

Phase 3: Data Modeling & Relationships

Hospital Management System

Step 1: Standard & Custom Objects

Reference: Screenshot 4 - Object Manager showing Patient, Doctor, and Appointment objects

Three core custom objects were created to manage hospital operations and patient care:

- **Doctor** – Stores healthcare provider information including specialization, availability, consultation fees, and contact details.
- **Patient** – Stores patient demographics, medical history, blood group, and personal information for comprehensive healthcare management.
- **Appointment** – Manages scheduling between patients and doctors, including appointment timing, fees, and status tracking.

Steps followed:

- Navigated to Setup → Object Manager → Create → Custom Object
- Provided label, name, and enabled reports/search functionality
- Saved and created Tabs for each object
- Same steps followed for all three custom object creation

Step 2: Fields Configuration

Reference: Screenshot 2 - Doctor Object Fields & Relationships

Doctor Object

- **Doctor Name** (Text, 80) – Standard Name field for healthcare provider
- **Specialization** (Picklist) – Medical specialty (Cardiology, Neurology, Orthopedics, General Medicine, etc.)
- **Availability From** (Time) – Start time for doctor's availability
- **Availability To** (Time) – End time for doctor's availability
- **Consultation Fee** (Currency, 15,2) – Fee charged per consultation
- **Owner** (Lookup → User/Group) – Salesforce user responsible for doctor record
- **Created By** (Lookup → User) – User who created the doctor record
- **Last Modified By** (Lookup → User) – User who last updated the record

Doctor Object Fields & Relationships

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Availability From	Availability_From__c	Time		
Availability To	Availability_To__c	Time		
Consultation Fee	Consultation_Fee__c	Currency(15, 2)		
Created By	CreatedBy	Lookup(User)		
Doctor Name	Name	Text(80)		✓
Last Modified By	LastModifiedBy	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Specialization	Specialization__c	Picklist		

Patient object

Appointment Object Fields & Relationships

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Appointment Name	Name	Auto Number		✓
Created By	CreatedBy	Lookup(User)		
Doctor	Doctor__c	Lookup(Doctor)		✓
Fee	Fee__c	Currency(10, 2)		
Last Modified By	LastModifiedBy	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Patient	Patient__c	Lookup(Patient)		✓
Start Date/Time	Start_Date_Time__c	Date/Time		

- Patient Name** (Text, 80) – Standard Name field for patient identification
- Date of Birth** (Date) – Patient's birth date for age calculations
- Gender** (Picklist: Male, Female, Other) – Patient gender information
- Blood Group** (Picklist: A+, A-, B+, B-, AB+, AB-, O+, O-) – Critical medical information
- Medical History** (Long Text Area, 32768) – Comprehensive medical background and conditions
- Owner** (Lookup → User/Group) – Healthcare staff responsible for patient

- **Created By** (Lookup → User) – User who registered the patient
- **Last Modified By** (Lookup → User) – User who last updated patient information

Appointment Object

- **Patient** (Lookup → Patient) – Links appointment to specific patient record
- **Doctor** (Lookup → Doctor) – Links appointment to assigned healthcare provider
- **Start Date/Time** (Date/Time) – Scheduled appointment start time
- **Fee** (Currency, 10,2) – Appointment consultation fee
- **Owner** (Lookup → User/Group) – Staff member managing the appointment
- **Created By** (Lookup → User) – User who scheduled the appointment
- **Last Modified By** (Lookup → User) – User who last modified appointment details

Step 3: Record Types

Record types enable different business processes within the same object:

Examples:

- **Doctor** → Record Types: Specialist Doctor, General Practitioner, Consultant
- **Patient** → Record Types: Inpatient, Outpatient, Emergency Patient
- **Appointment** → Record Types: Regular Consultation, Follow-up, Emergency Appointment

Step 4: Page Layouts

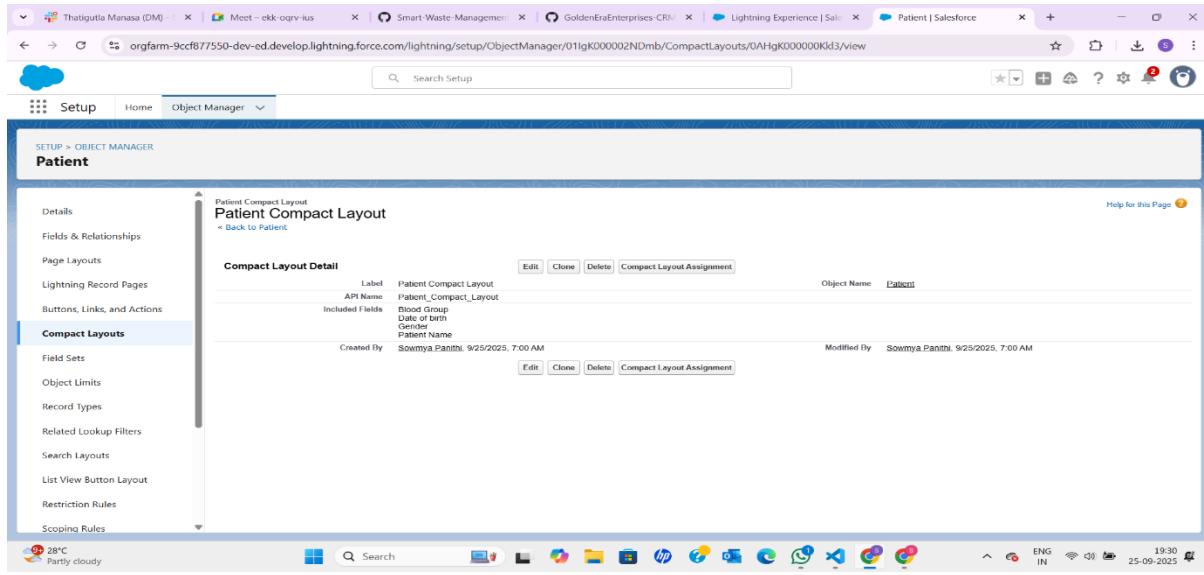
PAGE LAYOUT NAME	CREATED BY	MODIFIED BY
Doctor Layout	Sowmya Panithi, 9/19/2025, 9:36 PM	Sowmya Panithi, 9/19/2025, 9:57 PM

