

PHASE 1:

Objective: To lay the foundational groundwork for the Patient Appointment Management System by formalizing the project's purpose, identifying key players, and mapping the primary business workflow.

1. Project Charter

This document acts as the guiding star of the project, outlining its core purpose, scope, and intended outcomes.

- **Project Title:** Patient Appointment Management System
- **Industry:** Healthcare / Clinic Management
- **Problem Statement:**

The current appointment scheduling in many small clinics is handled manually through registers or spreadsheets. This results in several operational challenges:

 - Receptionists struggle to track doctors' availability, often leading to overlapping bookings.
 - Patients receive no reminders or confirmations, causing missed appointments.
 - Doctors have no organized view of their daily schedules.
 - Administrators lack real-time reports on appointment trends, cancellations, and resource usage.

These issues reduce clinic efficiency, increase patient wait times, and create overall dissatisfaction.
- **Proposed Solution:**

Develop a custom Salesforce-based application called **Patient Appointment Management System** that centralizes all patient, doctor, and appointment data. The system will automate scheduling, prevent overlapping appointments, send confirmation/reminder notifications, and provide real-time dashboards to improve decision-making and operational efficiency.
- **Key Use Cases:**
 - Receptionist creates a new Patient record and books an appointment with a Doctor.
 - The system validates doctor availability and prevents overlapping bookings.

- Patient automatically receives a confirmation email and a reminder 1 day before the appointment.
- Doctor views their appointment schedule and marks completed appointments.
- Admin views dashboards to analyze daily appointments, cancellations, and doctor workload.

2. Identified Stakeholders & Users


The following key users have been identified as the target audience for the application:

- **Receptionist:** Manages patient records, books appointments, and handles cancellations. Needs a fast and simple interface to manage schedules accurately.
- **Doctor:** Provides medical consultation and needs a clear view of upcoming appointments, patient details, and the ability to update appointment status.
- **Patient:** Receives confirmation and reminder communications and attends scheduled appointments.
- **System Administrator:** Configures and maintains the Salesforce system, manages security, profiles, permissions, and supports users.
- **Clinic Administrator:** Reviews reports and dashboards to track clinic performance, appointment trends, and resource allocation.

3. Core Business Process Map

The main workflow that the system will support is as follows:







1. **Patient Registration:** Receptionist registers a new Patient or selects an existing record.
2. **Appointment Booking:** Receptionist books an Appointment with a selected Doctor and time slot.
3. **Availability Validation:** The system checks for conflicts and prevents overlapping appointments for the same Doctor.
4. **Notification Trigger:** The system sends an appointment confirmation email immediately and a reminder email 1 day before the appointment.
5. **Consultation:** On the appointment date, the Doctor attends the patient and marks the Appointment as “Completed.”



Setup

Home

Object Manager

company

Company Settings

Business Hours

Calendar Settings

Public Calendars and Resources

Company Information

Data Protection and Privacy

Fiscal Year

Holidays

Language Settings

My Domain

SETUP

Company Information

Company Information

Shri Hospital

The organization's profile is below:

User Licenses (13)

Permission Set Licenses (13)

Feature Licenses (1)

Usage-based Commitments (13)

Organization Detail

Organization Name

Shri Hospital

Primary Contact

Orgfam EPIC

Division

Address

Kautild
Alorh 444001
Maharashtra
India

Fiscal Year Starts In

January

Activate Multiple Currencies

☐

Enable Data Translation

☐

Newsletter

☒

Admin Newsletter

☒

Hide Notices About System Maintenance

☐

Hide Notices About System Downtime

☐

Locale Formats

ICU

Phone

(886) 206-5091

Fax

Default Locale

English (United States)

Default Language

English

Default Time Zone

(GMT+05:30) India Standard Time (Asia/Kolkata)

Currency Locale

Hindi (India) - INR

Used Data Space

342 KB (7%) [Details](#)

Used File Space

17 KB (0%) [Details](#)

API Requests, Last 24 Hours

0 (15,000 max)

