Phase 1: Problem Understanding & Industry Analysis

1. Industry Overview – Healthcare

The healthcare industry is one of the most dynamic and essential sectors globally, providing critical medical services, patient care, and wellness solutions. Hospitals and clinics handle thousands of patients daily, generating large volumes of data related to appointments, treatments, billing, and insurance. The industry faces constant challenges in patient engagement, service delivery, and efficient management of resources.

In the modern era, digital transformation is reshaping healthcare, with hospitals adopting CRM systems to centralize data, automate workflows, and improve patient-doctor communication. Salesforce, as the world's leading CRM platform, offers tools to address inefficiencies, enhance patient experiences, and enable data-driven decision-making.

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2. Business Problem Statement

A multi-specialty hospital receives numerous patient inquiries and appointment requests daily via website, mobile apps, and call centers. The current manual process for appointment scheduling often leads to:

- Double bookings and scheduling conflicts
- Missed follow-ups due to lack of reminders
- Fragmented patient records across different systems
- Difficulty for doctors to access complete medical history during consultations
- Lack of real-time dashboards for administrators to track hospital performance

As a result, patients experience delayed services, poor communication, and lower satisfaction levels, while hospitals face inefficiencies and revenue leakage.

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3. Objectives of the Salesforce Solution

The aim of this project is to leverage Salesforce CRM to streamline patient engagement and appointment management by:

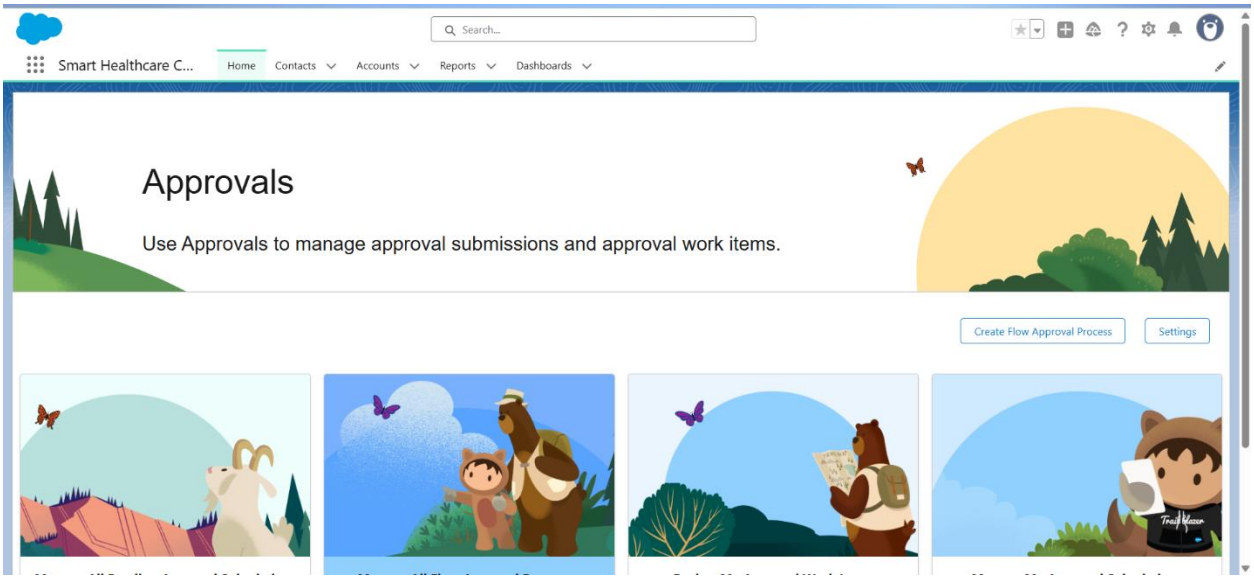
- Automating appointment booking, reminders, and follow-ups
- Centralizing patient data (demographics, medical history, prescriptions, billing)

- Enabling doctors to view complete patient profiles in real-time
- Providing hospital administrators with reports and dashboards on appointments, revenue, and doctor utilization
- Improving patient satisfaction and retention through personalized care and communication

Phase 2: Org Setup & Configuration (Healthcare Project)

