Phase 3: Data Modeling & Relationships

Project: Customer Complaint Management System

1. Standard & Custom Objects

Standard Objects

These are prebuilt by Salesforce and commonly used in most business processes.
In this project, we use the following standard objects:

- **Account** → Represents the Customer or Company.
- **Contact** → Represents a person related to an Account.
- **User** → Represents Salesforce users (like agents, managers).
- **Report & Dashboard** → For analytics and insights.

Custom Objects

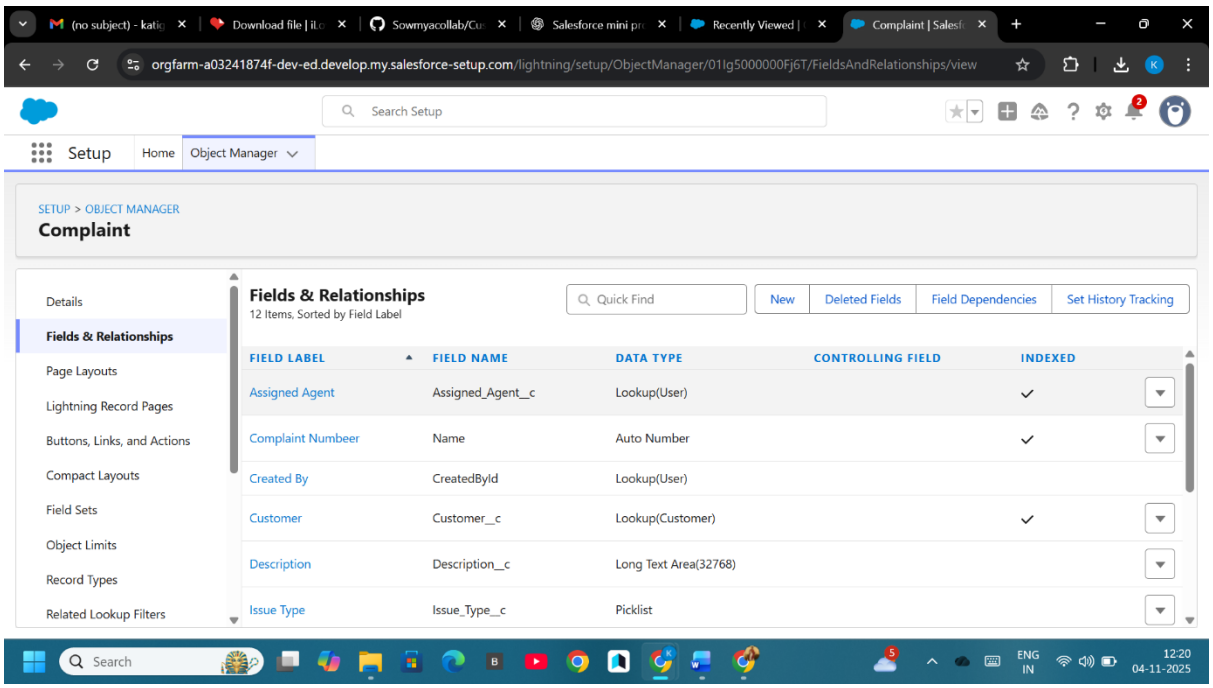
These are user-defined objects to store project-specific data.
In this project:

- **Complaint__c** → Stores customer complaints.
- **Customer__c** → Stores customer details (if not using Account).
- **Agent_Assignment__c** (optional) → Links complaints to agents.