Streaming API Events, Last 24 Hours

0 (10,000 max)

Restricted Login, Current Month

0 (0 max)

Salesforce.com Organization ID

00Q900000000000000

Organization Edition

Developer Edition

Instance

CAN66

Created By

Orgfam EPIC, 9/10/2025, 9:49 PM

Modified By

Chaitanya Mahajan, 9/10/2025, 8:33 PM

3. Business Hours & Holidays

- **Path:** Setup → Company Settings → Business Hours → New
 - Business Days → Monday–Saturday
 - Time → 9:00 AM – 6:00 PM

The screenshot shows the Salesforce Setup interface. On the left, the 'Setup' menu is open, showing 'Company Settings' > 'Business Hours'. The main content area is titled 'Organization Business Hours'. It includes a description: 'Select the days and hours that your support team is available. These hours, when associated with escalation rules, determine the times at which cases can escalate. If you enter blank business hours for a day, that means your organization does not operate on that day.' Below this, there's a 'Business Hours Detail' section with an 'Edit' button. It shows a table for 'Business Hours' with columns for 'Business Hours Name', 'ClinicHours', and 'Time Zone'. The table lists days from Sunday to Saturday with their respective hours. Sunday is set to 'No Hours'. Monday through Saturday are set to '9:00 AM to 6:00 PM'. The 'Time Zone' is set to '(GMT+05:30) India Standard Time (Asia/Kolkata)'. Below the table, there's an 'Active' checkbox (checked), 'Created By' (Chaitanya Mahajan 9/14/2025, 8:31 PM), and 'Last Modified By' (Chaitanya Mahajan 9/14/2025, 8:31 PM). At the bottom, there's a 'Holidays' section with an 'Add/Remove' button and a message 'No records to display'. A footer note says 'Always show me more records per related list'.

- **Path:** Setup → Company Settings → Holidays → New Holiday
 - Added holidays like Republic Day, Diwali, Independence Day.

4. Fiscal Year

- Left as default (Standard fiscal year starting January).

5. Users Setup & Licenses

- **Path:** Setup → Users → Users → New User
- Created 3 test users for role-based access testing:
 - **Admin (you)** — full system access
 - **Receptionist** — can create/manage appointments and patients
 - **Doctor** — can only view/edit their appointments
- License used: **Salesforce Platform** (suitable for custom-object-only users).

6. Profiles

- Cloned the **Standard Platform User** profile to create custom profiles:
 - **Admin Profile:** Full CRUD + Setup access
 - **Receptionist Profile:** CRED on Patient, Appointment; Read on Doctor
 - **Doctor Profile:** Read/Edit on Appointment; Read on Patient; Read on Doctor
- **Path:** Setup → Profiles → Clone → Configure Object Settings.

7. Roles

- Defined a role hierarchy to control record visibility:
 - **Admin → Receptionist → Doctor**
- **Path:** Setup → Users → Roles → Set Up Roles → New Role
- Purpose: ensures higher roles (Receptionist/Admin) can see records owned by lower roles (Doctor).

8. Permission Sets

- (Optional) Created a **Flow User Permission Set** to give Flows-related permissions and assigned it to all test users.
- **Path:** Setup → Permission Sets → New.

9. Org-Wide Defaults (OWD)

- **Path:** Setup → Security → Sharing Settings → Edit
- Set sharing model:
 - Doctor__c = Public Read Only
 - Patient__c = Public Read Only
 - Appointment__c = Private
- Ensures records are only visible to their owners unless shared via role hierarchy or rules.

10. Sharing Rules

- Created a sharing rule to allow Receptionists to access Doctor and Appointment records owned by Doctors.
- Path:** Setup → Security → Sharing Settings → Appointment Sharing Rules → New
 - Owned By:** Role → Doctor
 - Share With:** Role → Receptionist
 - Access Level:** Read/Write.

