

# Phase 3: Data Modeling & Relationships – GreenFuture CRM

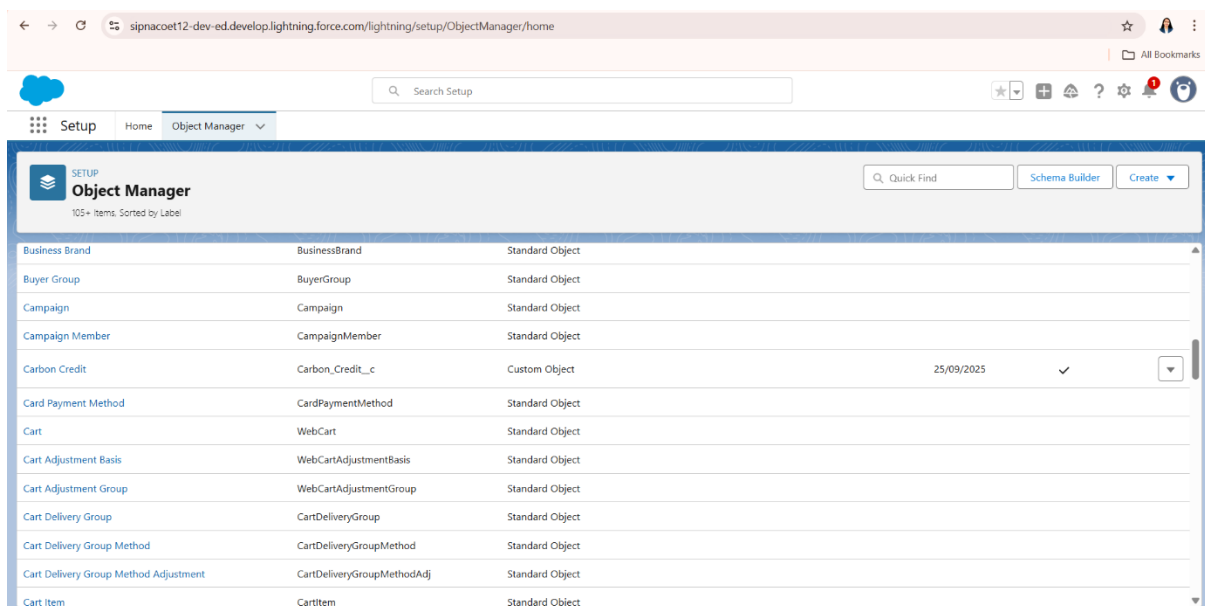
## 1. Standard & Custom Objects

### Purpose:

To capture sustainability-related information in Salesforce using standard CRM objects (Leads, Accounts, Contacts, Opportunities) along with custom objects for GreenFuture CRM.

### Implementation Steps:

1. Setup → Object Manager → Create → Custom Object.
2. Custom Objects created for this project:
  - **SustainabilityProject\_\_c** (Projects)
  - **CarbonCredit\_\_c** (Carbon Credits)
  - **Partner\_\_c** (NGOs / Partners)
  - **ProjectPartner\_\_c** (Junction Object for Many-to-Many between Projects and Partners)



The screenshot shows the Salesforce Object Manager interface. The browser address bar indicates the URL: `slpracoet12-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/home`. The page title is "Object Manager" with a sub-header "105+ Items, Sorted by Label". A search bar labeled "Quick Find" is present. The table below lists various objects, including standard and custom objects.

Object Name	API Name	Object Type	Last Modified By	Status
Business Brand	BusinessBrand	Standard Object		
Buyer Group	BuyerGroup	Standard Object		
Campaign	Campaign	Standard Object		
Campaign Member	CampaignMember	Standard Object		
Carbon Credit	Carbon_Credit__c	Custom Object	25/09/2025	✓
Card Payment Method	CardPaymentMethod	Standard Object		
Cart	WebCart	Standard Object		
Cart Adjustment Basis	WebCartAdjustmentBasis	Standard Object		
Cart Adjustment Group	WebCartAdjustmentGroup	Standard Object		
Cart Delivery Group	CartDeliveryGroup	Standard Object		
Cart Delivery Group Method	CartDeliveryGroupMethod	Standard Object		
Cart Delivery Group Method Adjustment	CartDeliveryGroupMethodAdj	Standard Object		
Cart Item	CartItem	Standard Object		

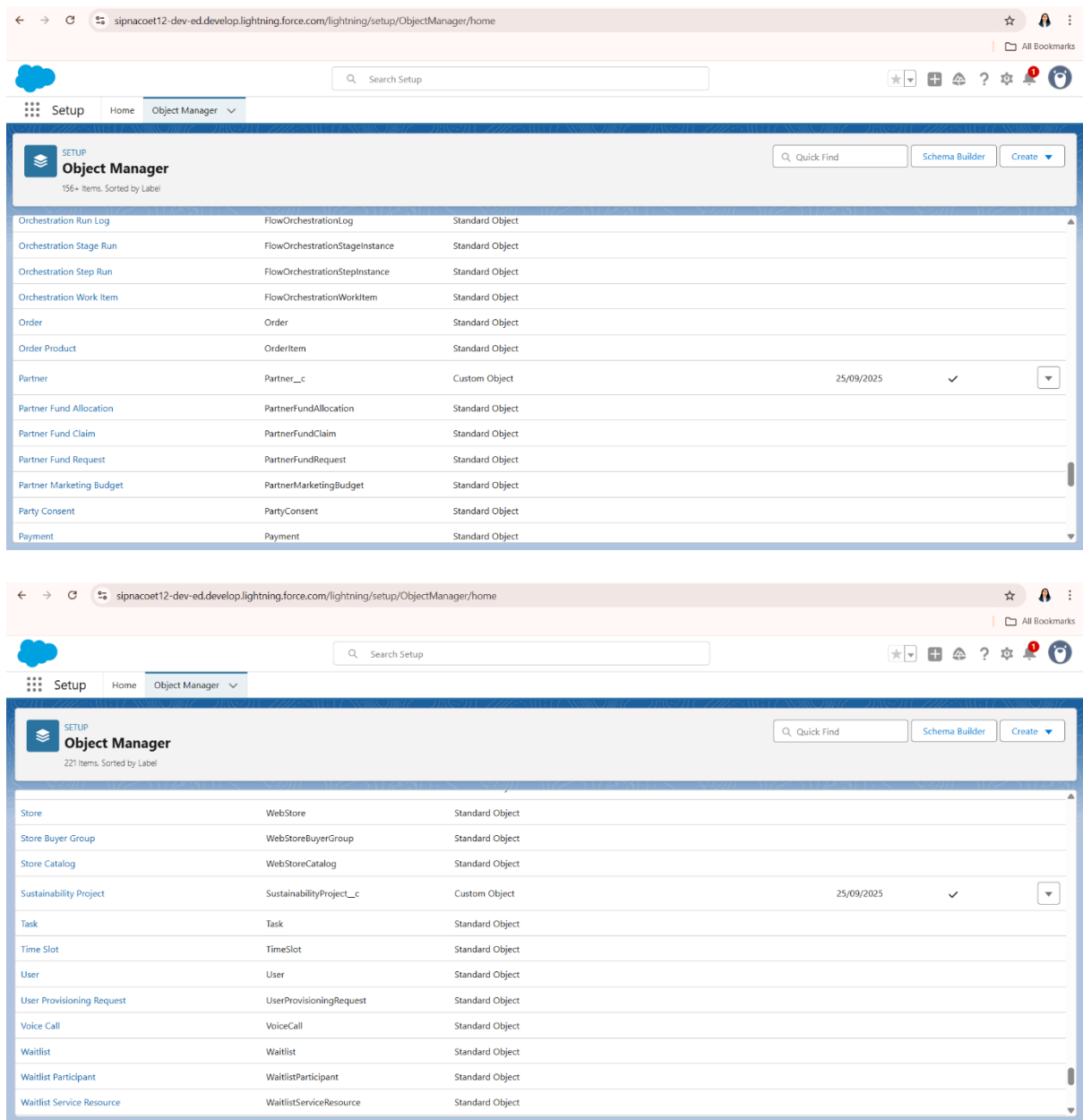


Fig 3.1. Object Manager list showing all custom objects

## 2. Fields

### Purpose:

To store specific project, credit, and partner details aligned with sustainability tracking.

