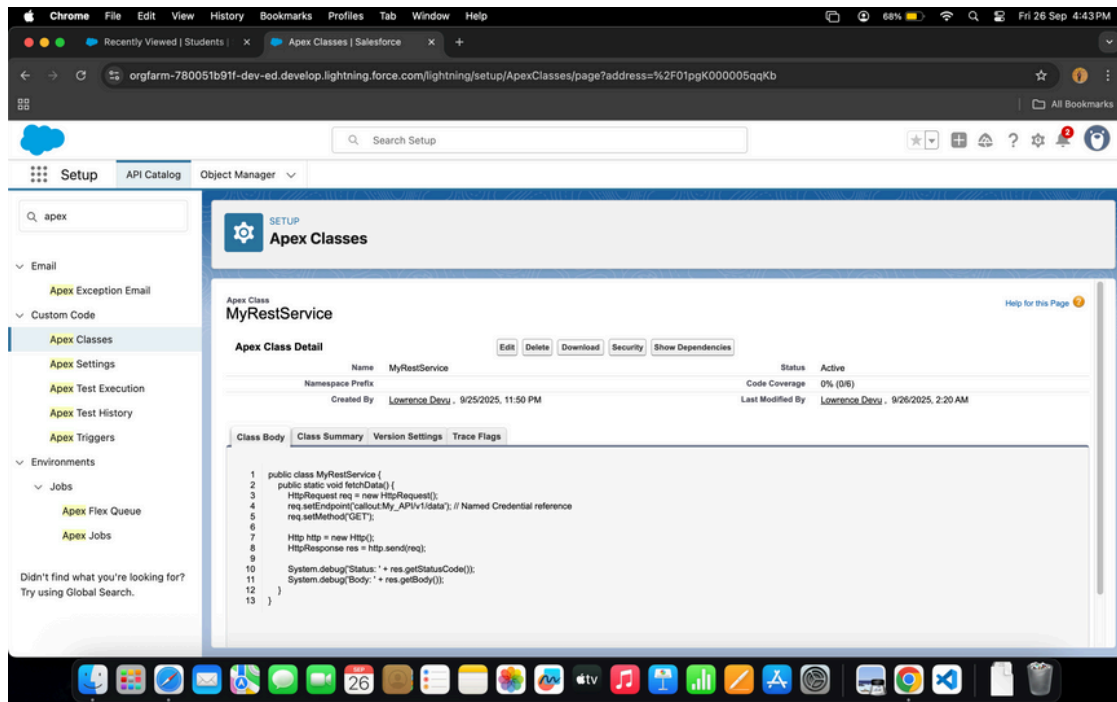
3.2 Remote Site Settings

- Added external endpoints in Remote Site Settings to allow Apex callouts.
- Verified that callouts were permitted for production and sandbox environments.



