

Project Documentation

Healthcare Management System on Salesforce

Phase 7: Integration & External Access

1. Introduction

In this phase, we enable the system to interact with **external applications, services, and devices**. Integrations ensure that Salesforce can **exchange patient and hospital data** with lab systems, wearable devices, and external hospital portals.

The goal is to provide **seamless data flow, secure authentication, and real-time communication** across platforms.

2. Preparation

Before building integrations, we must:

- Enable **API access** in Salesforce.

- Configure **Named Credentials** for external endpoints.

- Set up **Remote Site Settings** for external API callouts.

- Review **Salesforce API limits** to optimize integration performance.

3. Integration Components

A. Named Credentials

Purpose: Store authentication and endpoint details for external systems.

Examples:

- Lab_System_API → Connects to hospital laboratory system for test results.

- Wearable_Device_API → Connects to fitness/wearable apps (Fitbit, Apple Health).

- Hospital_Partner_API → Connects to partner hospitals for referral management.

B. External Services

Purpose: Import service definitions and use them declaratively.

Examples:

Import REST API for external pharmacy services to check **drug availability**.

Import SOAP API for insurance providers to **verify patient insurance coverage**.

C. Web Services (REST/SOAP)

Purpose: Allow Salesforce to call external APIs or expose Salesforce data as APIs.

Examples:

REST Callout to Lab System: Fetch patient test results from an external lab.

SOAP Web Service Exposure: Allow external clinics to fetch appointment details from Salesforce.

D. Callouts

Purpose: Exchange data with external systems.

Examples:

Outbound callout to lab when new test is requested from an Appointment record.

Inbound call from patient mobile app to retrieve appointment availability.

E. Platform Events

Purpose: Enable **real-time, event-driven communication**.

Examples:

When Appointment is booked → Platform Event triggers notification to external patient app.

When lab results are uploaded externally → Platform Event updates HealthRecord__c.

F. Change Data Capture (CDC)

Purpose: Stream changes from Salesforce to external systems.

Examples:

Capture changes in Appointment__c (e.g., rescheduled, cancelled) and push to patient mobile app.

Capture HealthRecord updates and sync with external hospital EHR system.

G. Salesforce Connect

Purpose: Allow **read-only access** to external data without importing it into Salesforce.

Examples:

View **real-time insurance claims** from external insurance system.

View **lab reports** stored in external databases.

H. API Limits

Purpose: Monitor API usage and optimize performance.

Examples:

Set batch callouts for wearable data sync to avoid exceeding limits.

Use **Bulk API** for large health data uploads (e.g., 10,000+ records from hospital systems).

I. OAuth & Authentication

Purpose: Provide **secure external access** for patient and doctor portals.

Examples:

Patients log in via **OAuth-based authentication** to view appointments.

Doctors access mobile app securely using **OAuth tokens** linked with Salesforce users.

J. Remote Site Settings

Purpose: Authorize Salesforce to connect with specific external domains.

Examples:

Add `api.hospital-lab.com` for lab report integration.

Add `api.fitness-device.com` for wearable device data sync.

4. Benefits of Integration & External Access

Seamless hospital operations by connecting lab, pharmacy, insurance, and wearable systems.

Improved patient experience with real-time updates on appointments, prescriptions, and health records.

Scalability to support multiple hospitals and clinics.

Secure access through OAuth and controlled API exposure.

Phase 7 Deliverable:

Configured Named Credentials and Remote Site Settings.

Integrated external APIs (Lab, Pharmacy, Wearable Devices).

Implemented Platform Events and CDC for real-time sync.

Secured external access via OAuth authentication.

Enabled Salesforce Connect for viewing external data.

This sets the stage for **Phase 8: Data Management & Deployment**.