### Implementation Steps:

1. Go to Object Manager → Select Object → Fields & Relationships → New Field.
2. Configure fields as per the design:
  - **SustainabilityProject\_\_c**: Project Name, Start Date, End Date, Budget, Type, Status, Approval Status, etc.
  - **CarbonCredit\_\_c**: Credit Amount, Type, Date Recorded, Project Lookup, Status, Verified By, etc.

- **Partner\_\_c**: Email, Contact Person, Phone, Country, Partner Type, etc.

The image displays two screenshots of the Salesforce 'Fields & Relationships' page for the 'Sustainability Project' object. The top screenshot shows the first 10 fields, and the bottom screenshot shows the last 6 fields of the list.

**Fields & Relationships Table (Top Screenshot):**

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Approval Status	Approval_Status__c	Picklist		
Created By	CreatedById	Lookup(User)		
Currency	CurrencyIsoCode	Picklist		
Description	Description__c	Long Text Area(32768)		
End Date	End_Date__c	Date		
Last Modified By	LastModifiedById	Lookup(User)		
Location	Location__c	Text(60)		
Number of Beneficiaries	Number_of_Beneficiaries__c	Number(18, 0)		
Owner	OwnerId	Lookup(User,Group)		✓

**Fields & Relationships Table (Bottom Screenshot):**

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Number of Beneficiaries	Number_of_Beneficiaries__c	Number(18, 0)		
Owner	OwnerId	Lookup(User,Group)		✓
Partner	Partner__c	Lookup(Partner)		✓
Priority	Priority__c	Picklist		
Project Budget	Project_Budget__c	Currency(18, 0)		
Project Type	Project_Type__c	Picklist		
Start Date	Start_Date__c	Date		
Status	Status__c	Picklist		
SustainabilityProject Name	Name	Text(80)		✓

Fig 3.2. Fields list page for SustainabilityProject\_\_c

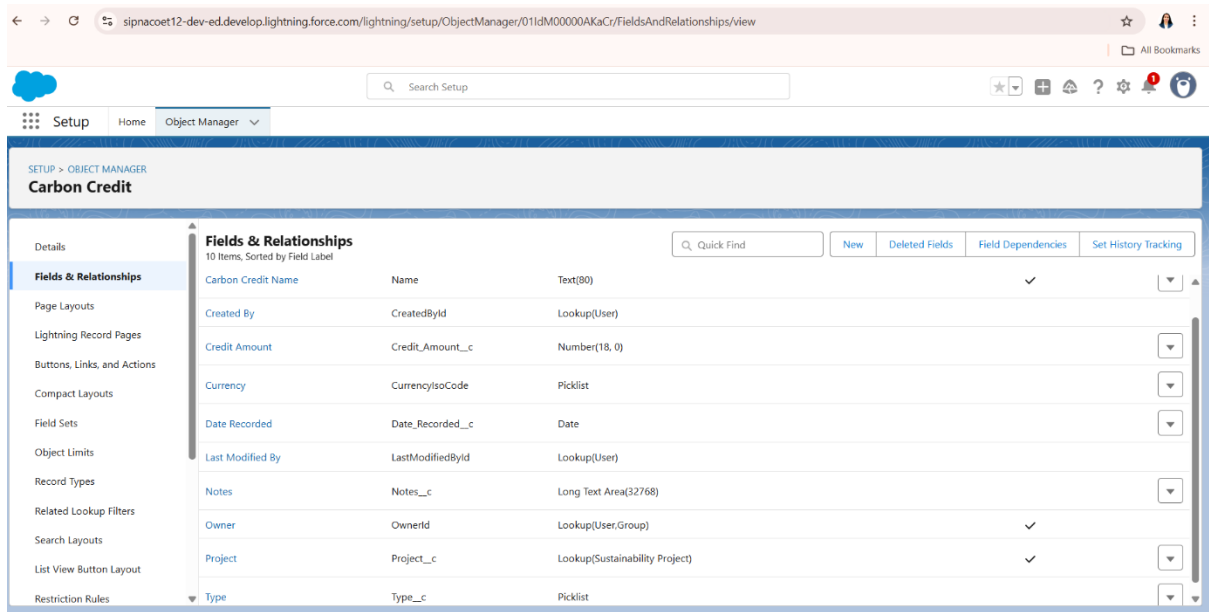


Fig 3.2. CarbonCredit\_\_c field setup

### 3. Record Types

#### Purpose:

Allow different layouts and processes for different categories of projects and partners.

#### Example in GreenFuture CRM:

- **SustainabilityProject\_\_c Record Types:** Awareness Project, Community Project, Renewable Project
- **CarbonCredit\_\_c Record Types:** Earned Credit, Purchased Credit.
- **Partners Record Types:** NGO, Corporate, Government.

#### Implementation Steps:

1. Setup → Object Manager → Select Object → Record Types → New.
2. Assign to profiles (e.g., NGO Partner can only use NGO Record Type).

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Setup Home Object Manager Search Setup

SETUP > OBJECT MANAGER  
**Sustainability Project**

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

**Record Types**  
3 Items, Sorted by Record Type Label

Q Quick Find New Page Layout Assignment

RECORD TYPE LABEL	DESCRIPTION	ACTIVE	MODIFIED BY
Awareness Project	For campaigns raising environmental awareness.	✓	Eshwari Santosh Lade, 25/09/2025, 7:18 pm
Community Project	Projects focused on local community sustainability initiatives.	✓	Eshwari Santosh Lade, 25/09/2025, 7:21 pm
Renewable Project	Projects involving renewable energy or carbon offset initiatives.	✓	Eshwari Santosh Lade, 25/09/2025, 7:22 pm

Fig.3.3. Record Type Setup for SustainabilityProject

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Setup Home Object Manager Search Setup

SETUP > OBJECT MANAGER  
**Carbon Credit**

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

**Record Types**  
2 Items, Sorted by Record Type Label

Q Quick Find New Page Layout Assignment

RECORD TYPE LABEL	DESCRIPTION	ACTIVE	MODIFIED BY
Earned Credit	Credits earned through verified sustainability projects.	✓	Eshwari Santosh Lade, 25/09/2025, 7:30 pm
Purchased Credit	Credits bought externally from third-party vendors.	✓	Eshwari Santosh Lade, 25/09/2025, 7:31 pm

