

Data Modeling & Object Relationships

In this phase, I focused on building the core data structure for the Expense Tracker application in Salesforce. This involved creating custom objects, fields, relationships, layouts, permissions, and configuring the Lightning app for proper functionality. The steps followed are detailed below.

1. Custom Object Setup

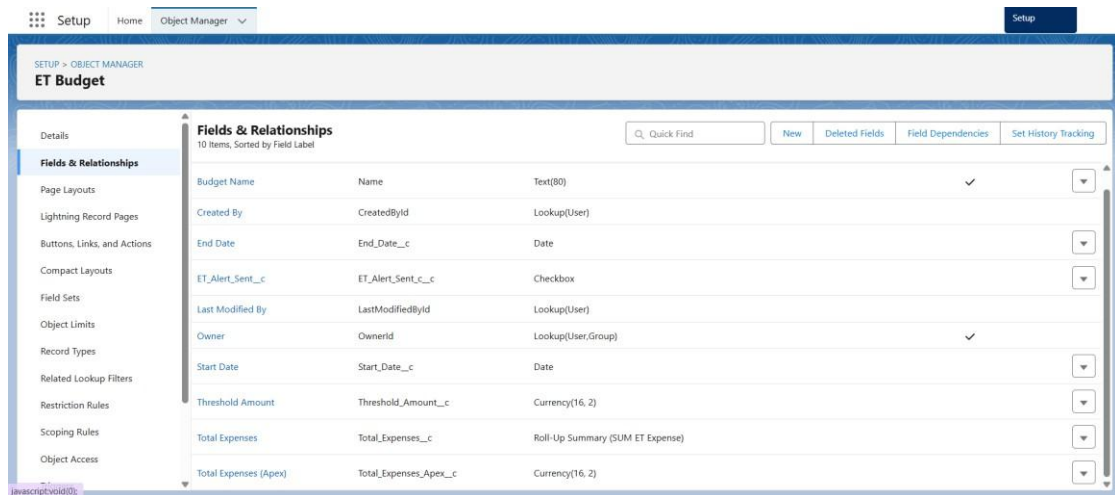
Two custom objects were created:

- **ET Budget:** Stores all budget-related information.
- **ET Expense:** Records individual expenses linked to budgets.

2. Field Creation

ET Budget Fields:

- Threshold Amount
- Start Date
- End Date
- Total Expenses
- Total Expenses (Apex)
- ET Alert Sent



ET Expense Fields:

- Amount
- Expense Date
- Category
- Notes
- Approved

- Budget

SETUP > OBJECT MANAGER
ET Expense

Details

Fields & Relationships
9 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)		
Approved	Approved__c	Checkbox		
Budget	Budget__c	Master-Detail(ET Budget)		✓
Category	Category__c	Picklist		
Created By	CreatedById	Lookup(User)		
ET Expense Name	Name	Auto Number		✓
Expense Date	Expense_Date__c	Date		
Last Modified By	LastModifiedById	Lookup(User)		
Notes	Notes__c	Long Text Area(32000)		

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

3. Establishing Relationships

A **Master-Detail relationship** was created between ET Expense and ET Budget to link expenses to their respective budgets.

- **Parent:** ET Budget
- **Child:** ET Expense
- This setup allows roll-up summary fields to work properly.

4. Roll-Up Summary Field

A roll-up summary field **Total Expenses** was added to the ET Budget object to automatically sum all amounts from related ET Expense records.

5. Page Layouts

Customized layouts were created for better user experience:

- **ET Budget Layout**
- **ET Expense Layout**

SETUP > OBJECT MANAGER
ET Expense

Save Quick Save Preview As... Cancel Undo Redo Layout Properties

Details

Fields

Outlines
Quick Actions
Mobile & Lightning Actions
Expanded Lookups
Related Lists
Desktop Charts

Quick Find: Field Name

Budget Expense Date
Category Last Modified By
Amount Created By Notes
Approved ET Expense Name

Approved ✓ Sample Text

System Information (header visible on edit only)
Created By Sample Text Last Modified By Sample Text

