Phase 3: Data Modeling & Relationships

This phase was critical to establish the structure for the Lost & Found Portal, defining the custom objects, fields, and relationships necessary to link reported items and centralize the verification process on the standard **Case** object.

Concept	Implementation in Lost & Found Portal
Project Goal	To define a secure, scalable data model that uses the standard Case object as the **Junction Object** (the "Match Record") between a reported lost item and a submitted found item.

3.1 Custom Objects and Standard Object Repurposing

We implemented two primary custom objects to store item submissions and strategically repurposed the standard Case object for administrative workflow.

Object Name	Type	Purpose in Solution
Lost Item (Lost_Item__c)	Custom Object	Stores details of property reported as lost by users (the claim).
Found Item (Found_Item__c)	Custom Object	Stores details of property submitted by users (the found evidence).
Case (Case)	Standard Object	Repurposed as the **Verification Case**. It serves as the single administrative task required to verify a match and resolve the claim.

3.2 Relationships and Data Linking

The relationship model was designed to allow a single Case to track one specific Lost Item and one Found Item, creating the basis for the automated match.

Relationship Type	Field Name on Case	Relates Case To	Justification
Lookup	Related_Lost_Item__c	**Lost Item**	Allows the Case to point to the user's initial claim. Lookup was chosen over

Relationship Type	Field Name on Case	Relates Case To	Justification
			Master-Detail as the Case lifecycle does not strictly depend on the Lost Item record.
Lookup	Related_Found_Item__c	**Found Item**	Allows the Case to point to the submitted found property. This linkage is essential for the agent to compare details.

3.3 Critical Custom Fields (Data Integrity & Reporting)

We implemented several key fields, including two specialized **Formula Fields** that were essential for the Phase 9 reporting requirements.
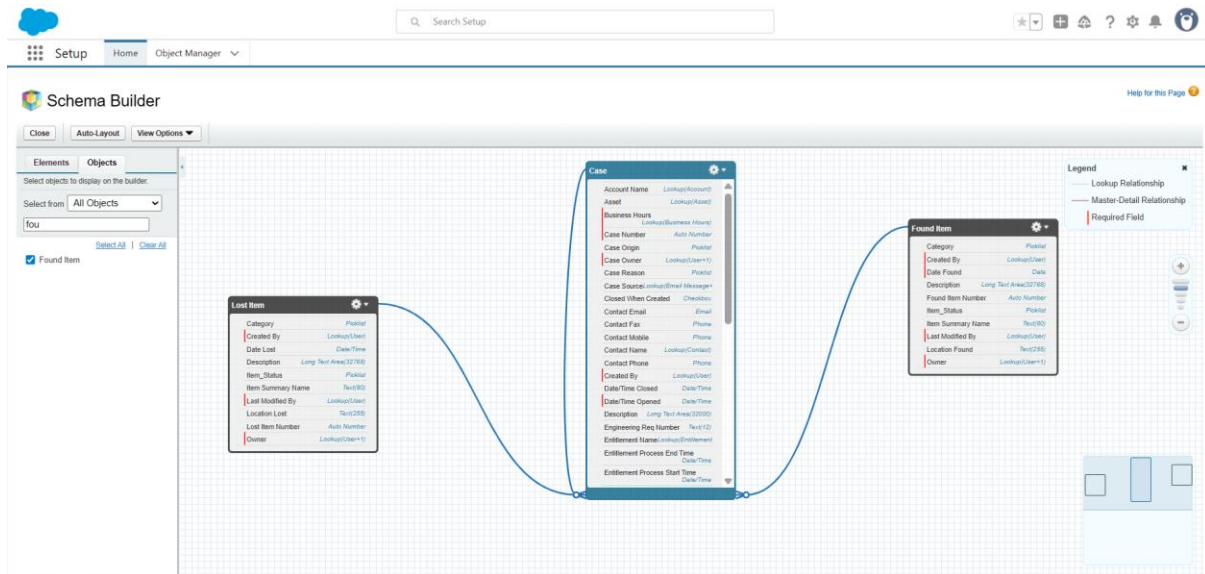
Custom Fields on Lost Item / Found Item Objects

Field Name	Data Type	Purpose
Item_Number__c	Auto Number	Provides a unique identifier for external reference (e.g., L-0001, F-0001).
Category__c	Picklist	Defines the item type (e.g., Electronics, Keys, Clothing). Essential for the Phase 4 **Match Flow** criteria.
Date_Reported__c	Date/Time	Used for time-sensitive filtering in reports and flows.
Location_Details__c	Text Area	Captures where the item was lost or found.

Specialized Formula Fields on the Case Object

To solve the business problem of agents needing context in reports (Phase 9), two formula fields were implemented on the Case object.

Field Name	Data Type	Formula Logic	Reporting Impact
Lost_Item_Summary__ c	Text (Formula)	Lost_Item__r.Item_Number__ c & " - " & Lost_Item__r.Item_Name__c	Pulls the details of the claimed item onto the Case. **Crucial for Agent Action Queue Report**.
Found_Item_Summary_ _c	Text (Formula)	Found_Item__r.Item_Number __c & " - " & Found_Item__r.Item_Name__ c	Pulls the details of the found property onto the Case. **Crucial for Agent Action Queue Report**.

3.4 Data Model Visualization (Schema Builder)

3.5 Record Types & Page Layouts

- **Record Types:** Not required for the MVP, as all Cases represent a single verification process (the "Match").

- **Page Layouts:** Custom page layouts were implemented on all three objects. The **Case Layout** was optimized to prominently display the two **Summary Formula Fields** and the related item details, ensuring the Security Staff has all match information available before beginning verification.