

ERM Hybrid Workforce Project – Phase 7

Phase 7: Integration & External Access

1. Introduction

Phase 7 focused on enabling the **ERM Hybrid Workforce platform** to securely integrate with external systems and internal Salesforce components. The goal was to implement **real-time, scalable, and secure integrations** for both outbound and inbound data exchange. This ensures seamless communication between Salesforce objects (**Hybrid_Schedule, Pulse_Survey, Well_Being_Alert, Analytics_Metric, Employee_Status**) and external tools, notifications, or dashboards.

2. Outbound Integrations (Salesforce → External)

Purpose: Push data and notifications from Salesforce to external services or internal automation channels.

SETUP Named Credentials				
Named Credentials External Credentials External Auth Identity Providers				
1 Items - Sorted by Label				
New				
Label	Type	URL	External Credential	Actions
ERM API	Secured Endpoint	https://api.erm-integrations.org.com	ERM Credential	

Technology	Implementation Details
Named Credentials	A common Named Credential, <code>ERM_Hybrid_API</code> , was created to securely store endpoint URLs and authentication details for external systems. This removes the need to hardcode credentials in Apex or flows.
Apex Callouts	Apex classes were implemented with <code>@future(callout=true)</code> and <code>Queueable</code> methods. These classes use the <code>ERM_Hybrid_API</code> Named Credential to send updates about schedule changes, survey submissions, well-being alerts, and metrics to external dashboards or notification systems.

Technology

Implementation Details

Platform Events

A **Workforce_Activity__e** Platform Event was created to publish real-time changes in Hybrid Schedule, Pulse Survey, Well-Being Alerts, Employee Status, and Analytics Metrics. Apex triggers publish events immediately upon record changes, enabling subscribers to act in near real-time.

```
force-app > main > default > classes > ERMAPI.cls
1 public with sharing class ExternalCalloutSample {
2
3     public static String getStressScore(Id employeeId) {
4         Http http = new Http();
5         HttpRequest req = new HttpRequest();
6
7         req.setEndpoint('callout:ERM_API/v1/employee/' + String.valueOf(employeeId) + '/stress');
8
9         req.setMethod('GET');
10
11        HttpResponse res = http.send(req);
12
13        if (res.getStatusCode() == 200) {
14            return res.getBody();
15        }
16
17        throw new CalloutException('Callout failed: ' + res.getStatus() + ' - ' + res.getBody());
18    }
19 }
```

Platform Events

Platform Event

Workforce Activity

Standard Fields (1) | Custom Fields & Relationships (4)

Platform Event Definition Detail

Singular Label

Workforce Activity

Plural Label

Workforce Activities

Object Name

Workforce_Activity

API Name

Workforce_Activity__e

Event Type

High Volume

Publish Behavior

Publish After Commit

Created By

Venkata Rajaji Sai R

Created

9/25/2025, 8:35 AM

Description

Platform event to notify system of key actions/updates across Hybrid Schedule, Pulse Survey, Well-Being Alerts, Analytics Metrics, and Employee Status records.

