Phase 3: Data Modeling & Relationships

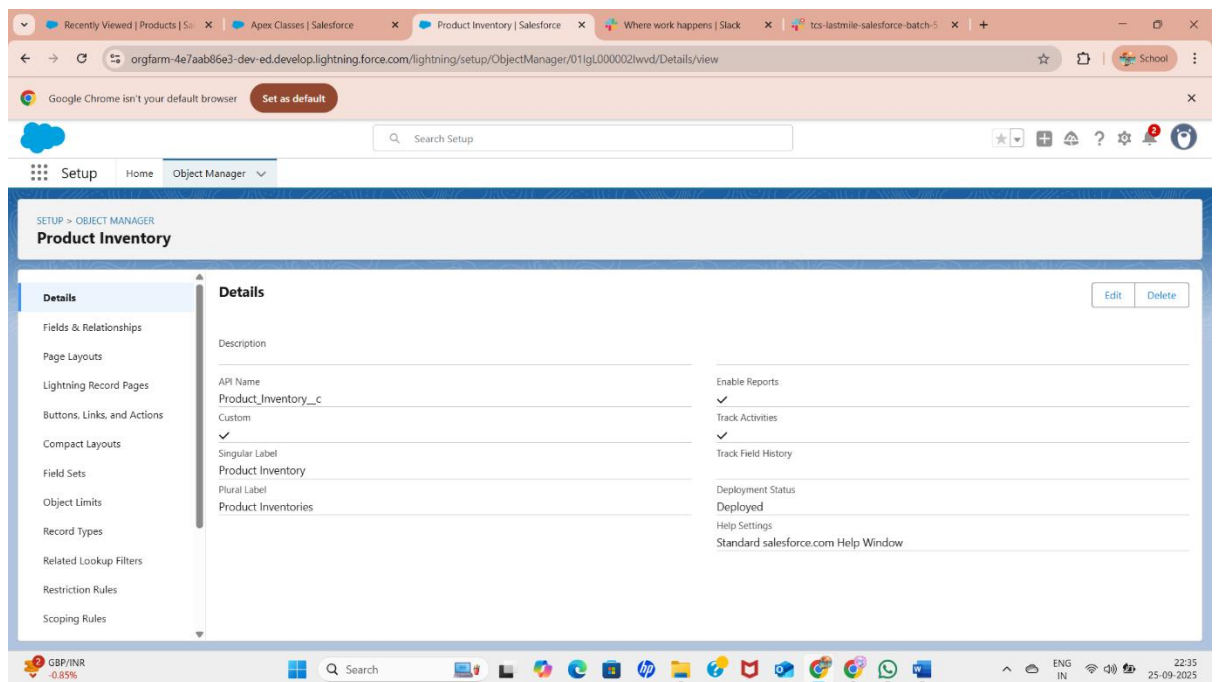**1. Standard & Custom Objects**

Standard Objects

- Pre-built by Salesforce.

- Examples: Account, Contact, Opportunity, Lead, Order, Product2.

- Used to manage core business data.

Custom Objects

- Created to store **specific business data** not covered by standard objects.

- Naming convention: CustomObject__c

- Example: Product_Inventory__c, Order__c.

2. Fields

Field Types

- **Standard Fields:** Provided by Salesforce (Name, Created Date, Owner).

- **Custom Fields:** Created to store additional info (Quantity__c, Minimum_Stock__c).

Common Field Types

- Text, Number, Date, Picklist, Checkbox, Formula, Lookup, Master-Detail.

3. Record Types

- Allow creating **different business processes, page layouts, and picklist values** for the same object.

- Example: Retail Order vs Wholesale Order for the Order object.

- **Use Cases:**

  - Different page layouts for different departments.

  - Different picklist values per business process.

4. Page Layouts

- Control **which fields, sections, related lists, and buttons** appear on a record detail page.
- You can assign **different layouts** to different profiles or record types.

