

MACK Stores Salesforce CRM Project

Phase 3: Data Modeling & Relationships

Introduction

In this phase, I built the architectural core of the **MACK Stores** application. I defined and implemented the digital skeleton with the objects, fields, and relationships that hold all critical information. The data model is scalable, efficient, and designed to support sales, inventory management, loyalty programs, and customer interactions.

Standard & Custom Objects

To build the database structure, I used a combination of standard Salesforce objects and custom objects created for MACK Stores.

Standard Objects Used

- **Account:** Stores and manages customer information.
- **User:** Represents internal Salesforce users for MACK Stores (e.g., sales staff).

Custom Objects Built :

- **Product (Product__c):** Stores products sold in MACK Stores.
 - **Inventory (Inventory__c):** Tracks stock levels per store location.
 - **Sales Order (Sales_Order__c):** Captures customer purchase orders.
 - **Order Line Item (Order_Line_Item__c):** Represents individual items within each sales order.
 - **Loyalty Program (Loyalty_Program__c):** Manages customer loyalty points and rewards.
-

Fields & Data Types :

Product__c

Field	Data Type	Purpose
Product Number	Auto Number	Unique product ID
Product Name	Text(80)	Name of the product
Category	Picklist	Product category
Price	Currency	Price of the product
SKU Code	Text(20)	Stock keeping unit identifier

Setup

Home

Object Manager

Search Setup

Star

Plus

Cloud

Help

Settings

Notifications

Profile

SETUP > OBJECT MANAGER

Product

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

Object Access

Triggers

Flow Triggers

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
Category	Category__c	Picklist		
Created By	CreatedById	Lookup(User)		
Currency	CurrencyIsoCode	Picklist		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Price	Price__c	Currency(15, 2)		
Product Name	Product_Name__c	Text(80)		
Product Name	Name	Auto Number		✓
SKU Code	SKU_Code__c	Text(20)		

orgfarm-45e099b80d-dev-ed.develop.lightning.force.com/one/one.app#/setup/ObjectManager/011g1.000002kk78/fieldsAndRelationships/view

Inventory__c

Field	Data Type	Purpose
Inventory ID	Auto Number	Unique inventory record ID
Product	Lookup(Product)	Links inventory to product
Available Stock	Number	Quantity available
Store Location	Picklist	Store location (city)

Setup

Home

Object Manager

Search Setup

Star

Grid

Refresh

Help

Settings

Notifications

User

Setup > OBJECT MANAGER

Inventory

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

Flow Triggers

Validation Rules

Conditional Field Formatting

8 Items, Sorted by Field Label

Q, Quick Find

New

Deleted Fields

Field Dependencies

Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Available Stock	Available_Stock__c	Number(5, 0)		
Created By	CreatedById	Lookup(User)		
Currency	CurrencyIsoCode	Picklist		
Inventory ID	Name	Auto Number		✓
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Product	Product__c	Lookup(Product)		✓
Store Location	Store_Location__c	Picklist		

Sales_Order__c

Field	Data Type	Purpose
Order Number	Auto Number	Unique order ID
Customer	Lookup(Account)	Customer placing the order
Order Date	Date	Date order placed
Status	Picklist	Order status
Total Amount	Currency	Total order value

[Setup](#)
[Home](#)
[Object Manager](#)

SETUP > OBJECT MANAGER
Sale Order

[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](#)
[Flow Triggers](#)
[Validation Rules](#)
[Conditional Field Formatting](#)

Fields & Relationships
 8 Items, Sorted by Field Label

[New](#)
[Deleted Fields](#)
[Field Dependencies](#)
[Set History Tracking](#)

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Currency	CurrencyIsoCode	Picklist		
Customer	Customer__c	Lookup(Account)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Order Date	Order_Date__c	Date		
Order Number	Name	Auto Number		✓
Owner	OwnerId	Lookup(User,Group)		✓
Status	Status__c	Picklist		

Order_Line_Item__c

Field	Data Type	Purpose
Line Item ID	Auto Number	Unique line item ID
Sales Order	Master-Detail(Sales Order)	Parent sales order
Product	Lookup(Product)	Product ordered
Quantity	Number	Quantity ordered
Line Total	Formula(Currency)	Quantity × Product Price

[Setup](#)
[Home](#)
[Object Manager](#)

Order Line 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](#)
[Flow Triggers](#)
[Validation Rules](#)
[Conditional Field Formatting](#)


Fields & Relationships
 8 Items, Sorted by Field Label

[New](#)
[Deleted Fields](#)
[Field Dependencies](#)
[Set History Tracking](#)

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Currency	CurrencyIsoCode	Picklist		
Last Modified By	LastModifiedById	Lookup(User)		
Line Item ID	Name	Auto Number		✓
Line Total	Line_Total__c	Formula (Currency)		
Product	Product__c	Lookup(Product)		✓
Quantity	Quantity__c	Number(3, 0)		
Sales Order	Sales_Order__c	Master-Detail(Sale Order)		✓

Loyalty_Program__c

Field	Data Type	Purpose
Loyalty ID	Auto Number	Unique loyalty record ID
Customer	Lookup(Account)	Customer enrolled
Points Earned	Number	Total points earned
Points Redeemed	Number	Points redeemed
Current Balance	Formula(Number)	Points Earned – Points Redeemed



