Phase 3 - Data Modeling & Relationships Project: Smart Lost & Found System

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1. Introduction

In Phase 3, we designed and implemented the data model for the Smart Lost & Found System. This includes creating custom objects, fields, relationships, layouts, and schema. The goal is to allow students, staff, and security to log lost/found items and manage claim requests in Salesforce.

2. Standard & Custom Objects

Standard Object:

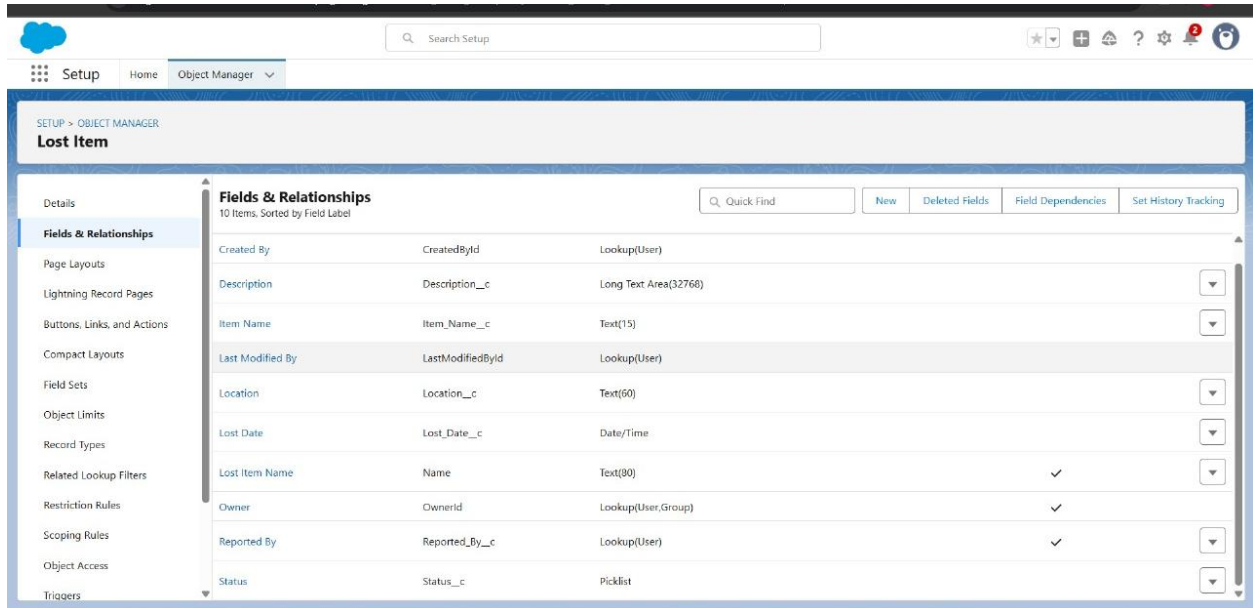- **User** → Represents Students, Staff, Security, and Admin roles.

Custom Objects:

- **LostItem__c** → Tracks items reported as lost by students.

- **FoundItem__c** → Tracks items logged by staff/security.

- **ClaimRequest__c** → Manages student claims and approval workflows.

3. Fields

LostItem__c

- Item Name (Text)

- Description (Long Text Area)

- Lost Date (Date/Time)

- Location (Text)

- Status (Picklist: Pending, Recovered, Claimed)

- Reported By (Lookup → User)

Fields & Relationships
10 Items, Sorted by Field Label

Field Label	API Name	Data Type		
Created By	CreatedById	Lookup(User)		
Description	Description__c	Long Text Area(32768)		▾
Item Name	Item_Name__c	Text(15)		▾
Last Modified By	LastModifiedById	Lookup(User)		
Location	Location__c	Text(60)		▾
Lost Date	Lost_Date__c	Date/Time		▾
Lost Item Name	Name	Text(80)	✓	▾
Owner	OwnerId	Lookup(User,Group)	✓	
Reported By	Reported_By__c	Lookup(User)	✓	▾
Status	Status__c	Picklist		▾