Fig.3.4. Record Type Setup for Carbon Credit

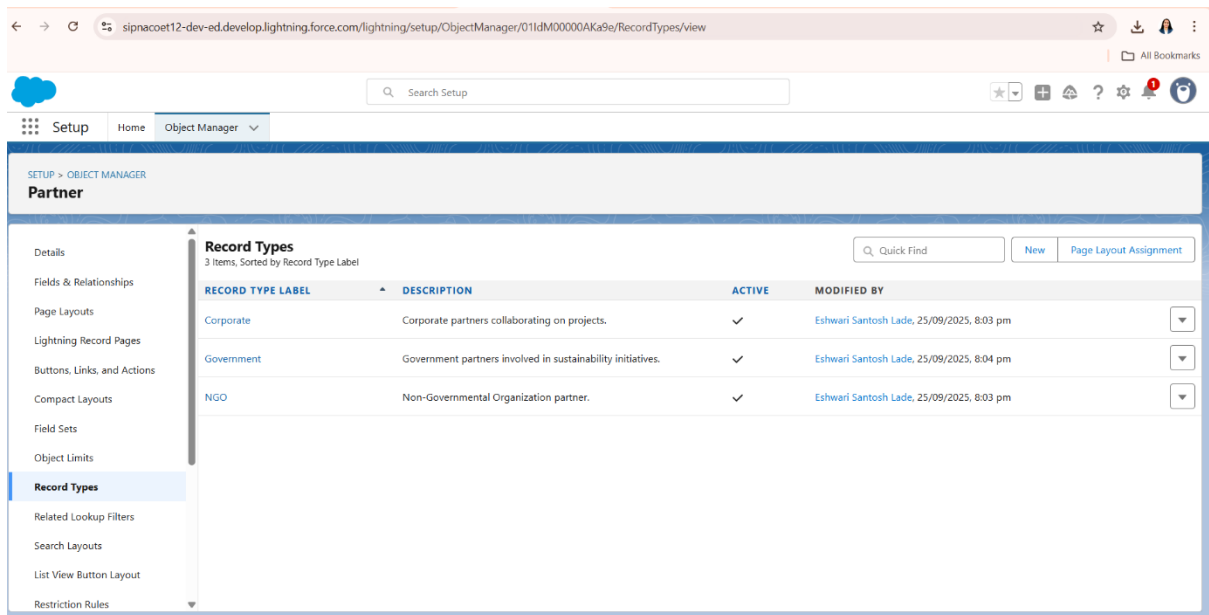


Fig.3.5. Record Type Setup for Partner

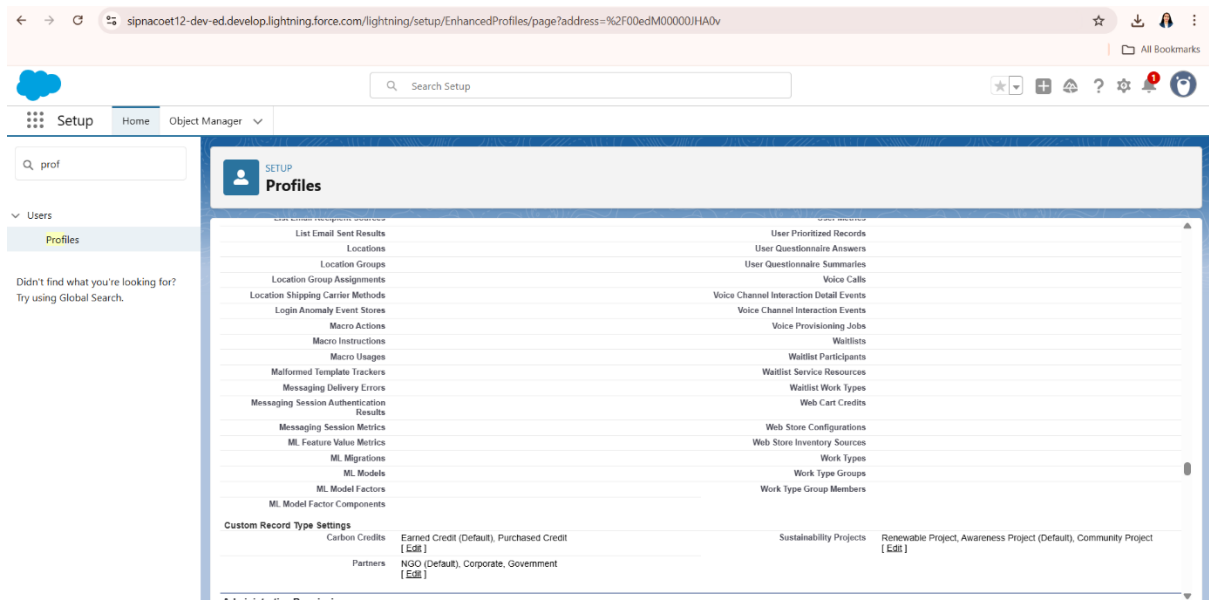


Fig.3.6. Record Type Assignment to Profiles\_SM

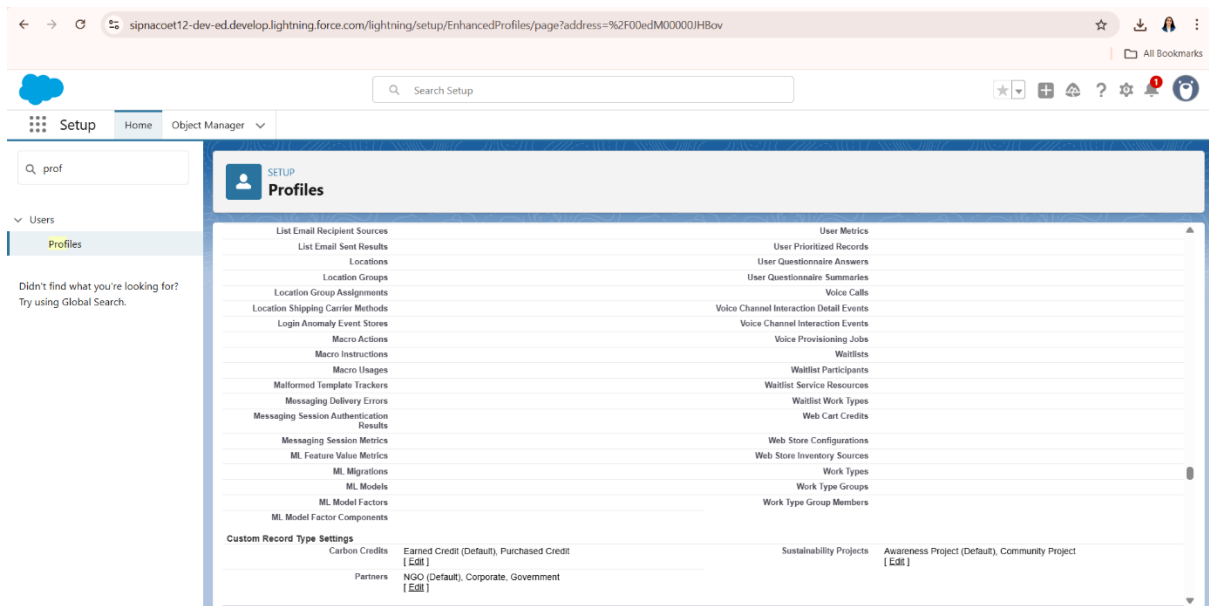


Fig.3.7. Record Type Assignment to Profiles\_Auditor

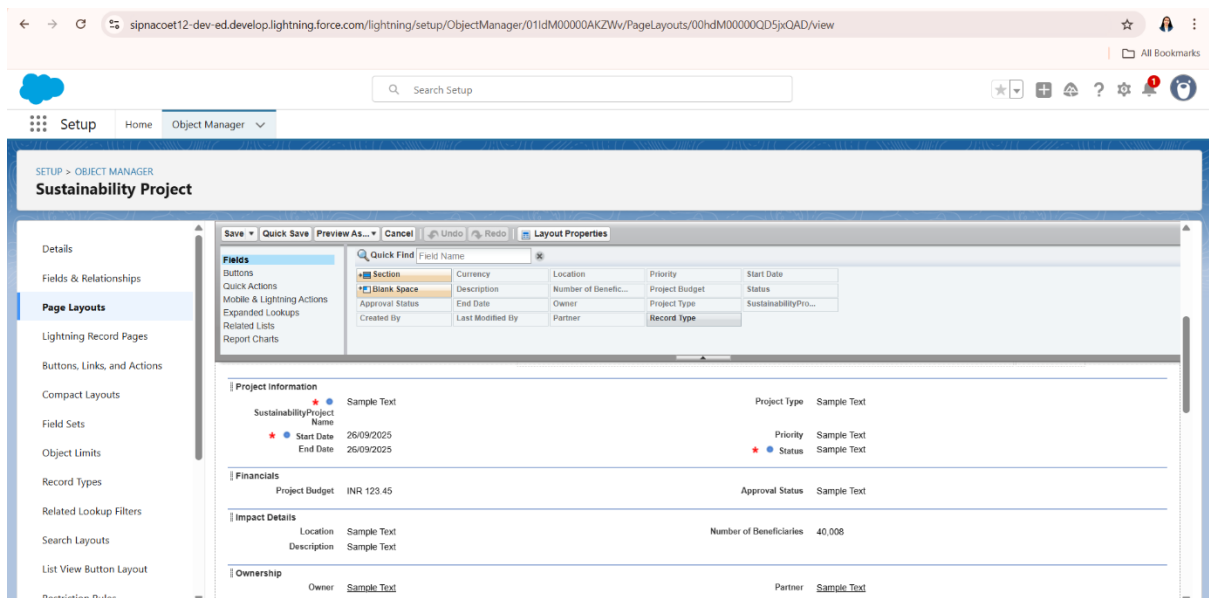
## 4. Page Layouts

### Purpose:

Control the fields, sections, and related lists visible to users.

### Implementation Steps:

1. Setup → Object Manager → Select Object → Page Layouts.



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🔖 All Bookmarks

🔍 Search Setup

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Setup

Home

Object Manager

SETUP > OBJECT MANAGER

Sustainability Project

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

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

Quick Find Field Name

Section	Currency	Location	Priority	Start Date
Blank Space	Description	Number of Benefic...	Project Budget	Status
Approval Status	End Date	Owner	Project Type	SustainabilityPro...
Created By	Last Modified By	Partner	Record Type	

Related Lists

Open Activities

