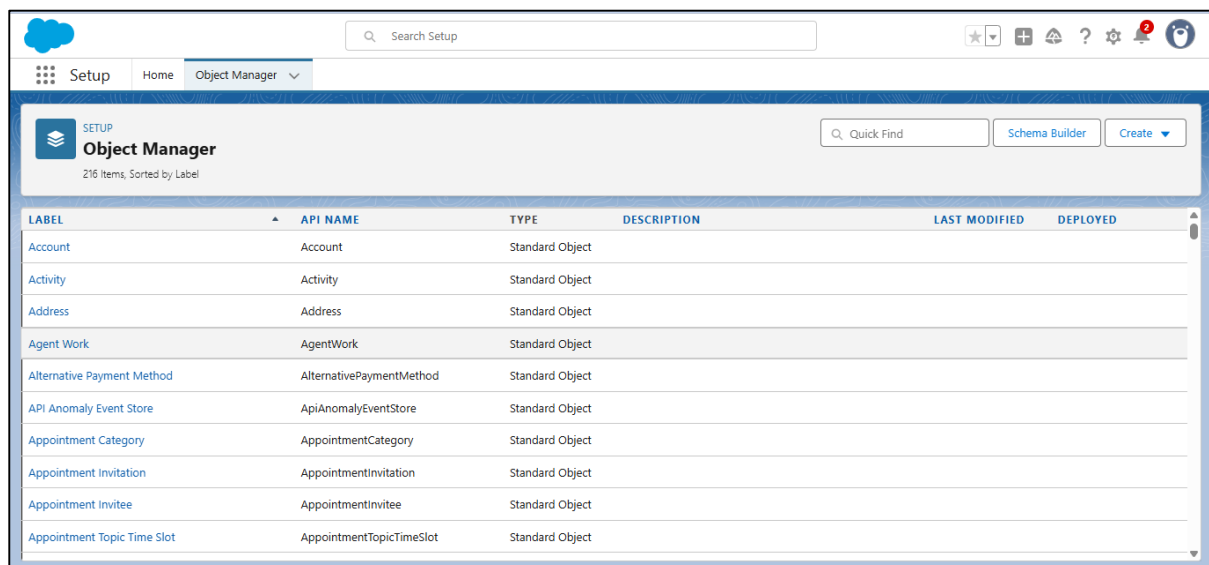# Phase 3: Data Modeling & Relationships

Step 1 — Standard & Custom Objects

1. Go to Setup → Object Manager → Create → Custom Object.
2. Create these objects:
   - Request → for disaster relief requests.
   - Volunteer → for volunteers.
   - Resource → for supplies/resources.
   - Location → for geographical areas.
   - Assignment → junction object between Request, Volunteer, Resource.
3. The **Standard Objects** I have used: User, Contact, Report, etc.

Step 2 — Fields

For each object, added fields:

- **Request**
  - Requester Name (Text)
  - Phone (Phone)
  - Email (Email)
  - Request Type (Picklist: Food, Water, Medicine, Shelter, Other)
  - Priority (Picklist: High, Medium, Low)
  - Status (Picklist: Submitted, Assigned, In Progress, Fulfilled, Closed)
  - Location (Lookup → Location)
  - Assigned Volunteer (Lookup → Volunteer)