Steps to Configure:

1. Object Manager → Object → Page Layouts
2. Create/Edit layout → drag & drop fields and sections
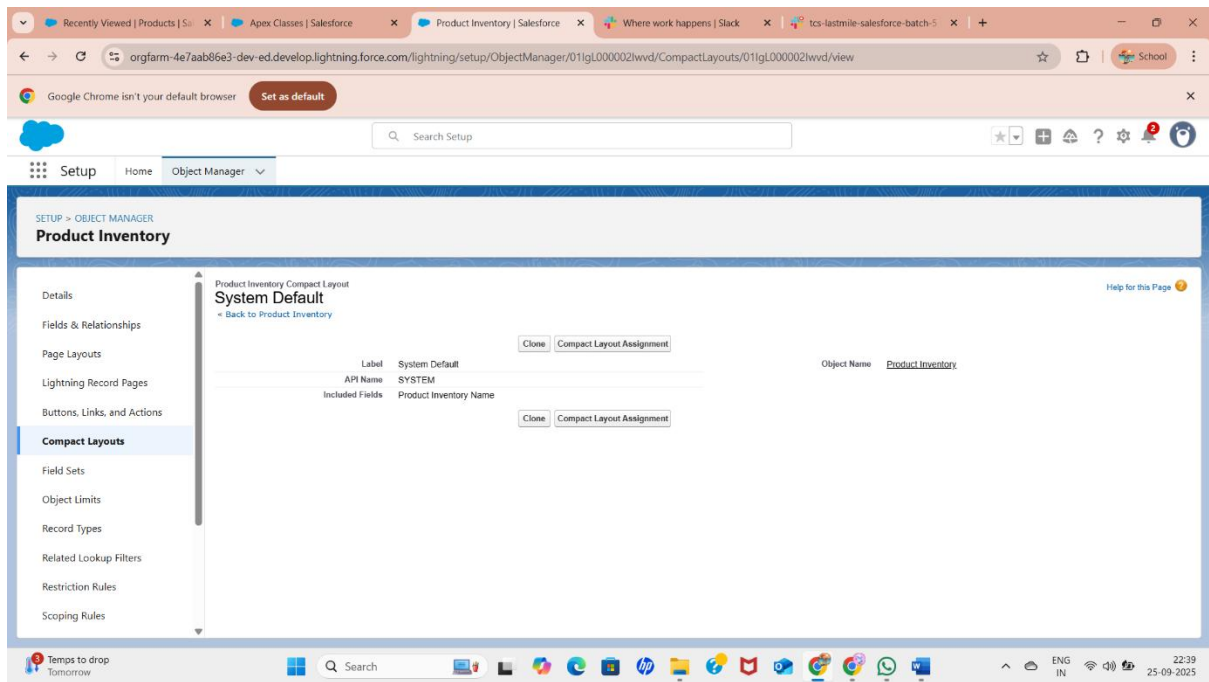3. Assign layout to profiles or record types
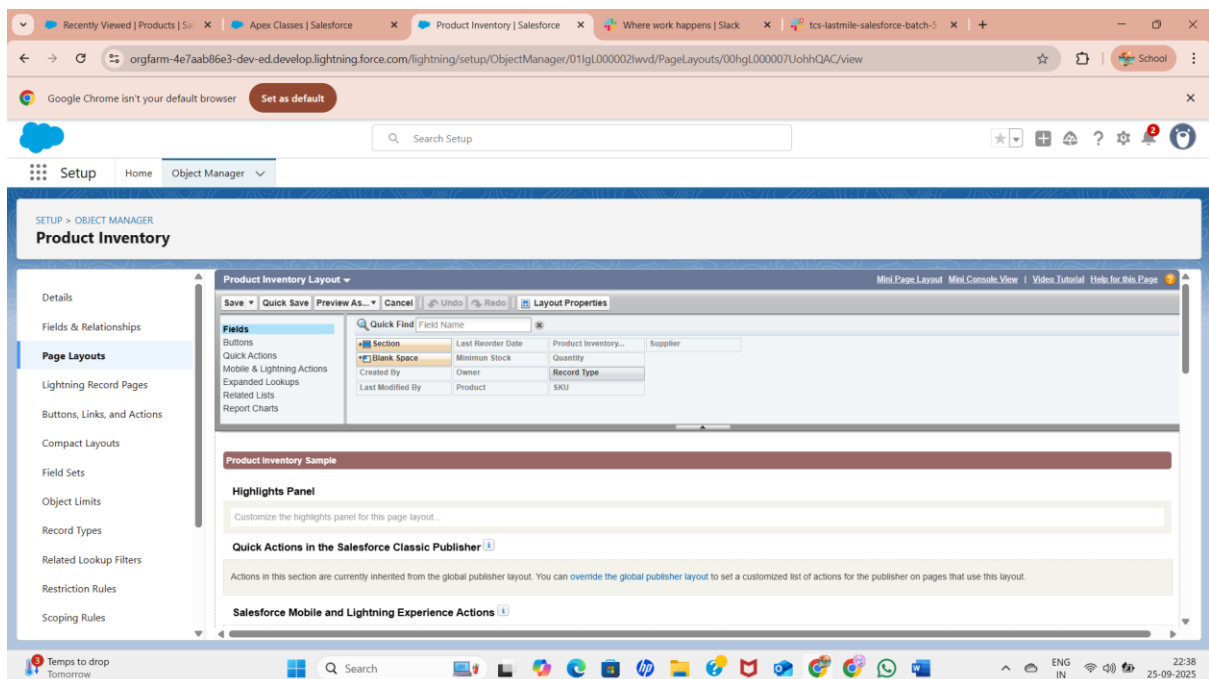
5. Compact Layouts

