Project Title – "Smart Subscription Tracker"

Phase 3: Data Modeling & Relationships

Standard & Custom Objects

- Account (Standard): Represents customers or businesses.
- Contact (Standard): Stores customer contact persons.
- Subscription__c (Custom): Tracks subscription contracts (start/end dates, type, status). Linked to Account.
- Payment__c (Custom): Records payments (date, amount, mode, status). Linked to Subscription__c.
    Data Flow:
    Account → Contact → Subscription__c → Payment__c

Master-Detail Relationship

To ensure subscriptions are tightly linked to customers, a Master-Detail relationship was created between Subscription__c and Account.

- Master Object: Account
- Detail Object: Subscription__c
- Why: Subscriptions always belong to an Account, and record ownership/sharing should follow the Account owner.
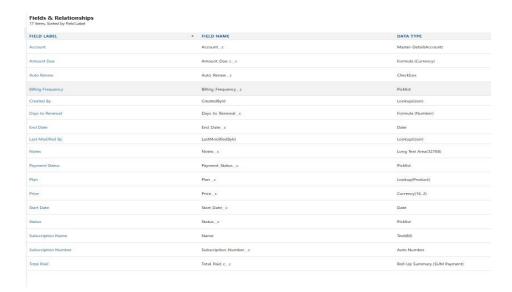   Steps Taken:
1. Setup → Object Manager → Subscription → Fields & Relationships → New.
2. Selected Master-Detail Relationship.
3. Chose Related To: Account.
4. Labeled field as Account (API: Account__c).
5. Kept default sharing so child inherits parent.
6. Saved configuration.

Fields for Subscription__c

To capture essential subscription details, the following custom fields were added under Fields & Relationships:

- Subscription Number (Subscription_Number__c): Auto-Number, format SUB-{0000}.
- Plan: Lookup to Product2 (or picklist if simpler).
- Start Date (Start_Date__c): Date, required on layout.
- End Date (End_Date__c): Date.

- Status (Status__c): Picklist with values *Draft, Active, Renewed, Expired, Canceled* (default: Draft).
- Billing Frequency (Billing_Frequency__c): Picklist with values *Monthly, Quarterly, Yearly, Weekly, Bi-Annual*.
- Price (Price__c): Currency.
- Payment Status (Payment_Status__c): Picklist with values *Paid, Pending, Failed*.
- Auto Renew (Auto_Renew__c): Checkbox.
- Notes (Notes__c): Long Text Area for additional remarks.

Fields & Relationships
17 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE
Account	Account__c	Master-Detail(Account)
Amount Due	Amount_Due_c__c	Formula (Currency)
Auto Renew	Auto_Renew__c	Checkbox
Billing Frequency	Billing_Frequency__c	Picklist
Created By	CreatedById	Lookup(User)
Days to Renewal	Days_to_Renewal__c	Formula (Number)
End Date	End_Date__c	Date
Last Modified By	LastModifiedById	Lookup(User)
Notes	Notes__c	Long Text Area(32768)
Payment Status	Payment_Status__c	Picklist
Plan	Plan__c	Lookup(Product)
Price	Price__c	Currency(16, 2)
Start Date	Start_Date__c	Date
Status	Status__c	Picklist
Subscription Name	Name	Text(80)
Subscription Number	Subscription_Number__c	Auto Number
Total Paid	Total_Paid_c__c	Roll-Up Summary (SUM Payment)

✦ Formula and Roll-Up Fields on Subscription__c

To enhance automation and visibility, the following fields were added:

1. **Days to Renewal (Days_To_Renewal__c):** Formula (Number, 0 decimals).
   a. Formula: IF(ISBLANK(End_Date__c), 0, End_Date__c - TODAY())
   b. Purpose: Calculates remaining days until the subscription end date.

2. **Total Paid (Total_Paid__c):** Roll-Up Summary (requires **Payment__c → Subscription__c** Master-Detail).
   a. Summarizes Payment__c records related to the subscription.
   b. Aggregation: **SUM** of *Amount__c*.
   c. Optional Filter: Include only records where *Payment__c.Status__c = "Paid"*.
3. **Amount Due (Amount_Due__c):** Formula (Currency).
   a. Formula: Price__c - Total_Paid__c
   b. Purpose: Displays outstanding balance for the subscription.