Custom page layouts display relevant fields to different user types:

Examples:

- **Reception team** sees: Patient Name, Contact Details, Appointment Time, Doctor Assignment
- **Medical staff** sees: Patient Medical History, Blood Group, Treatment Notes, Prescription Details
- **Administrative team** sees: Billing Information, Insurance Details, Payment Status

Step 5: Compact Layouts

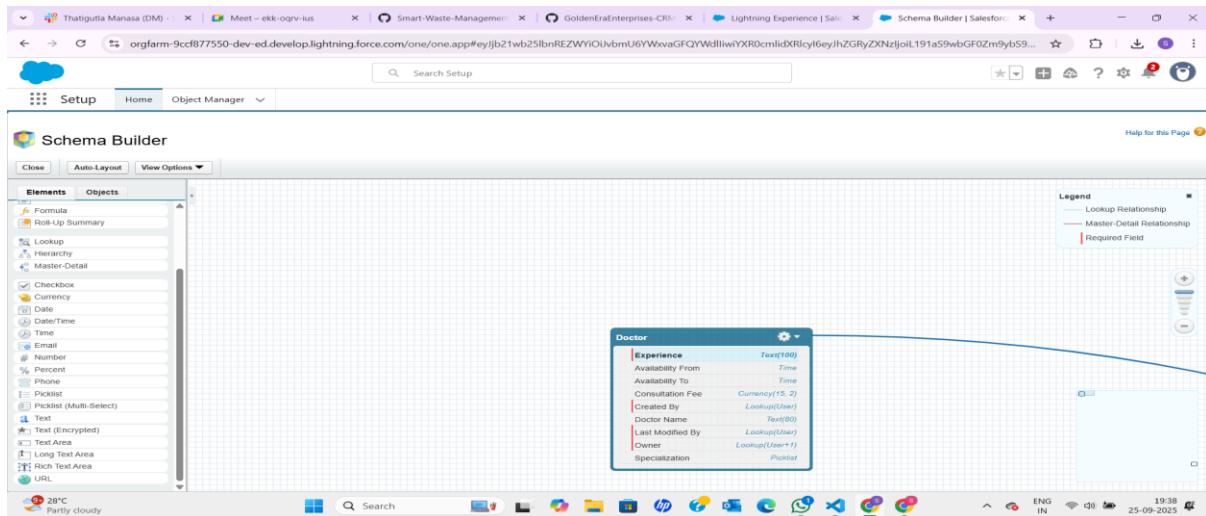


Examples:

- **Doctor Compact Layout:** Doctor Name, Specialization, Availability, Consultation Fee
- **Patient Compact Layout:** Patient Name, Age, Blood Group, Contact Number (*as shown in Screenshot 6*)
- **Appointment Compact Layout:** Patient Name, Doctor, Date/Time, Status

Step 6: Schema Builder

- **Visual representation** of all healthcare objects and their interconnections
- **Shows relationships** between Doctor, Patient, and Appointment objects
- **Displays field types** and data relationships for stakeholder understanding
- **Helps visualize** patient flow and appointment management process



Step 7: Relationship Types

Lookup Relationship:

- Simple connection between objects
- **Example:** Appointment → Patient (flexible relationship allowing patient data access)

Master-Detail Relationship:

- Strong dependency where parent controls child record behavior
- **Example:** Patient → Medical Records (Patient is parent, Medical Records are children)
- **Key Benefits of This Data Model:**
 - **✓ Comprehensive Patient Management** – Complete patient profiles with medical history and demographics
 - **✓ Efficient Appointment Scheduling** – Streamlined booking system linking patients with appropriate doctors
 - **✓ Doctor Specialization Tracking** – Clear visibility of medical expertise and availability
 - **✓ Flexible Relationship Structure** – Scalable design supporting future healthcare modules
 - **✓ Role-Based Information Access** – Different user types see relevant information through custom page layouts
 - **✓ Mobile-Optimized Views** – Compact layouts ensure critical information is accessible on mobile devices