

Phase 3: Data Modeling & Relationships

1. Introduction:

This phase focused on designing the core data model for the SAHAYA system on Salesforce. It involved defining the key entities (objects), their attributes (fields), and the relationships between them to accurately model the disaster response ecosystem. The goal was to create a scalable and intuitive structure that supports efficient tracking of disasters, medical camps, patients, and volunteer assignments.

2. Objectives:

- Configure standard and custom objects to represent disasters, medical camps, patients, and volunteer assignments.
- Add relevant custom fields to capture critical information for each entity.
- Create record types to categorize different types of patients (e.g., Emergency vs. Standard).
- Customize page layouts and compact layouts for a user-friendly experience tailored to different roles (e.g., Medical Volunteer vs. Disaster Manager).
- Use Schema Builder to visualize the entire data model and object relationships.
- Understand and apply Lookup vs. Master-Detail relationships appropriately.
- Implement the Volunteer Assignment object as a junction object to manage the many-to-many relationship between Volunteers (Contacts) and Medical Camps.

3. Configuration Steps:

Step 1 — Standard & Custom Objects

Standard Objects Used:

- Contact: Represents Volunteers, Doctors, and Nurses in the system.
- User: Represents system users like Disaster Managers and Field Coordinators.

Custom Objects Created:

- The image displays four sequential screenshots of the Microsoft Dynamics 365 Object Manager interface, illustrating the process of navigating through different object categories. Each screenshot shows the 'Object Manager' header with a 'SETUP' icon, a 'Quick Find' search bar, and buttons for 'Schema Builder' and 'Create'. The interface is divided into a left sidebar with 'Setup', 'Home', and 'Object Manager' tabs, and a main content area displaying a list of objects.

Screenshot 1: Shows the 'Object Manager' page with 108 items. The list includes:

Object Name	Object Type
Delivery Estimation Setup	Standard Object
Digital Wallet	Standard Object
Disaster	Custom Object
Duplicate Record Item	Standard Object

Screenshot 2: Shows the 'Object Manager' page with 158 items. The list includes:

Object Name	Object Type
Location Group Assignment	Standard Object
Location Shipping Carrier Method	Standard Object
Macro	Standard Object
Medical Camp	Custom Object
Messaging Session	Standard Object

Screenshot 3: Shows the 'Object Manager' page with 158 items. The list includes:

Object Name	Object Type
Order Product	Standard Object
Party Consent	Standard Object
Patient	Custom Object
Payment	Standard Object

Screenshot 4: Shows the 'Object Manager' page with 215 items. The list includes:

Object Name	Object Type
User Provisioning Request	Standard Object
Voice Call	Standard Object
Volunteer Assignment	Custom Object
Waitlist	Standard Object

Step 2 — Fields

Disaster__c Fields:

- Type__c (Text)
- Start_Date__c (Date)
- Status__c (Picklist: Active, Standby, Closed)
- Description__c (Text Area)

The screenshot shows the Salesforce Object Manager interface for the 'Disaster' object. The left sidebar contains navigation links: 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, and Restriction Rules. The main content area is titled 'Fields & Relationships' and shows 8 items sorted by Field Label. The table below lists these fields.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Description	Description__c	Text Area(255)		
Disaster Name	Name	Text(80)		✓
Disaster Type	Disaster_Type__c	Text(50)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Start Date	Start_Date__c	Date		
Status	Status__c	Picklist		

Medical_Camp__c Fields:

- Disaster__c (Lookup to Disaster)
- Location__c (Text Area)
- Status__c (Picklist: Active, Inactive, Closed)
- Capacity__c (Number)
- Contact_Person__c (Text)
- Phone__c (Phone)

Setup

Home

Object Manager

SETUP > OBJECT MANAGER

Medical Camp

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

Fields & Relationships

10 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
Capacity	Capacity__c	Number(18, 0)		
Contact Person	Contact_Person__c	Text(50)		
Created By	CreatedById	Lookup(User)		
Disaster	Disaster__c	Lookup(Disaster)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Location	Location__c	Text Area(255)		
Medical Camp Name	Name	Text(80)		✓
Owner	OwnerId	Lookup(User,Group)		✓
Phone	Phone__c	Phone		
Status	Status__c	Picklist		

Patient__c Fields:

- Patient_Name__c (Text)
- Medical_Camp__c (Lookup to Medical Camp)
- Age__c (Number)
- Condition__c (Picklist: Minor, Serious, Critical)
- Treatment_Date__c (Date)
- Status__c (Picklist: Treated, Under Observation, Referred)