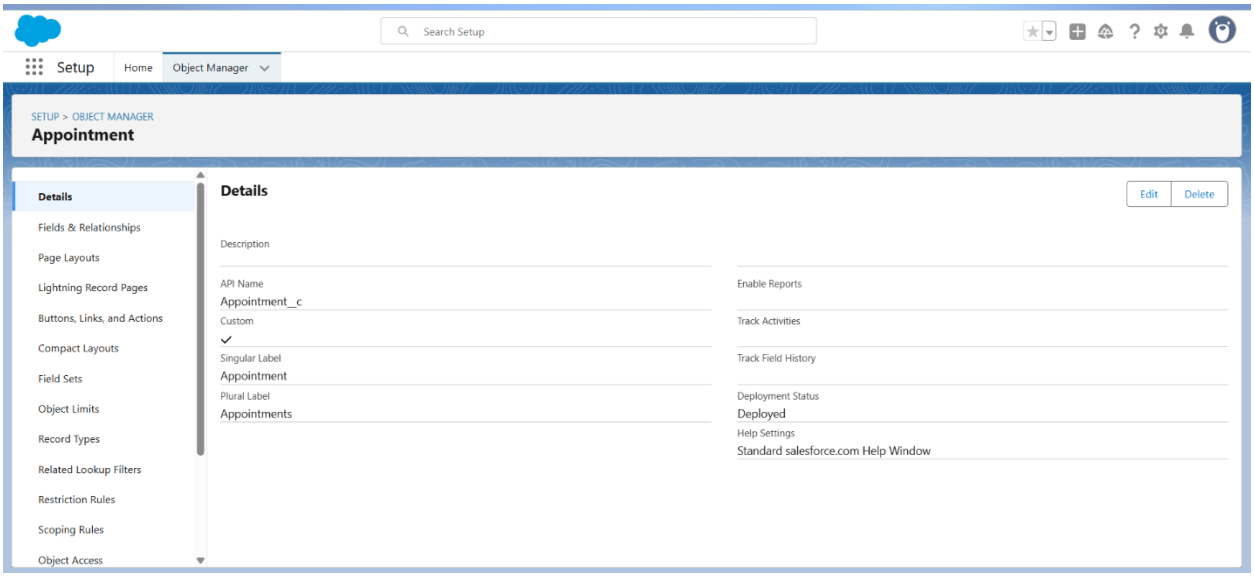
Create a New Lightning App

- **App Manager → New Lightning App**.
- **Smart Healthcare CRM**
- *"A Salesforce solution for Patient Engagement & Appointment Management."*