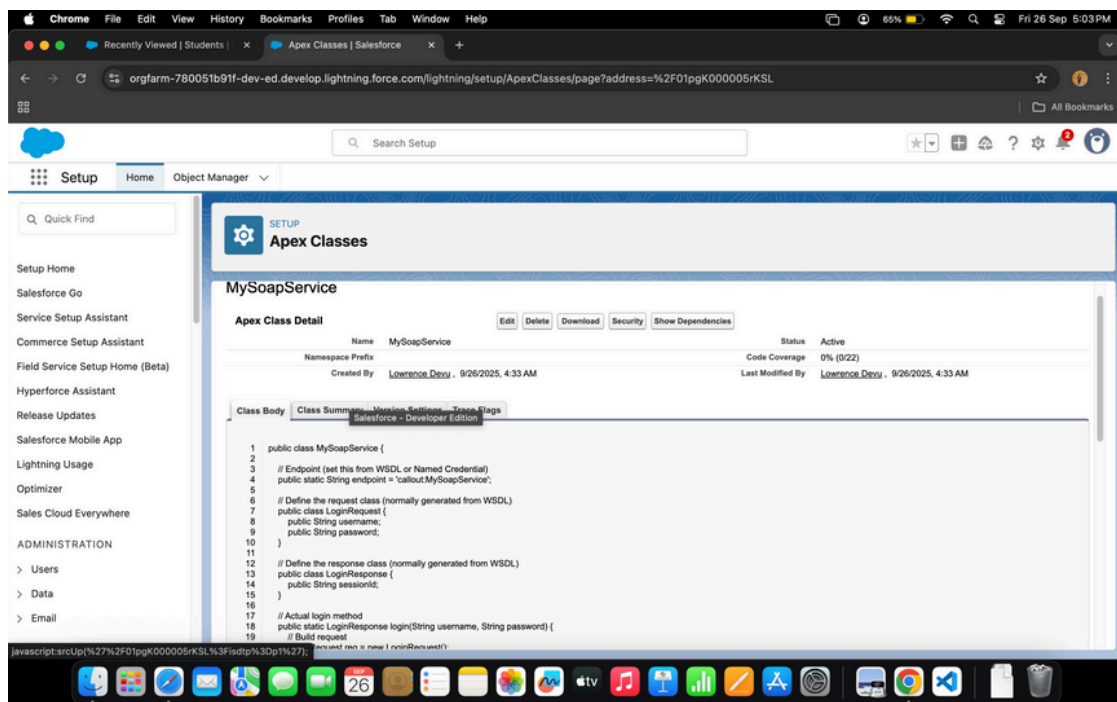
3.3 REST API Callouts

- Created Apex class to fetch job postings from external HR system.
- Parsed JSON response and mapped to Job Posting records in Salesforce.
- Ensured asynchronous callouts using @future methods to prevent governor limits.



3.4 SOAP API Callouts

- Configured WSDL import and Apex classes for SOAP service.
- Tested create/update operations to synchronize external applications with Salesforce.



3.5 Platform Events & Change Data Capture

- Created Platform Event Job_Application_Event__e to notify external systems of new applications.
- Enabled Change Data Capture on Job Application and Student objects to trigger updates.

The screenshot shows the Salesforce Setup interface for Platform Events. The left sidebar contains a navigation menu with categories like MuleSoft, Einstein, Custom Code, Integrations, and Security. The 'Platform Events' link is highlighted under the 'Integrations' category. The main content area is titled 'Platform Events' and includes a search bar and a 'Help for this Page' link. Below the title, there is a section for 'Event Allocations' with a table showing usage and allocation for different event types. The table has columns for 'Item', 'Usage', and 'Allocation'. The data rows are:

| Item | Usage | Allocation |
|---|-------|------------|
| High-Volume Platform Event Hourly Publishing Allocation | 0 | 50,000 |
| High-Volume Platform Event and Change Event Daily Delivery Allocation | 0 | 10,000 |

Below the 'Event Allocations' section, there is a 'Custom Events' section with a 'New Platform Event' button. A table lists the custom events, with one event named 'JobApplicationEvent' shown. The table has columns for 'Action', 'Label', 'Deployed', and 'Description'. The 'JobApplicationEvent' row shows 'Edit | Del' for actions, 'JobApplicationEvent' for the label, a checkmark for 'Deployed', and an empty description.

The screenshot shows the Salesforce Setup interface for the 'Platform Event Definition Detail' of a custom event named 'JobApplicationEvent'. The left sidebar is the same as in the previous screenshot. The main content area is titled 'Platform Event Definition Detail' and includes a search bar and a 'Help for this Page' link. Below the title, there is a section for 'Platform Event Definition Detail' with a table showing the event's configuration. The table has columns for 'Singular Label', 'Plural Label', 'Object Name', 'API Name', 'Event Type', 'Publish Behavior', 'Created By', and 'Modified By'. The data rows are:

| Singular Label | Plural Label | Object Name | API Name | Event Type | Publish Behavior | Created By | Modified By |
|---------------------|----------------------|---------------------|------------------------|-------------|----------------------|-----------------------------------|-----------------------------------|
| JobApplicationEvent | JobApplicationEvents | JobApplicationEvent | JobApplicationEvent__e | High Volume | Publish After Commit | Lowrance.Devy, 9/26/2025, 4:39 AM | Lowrance.Devy, 9/26/2025, 4:39 AM |

Below the 'Platform Event Definition Detail' section, there is a 'Standard Fields' section with a table showing the fields defined for the event. The table has columns for 'Action', 'Field Label', 'Field Name', 'Data Type', 'Controlling Field', and 'Indexed'. The data rows are:

| Action | Field Label | Field Name | Data Type | Controlling Field | Indexed |
|--------|--------------|-------------|-----------------|-------------------|---------|
| | Created By | CreatedBy | Lookup(User) | | |
| | Created Date | CreatedDate | Date/Time | | |
| | Event UUID | EventUuid | Text(36) | | |
| | Replay ID | ReplayId | External Lookup | | |

3.6 External Services

- Registered external HR system OpenAPI schema as an External Service.
- Created invocable actions to consume APIs in Flows.

4. Expected Outcomes

- Secure and authenticated API access to external HR systems.
- Real-time synchronization of job postings and applications.
- Platform Events to notify external systems automatically.
- Integration workflows available via Flows and Apex callouts.
- Students, Recruiters, and Placement Officers have updated data without manual entry.

5. Conclusion

Phase 7 enabled the College Placement & Internship Management System to communicate with external systems efficiently and securely. APIs, Named Credentials, Remote Site Settings, Platform Events, and External Services were implemented, ensuring real-time updates and automation. This sets the stage for Phase 8, which focuses on data management, duplicate rules, deployment, and backups.