Setup

Home

Object Manager

SETUP > OBJECT MANAGER

Patient

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

Fields & Relationships

11 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
Age	Age__c	Number(18, 0)		
Condition	Condition__c	Picklist		
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Medical Camp	Medical_Camp__c	Lookup(Medical Camp)		✓
Owner	OwnerId	Lookup(User, Group)		✓
Patient Name	Patient_Name__c	Text(50)		
Patient Name	Name	Text(80)		✓
Record Type	RecordTypeId	Record Type		✓
Status	Status__c	Picklist		
Treatment Date	Treatment_Date__c	Date		

Volunteer_Assignment__c Fields:

- Contact__c (Lookup to Contact)

- Medical_Camp__c (Lookup to Medical Camp)
- Start_Date__c (Date)
- End_Date__c (Date)
- Status__c (Picklist: Active, Completed)
- Role__c (Picklist: Doctor, Nurse, Paramedic, Helper)

Setup > OBJECT MANAGER

Volunteer Assignment

Details

Fields & Relationships
10 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
Created By	CreatedById	Lookup(User)		
End Date	End_Date__c	Date		
Last Modified By	LastModifiedById	Lookup(User)		
Medical Camp	Medical_Camp__c	Lookup(Medical Camp)		✓
Owner	OwnerId	Lookup(User,Group)		✓
Role	Role__c	Picklist		
Start Date	Start_Date__c	Date		
Status	Status__c	Picklist		
Volunteer	Volunteer__c	Lookup(Contact)		✓
Volunteer Assignment Name	Name	Text(80)		✓

Step 3 — Record Types

Created on the Patient__c object to distinguish between different patient care pathways.

- Emergency Patient: For patients requiring immediate, critical care.

Setup > OBJECT MANAGER

Patient

Details

Record Types
1 Items, Sorted by Record Type Label

Q Quick Find New Page Layout Assignment

RECORD TYPE LABEL	DESCRIPTION	ACTIVE	MODIFIED BY
Emergency Patient	Patients requiring immediate emergency care	✓	Tejasri Vasamsetti, 9/25/2025, 12:17 AM

Step 4 — Page Layouts

- Disaster__c Layout → Overview of disaster details, type, status, and related list of associated Medical Camps.
- Medical_Camp__c Layout → Core camp information, location, capacity, contact details, and related lists for Patients and Volunteer Assignments.
- Patient__c Layout → Patient demographics, medical condition, treatment status, and link to their assigned Medical Camp.
- Volunteer_Assignment__c Layout → Assignment details including volunteer role, start/end dates, status, and links to the Volunteer (Contact) and Medical Camp.

The image displays four screenshots of the Salesforce Setup - Object Manager interface, specifically the Page Layouts section for different objects. Each screenshot shows a list of page layouts with columns for Page Layout Name, Created By, and Modified By. The interface includes a sidebar with navigation options like Details, Fields & Relationships, Page Layouts, Lightning Record Pages, and Buttons, Links, and Actions. The top navigation bar shows Setup, Home, and Object Manager.

Disaster

Page Layouts
1 Items, Sorted by Page Layout Name

PAGE LAYOUT NAME	CREATED BY	MODIFIED BY
Disaster Layout	Tejasri Vasamsetti, 9/24/2025, 7:43 AM	Tejasri Vasamsetti, 9/25/2025, 12:23 AM

Medical Camp

Page Layouts
1 Items, Sorted by Page Layout Name

PAGE LAYOUT NAME	CREATED BY	MODIFIED BY
Medical Camp Layout	Tejasri Vasamsetti, 9/24/2025, 7:46 AM	Tejasri Vasamsetti, 9/25/2025, 12:04 AM

Patient

Page Layouts
1 Items, Sorted by Page Layout Name

PAGE LAYOUT NAME	CREATED BY	MODIFIED BY
Patient Layout	Tejasri Vasamsetti, 9/24/2025, 7:47 AM	Tejasri Vasamsetti, 9/25/2025, 12:19 AM

Volunteer Assignment

Page Layouts
1 Items, Sorted by Page Layout Name

PAGE LAYOUT NAME	CREATED BY	MODIFIED BY
Volunteer Assignment Layout	Tejasri Vasamsetti, 9/24/2025, 7:47 AM	Tejasri Vasamsetti, 9/25/2025, 12:24 AM

Step 5 — Compact Layouts

Compact layouts were defined to show key information in related lists, lookup dialogs, and mobile apps.