Custom Objects

1. **Patient__c**
2. **Appointment__c**
3. **Visit__c**
4. **Prescription__c**
5. **Provider__c** (Doctors)
6. **Notification_Log__c**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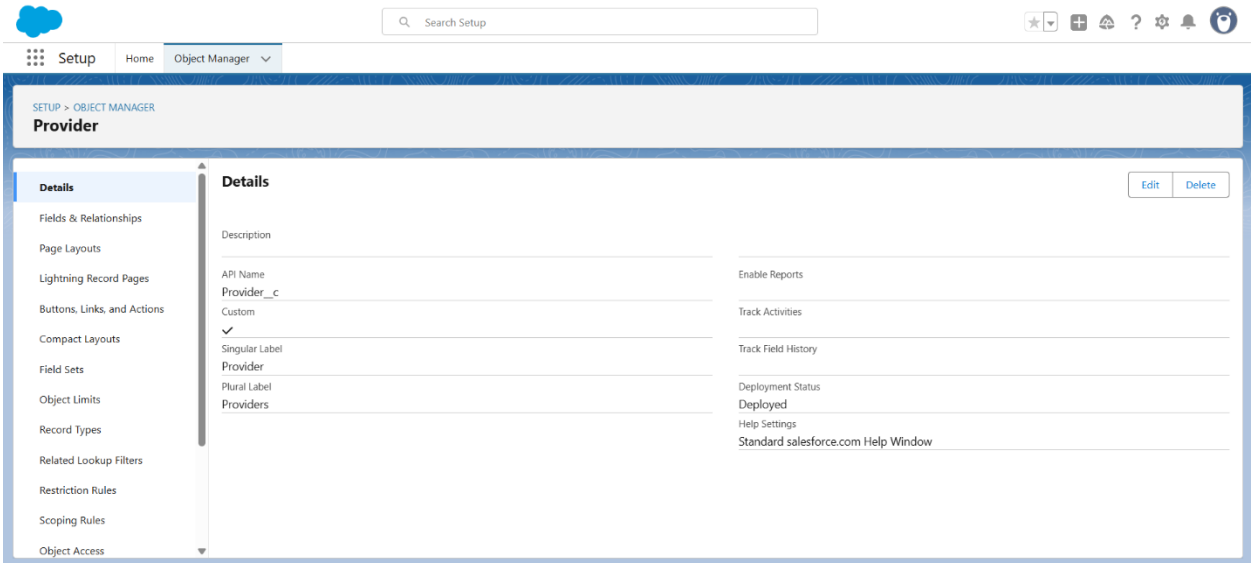
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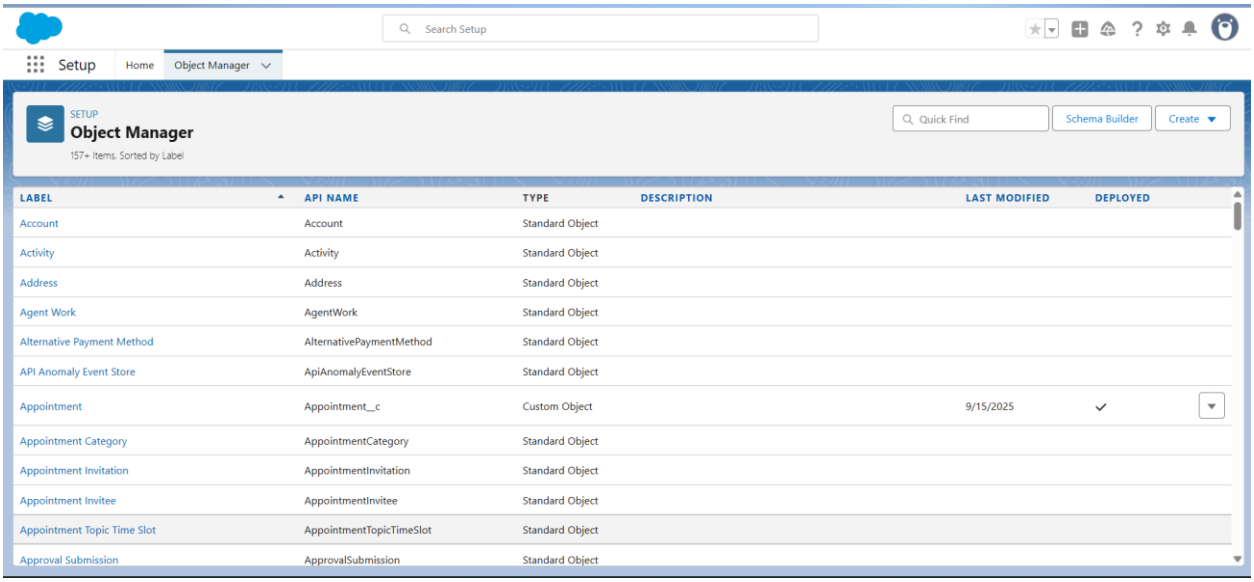
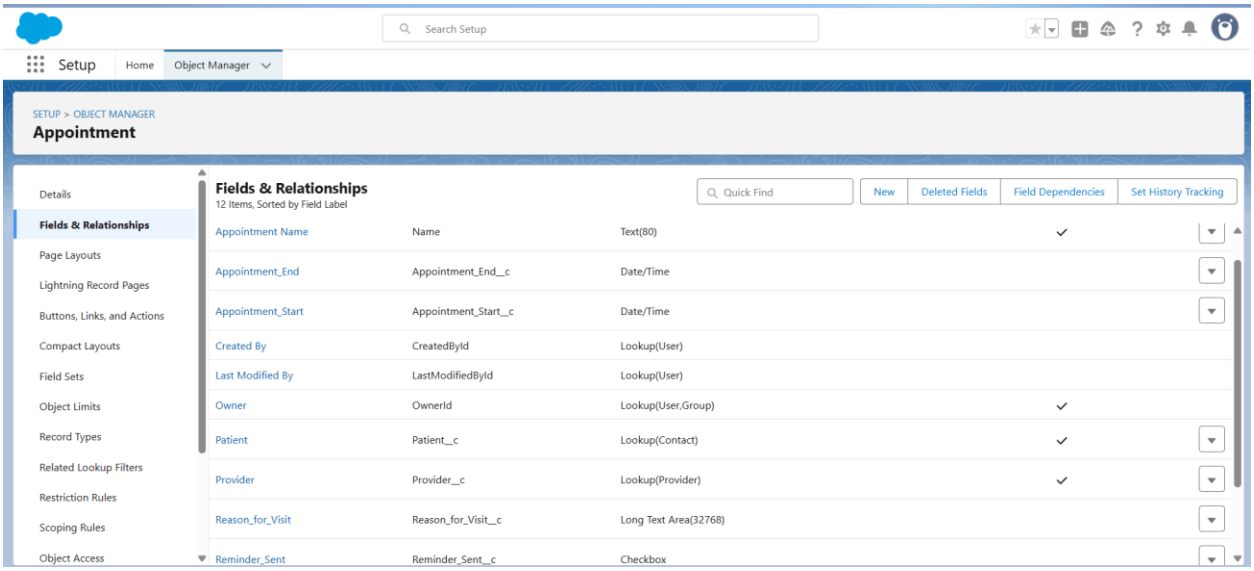
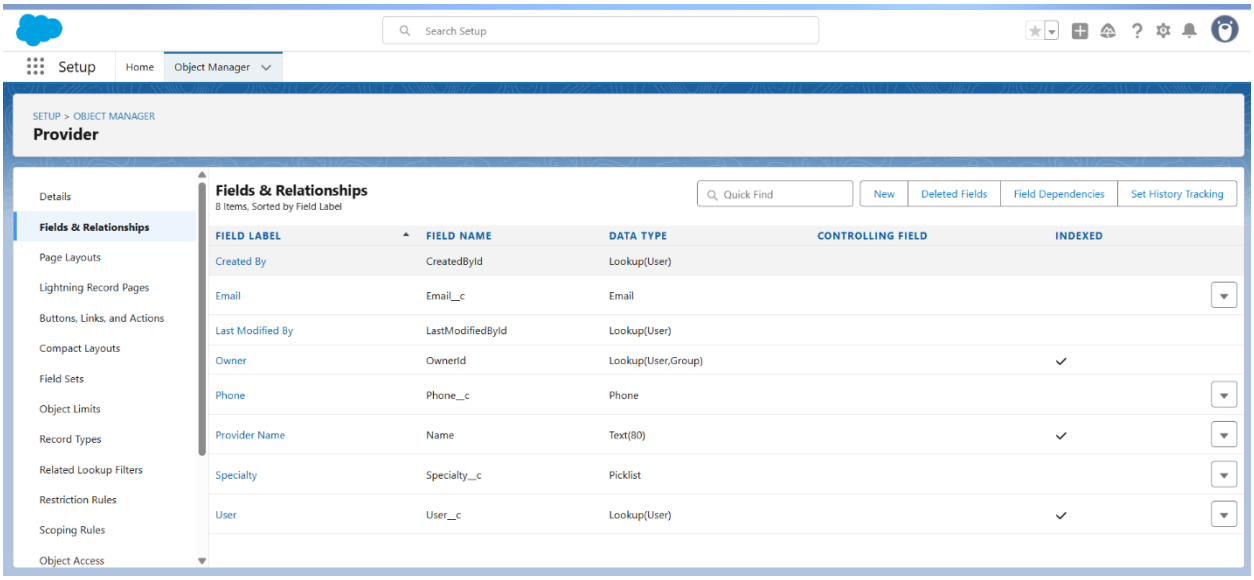