The screenshot shows the Salesforce Setup interface. The left sidebar contains a search bar with 'sharing' and a navigation menu with 'Security' expanded, showing 'Guest User', 'Sharing Rule Access Report', and 'Sharing Settings' (highlighted). The main content area is titled 'Sharing Settings' and includes sections for 'Organization-Wide Defaults', 'Other Settings', 'Appointment Sharing Rules', and 'Sharing Overrides'.

Organization-Wide Defaults

Object	Default Internal Access	Default External Access	Grant Access Using Hierarchies
Appointment	Private	Private	✓

Other Settings

Manager Groups	<input type="checkbox"/>
Secure guest user record access	<input checked="" type="checkbox"/>
Require permission to view record names in lookup fields	<input type="checkbox"/>

Appointment Sharing Rules

Action	Criteria	Shared With	Access Level
Edit Del	Owner in Role_Drctor	Role_Receptionist	Read/Write

Sharing Overrides

Profiles That Override Appointment Sharing

Profile	Custom Profile	Organization-Wide Permissions		Appointment Permissions	
		View All Data	Modify All Data	View All Records	Modify All Records
Analytics Cloud Integration User	<input type="checkbox"/>	✓	<input type="checkbox"/>	✓	<input type="checkbox"/>
System Administrator	<input type="checkbox"/>	✓	✓	✓	✓

11. Login Access Policies

- No changes made (defaults used).

PHASE 3:

Objective: Define objects, fields, relationships, and UI layouts for clinic data.

1. Custom Objects

Path: Setup → Object Manager → Create → Custom Object**

- **Doctor__c**
 - Label: Doctor, Plural: Doctors, Record Name: Name (Text)
- **Patient__c**
 - Label: Patient, Plural: Patients, Record Name: Name (Text)
- **Appointment__c**
 - Label: Appointment, Plural: Appointments
 - Record Name: Auto Number → Format APT-{00000000}

2. Custom Fields

Doctor

- Specialization__c — Picklist (Dentist, Cardiologist, Orthopedic, General Physician, Pediatrician, Other)
- Contact_Number__c — Phone
- Email__c — Email

The screenshot shows the Salesforce Object Manager interface for the 'Doctor' object. The left sidebar contains a navigation menu with options: Details, Fields & Relationships (selected), Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, Restriction Rules, Scoping Rules, and Object Access. The main content area is titled 'Doctor' and shows a table of fields and relationships. The table has columns: FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The table lists 7 items, sorted by Field Label. The items are: Created By (CreatedById, Lookup(User), CONTROLLING FIELD, INDEXED), Doctor Name (Name, Text(80), INDEXED), Email (Email__c, Email, INDEXED), Last Modified By (LastModifiedById, Lookup(User), CONTROLLING FIELD, INDEXED), Owner (OwnerId, Lookup(User.Group), CONTROLLING FIELD, INDEXED), Phone (Phone__c, Phone, INDEXED), and Specialization (Specialization__c, Text(50), INDEXED). The top of the interface shows the 'Setup' tab, a search bar, and various utility icons.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Doctor Name	Name	Text(80)		✓
Email	Email__c	Email		✓
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User.Group)		✓
Phone	Phone__c	Phone		✓
Specialization	Specialization__c	Text(50)		✓

Patient

- Date_of_Birth__c — Date
- Gender__c — Picklist (Male, Female, Other)
- Contact_Number__c — Phone
- Email__c — Email

The screenshot shows the Salesforce Setup interface. At the top, there's a navigation bar with 'Setup', 'Home', and 'Object Manager'. Below this, the 'Patient' object is selected. The left sidebar contains a list of setup options: Details, Fields & Relationships (selected), Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, Restriction Rules, Scoping Rules, and Object Access. The main content area is titled 'Fields & Relationships' and shows a table of 9 fields. The table has columns for FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The fields listed are: Created By, Date of Birth, Email, Gender, Last Modified By, Medical Record Number, Owner, Patient Name, and Phone. Each field has a dropdown arrow in the INDEXED column.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Date of Birth	Date_of_Birth__c	Date		
Email	Email__c	Email		
Gender	Gender__c	Picklist		
Last Modified By	LastModifiedById	Lookup(User)		
Medical Record Number	Medical_Record_Number__c	Auto Number (External ID)		✓
Owner	OwnerId	Lookup(User,Group)		✓
Patient Name	Name	Text(80)		✓
Phone	Phone__c	Phone		