Deployment Status

Deployed

Modified By

Venkata Rajaji Sai R

Modified

9/25/2025, 8:42 AM

Standard Fields

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		

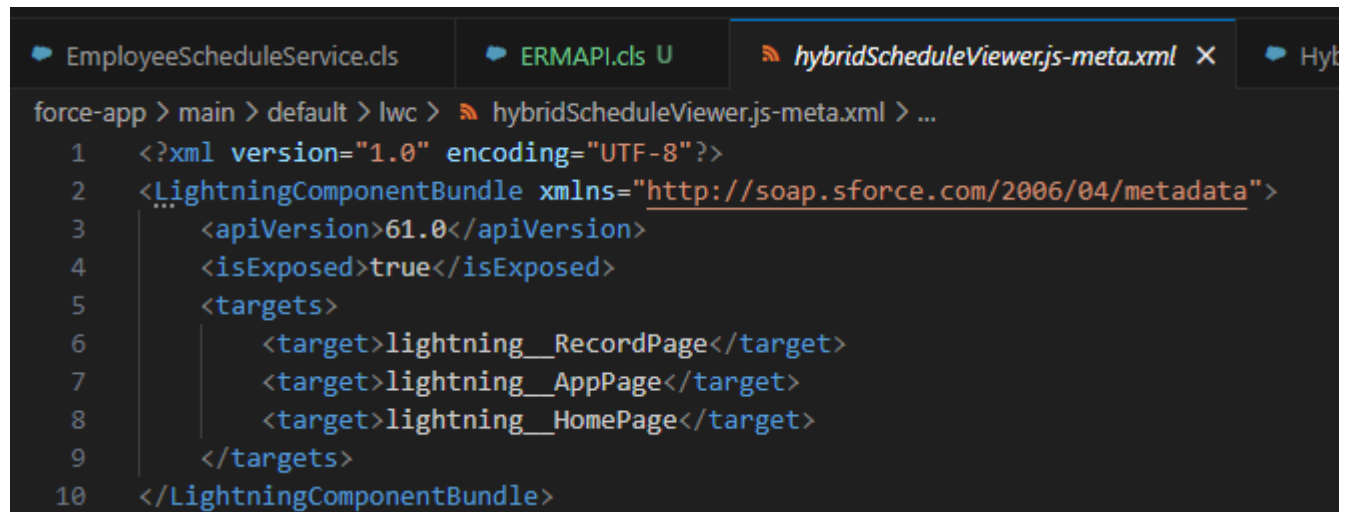
Custom Fields & Relationships

Action	Field Label	API Name	Data Type	Indexed	Controlling Field	Modified By
Edit Del	Employee Name	Employee_Name__c	Text(10)			Venkata Rajaji Sai R, 9/25/2025, 8:38 AM
Edit Del	Metric Value	Metric_Value__c	Number(16, 2)			Venkata Rajaji Sai R, 9/25/2025, 8:42 AM
Edit Del	Schedule	Schedule__c	Date/Time			Venkata Rajaji Sai R, 9/25/2025, 8:39 AM
Edit Del	Work Assigned	Work_Assigned__c	Checkbox			Venkata Rajaji Sai R, 9/25/2025, 8:40 AM

3. Inbound Integrations (External → Salesforce)

Purpose: Allow external applications to securely access and retrieve Salesforce data.

Technology	Implementation Details
Apex REST Service	Apex REST classes were created for each object with <code>@RestResource</code> annotation. For example, <code>/services/apexrest/hybrid-schedule/*</code> allows external systems to GET, POST, and UPDATE Hybrid_Schedule records in JSON format.
External Services	OpenAPI / schema-based external services were registered in Salesforce to call external HR, analytics, or payroll APIs. This enables declarative integrations using Flows and Apex without writing raw HTTP calls.



```
force-app > main > default > lwc > hybridScheduleViewer.js-meta.xml > ...
1  <?xml version="1.0" encoding="UTF-8"?>
2  <LightningComponentBundle xmlns="http://soap.sforce.com/2006/04/metadata">
3    <apiVersion>61.0</apiVersion>
4    <isExposed>true</isExposed>
5    <targets>
6      <target>lightning__RecordPage</target>
7      <target>lightning__AppPage</target>
8      <target>lightning__HomePage</target>
9    </targets>
10 </LightningComponentBundle>
```

4. Security & Governance

Purpose: Ensure all integrations are secure, authenticated, and compliant with Salesforce limits.

Component	Description
Authentication	OAuth 2.0 protocol was used for server-to-server authentication. Named Credentials securely manage all authentication details.
Authorization	Remote Site Settings were configured to whitelist external API domains. Access to endpoints is restricted to trusted systems.

Component	Description
API Limits	Integration design considered Salesforce governor limits. Batch Apex and Platform Events reduce the number of direct API calls. Daily usage is monitored to prevent exceeding limits.

5. Alternative Patterns Explored

Pattern	Potential Use in ERM
Change Data Capture (CDC)	Could broadcast high-volume record changes from all objects to external systems, reducing the need for frequent polling.
Salesforce Connect	Could allow access to external HR or analytics databases as External Objects , without duplicating data in Salesforce.

SETUP
Change Data Capture
Select the entities that generate change event notifications on the default standard channel. Change Data Capture sends notifications for created, updated, deleted, and undeleted records. All custom objects and a subset of standard objects are supported.

Available Entities

Type to filter list...

- Account (Account)
- Account Clean Info (AccountCleanInfo)
- Account Contact Role (AccountContactRole)
- Agent Work (AgentWork)

Selected Entities

- Hybrid Schedule (Hybrid_Schedule__c)
- Analytics Metric (Analytics_Metric__c)
- Pulse Survey (Pulse_Survey__c)
- Well-being Alert (Well_being_Alert__c)
- Employee Status (Employee_Status__c)

Phase 7 Status: Completed Successfully

Next Steps:

- Proceed to **Phase 8: Data Management & Deployment.**
- Begin testing Data import, Data Loader, Exports, Rules SFDX & VSCode...etc

Phase 5 Completion Document.