Custom Fields

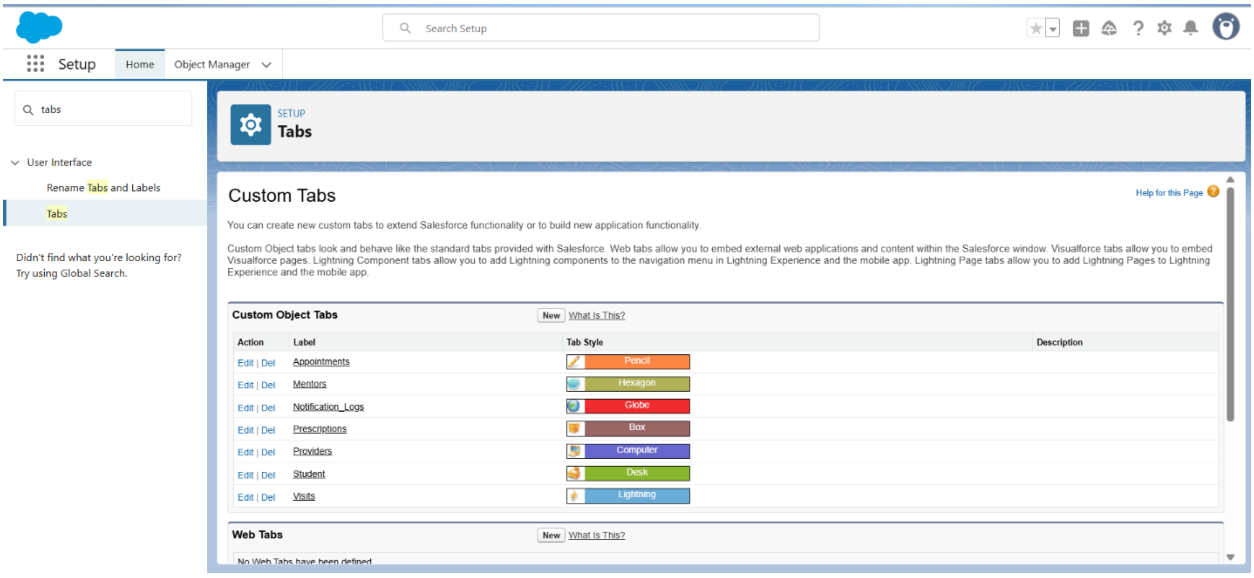
Appointment__c

- Appointment_Start__c (Date/Time)
- Appointment_End__c (Date/Time)
- Status__c (Picklist: Scheduled, Completed, Cancelled)
- Patient__c (Lookup → Patient/Contact)
- Provider__c (Lookup → Provider__c)
- Reason_for_Visit__c (Text Area)





Tabs for Custom Objects



Phase 3: Data Modeling & Relationships

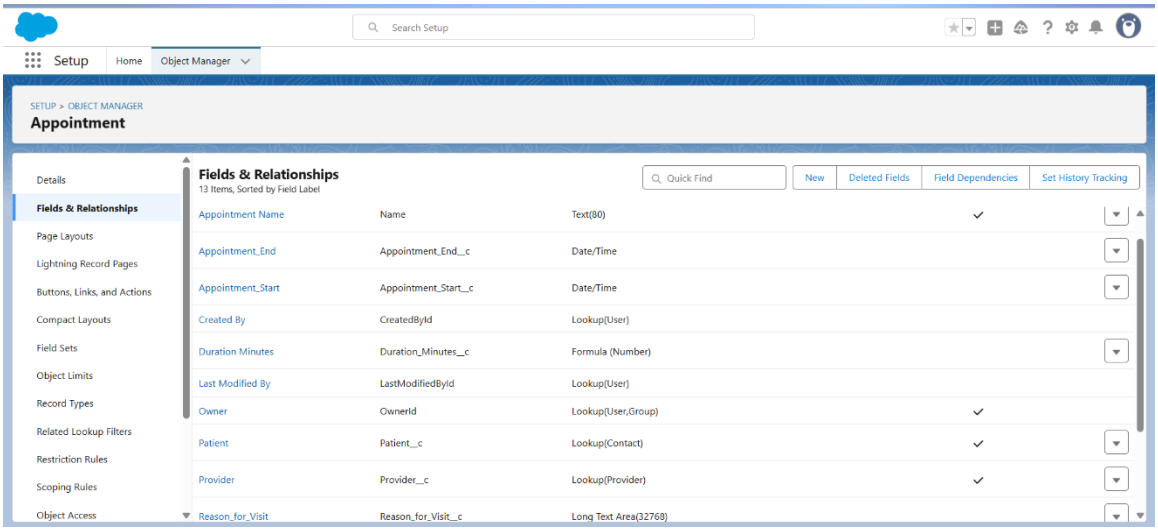
In this phase, we designed and implemented the data model for the Smart Healthcare CRM project. The focus was on creating the necessary custom objects, fields, and relationships to support appointments, providers, visits, prescriptions, and notifications.