Appointment

- Appointment_Date_Time__c — Date/Time (Required)
- Status__c — Picklist (Scheduled (default), Completed, Cancelled)
- Doctor__c — Lookup (Doctor) (Required)
- Patient__c — Lookup (Patient) (Required)
- Notes__c — Long Text Area (32000)

SETUP > OBJECT MANAGER

Appointment

Details

Fields & Relationships
9 Items, Sorted by Field Label

Q Quick Find

New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Appointment Name	Name	Text(80)		✓
Created By	CreatedById	Lookup(User)		
Date Time	Date_Time__c	Date/Time		
Doctor	Doctor__c	Lookup(Doctor)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Notes	Notes__c	Text(255)		
Owner	OwnerId	Lookup(User,Group)		✓
Patient	Patient__c	Lookup(Patient)		✓
Status	Status__c	Picklist		

Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Search Layouts
List View Button Layout
Restriction Rules
Scoping Rules
Object Access

3. Page Layouts & Related Lists

- Edited Appointment layout: placed Appointment Date/Time, Status, Doctor, Patient, Notes at top.
- Edited Doctor layout: added Specialization, Phone, Email, and Appointments related list.
- Edited Patient layout: added Age, Gender, Phone, Email, and Appointments related list.
- **Path:** Object Manager → [Object] → Page Layouts → Edit.