[Setup](#)
[Home](#)
[Object Manager](#)

[SETUP > OBJECT MANAGER](#)

Loyalty Program

[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](#)
[Flow Triggers](#)
[Validation Rules](#)
[Conditional Field Formatting](#)

Fields & Relationships

9 Items, Sorted by Field Label

[New](#)
[Deleted Fields](#)
[Field Dependencies](#)
[Set History Tracking](#)

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Currency	CurrencyIsoCode	Picklist		
Current Balance	Current_Balance__c	Formula (Number)		
Customer	Customer__c	Lookup(Account)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Loyalty ID	Name	Auto Number		✓
Owner	OwnerId	Lookup(User,Group)		✓
Points Earned	Points_Earned__c	Number(5, 0)		
Points Redeemed	Points_Redeemed__c	Number(5, 0)		

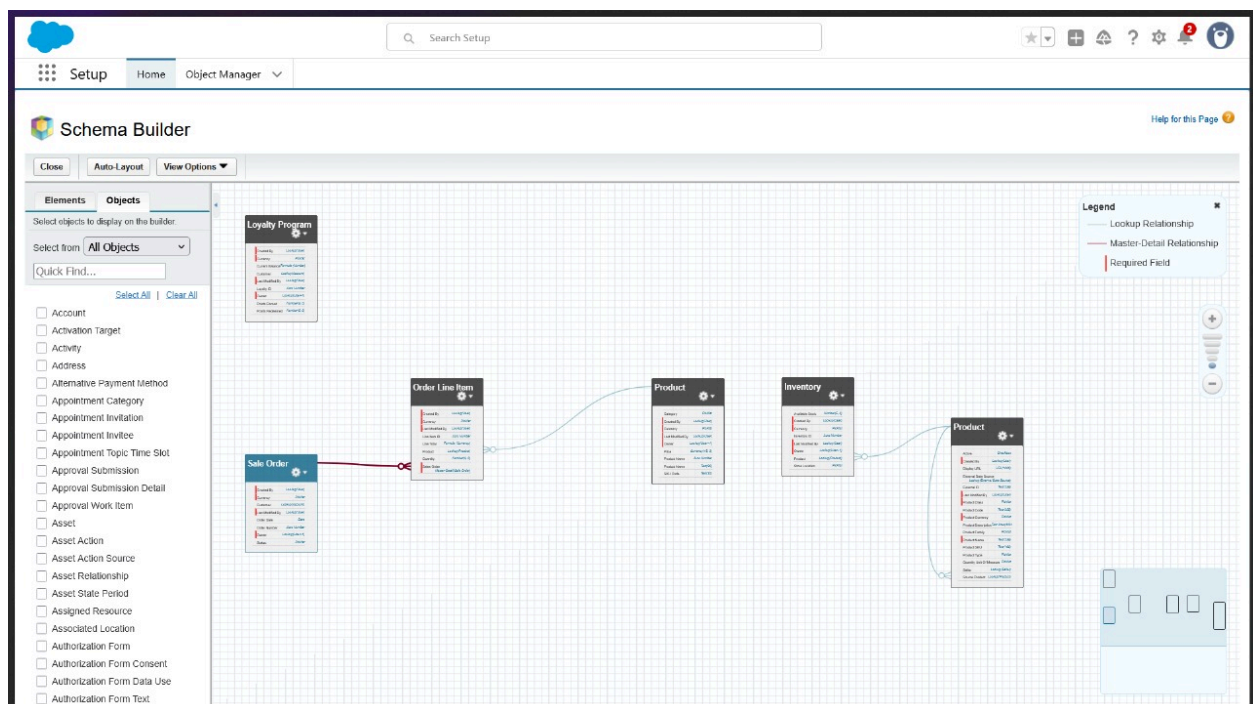
Record Types & Page Layouts

To support different business needs, I designed custom record types and layouts.

- **Sales Order Record Types:** "Online Order" and "In-Store Purchase" with different page layouts.
 - **Product Record Types:** Categories like "Electronics," "Clothing," and "Groceries."
 - **Custom Page Layouts:** Each record type shows only the most relevant fields (e.g., Sales Order layout highlights "Total Amount" and "Status").
-

The Schema Builder

I used the Schema Builder to create a visual representation of all custom objects and their relationships. This serves as the blueprint of the application.



Relationships Explained

Connection (Parent → Child)	Relationship Field	Type	Business Rationale
Product__c → Inventory__c	Product	Lookup	Inventory is tied to a product but can exist independently.
Account → Sales_Order__c	Customer	Lookup	Sales orders are linked to customers.
Product__c → Order_Line_Item__c	Product	Lookup	Each order line references a product.
Account → Loyalty_Program__c	Customer	Lookup	A loyalty program record belongs to a customer.

Advanced & External Data

- **Compact Layouts:** Configured to show key info at a glance (e.g., Sales Order compact layout shows Status, Date, and Total Amount).
 - **Hierarchical Relationships:** Can be extended for reporting managers in retail chains.
 - **External Objects (Future Scope):** Potential integration with supplier inventory systems to sync real-time stock data
-

Summary of Phase 3

- Created 5 custom objects with well-defined fields.
 - Established Lookup & Master-Detail relationships to support real business processes.
 - Designed record types and layouts for different user experiences.
 - Prepared the data model to support sales, inventory, and loyalty program management.
-