- o Assigned Resource (Lookup → Resource)
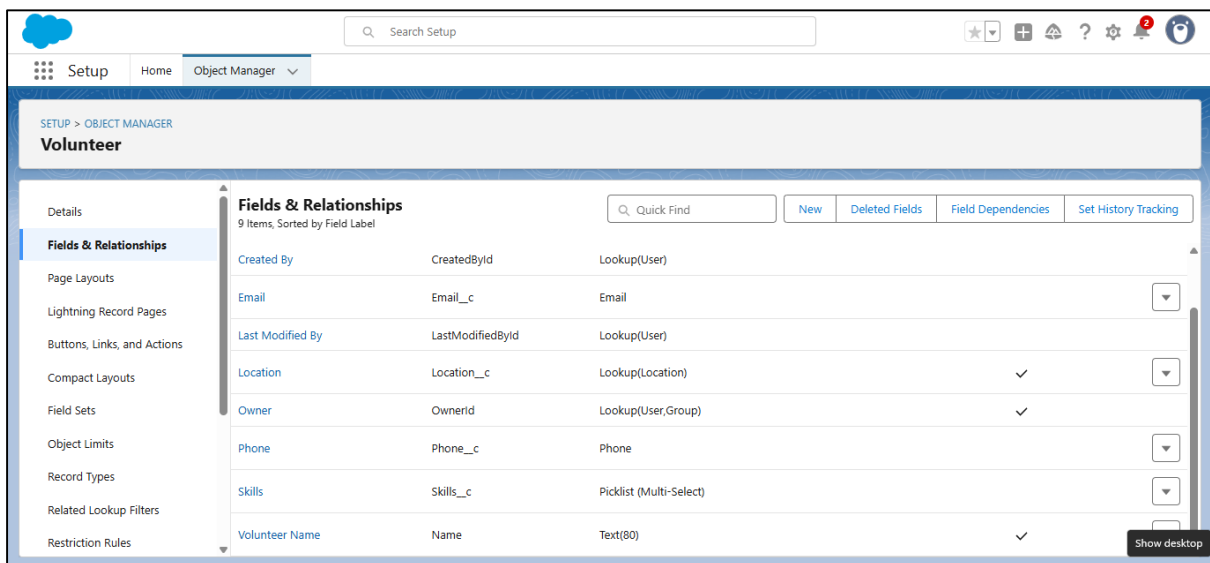- o Requested On (Date/Time)
- o Notes (Long Text Area)

- **Volunteer**

  - o Phone (Phone)

  - o Email (Email)

  - o Skills (Multi-picklist: Medical, Logistics, Transport, Food Distribution)

  - o Availability (Picklist: Available, Busy, Inactive)
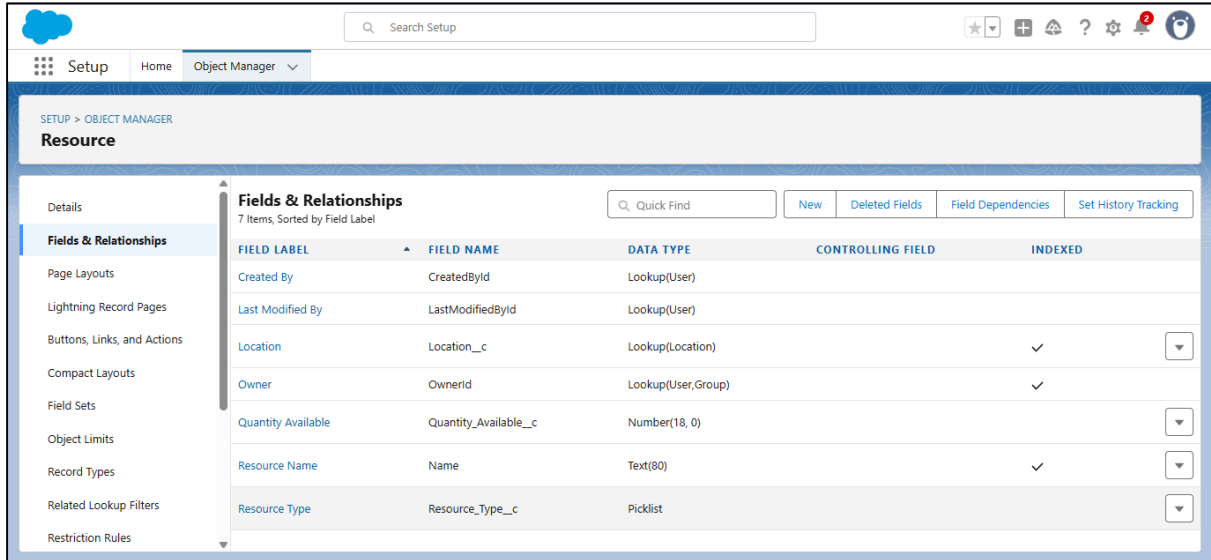
  - o Location (Lookup → Location)