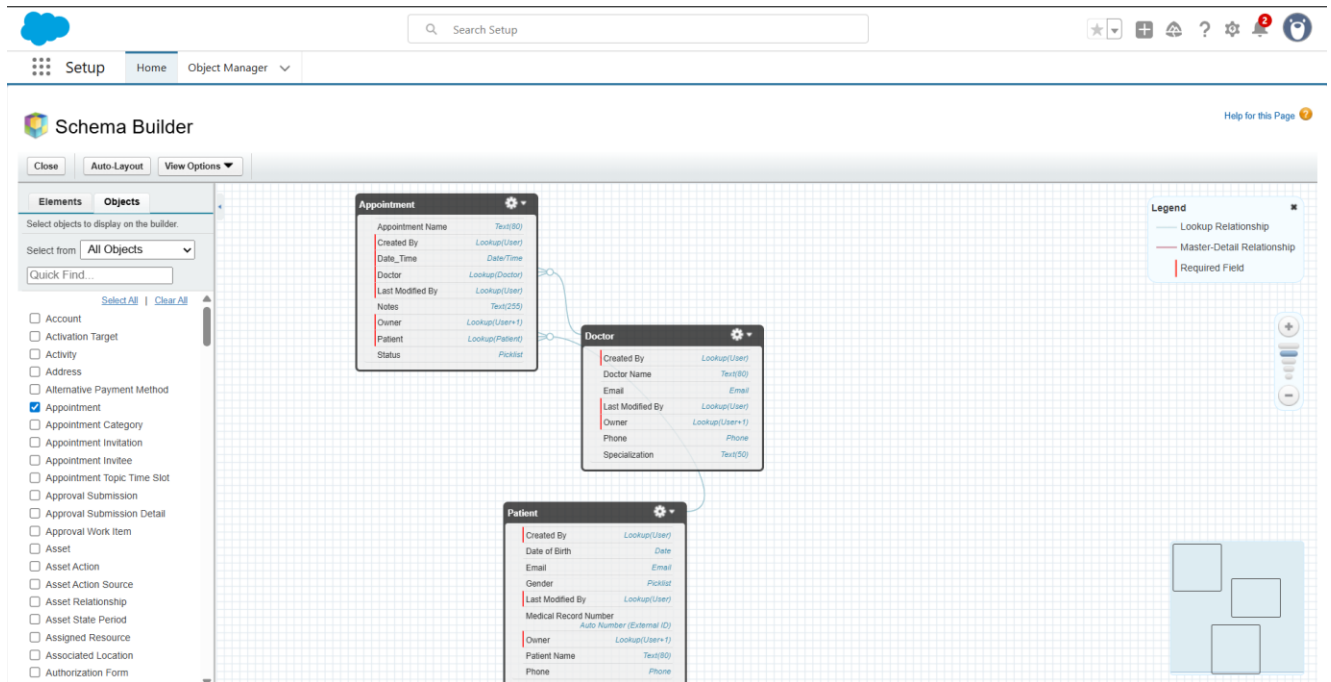
4. Compact Layouts

- Appointment: DateTime, Doctor, Patient, Status.
- Doctor: Name, Specialization, Phone.
- Patient: Name, Age, Phone.
- **Path:** Object Manager → [Object] → Compact Layouts → New → Assign.

5. Schema Builder

- **Path:** Setup → Schema Builder

- Dragged Doctor, Patient, Appointment objects to verify relationships visually as ER diagram.



PHASE 4:

Objective: Prevent invalid data and send appointment confirmations and reminders.

A. Validation Rule — No Past Dates

- **Path:** Object Manager → Appointment → Validation Rules → New
- **Name:** No_Past_Appointments
- **Formula:**
- $\text{Appointment_Date_Time_c} < \text{NOW}()$
- **Error:** Appointment date/time cannot be in the past.

The screenshot shows the Salesforce Setup interface. The top navigation bar includes the Salesforce logo, a search bar labeled "Search Setup", and several utility icons. Below the navigation bar, the breadcrumb trail reads "Setup > OBJECT MANAGER". The main heading is "Appointment". On the left, a sidebar lists various configuration options: Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, Restriction Rules, Scoping Rules, and Object Access. The "Details" section is selected, showing the "Appointment Validation Rule" configuration page. The page title is "Appointment Validation Rule" with a "Back to Appointment" link. Below the title, there is a "Validation Rule Detail" section with a table of configuration details. The table includes fields for Rule Name, Error Condition Formula, Error Message, Error Location, Description, Created By, and Modified By. The "Active" checkbox is checked. The "Rule Name" is "No_Past_Appointments". The "Error Condition Formula" is "Date_Time__c < NOW()". The "Error Message" is "Appointment dateTime cannot be in the past.". The "Error Location" is "Date_Time". The "Description" is "Appointment date/time cannot be in the past.". The "Created By" is "Chaitanya Mahajan, 9/16/2025, 10:13 PM". The "Modified By" is "Chaitanya Mahajan, 9/16/2025, 10:13 PM". There are "Edit" and "Clone" buttons next to the "Rule Name" and "Created By" fields.

Validation Rule Detail		Active
Rule Name	No_Past_Appointments	✓
Error Condition Formula	Date_Time__c < NOW()	
Error Message	Appointment dateTime cannot be in the past.	Error Location Date_Time
Description	Appointment date/time cannot be in the past.	
Created By	Chaitanya Mahajan, 9/16/2025, 10:13 PM	Modified By Chaitanya Mahajan, 9/16/2025, 10:13 PM

B. Prevent Overlapping Appointments — Before-Save Flow

- **Flow:** Record-Triggered (Before Save) on Appointment
- **Trigger:** When record is created or updated

- Logic:

1. **Get Records** — Appointment where

- Doctor__c = \$Record.Doctor__c
- Appointment_Date_Time__c = \$Record.Appointment_Date_Time__c
- Id != \$Record.Id
- Status__c != 'Cancelled'