Subject	Name	Task	Due Date	Status	Priority	Assigned To
Sample Text	Sample Text	✓	26/09/2025, 12:46 am	Sample Text	Sample Text	Sarah Sample

Activity History

Subject	Name	Task	Due Date	Assigned To	Last Modified Date/Time
Sample Text	Sample Text	✓	26/09/2025, 12:46 am	Sarah Sample	26/09/2025, 12:46 am

Carbon Credits

New Change Owner

← → ↻

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🔖 All Bookmarks

🔍 Search Setup

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Setup

Home

Object Manager

SETUP > OBJECT MANAGER

Sustainability Project

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

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

Quick Find Field Name

Section	Currency	Location	Priority	Start Date
Blank Space	Description	Number of Benefic...	Project Budget	Status
Approval Status	End Date	Owner	Project Type	SustainabilityPro...
Created By	Last Modified By	Partner	Record Type	

Carbon Credits

New Change Owner

Carbon Credit Name

Sample Text

Partners

New Change Owner

Partner Name

Sample Text

Sustainability Project History

This list is not customizable



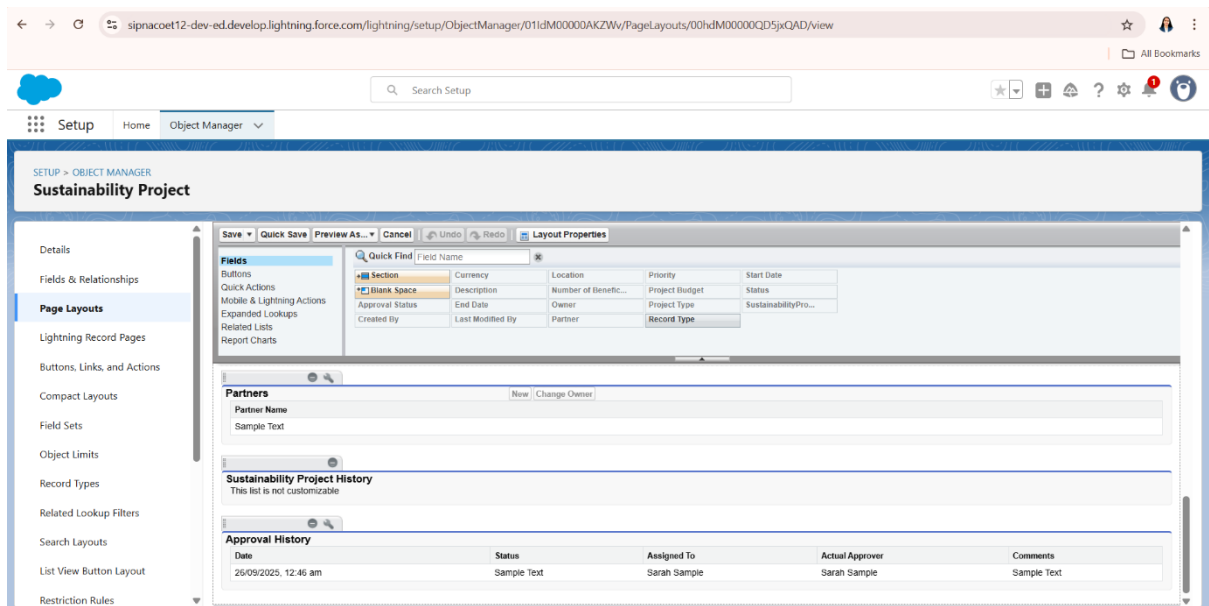
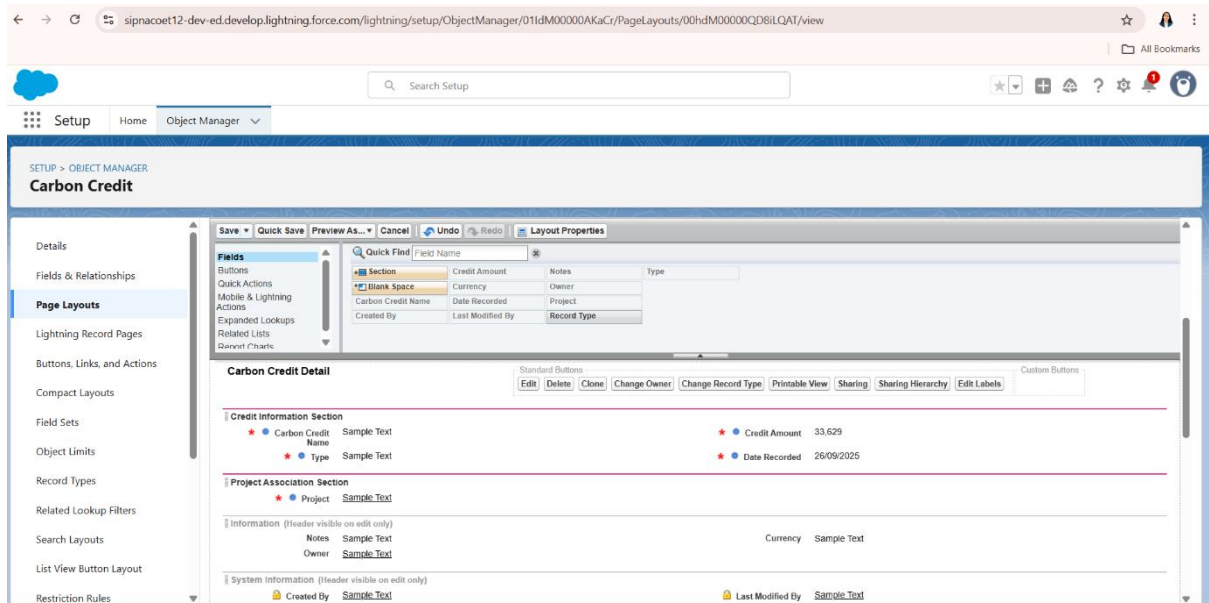


