Phase 3: Data Modeling & Relationships

1. Standard & Custom Objects

- **Standard Objects:** Predefined by Salesforce, such as *User* (for employees and managers).

- **Custom Objects:** Created for project-specific needs.

- **In this project:**

    - **Department (Custom)** – Stores department details.

    - **Travel Approval (Custom)** – Stores employee travel requests.

    - **Expense Item (Custom)** – Stores expenses for each travel request.

    - **User (Standard)** – Represents employees, managers, and admins who interact with the system.

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2. Fields

Fields define the data points captured in each object. They can be text, picklist, checkbox, date, or currency.

- **In this project:**

    - *Department* → Department Name, Department Code.

    - *Travel Approval* → Purpose of Trip, Start Date, End Date, Status (Pending/Approved/Rejected), Out of State (Yes/No), Destination State.

    - *Expense Item* → Expense Type (Airfare, Hotel, Meals), Amount.

This structured data ensures consistency across all records.

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3. Record Types

Record Types allow multiple processes within the same object.

- **In this project:**
    - *Travel Approval* uses two record types:
        1. **Domestic Travel** – shows "Destination State."
        2. **International Travel** – shows "Country" and "Visa Required."
        This helps differentiate workflows for different kinds of travel.

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4. Page Layouts

Page layouts control the arrangement of fields and sections on a record page.

- **In this project:**
    - For employees: Show request details only.
    - For managers: Include "Approval Status" and "Manager Comments."
    - For finance/admin: Display expense details and linked records.

This ensures each user sees only relevant information.

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5. Compact Layouts

Compact layouts define the fields shown in the highlights panel at the top of a record page.

- **In this project:**
    - *Travel Approval* → Purpose of Trip, Status, Start Date, End Date.
    - *Expense Item* → Expense Type, Amount.
    This gives users a quick summary view without opening full records.

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6. Schema Builder

Schema Builder provides a visual representation of objects and relationships.

- **In this project:**
  - *Department ↔ Travel Approval* (Lookup).
  - *Travel Approval ↔ Expense Item* (Master-Detail).
    This diagrammatic view helps admins and developers understand how data is connected.

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7. Lookup vs Master-Detail vs Hierarchical Relationships

- **Lookup Relationship:** Loose connection; child can exist independently.
  - Example: *Travel Approval → Department*.
- **Master-Detail Relationship:** Strong connection; child depends on parent.
  - Example: *Expense Item → Travel Approval*.
- **Hierarchical Relationship:** Special relationship available only in *User* object.
  - Example: A manager user can be assigned as a superior to an employee.

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8. Junction Objects

A Junction Object enables many-to-many relationships.

- **In this project (future use case):**
  - *Travel Participant* can act as a junction object linking **multiple employees** to **one Travel Approval** (useful for team trips).

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9. External Objects

External Objects represent data stored outside Salesforce but accessible in real time using Salesforce Connect.

- **In this project (optional use case):**
  - An *External Booking Object* can be used to fetch ticket booking details from a third-party system.
  - Example: Flight booking confirmation or hotel booking reference linked to a Travel Approval.

SCREENSHOTS:

Phase 3: Data Modeling & Relationships

Setup · Home · Object Manager ⌄

SETUP > OBJECT MANAGER
Expense 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		

Fields & Relationships
6 Items, Sorted by Field Label

Quick Find | New | Deleted Fields | Field Dependencies | Set History Tracking

FIELD LABEL ▲	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	
Amount	Amount__c	Currency(16, 2)			▼
Created By	CreatedById	Lookup(User)			▼
Expense Item Number	Name	Auto Number		✓	▼
Expense Type	Expense_Type__c	Picklist			▼
Last Modified By	LastModifiedById	Lookup(User)			▼
Travel Approval	Travel_Approval__c	Master-Detail(Travel Approval)		✓	▼

Setup · Home · Object Manager ⌄

SETUP > OBJECT MANAGER
Travel Approval

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		

Travel Approval
New Custom Field

Help for this Page

Step 2. Enter the details   Step 2 of 4

Previous | Next | Cancel

Field Label: Trip Start Date

Field Name: Trip_Start_Date

Description:

Help Text:

Required: ☐ Always require a value in this field in order to save a record

Auto add to custom report type: ☑ Add this field to existing custom report types that contain this entity

Default Value: Show Formula Editor

Use formula syntax: Enclose text and picklist value API names in double quotes ("the_text"), include numbers without quotes (25), show percentages as decimals (0.10), and express date calculations in the standard format (Today() + 7). To reference a field from a Custom Metadata type record use: $CustomMetadata.Type__mdt.RecordAPIName.Field__c