FoundItem__c

- Item Name (Text)

- Description (Long Text Area)

- Found Date (Date/Time)

- Location (Text)

- Status (Picklist: Unclaimed, Matched, Returned)

- Found By (Lookup → User)

- Item Image URL (URL)

ClaimRequest__c

- Request Date (Date/Time)

- Claimed By (Lookup → User)

- Related Lost Item (Lookup → LostItem__c)

- Related Found Item (Lookup → FoundItem__c)

- Approval Status (Picklist: Pending, Approved, Rejected)

4. Relationships

We created **Lookup Relationships** to connect objects:

Child Object	Parent Object	Relationship	Purpose
ClaimRequest__c	LostItem__c	Lookup	Links each claim request to a lost item.
ClaimRequest__c	FoundItem__c	Lookup	Links each claim request to a found item.
LostItem__c	User	Lookup	Tracks which student reported the lost item.
FoundItem__c	User	Lookup	Tracks which staff/security reported the found item.

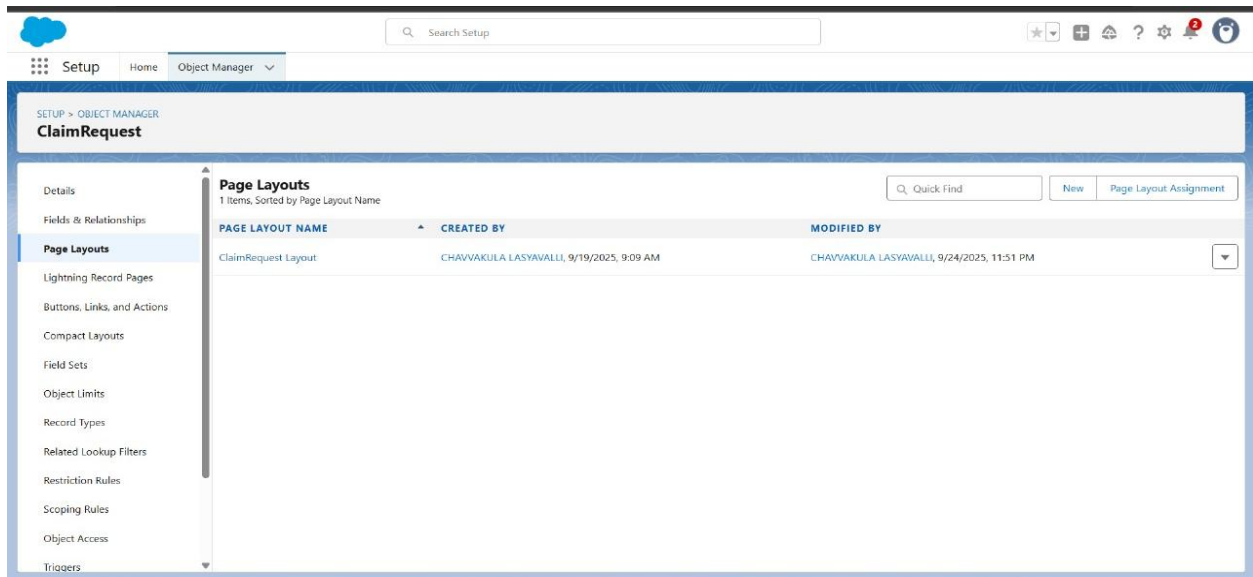This makes **ClaimRequest__c the junction object**, supporting many-to-many claims.