Fig.3.8. Sustainability Project Page Layout



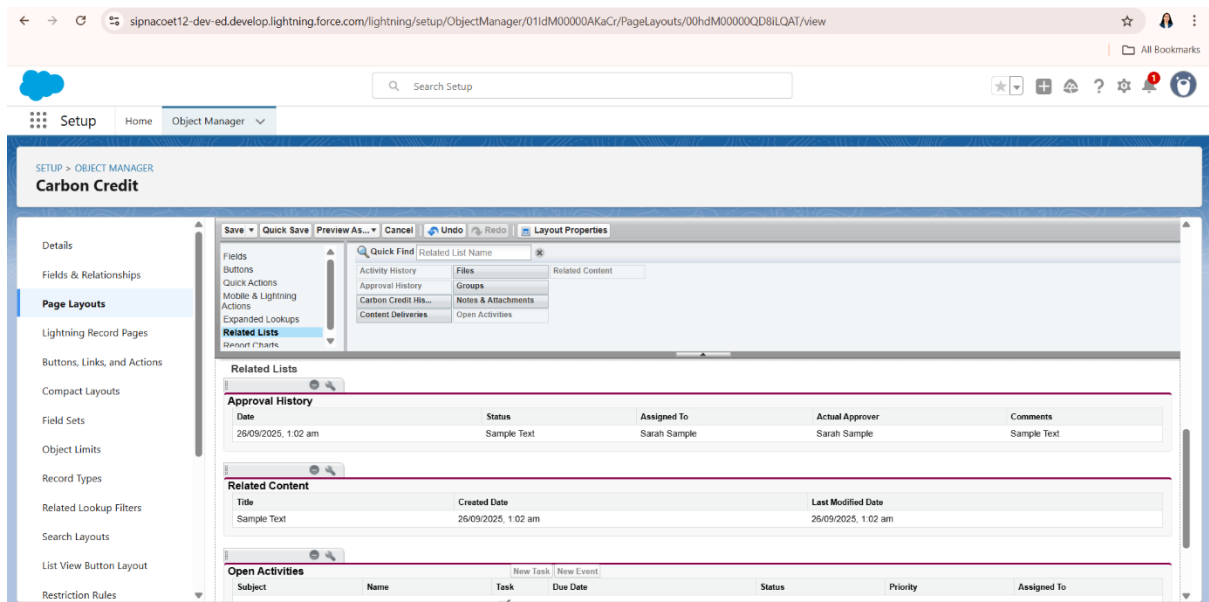
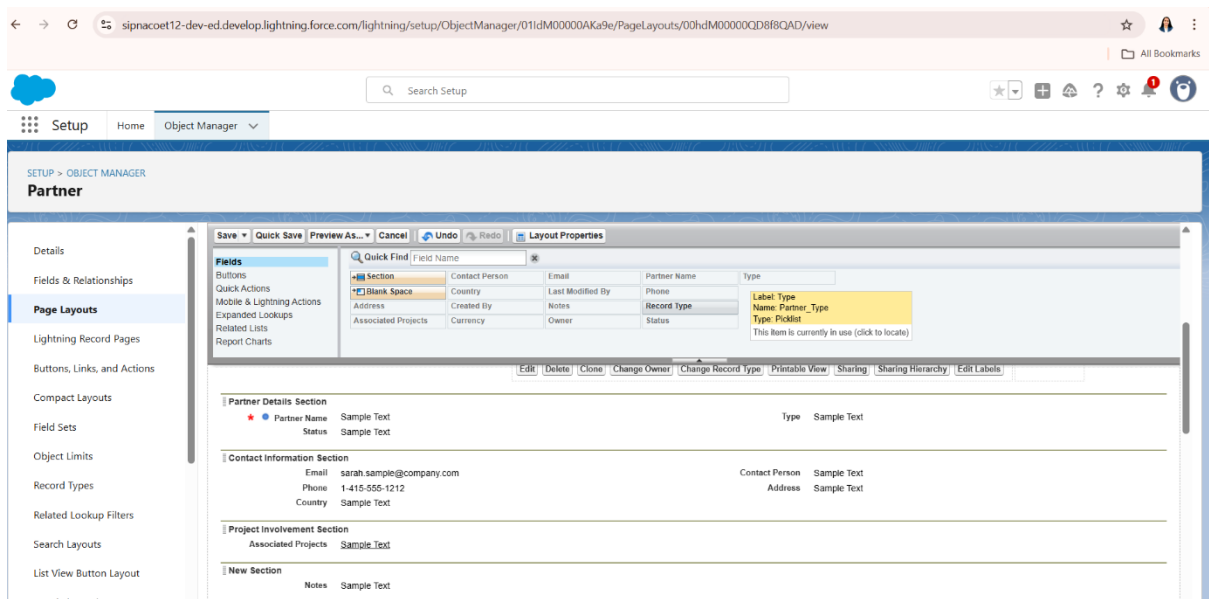


Fig.3.9. Carbon Credit Page Layout



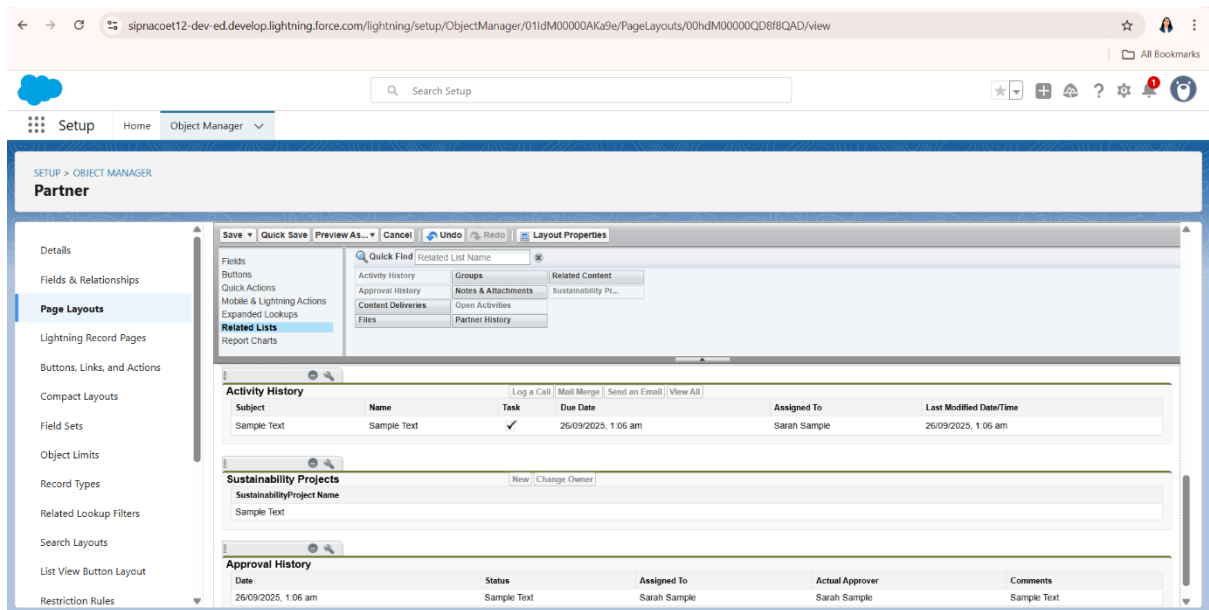


Fig.3.10. Partner Page Layout

## 5. Compact Layouts

### Purpose

Compact layouts display the most important fields at the top of a record in Lightning Experience and the Salesforce mobile app. They give users quick insights without scrolling into details.