Medical Camp Compact Layout: Displays the most critical info for quick reference.

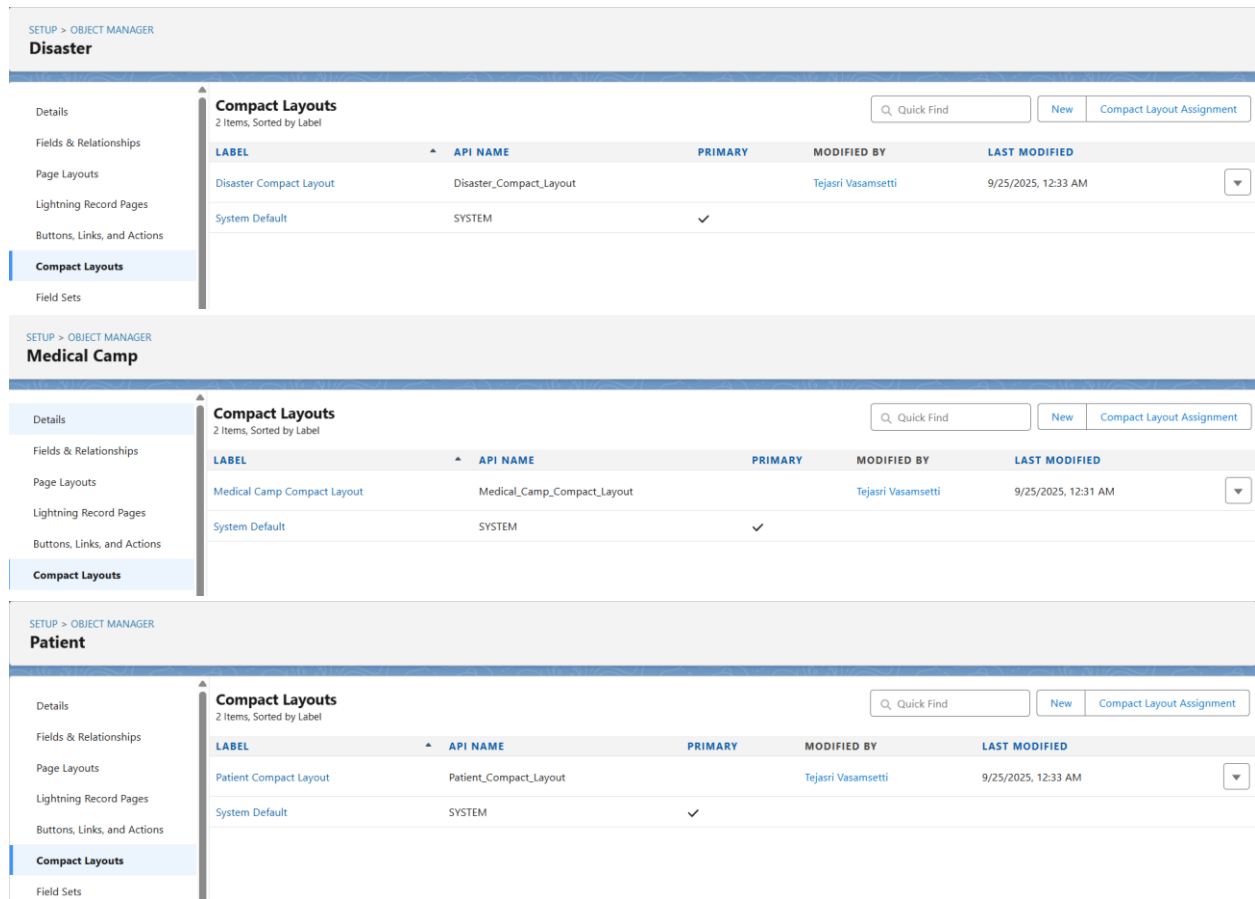
- Medical Camp Name
- Location
- Status

Patient Compact Layout: Provides an at-a-glance view of a patient's state.

- Patient Name
- Condition
- Status

Disaster Compact Layout: Useful for quickly identifying and selecting disasters.