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	
Approval Status	Approval_Status__c	Picklist			▼
Claimed By	Claimed_By__c	Lookup(User)		✓	▼
ClaimRequest Name	Name	Text(80)		✓	▼
Created By	CreatedById	Lookup(User)			
Last Modified By	LastModifiedById	Lookup(User)			
Owner	OwnerId	Lookup(User,Group)		✓	
Related Found Item	Related_Found_Item__c	Lookup(FoundItem)		✓	▼
Related Lost Item	Related_Lost_Item__c	Lookup(Lost Item)		✓	▼
Request Date	Request_Date__c	Date/Time			▼

5. Page Layouts (Minimum Setup)

Lost Item Layout

- Added fields: Item Name, Description, Lost Date, Location, Status, Reported By.
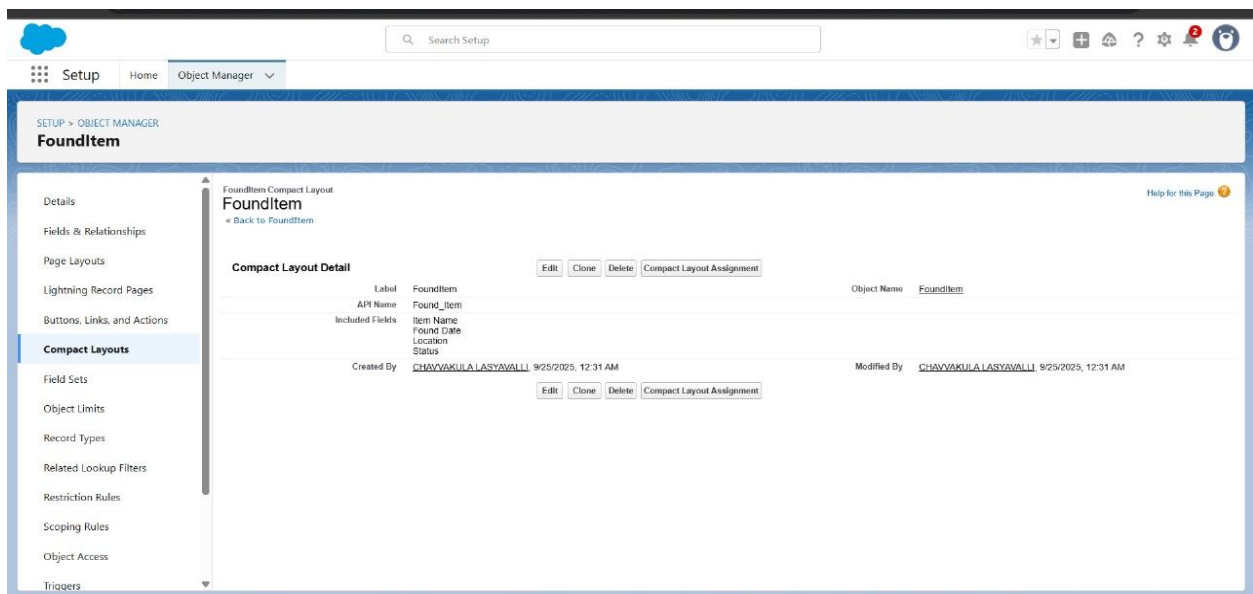
- Added related list: Claim Requests.

Found Item Layout

- Added fields: Item Name, Description, Found Date, Location, Status, Found By, Item Image URL.