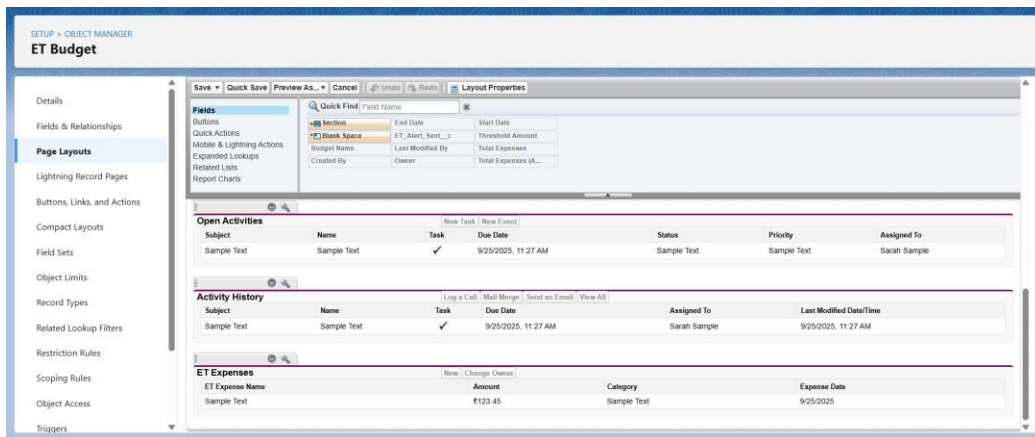
Custom Links (header visible on edit only)

Mobile Cards (Salesforce mobile only)

Drag expanded lookups and mobile-enabled Visualforce pages here to display them as mobile cards.

Related Lists

Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
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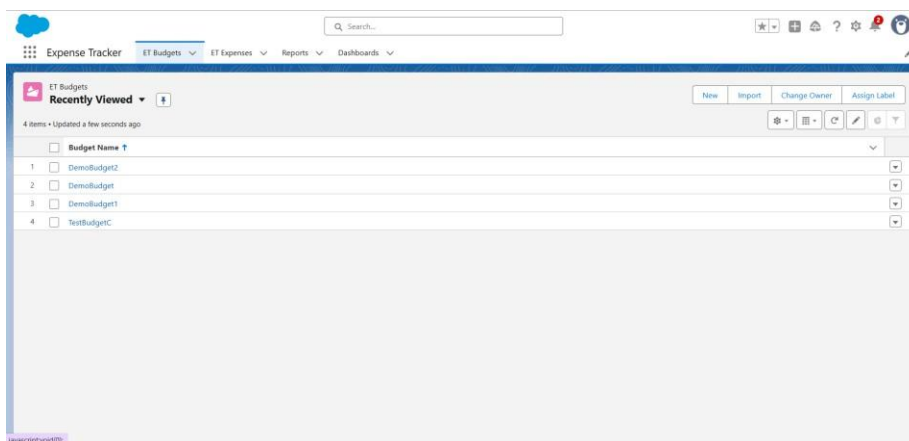
6. Field-Level Security & Layout Assignment

Access was controlled based on user profiles:

- **ET Manager Profile:** Full access to ET Budget and ET Expense, including roll-up fields.
- **ET Employee Profile:** Can view budgets (read-only) and create/manage their own expenses.

7. Tabs & Lightning App Configuration

- Custom tabs were created for **ET Budget** and **ET Expense** for easy navigation.
- A **Lightning App** named **Expense Tracker** was built with navigation for Budgets, Expenses, Reports, and Dashboards.
- The app was assigned to both Manager and Employee profiles.



8. Lightning Record Page

A Lightning Record Page was designed for ET Budget:

- **Header:** Displays key fields (Name, Threshold Amount, Total Expenses)
- **Details Tab:** Shows all record information

- **Related Tab:** Lists all associated ET Expense records

9. Profile Permissions

Access rights were defined for different roles:

- **Managers:** Can create, read, update, and delete budgets and expenses
- **Employees:** Can create and manage their own expenses, but only view budgets

10. Org-Wide Defaults & Sharing Rules

- **ET Budget:** Private
- **ET Expense:** Controlled by Parent (master-detail relationship ensures this)