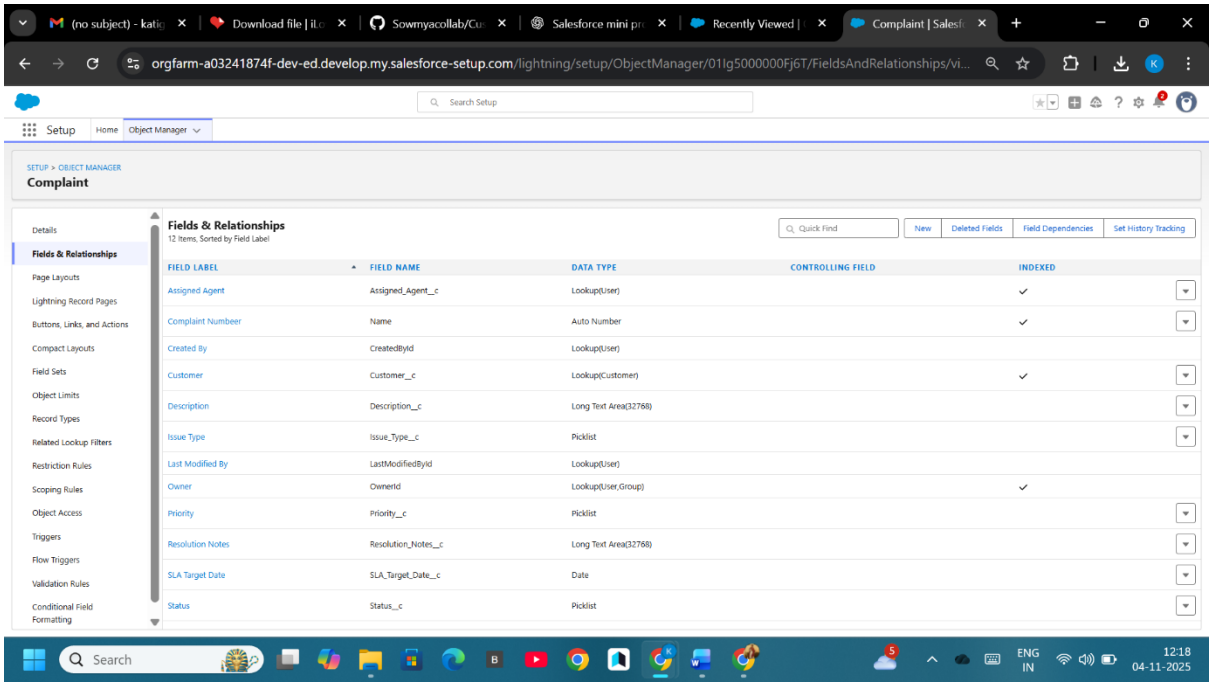
2. Fields

Each object contains fields that store information.

Example: Complaint__c



Field Name	Data Type	Description
Complaint_Number__c	Auto Number	Unique ID for each complaint
Status__c	Picklist	Complaint status (New, Assigned, In Progress, Resolved, Closed)
Priority__c	Picklist	Complaint priority (Low, Medium, High)
Issue_Type__c	Picklist	Type of issue (Billing, Technical, Service)
Description__c	Text Area	Details about the complaint
Customer__c	Lookup (Customer)	Link to the customer who raised the complaint
Assigned_Agent__c	Lookup (User)	Agent handling the complaint
SLA_Target_Date__c	Date	Target resolution date
Resolution_Notes__c	Long Text Area	Notes after resolving complaint



3. Record Types

Record Types allow you to create **different page layouts and picklist values** for the same object.

Example Use Case:

For **Complaint__c**, create two record types:

1. **Technical Complaint** → Default Issue Type = Technical
2. **Billing Complaint** → Default Issue Type = Billing

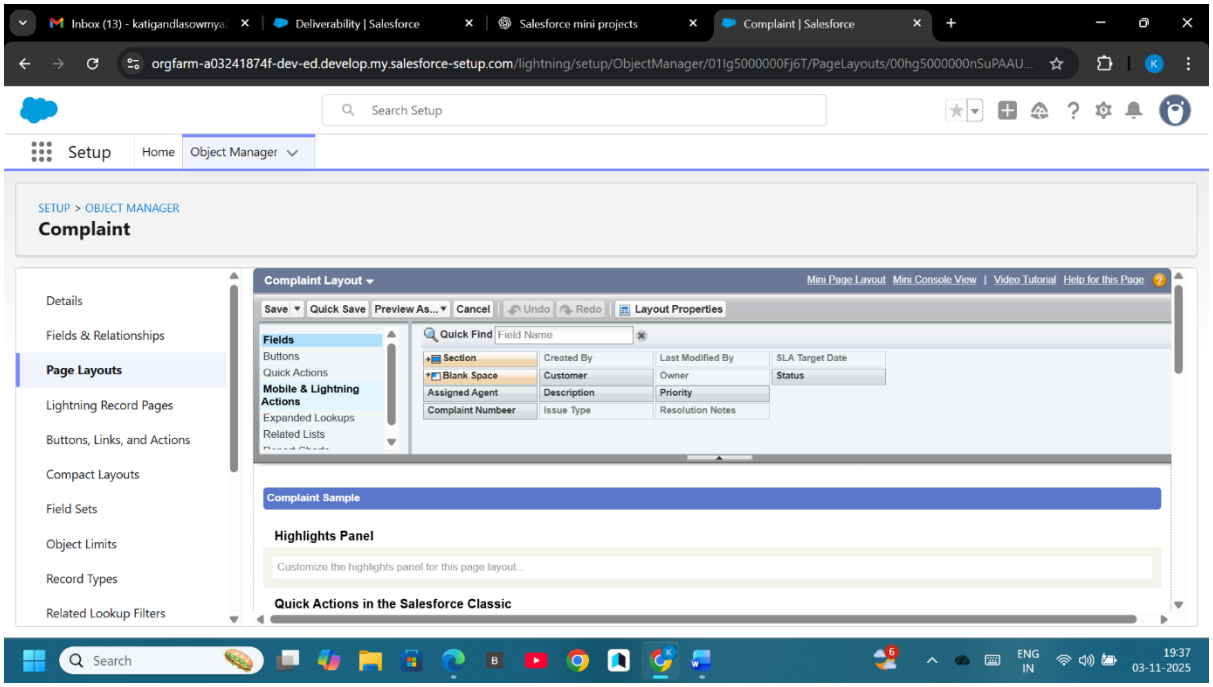
Each record type can show different fields or layouts based on the complaint type.