✚ Validation Rule on Subscription__c

To maintain data accuracy, a validation rule was added to ensure subscription dates are entered correctly.

- **Rule Name:** EndDate_After_StartDate
- **Logic:** Prevents users from saving a subscription where the **End Date** is the same as or earlier than the **Start Date**.
- **Error Message:** *"End Date must be after Start Date."* (displayed on the End Date field).
  Result: This rule enforces proper contract timelines and avoids errors in renewal and billing calculations.

✚ Payment__c Object Setup

The **Payment__c** object was created to track customer payments against subscriptions and enable financial reporting.

- **Object Creation:**
  Custom Object → **Payment** (API: Payment__c), plural: Payments, with reporting enabled.
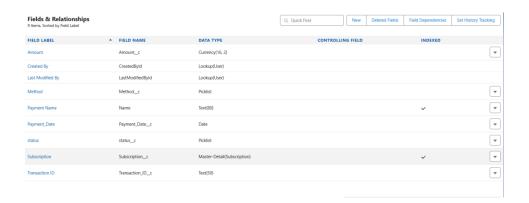
- **Relationship:**
  A **Master-Detail** relationship links each Payment to a **Subscription__c** record.
  - Ensures payments inherit access from their subscription (and ultimately from the account).
  - Enables roll-up summaries such as "Total Paid" at the subscription level.

- **Core Fields:**
  - **Amount (Amount__c):** Currency, required.
  - **Payment Date (Payment_Date__c):** Date.
  - **Method (Method__c):** Picklist — Card, ACH, Cash, Other.
  - **Status (Status__c):** Picklist — Paid, Pending, Failed, Refunded.
  - **Transaction ID (Transaction_ID__c):** Text (255).
  - **Notes (Notes__c):** Long Text Area.

Fields & Relationships
9 Items, Sorted by Field Label

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED	
Amount	Amount__c	Currency(16, 2)			▼
Created By	CreatedById	Lookup(User)			
Last Modified By	LastModifiedById	Lookup(User)			
Method	Method__c	Picklist			▼
Payment Name	Name	Text(80)		✓	▼
Payment_Date	Payment_Date__c	Date			▼
status	status__c	Picklist			▼
Subscription	Subscription__c	Master-Detail(Subscription)		✓	▼
Transaction ID	Transaction_ID__c	Text(50)			▼

⭐ Page Layouts — Subscription & Payment

To make the system user-friendly and ensure key data is visible at a glance, customized page layouts were configured for **Subscription__c**, **Payment__c**, and **Account**.

- **Subscription Page Layout:**

  - Organized fields into clear sections: Header (compact), and Details (Start Date, End Date, Status, Frequency, Price, Auto Renew).

  - Added the **Payments related list** with buttons (*New, Edit*) and columns (*Amount, Payment Date, Status*).

- **Payment Page Layout:**

  - Included fields: Subscription (master-detail), Amount, Payment Date, Method, Status, Transaction ID, and Notes.

  - Provides a complete view of each payment record tied to its subscription.

- **Account Page Layout:**

  - Added **Subscriptions related list** to Accounts.

  - Configured columns to display Subscription Number, Status, and End Date for quick visibility at the account level.

⭐ Compact Layouts — Subscription & Payment

To improve visibility in the **highlights panel** (desktop) and on **Salesforce mobile**, compact layouts were created for key objects.

- **Subscription Compact Layout:**
  - Fields displayed: Subscription Number, Status, End Date, Price.
  - Assigned as the **Primary Compact Layout** for Subscription__c.

- **Payment Compact Layout:**
  - Fields displayed: Amount, Payment Date, Status.
  - Assigned as the **Primary Compact Layout** for Payment__c.

⭐ Record Types:

Not used in this project because all subscriptions follow the same process and layout, so separate record types are unnecessary.

⭐ Schema Builder:

Not included because the object model is simple and already documented through field/relationship setup steps, so a visual schema was not required.

Junction Objects:

Not used because the project does not require a many-to-many relationship. Subscriptions and Payments already have clear one-to-many relationships, so junction objects are unnecessary.

External Objects:

Not included since the project does not integrate with external systems or data sources. All required data is stored within Salesforce standard/custom objects.