2. **Decision** — if a record is found

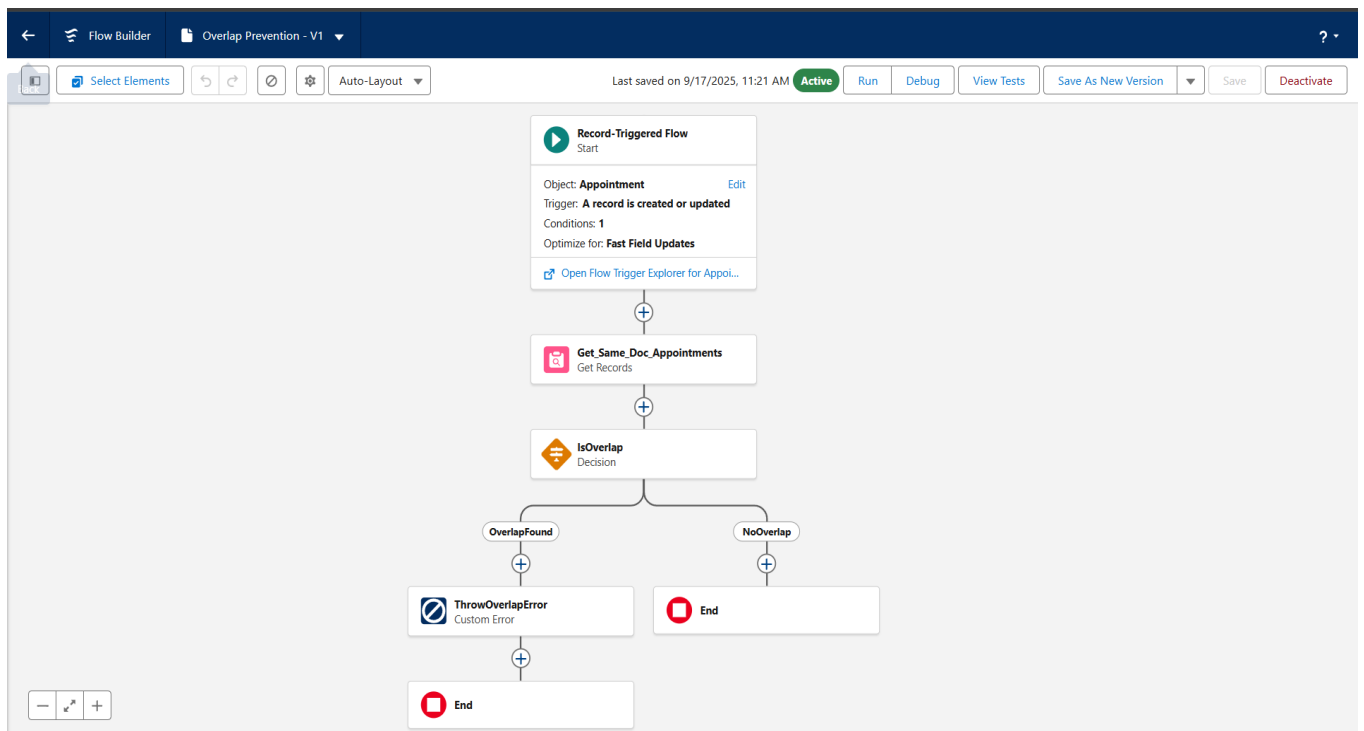
3. **Assignment** — \$Record.Overlapping__c = TRUE

- Save as **FTB_Appointment_Overlap_Check** → Activate

Validation Rule to block save:

Overlapping__c = TRUE

→ Error: "This doctor already has an appointment at the selected date/time."



C. Appointment Confirmation Emails — After-Save Flow

- Created Lightning Email Template **Appointment_Confirmation_Template** with merge fields:
 - Patient Name, Doctor Name, Appointment DateTime, Notes
- **Flow:** Record-Triggered (After Save) on Appointment
- Trigger: When created
- Entry Condition: Status__c = 'Scheduled'
- Immediate Action: Send Email (Confirmation template) → Recipient: \$Record.Patient__r.Email
- Scheduled Path: Reminder_1_Day_Before
 - Time Source: Appointment_Date_Time__c
 - Offset: -1 Day
 - Action: Send Email using Appointment_Reminder_Template
- Save as **AFT_Send_Appointment_Emails** → Activate