1. Objects and Fields

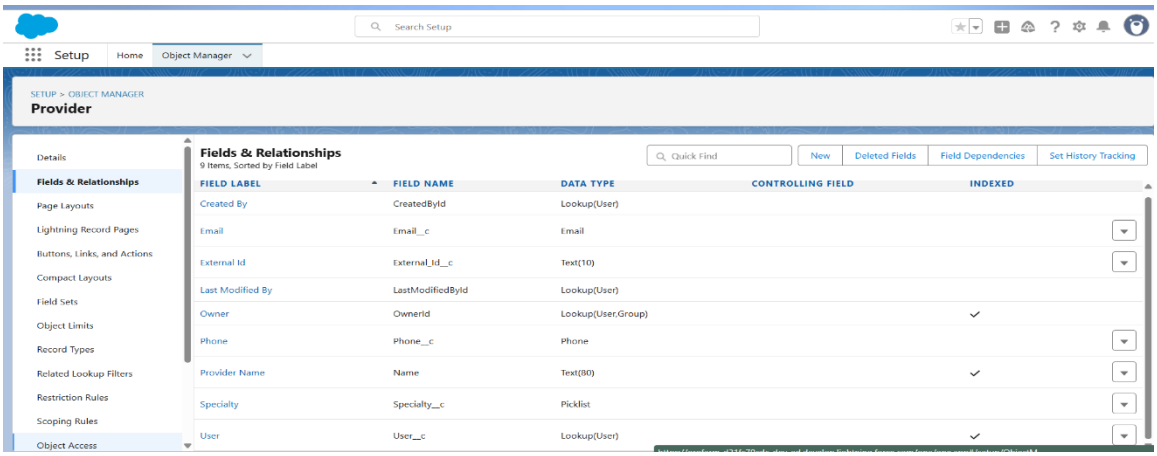
The following custom objects were configured with essential fields:

- Appointment__c
- Provider__c
- Visit__c
- Prescription__c
- Notification_Log__c

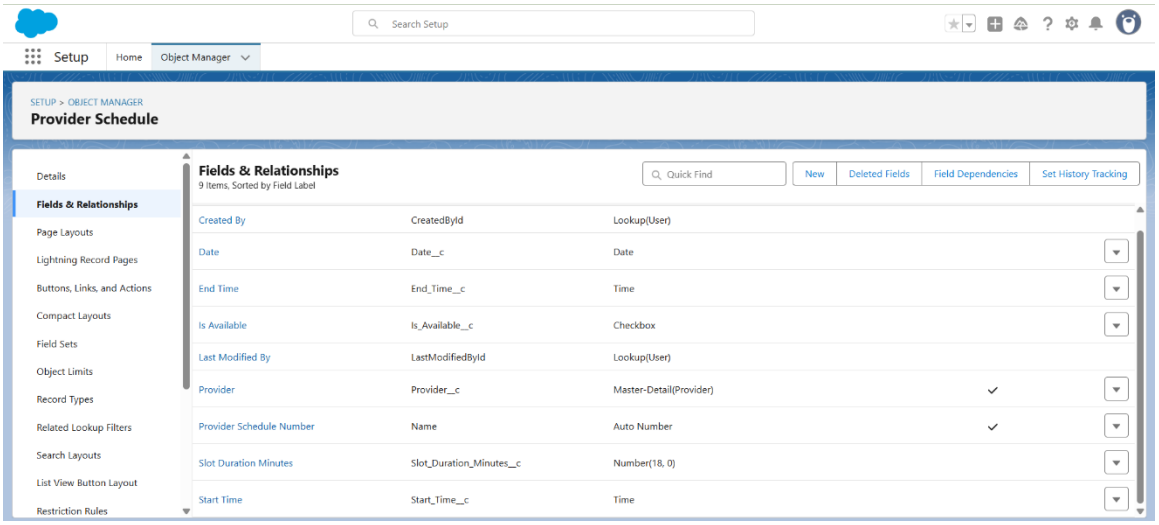
Below is the screenshot of fields created for Appointment__c:



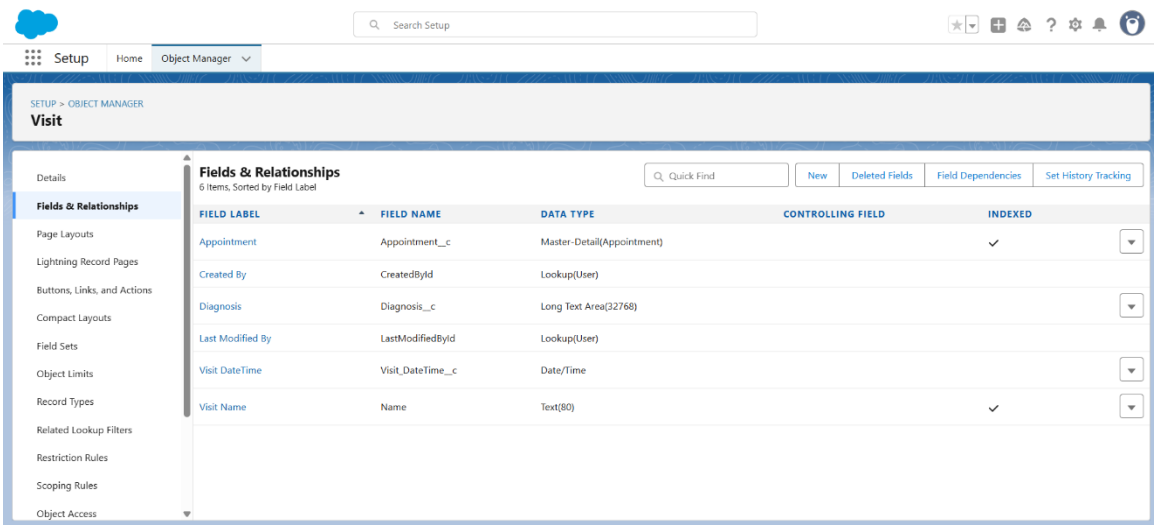
Below is the screenshot of fields created for Provider__c:



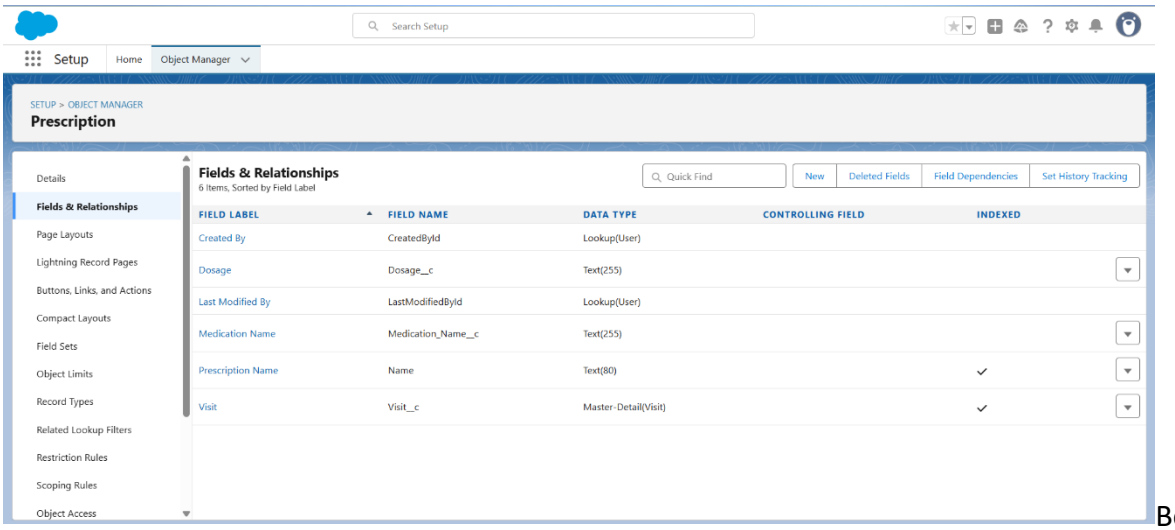
Below is the screenshot of fields created for Provider_Schedule__c:



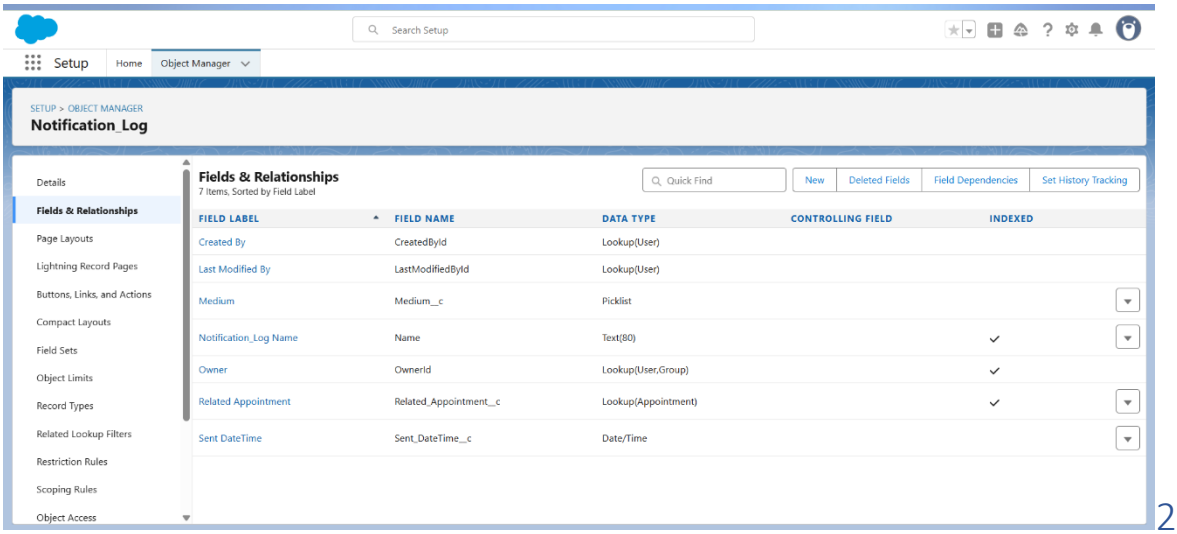
Below is the screenshot of fields created for Visit__c:



Below is the screenshot of fields created for Prescription__c:



Below is the screenshot of fields created for Notification_Log__c:



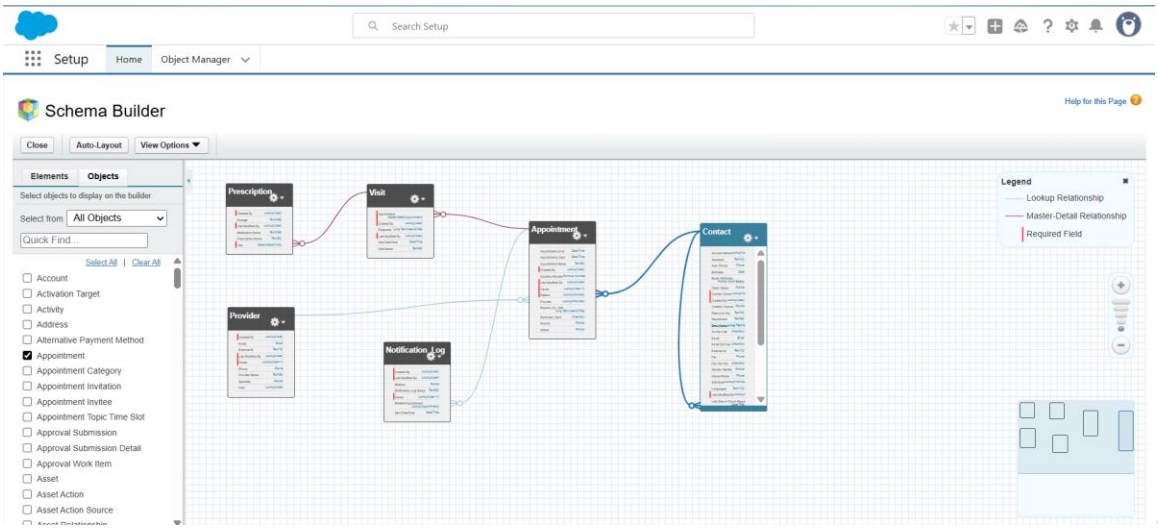
2.

Relationships

The following relationships were implemented:

- Appointment__c → Provider__c (Lookup)
- Appointment__c → Patient__c (Lookup)
- Visit__c → Appointment__c (Master-Detail)
- Prescription__c → Visit__c (Master-Detail)
- Notification_Log__c → Appointment__c (Lookup)

Below is the screenshot of Schema Builder showing the relationships:



3.

Validation Rules

Validation rules were added to maintain data quality. For example, to ensure that the Appointment End time is always after the Start time:

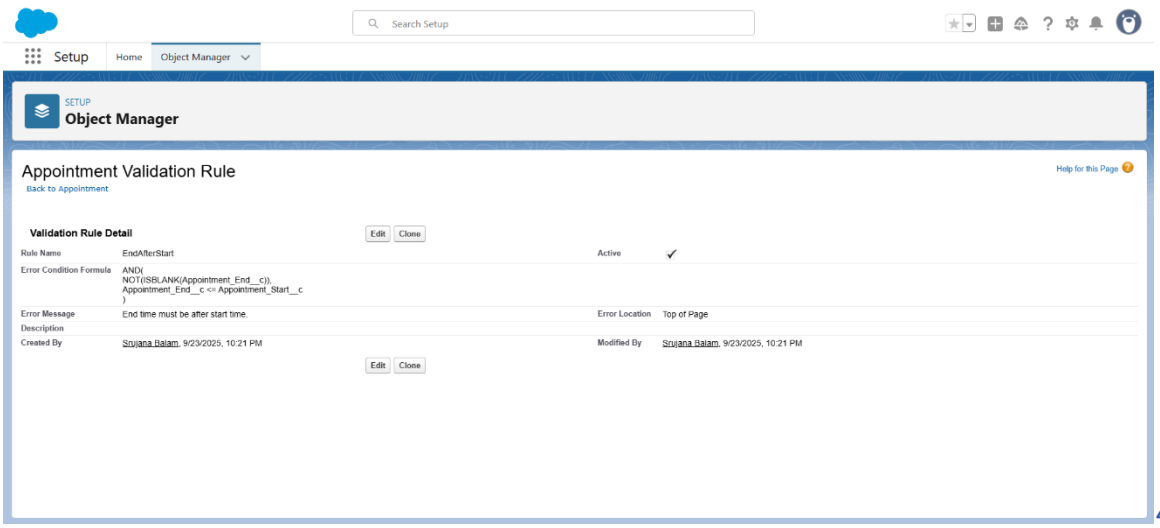
Rule Name: EndAfterStart

Formula:

```
AND(
  NOT(ISBLANK(Appointment_End__c)),
  Appointment_End__c <= Appointment_Start__c
)
```

Error Message: "End time must be after start time."

Below is the screenshot of the validation rule:

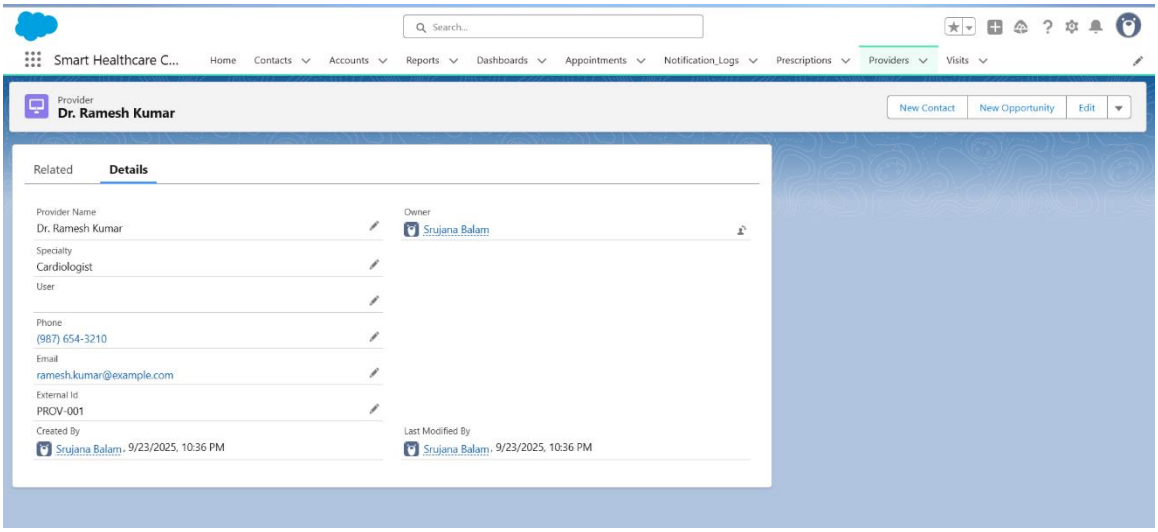


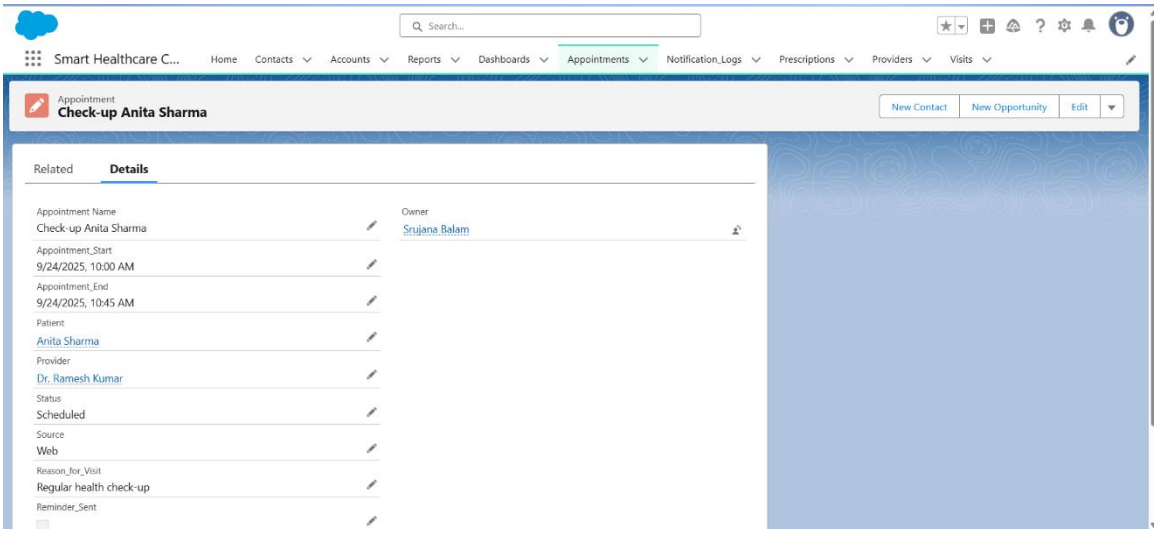
4.

Testing

Sample records were created to verify the relationships and rules:

- Providers
- Patients
- Appointments

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