- **Resource**

  o Resource Type (Picklist: Medicine, Food, Shelter Material, Clothing)

  o Quantity Available (Number)

  o Location (Lookup → Location)

Location

- Region (Picklist: North, South, East, West)
- Latitude (Number, 2 decimal places)
- Longitude (Number, 2 decimal places)

- **Assignment** (junction object)
  - Request (Master-Detail → Request)
  - Volunteer (Lookup → Volunteer)
  - Resource (Lookup → Resource)
  - Status (Picklist: Assigned, In Progress, Completed)
  - Assigned On (Date/Time)
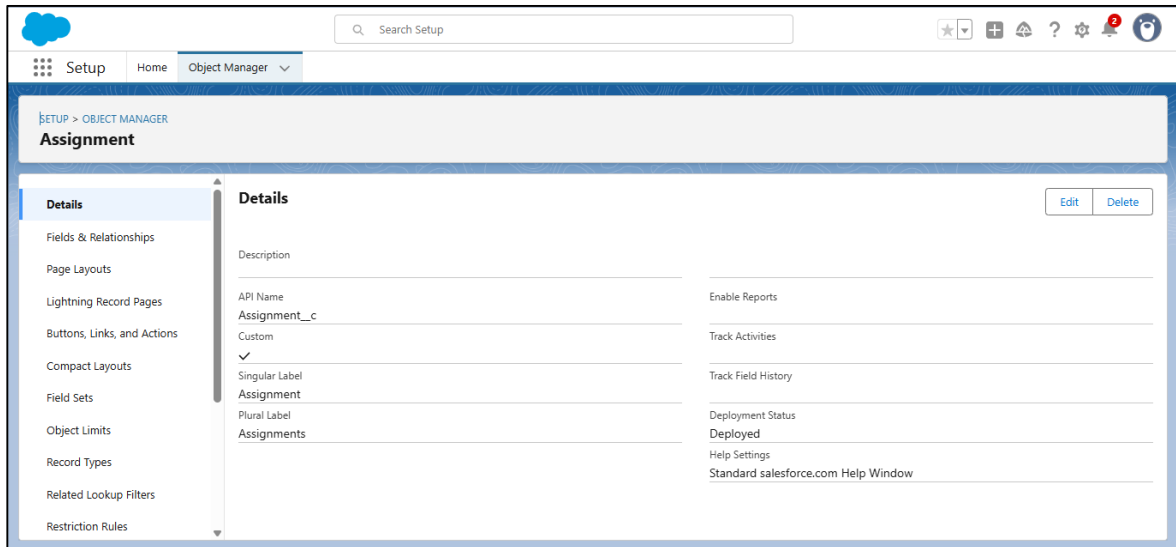
Step 3 — Record Types

- Go to **Object Manager → Request → Record Types → New**.
- Create record types for **Medical Request** and **Supply Request**.
- Assign different **picklist values** and **page layouts**.
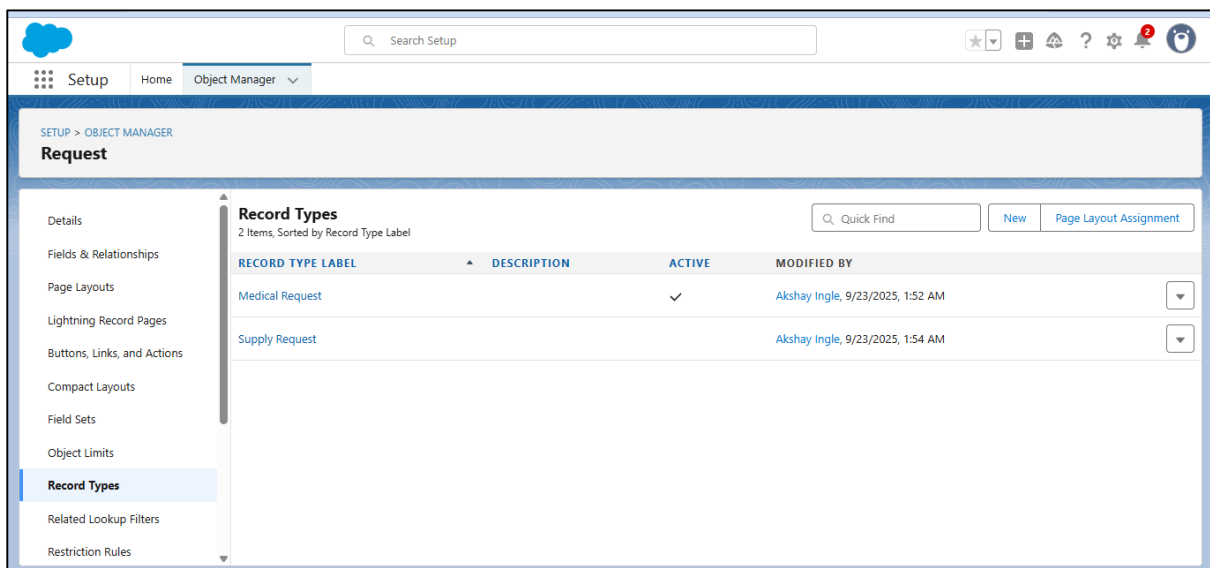
Step 4 — Page Layouts