### Compact Layouts Table

Object	Compact Layout Fields	Purpose / Why Chosen
<b>SustainabilityProject__c</b>	Project Name, Status, Priority, Start Date, End Date, Project Budget	Gives instant visibility of project identity, health, timeline, and financials.
<b>CarbonCredit__c</b>	Credit Name, Credit Amount, Credit Type (Earned / Purchased), Date Recorded	Helps users quickly identify how many credits were logged, what type, and their current status.
<b>Partner__c</b>	Partner Name, Partner Type (NGO / Corporate / Government), Status, Contact Person, Country	Provides an overview of who the partner is, what type, and their main contact/location.

Object	Compact Layout Fields	Purpose / Why Chosen
<b>ProjectPartner__c</b> (Junction Object)	Project Name (Lookup), Partner Name (Lookup), Role, Involvement Status	Allows quick understanding of which partner is linked to which project and in what role.

The screenshot shows the Salesforce Compact Layout configuration for the 'Sustainability Project' object. The left sidebar contains navigation links: Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, **Compact Layouts** (selected), Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, and Restriction Rules. The main content area displays the 'Sustainability Project Compact Layout' details. It includes a 'Compact Layout Detail' section with fields: Label (Project), API Name (Project), Included Fields (SustainabilityProject Name, Status, Priority, Start Date, End Date, Project Budget), Object Name (Sustainability Project), Created By (Eshwardi Santosh Lade, 26/09/2025, 1:17 am), and Modified By (Eshwardi Santosh Lade, 26/09/2025, 1:17 am). Action buttons for Edit, Clone, Delete, and Compact Layout Assignment are visible.

The screenshot shows the Salesforce Compact Layout configuration for the 'Carbon Credit' object. The left sidebar contains navigation links: Details, Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, **Compact Layouts** (selected), Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, and Restriction Rules. The main content area displays the 'Carbon Credit Compact Layout' details. It includes a 'Compact Layout Detail' section with fields: Label (Credit), API Name (Credit), Included Fields (Carbon Credit Name, Credit Amount, Type, Date Recorded), Object Name (Carbon Credit), Created By (Eshwardi Santosh Lade, 26/09/2025, 1:22 am), and Modified By (Eshwardi Santosh Lade, 26/09/2025, 1:22 am). Action buttons for Edit, Clone, Delete, and Compact Layout Assignment are visible.

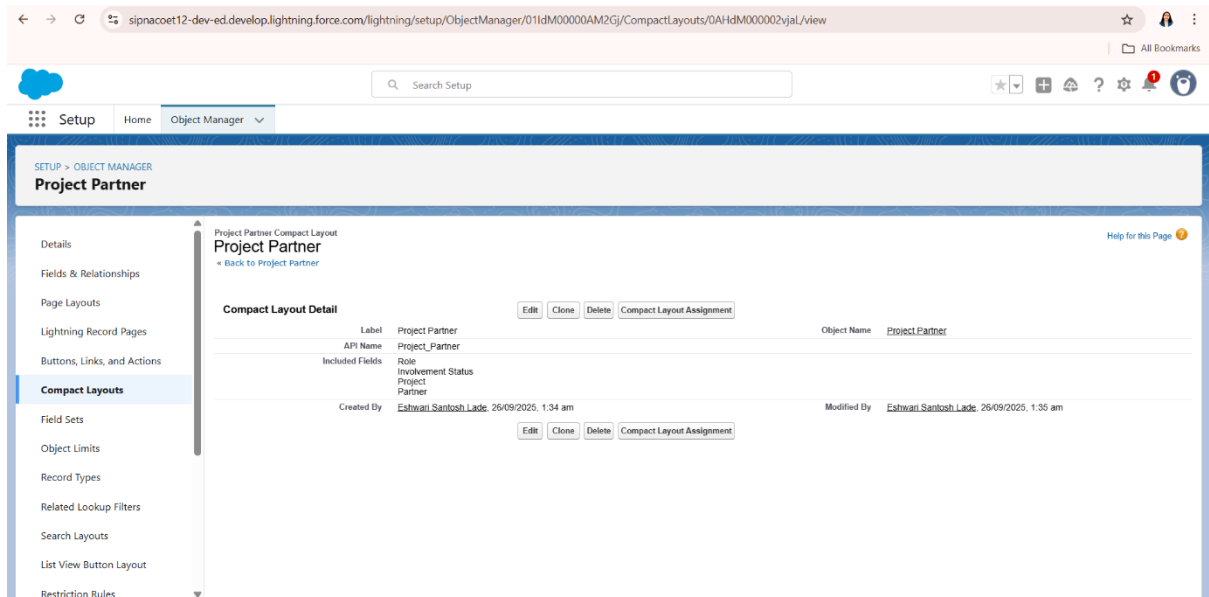
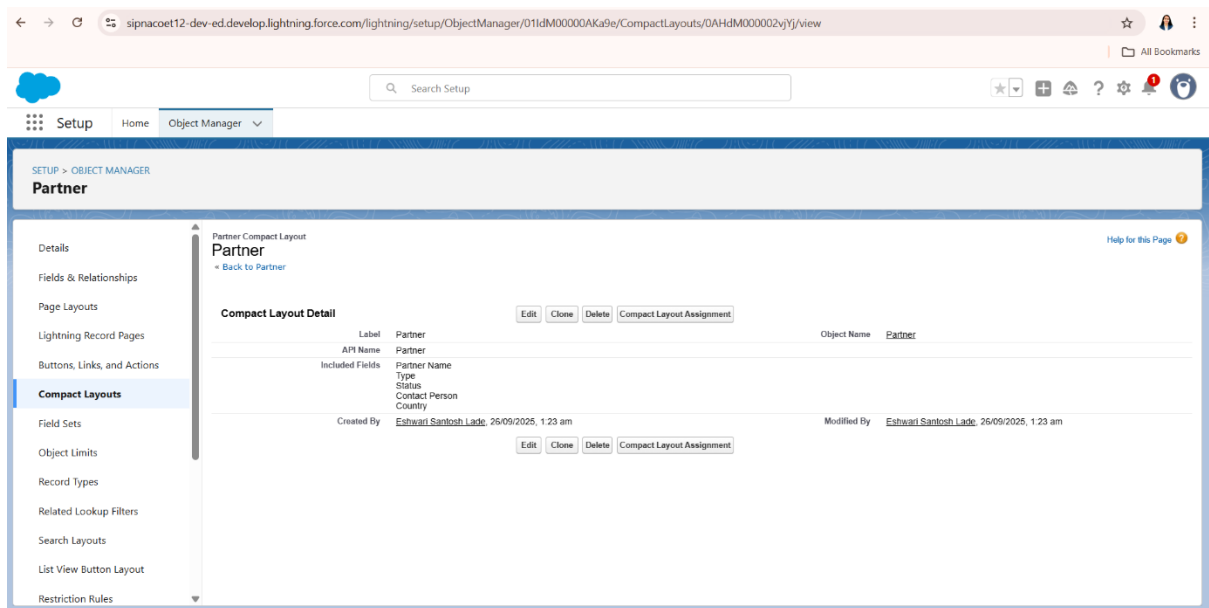


Fig.3.11. Compact Layout assignment screen

## 6. Schema Builder

### Purpose:

Visual representation of objects and their relationships.