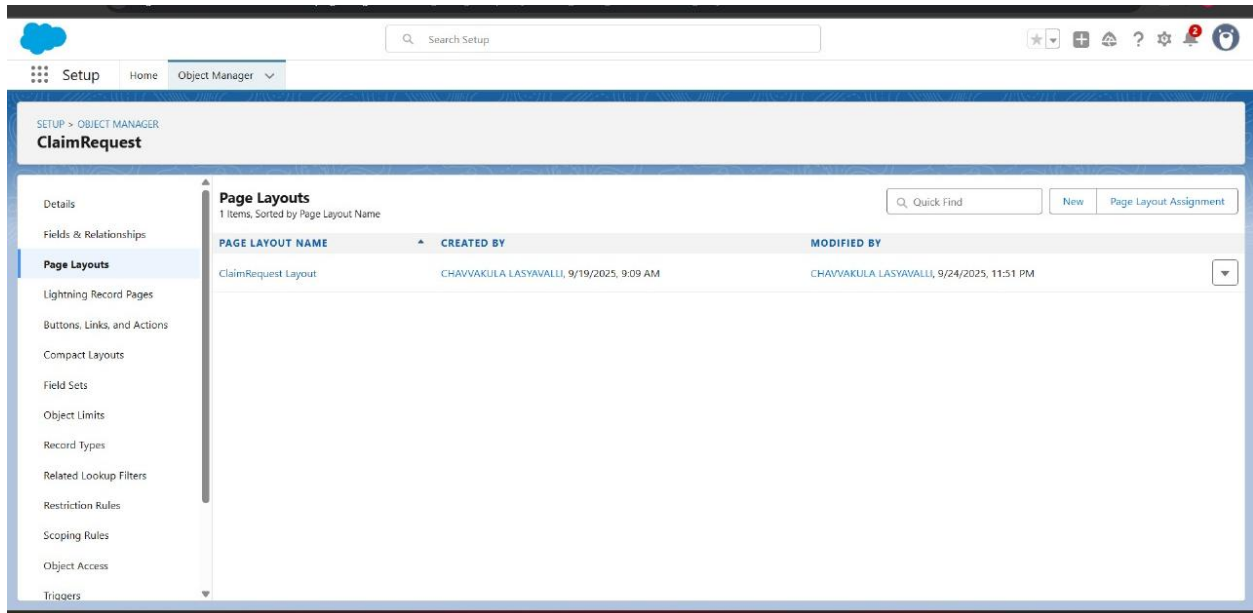- Added related list: Claim Requests.

Claim Request Layout

- Added fields: Request Date, Claimed By, Related Lost Item, Related Found Item, Approval Status.

6. Compact Layouts

- **Lost Item Compact Layout:** Item Name, Lost Date, Location, Status.

- **Found Item Compact Layout:** Item Name, Found Date, Location, Status.

- **Claim Request Compact Layout:** Request Date, Claimed By, Approval Status.

7. Schema Builder

In Schema Builder, the objects and relationships were arranged as:
LostItem__c → ClaimRequest__c → FoundItem__c

LostItem__c and FoundItem__c also link to **User**.

SETUP > OBJECT MANAGER
Lost Item

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

Record Types

Related Lookup Filters

Restriction Rules

Scoping Rules

Object Access

Triggers

Lost Item Compact Layout
Lost Item
« Back to Lost Item

Help for this Page

Compact Layout Detail   Edit Clone Delete Compact Layout Assignment

Label	Lost Item	Object Name Lost Item
API Name	Lost_Item	
Included Fields	Item Name	
	Lost Date	
	Location	
	Status	
Created By	CHAVVAKULA LASYAVALLI, 9/25/2025, 12:30 AM	Modified By CHAVVAKULA LASYAVALLI, 9/25/2025, 12:30 AM

Edit Clone Delete Compact Layout Assignment

SETUP > OBJECT MANAGER
FoundItem

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Compact Layout Detail   Edit Clone Delete Compact Layout Assignment