4. Page Layouts

Page layouts define how fields, related lists, and sections appear on a record's detail page.

Steps:

- Go to Setup → Object Manager → Complaint → Page Layouts
- Customize layout: Drag and drop fields such as:
    - Complaint Number, Status, Priority, Assigned Agent, Description
    - Related lists (like Customer or Attachments)
- Assign different layouts to Record Types if needed.



5. Compact Layouts

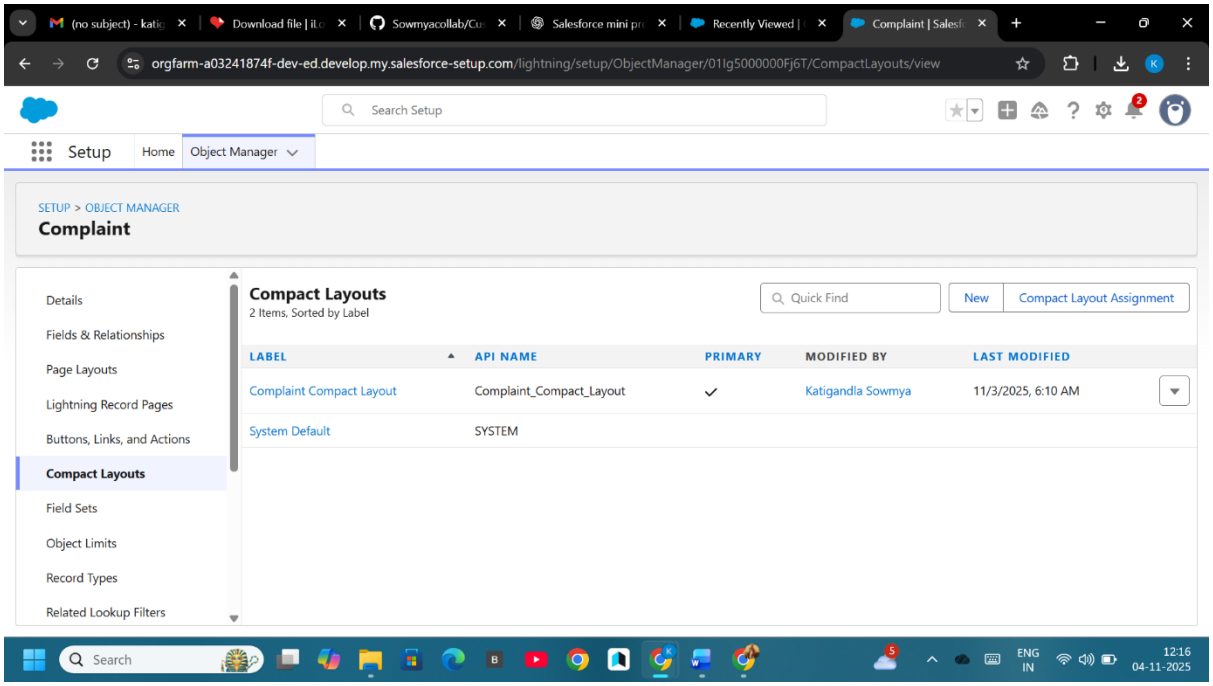
Compact layouts define which fields appear in the record **highlight panel** (top of the record page).

Example:

Complaint Compact Layout

- Complaint Number
- Status
- Priority
- Assigned Agent

Steps:
Setup → Object Manager → Complaint → Compact Layouts → New → Add these fields → Save → Set as Primary.