### Implementation Steps:

1. Setup → Schema Builder.
2. Add custom objects (Projects, Credits, Partners, ProjectPartner).

### 3. Observe relationships: Lookup, Master-Detail, and Junctions.

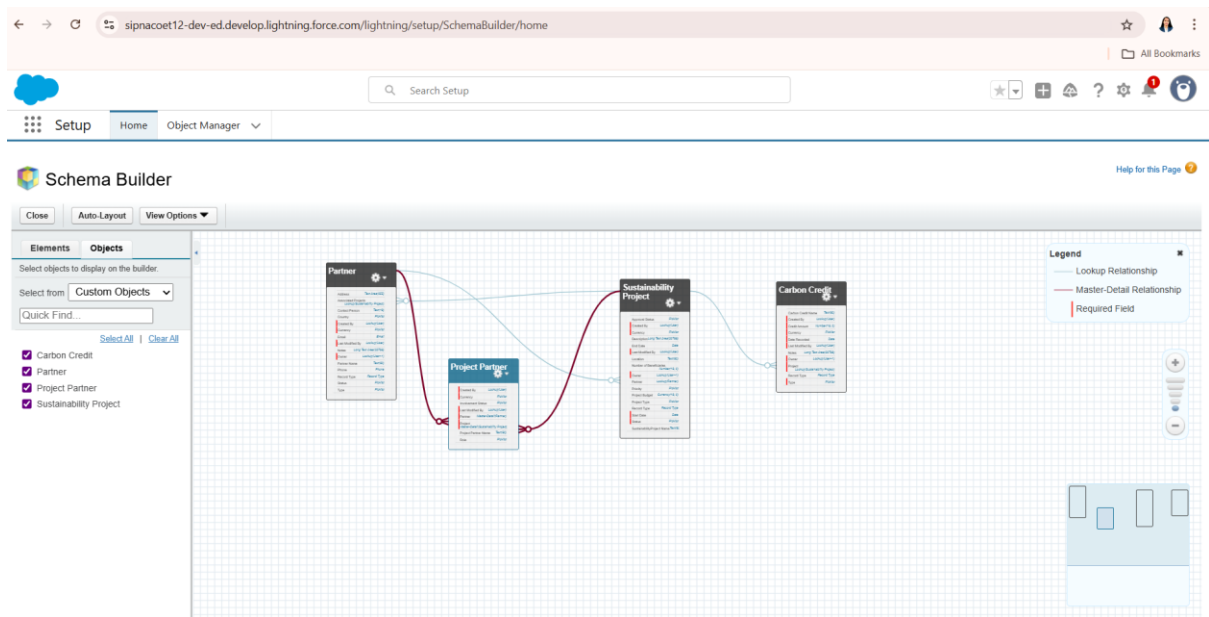


Fig 3.12. Schema Builder with all 4 objects

- ☐ The schema clearly shows ProjectPartner\_\_c at the center, linking Projects and Partners with Master-Detail relationships.
- ☐ CarbonCredit\_\_c is connected via a Lookup to SustainabilityProject\_\_c.
- ☐ This setup supports GreenFuture CRM's requirement to track sustainability projects, their carbon credits, and collaboration with multiple partners.

## 7. Lookup vs Master-Detail vs Hierarchical Relationships

### Purpose:

Define object connectivity and data ownership.

### GreenFuture CRM Relationships:

- **Project → Partner:** Many-to-Many (via ProjectPartner\_\_c Junction).
- **Carbon Credit → Project:** Lookup (each credit tied to a single project).
- **Carbon Credit → User:** Lookup (Verified By).
- **Master-Detail** → Used in the Junction Object (ProjectPartner\_\_c) to enforce data ownership and cascade rules.
- **Lookup** → Used for Carbon Credits (to Projects and Users) for flexible associations without strict ownership.
- **Hierarchical** → Salesforce standard relationship for Users (not implemented in this phase).

## 8. Junction Objects

### Purpose:

Enable many-to-many relationship between Projects and Partners.

### Implementation Steps:

1. Create Custom Object → ProjectPartner\_\_c.
2. Add 2 Master-Detail fields:
  - Project (SustainabilityProject\_\_c)
  - Partner (Partner\_\_c)
3. Related list automatically shows in both objects.

The screenshot shows the Salesforce Setup page for the 'Project Partner' object. The left sidebar contains a navigation menu with options like 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, and List View Button Layout. The main content area is titled 'Fields & Relationships' and displays a table of 8 items, sorted by Field Label. The table has columns for FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The fields listed are: Created By (CreatedBy, Lookup(User)), Currency (CurrencyIsoCode, Picklist), Involvement Status (Involvement\_Status\_\_c, Picklist), Last Modified By (LastModifiedById, Lookup(User)), Partner (Partner\_\_c, Master-Detail(Partner), indexed), Project (Project\_\_c, Master-Detail(Sustainability Project), indexed), Project Partner Name (Name, Text(80), indexed), and Role (Role\_\_c, Picklist).

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedBy	Lookup(User)		
Currency	CurrencyIsoCode	Picklist		
Involvement Status	Involvement_Status__c	Picklist		
Last Modified By	LastModifiedById	Lookup(User)		
Partner	Partner__c	Master-Detail(Partner)		✓
Project	Project__c	Master-Detail(Sustainability Project)		✓
Project Partner Name	Name	Text(80)		✓
Role	Role__c	Picklist		

Fig.3.13. ProjectPartner\_\_c detail page.

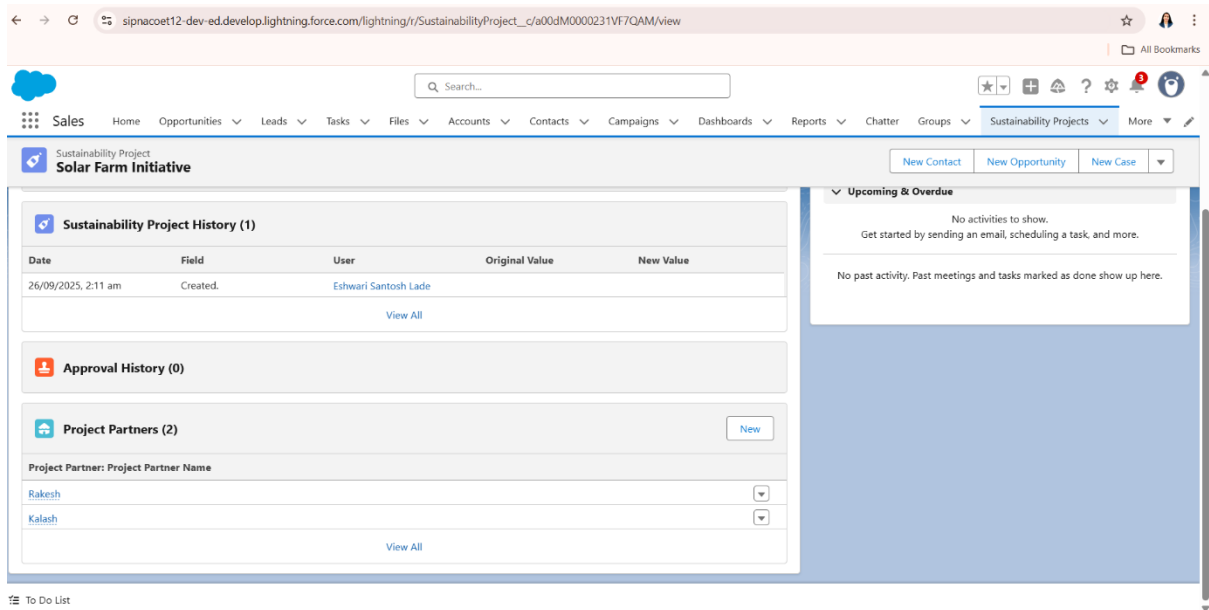


Fig.3.14. Related List on Project record showing multiple Partners.