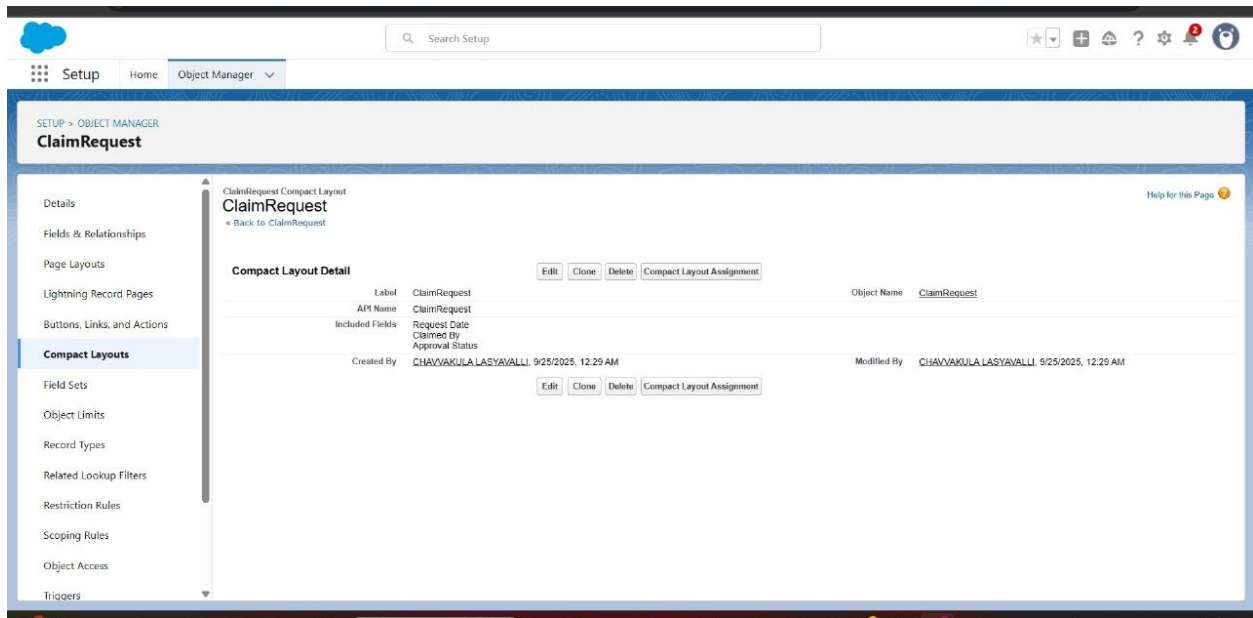|		
Label	FoundItem	Object Name FoundItem
API Name	Found_Item	
Included Fields	Item Name	
	Found Date	
	Location	
	Status	
Created By	CHAVVAKULA LASYAVALLI, 9/25/2025, 12:31 AM	Modified By CHAVVAKULA LASYAVALLI, 9/25/2025, 12:31 AM

Edit Clone Delete Compact Layout Assignment

8. Security & Visibility

Student Profile:

- Can create Lost Items.

- Can create Claim Requests.

- Can view Found Items but not edit them.

Staff Reporter Profile:

- Can create Found Items.

- Can view Lost Items.

Security Staff Profile:

- Full access to Lost Items, Found Items, and Claim Requests.

- Can approve/reject Claim Requests.

Admin:

- Full access to all.

9. Sample Data & Testing

- **Student logs a Lost Item:** "Lost ID Card in Library."

- **Staff logs a Found Item:** "Blue ID Card found in Library."

- **Security creates a Claim Request** linking them, approves the request.

- **Admin verifies** all records are accessible.

10. Use Cases

Use Case 1: Lost Item Reporting

- **Actor:** Student

- **Action:** Creates a Lost Item record.

- **Outcome:** Item is saved and linked to student.

Use Case 2: Found Item Logging

- **Actor:** Staff

- **Action:** Creates a Found Item record with details + Item Image URL.

- **Outcome:** Item stored and linked to staff member.

Use Case 3: Claim Request Submission

- **Actor:** Student

- **Action:** Submits a claim request linking their lost item to a found item.

- **Outcome:** Claim is pending review.

Use Case 4: Claim Approval by Security

- **Actor:** Security Officer

- **Action:** Reviews claim, sets Approval Status = Approved/Rejected.

- **Outcome:** Claim is closed with decision recorded.

Use Case 5: Admin Oversight

- **Actor:** Admin

- **Action:** Reviews all records in reports/dashboards.

- **Outcome:** Admin monitors claim trends and ensures transparency.

Conclusion

Phase 3 successfully delivered the **data modeling and relationships** for the Smart Lost & Found System. With objects, fields, layouts, and security in place, the system is now ready for workflows, automation, and reporting in later phases.