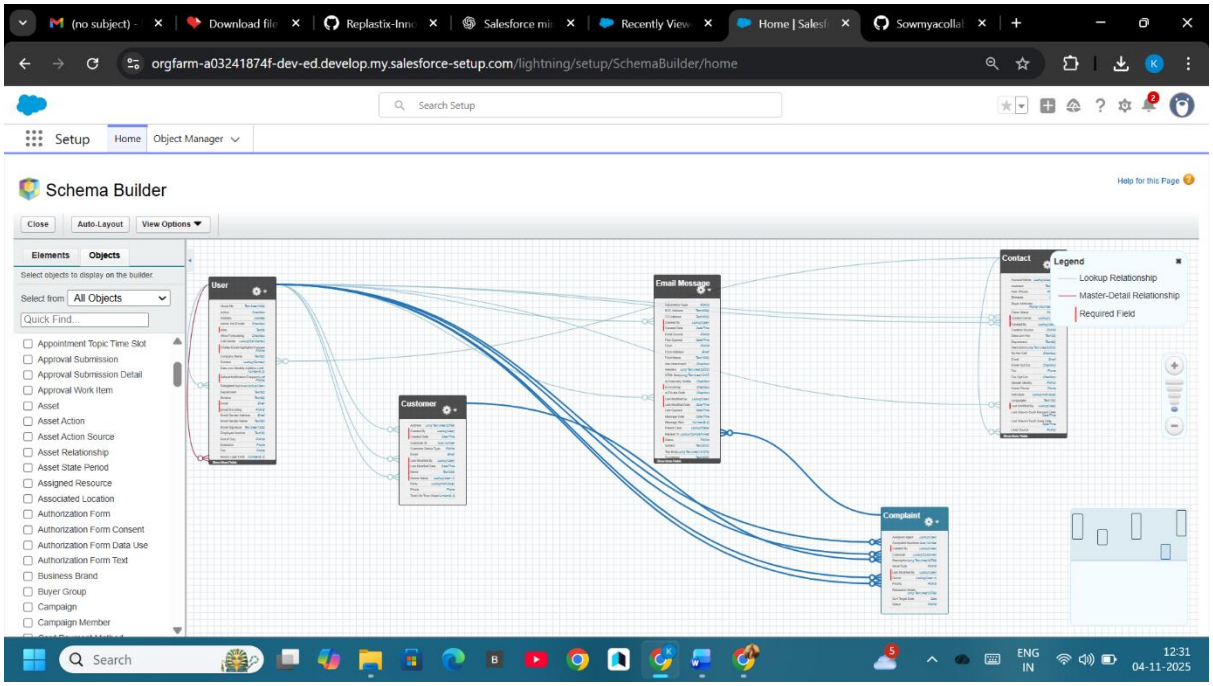
6. Schema Builder

Schema Builder provides a **visual representation** of all objects and their relationships.

Usage:

- Navigate to Setup → Schema Builder.
- Select objects (Customer, Complaint, User).
- See all relationships visually.
- You can also **create new objects, fields, and relationships** directly from here.

This helps understand the **data structure and connections** between objects.



7. Lookup vs Master-Detail vs Hierarchical Relationships

Relationship Type	Description	Example in Project
Lookup Relationship	Creates a simple reference between two objects. Each record can exist independently.	Complaint → Customer (Lookup)
Master-Detail Relationship	Creates a strong dependency. Child record (Detail) can't exist without Parent.	(Optional) If you want Complaint to always need a Customer.
Hierarchical Relationship	Special type for **User** object only, used to define manager-employee relationships.	Agent → Manager reporting structure.

In this project:
We mainly use **Lookup Relationships** between **Complaint and Customer** and **Complaint and User**.

8. Junction Objects

A **Junction Object** is used to create a **many-to-many relationship** between two objects.

Example:

If one complaint can be handled by multiple agents, and one agent can handle multiple complaints, create a **Junction Object** named **Complaint_Agent__c** with:

- Lookup to Complaint
- Lookup to Agent (User)

This allows multiple agents to be assigned to one complaint.

9. External Objects

External Objects are used to connect Salesforce with external data sources (like databases or APIs) using **Salesforce Connect**.

Example:

If customer complaint data is stored in an external SQL database:

- Use External Object **External_Complaints__x**
- Connect via Salesforce Connect adapter
- View or report on external data without storing it in Salesforce.

Conclusion

In Phase 3, the **data model** is designed for scalability, clarity, and automation.
It defines how data flows between **Customers, Complaints, and Agents**, and ensures:

- Proper relationships
- Clean layouts
- Visual schema understanding
- Foundation for automation and analytics in next phases.