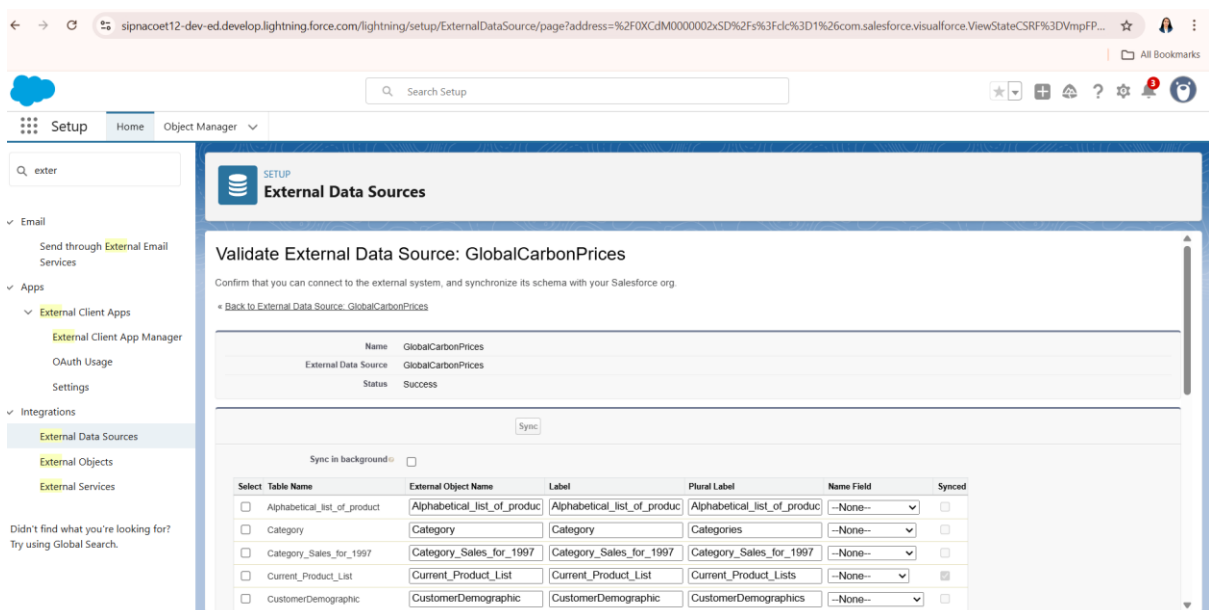
## 9. External Objects (Optional for Advanced Integration)

### Purpose:

Pull external data such as NGO certifications or carbon pricing from APIs/databases.

### Implementation Steps:

1. Setup → External Data Sources → Add New Source.
2. Example: REST API for global carbon prices.
3. Map external data tables to Salesforce as **External Objects**.





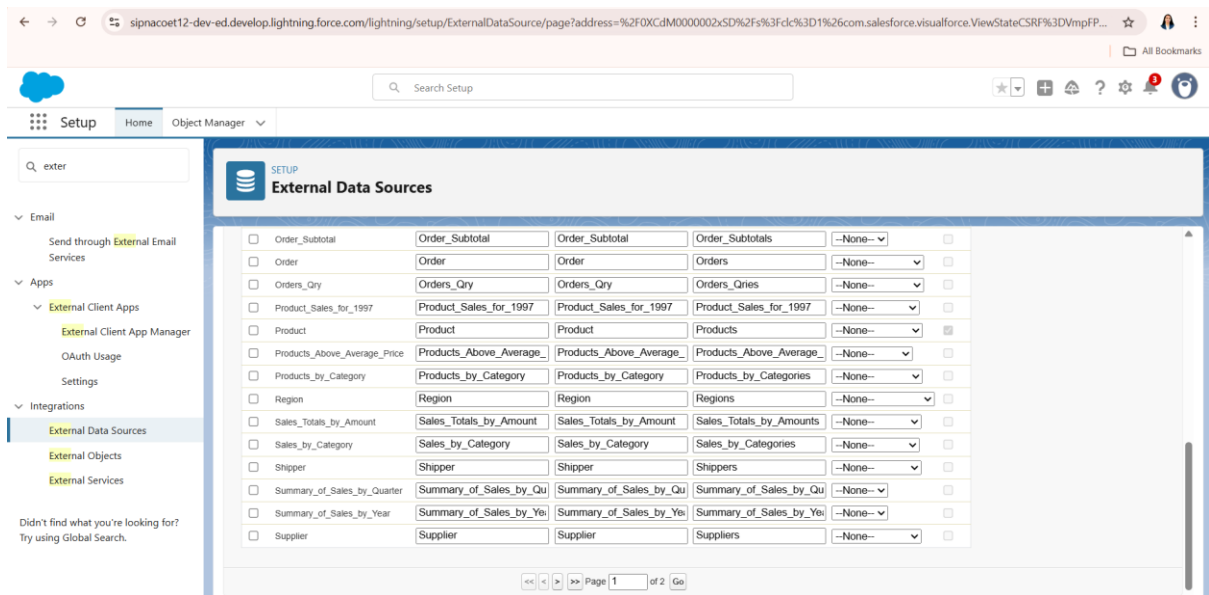
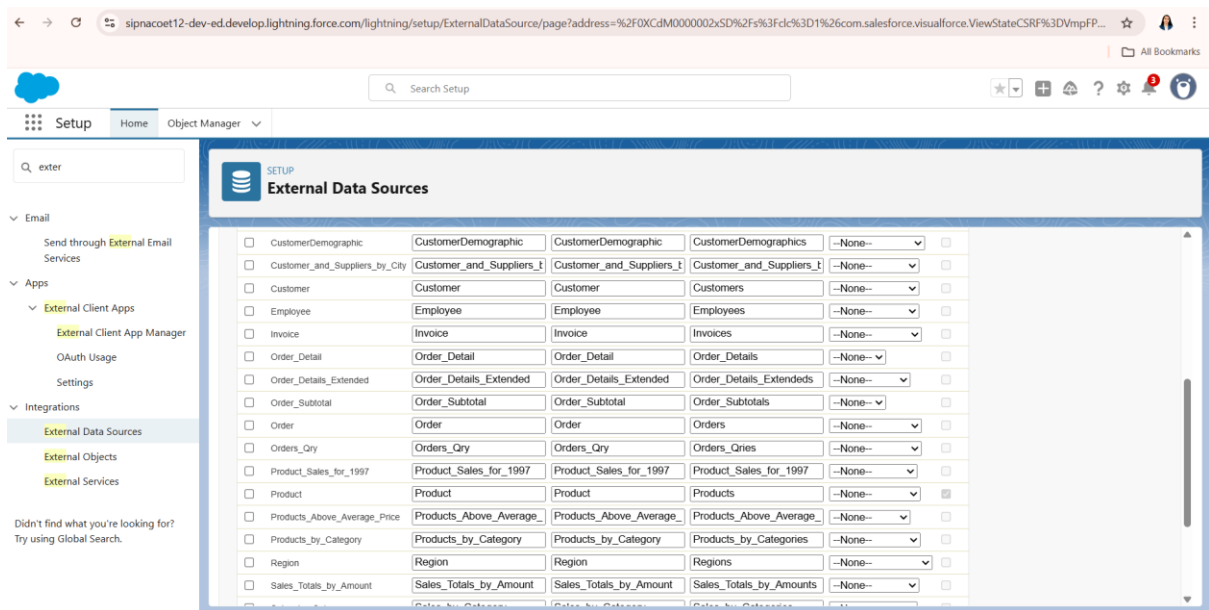


Fig 3.15. External Data Source configuration page.