Employee Onboarding & Asset Management CRM Project

Phase 7: Integration & External Access Implementation

🔹 Objective

Enable **external systems (HRMS, IT inventory systems, email services)** to interact with Salesforce securely for **onboarding automation, asset lifecycle management, and real-time updates**.

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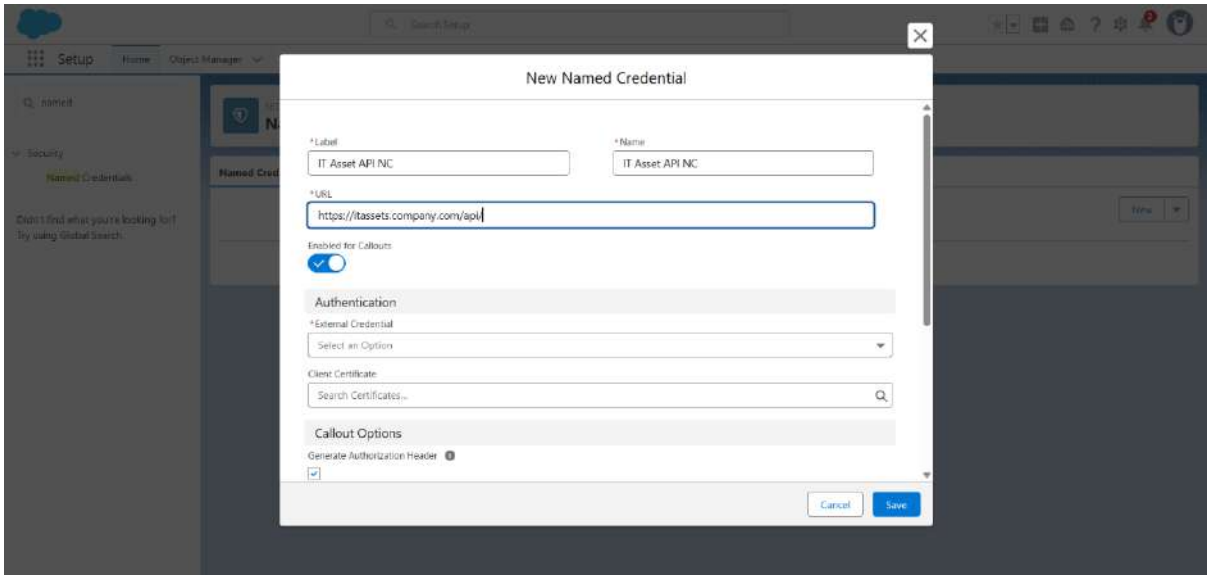
1. Named Credentials

- To securely store authentication details for external systems (HR, IT inventory DB, or payroll).
- **Implementation**:
    1. Setup → Named Credentials → New.
    2. Example: Create **"IT_Asset_API_NC"** to store credentials for an external asset tracking system.
    3. Use **OAuth 2.0** for authentication



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2. External Services

- To connect onboarding workflows with HR/IT systems without heavy code.
- **Example Use Case**:
    - HR system sends employee data → Salesforce auto-creates Employee record.

    - IT system updates asset stock → Salesforce asset availability reflects in real time.

- **Steps**:

1. Register the API schema in **External Services**
2. Auto-generate Apex actions that can be used in **Flows**.
3. Example: assignAssetToEmployee() API can be directly dragged into Flow Builder.

```
@RestResource(urlMapping='/Onboarding/*')
global with sharing class OnboardingService {
    @HttpPost
    global static String createEmployee(String name, String email) {
        Employee__c emp = new Employee__c(Name=name, Email__c=email, Status__c='Pending');
        insert emp;
        return 'Employee ' + emp.Name + ' created successfully!';
    }
}
```

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3. Web Services (REST/SOAP)

- To expose Salesforce onboarding/asset processes to other systems.
- **Inbound (Expose Salesforce):**
- @RestResource(urlMapping='/Onboarding/*')
- global with sharing class OnboardingService {
- @HttpPost
- global static String createEmployee(String name, String email) {
- Employee__c emp = new Employee__c(Name=name, Email__c=email, Status__c='Pending');
- insert emp;
- return 'Employee ' + emp.Name + ' created successfully!';
- }
- }

👉 This lets HRMS call Salesforce API to create employees.