- Edit **Request Page Layout**: show Requester details, Priority, Status, Assigned Volunteer.
- Edit **Volunteer Page Layout**: show Skills, Availability, Location.
- Different layouts for **Coordinator vs Volunteer** (assign via Profiles).
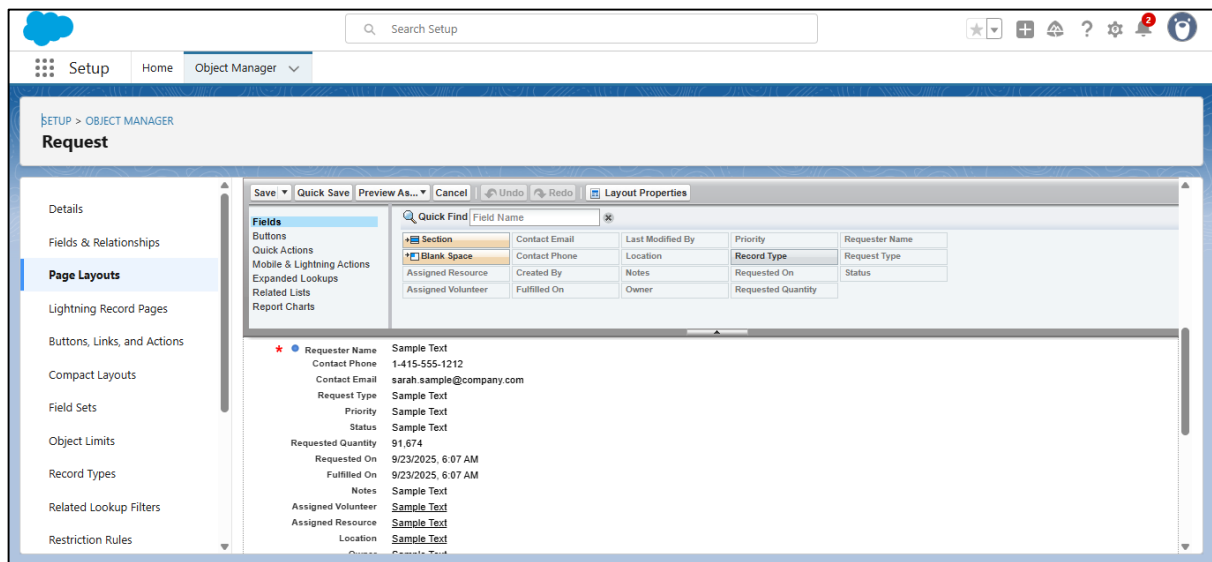
Step 5 — Compact Layouts