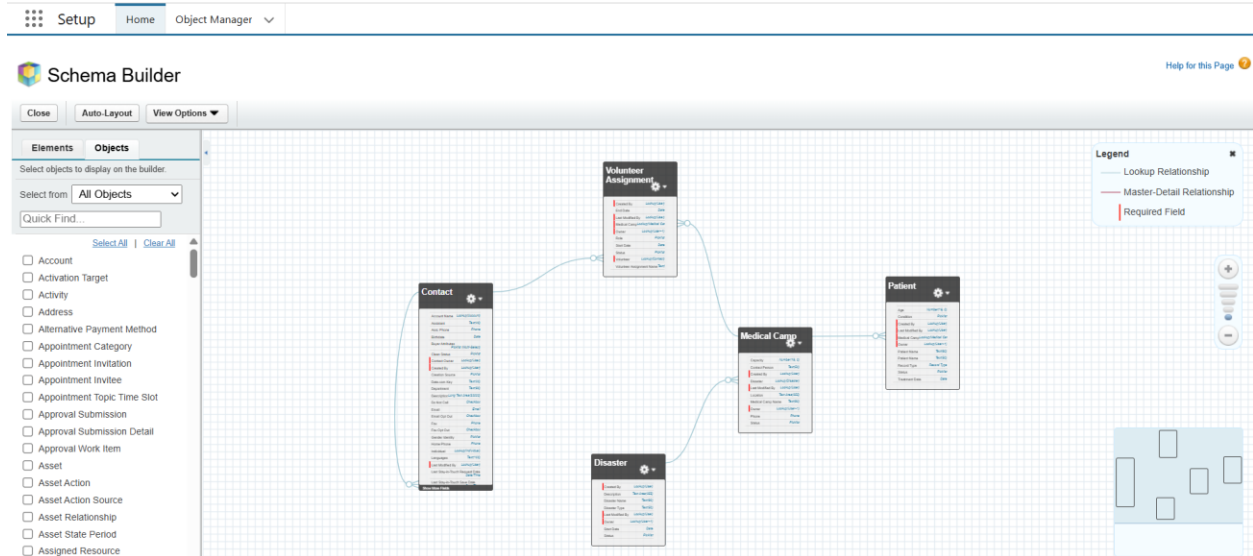
- Disaster Name
- Type
- Status



Step 6 — Schema Builder

The Schema Builder was used to visually design and validate the entire data model.

- All custom objects (Disaster__c, Medical_Camp__c, Patient__c, Volunteer_Assignment__c) and the standard Contact object were added to the canvas.
- The relationships were visually confirmed.



Step 7 — Lookup vs Master-Detail Relationships

Lookup Relationships: Used for all primary relationships in this phase.

- Medical_Camp__c to Disaster__c (A camp is associated with one disaster, but the disaster can exist without the camp).
- Patient__c to Medical_Camp__c (A patient is treated at one camp, but the camp record is independent).
- Volunteer_Assignment__c to Contact and Medical_Camp__c (An assignment links a volunteer to a camp, but both parent records are independent).

Master-Detail Relationship: Considered for Volunteer_Assignment__c but a Lookup was chosen to allow for greater flexibility. This relationship type could be used in the future if strict ownership and cascade delete are required.

Setup	Home	Object Manager
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SETUP > OBJECT MANAGER

Medical Camp

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

Fields & Relationships

10 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
Capacity	Capacity__c	Number(18, 0)		
Contact Person	Contact_Person__c	Text(50)		
Created By	CreatedById	Lookup(User)		
Disaster	Disaster__c	Lookup(Disaster)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Location	Location__c	Text Area(255)		
Medical Camp Name	Name	Text(80)		✓
Owner	OwnerId	Lookup(User,Group)		✓
Phone	Phone__c	Phone		
Status	Status__c	Picklist		

Step 8 — Junction Objects

Volunteer_Assignment__c is implemented as a junction object.

- It creates a many-to-many relationship between Contact (Volunteer) and Medical_Camp__c.
- A single Volunteer can be assigned to multiple Camps.
- A single Camp can have multiple Volunteers assigned to it.

This design allows for efficient tracking of assignments, roles, and schedules.

Setup	Home	Object Manager
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SETUP > OBJECT MANAGER

Volunteer Assignment

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

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Fields & Relationships

10 Items, Sorted by Field Label

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FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
End Date	End_Date__c	Date		
Last Modified By	LastModifiedById	Lookup(User)		
Medical Camp	Medical_Camp__c	Lookup(Medical Camp)		✓
Owner	OwnerId	Lookup(User,Group)		✓
Role	Role__c	Picklist		
Start Date	Start_Date__c	Date		
Status	Status__c	Picklist		
Volunteer	Volunteer__c	Lookup(Contact)		✓
Volunteer Assignment Name	Name	Text(80)		✓