- **Outbound (Call External APIs):**
- HttpRequest req = new HttpRequest();
- req.setEndpoint('callout:IT_Asset_API_NC/assignAsset');

- req.setMethod('POST');
- req.setBody('{"employeeId":"123","assetId":"LTP-001"}');
- Http http = new Http();
- HttpResponse res = http.send(req);

👉 Used for calling IT asset system to assign/release laptops.

```
HttpRequest req = new HttpRequest();
req.setEndpoint('callout:IT_Asset_API_NC/assignAsset');
req.setMethod('POST');
req.setBody('{"employeeId":"123","assetId":"LTP-001"}');
Http http = new Http();
HttpResponse res = http.send(req);
```

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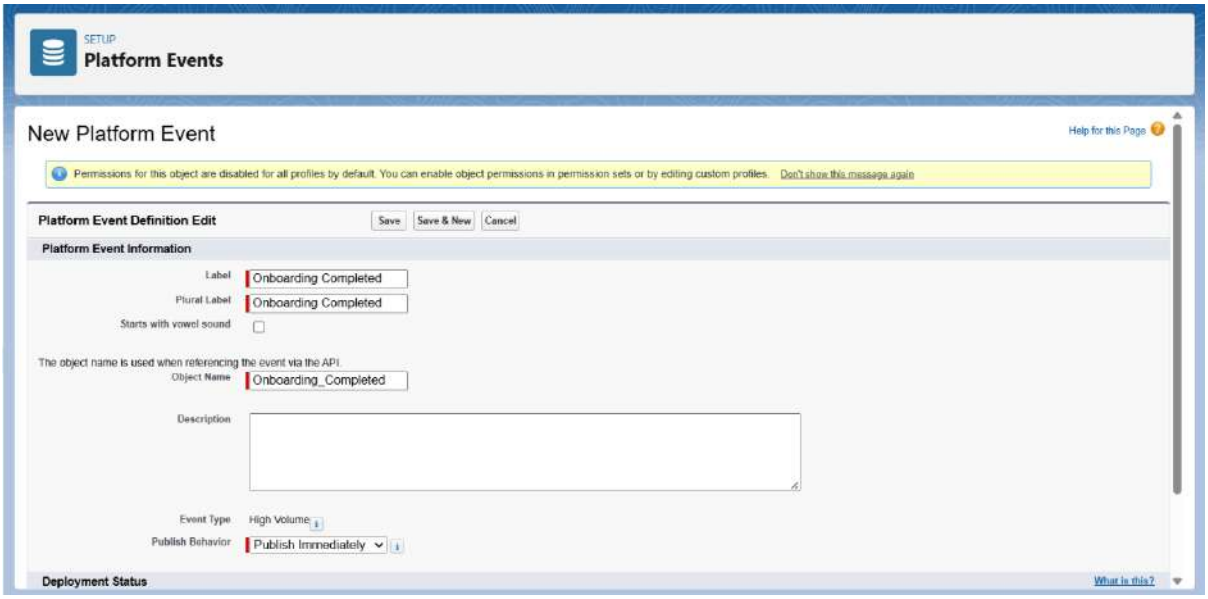
4. Platform Events

- For real-time HR & IT updates across systems.
- **Example:**
    - Event: Onboarding_Completed__e → Triggered when all onboarding tasks are done.
    - Subscribers: Payroll system, Access Management system.
- **Steps**:

1. Create Platform Event → Fields: EmployeeID, Status, AssetReturned.
2. Publish event from Apex/Flow when onboarding is complete.
3. External system (via CometD or Pub/Sub API) subscribes and updates access control system.



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5. Change Data Capture (CDC)

- For syncing Salesforce data with external DB in real time.
- **Use Case:**
  - If an Employee record is updated (status = Resigned) → external IT system receives CDC event → auto-triggers asset return workflow.
- **Setup**:
  - Enable CDC on **Employee__c** and **Asset__c** objects.
  - External middleware (MuleSoft, Informatica, Kafka) subscribes to CDC events.

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6. Salesforce Connect

- To access external HR/IT data without storing it in Salesforce.
- **Example:** Connect to an external SQL database for IT Asset inventory.
- **Steps**:
  1. Setup → Salesforce Connect → External Data Source.
  2. Create **External Object** for "AssetInventory".
  3. Relate it with Salesforce Asset object (lookup).
     👉 HR & IT get unified view without duplication.

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7. API Limits & Governance

- Monitor API usage: Setup → System Overview.
- Use **Bulk API** for mass employee/asset data sync.
- Apply **Governor Limits best practices** in Apex callouts.

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8. Authentication & Security

- Use **OAuth 2.0 + JWT Flow** for SSO between HRMS, IT, and Salesforce.
- Configure **Remote Site Settings** for all external callouts.
- Restrict integrations via **Profiles + Permission Sets** (only integration user has API access).

Example Integration Flow for Project

1. HRMS → (API call) → Salesforce → Creates Employee Record.
2. Salesforce → Auto-generates Onboarding Tasks + sends **Platform Event** to IT System.
3. IT System (via CDC subscription) → Updates Asset Allocation.
4. Manager Approval → Sent via Salesforce → Approval outcome triggers REST Callout → Updates IT Asset System.
5. On Employee Exit → Salesforce triggers **Return Asset Workflow** → Notifies IT + HR + Payroll.

✅ **Outcome of Phase 7**

- External HRMS/IT systems are integrated with Salesforce.
- Onboarding is automated across platforms.
- Asset lifecycle is synced with real-time updates.
- Secure API-based communication ensures compliance.