- Go to **Object Manager → Request → Compact Layouts → New**.
- Fields to show: Priority, Status, Location, Assigned Volunteer.
- Set as **Primary Compact Layout**.
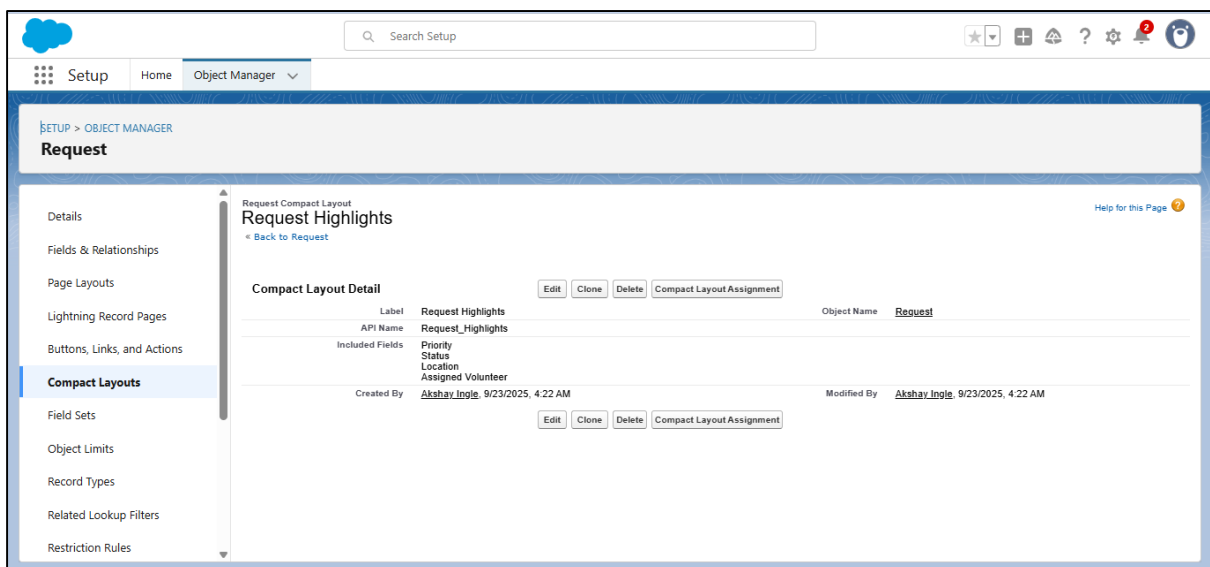
Step 6 — Schema Builder

- Setup → Quick Find → **Schema Builder**.
- Drag objects: Request, Volunteer, Resource, Location, Assignment.
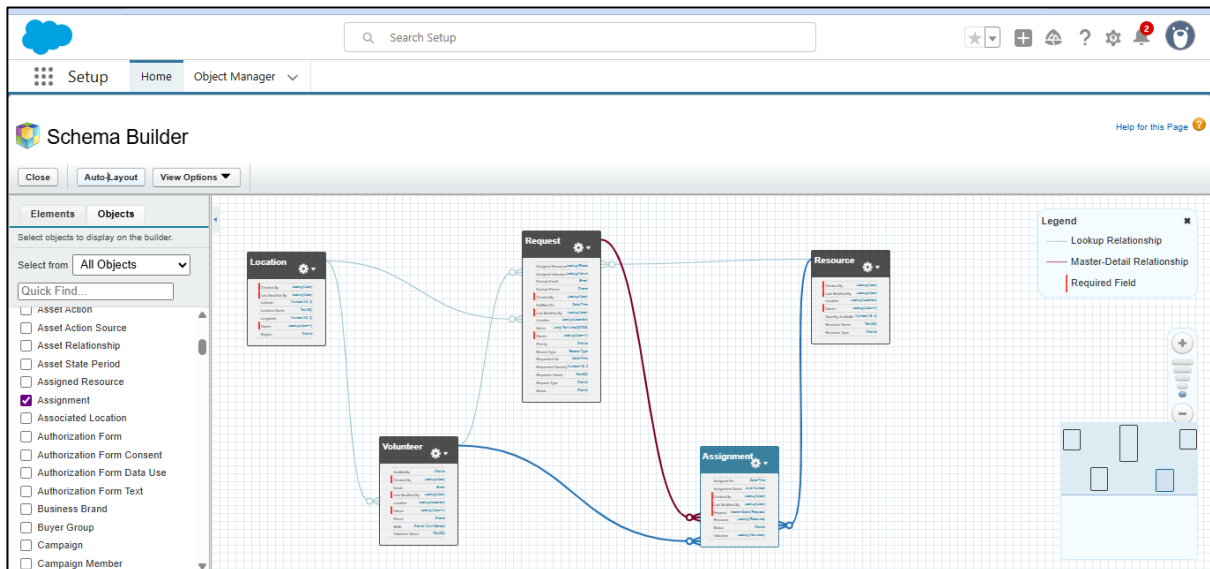- Relationships will appear visually (lookups & master-detail).

