

# Phase 7 — Integration & External Access

## (Student/College CRM)

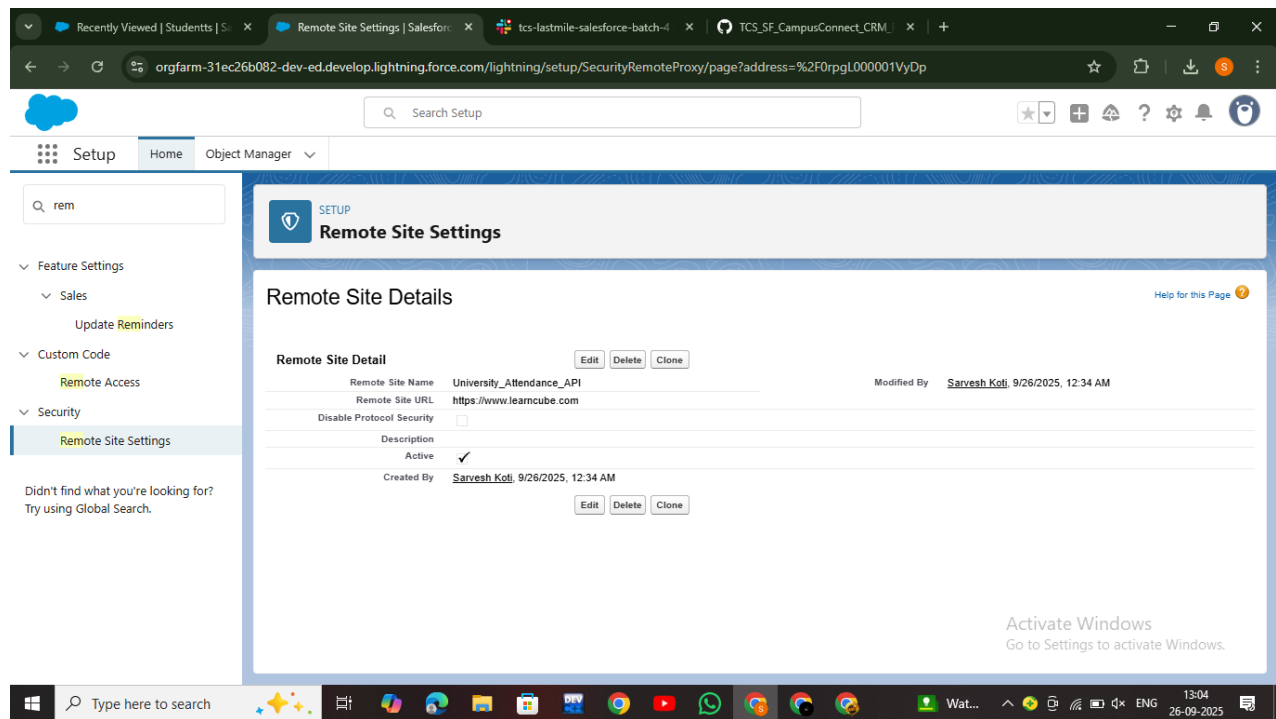
### 1. Remote Site Settings

**Purpose:** Whitelist external endpoints for Salesforce callouts.

**Steps:**

- Go to Setup → Remote Site Settings → New Remote Site
- Remote Site Name: University\_Attendance\_API
- Remote Site URL: (e.g., <https://api.university-attendance.com>)
- Save

**Use Case:** Connect Salesforce with university attendance systems



### 2. Named Credentials

**Purpose:** Store API authentication details securely (not in Apex code).

**Steps:**

- Go to Setup → Named Credentials → New Named Credential
- Label: AttendanceSystem
- URL: API base URL
- Auth Type: Username/Password or OAuth 2.0
- Save

**Use Case:** Securely call attendance or payment gateway APIs in Apex/Flows

### 3. External Services (Declarative API Integration)

**Purpose:** Import Swagger/OpenAPI for API actions in Flows.

**Steps:**

- Setup → External Services → New External Service
- Provide Swagger file/URL from API (e.g., Payment Gateway)
- Salesforce generates invocable actions
- Use generated actions in Flows (no Apex required)

**Use Case:** Fee payment via API from a Flow

### 4. Web Services (Exposing Salesforce APIs)

**REST Endpoint:**

- Create Apex class with `@RestResource(urlMapping='/StudentEventAPI/*')`
- Define GET method to return Student Event records as JSON

**SOAP Endpoint:**

- Use `webservice` keyword in Apex to expose SOAP methods

**Use Case:**

- External portal fetches Salesforce event registrations via REST/SOAP

### 5. Callouts (Outbound API Calls)

**Steps:**

- Create Apex class using HttpRequest & Http classes
- Endpoint must be whitelisted (step 1 – Remote Site Settings)

**Use Case:**

- Fetch external event categories, update Salesforce Event\_\_c records

**6. Platform Events (Event-Driven Integration)****Steps:**

- Setup → Platform Events → New Platform Event (EventUpdate\_\_e)
- Add fields (EventId, Capacity, StudentId)
- Use triggers/Flows to publish events when students register
- External systems subscribe via CometD or middleware

**Use Case:**

- Notify club leader when a student registers for an event

**7. Change Data Capture (CDC)****Steps:**

- Setup → Change Data Capture
- Enable for objects: Student\_\_c, Enrollment\_\_c
- External system subscribes via Streaming API

**Use Case:**

- Instantly sync updated Student details with master DB

**8. Salesforce Connect****Steps:**

- Setup → External Data Sources → New External Data Source

- Type: OData 2.0/4.0
- URL: External DB/API
- Validate & Sync (creates External Objects)

**Use Case:**

- Display live library database info (e.g., borrowed books) in Salesforce

## **9. API Limits**

**How to Check:**

- Setup → System Overview (shows API calls remaining)
- Use batch jobs or caching in custom Apex to reduce API hits

**Example:**

- Cache exam schedules for daily loads instead of fetching on every record view

## **10. OAuth & Authentication**

**Steps:**

- Setup → App Manager → New Connected App
- Enable OAuth Settings
- Provide callback URL (from your mobile app)
- Add OAuth scopes (e.g., manage your data via API)

**Use Case:**

- Mobile app fetches student event registration data using OAuth token