Step 7 — Lookup vs Master-Detail vs Hierarchical Relationships

• Master-**Detail (Request – Assignment)**

- Reason: An Assignment cannot exist without a Request. If the Request is deleted, all related Assignments should also be deleted.
- Example: If Request #101 (Food Needed in Nagpur) is removed, its related volunteer/resource assignments are also removed.

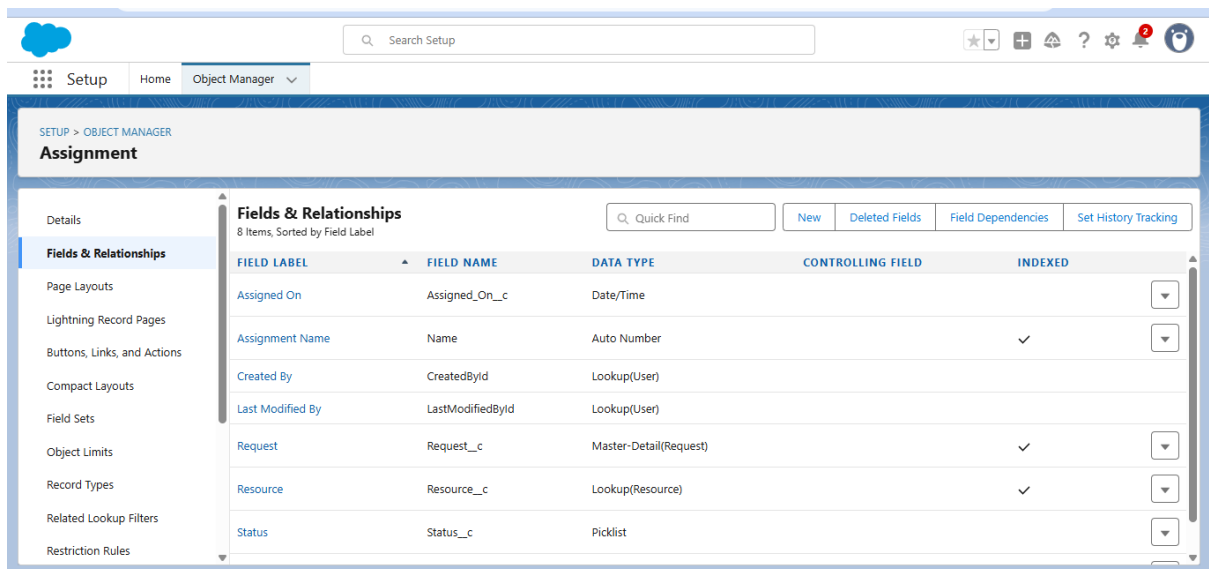• Lookup **(Assignment – Volunteer, Assignment – Resource)**

- Reason: A Volunteer or Resource can exist independently, even if they're not currently assigned.
- Example: Volunteer "John Doe" may be free (no assignments) but still exists in the system.

• Lookup **(Request – Location, Volunteer – Location, Resource – Location)**

- Reason: Requests, Volunteers, and Resources are linked to a region (Location), but Locations can exist without them.

• Hierarchical **(Not used here)**

Step 8 — Junction Objects

- Assignment is the **junction object**.
- Links many Volunteers & Resources to many Requests.
- Demonstrate a record where 1 Request is assigned to multiple Volunteers.