- Show **key fields at the top of a record page** (Lightning record highlights panel).
- Used on mobile and desktop views for quick reference.

Steps to Configure:

1. Object Manager → Object → Compact Layouts
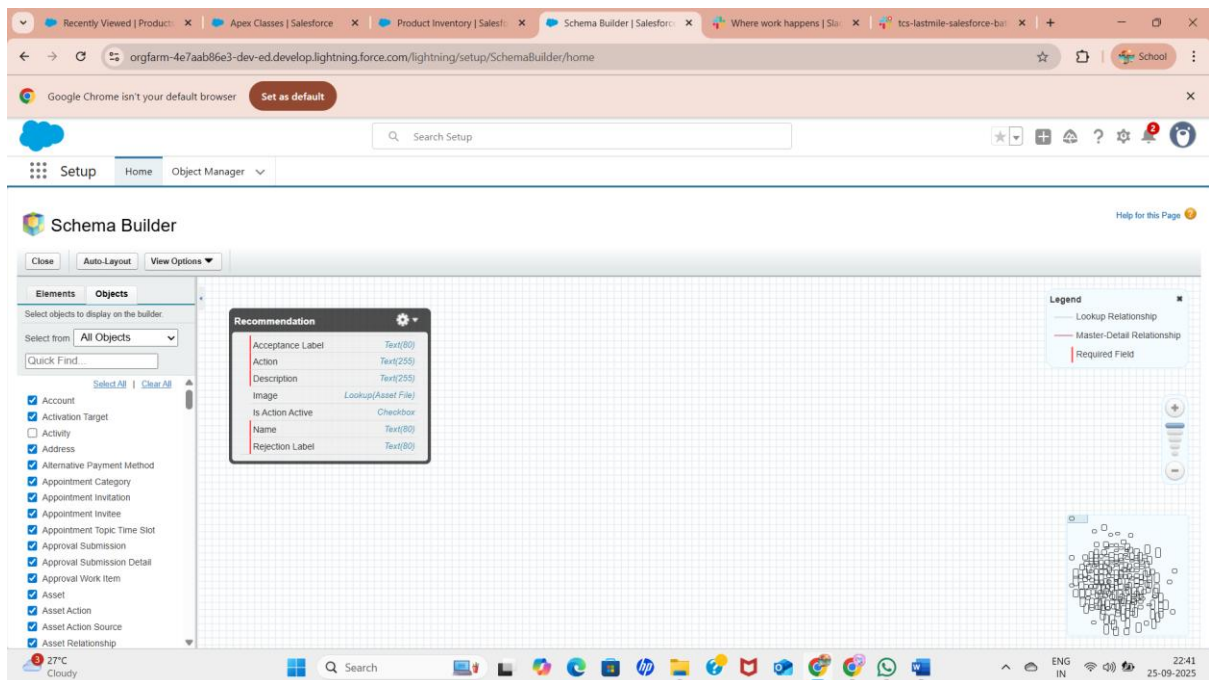2. Create new → select key fields → assign to page layout

6. Schema Builder

- Visual tool to **see and manage objects, fields, and relationships**.
- Drag objects, create fields, and define relationships visually.

Benefits:

- Easy to understand complex relationships.
- Quickly add fields and relationships without leaving the tool.

7. Lookup vs Master-Detail vs Hierarchical Relationships

Relationship Type	Key Points	Use Case
Lookup	Loose coupling, optional, can link records across objects	Account → Contact, Product → Product Inventory
Master-Detail	Strong coupling, child record inherits owner & sharing from parent	Invoice Items → Invoice
Hierarchical	Special lookup on User object to reference another User	Manager → Employee relationships

Notes:

- Master-Detail: deletion of parent deletes child.

- Lookup: child can exist independently.
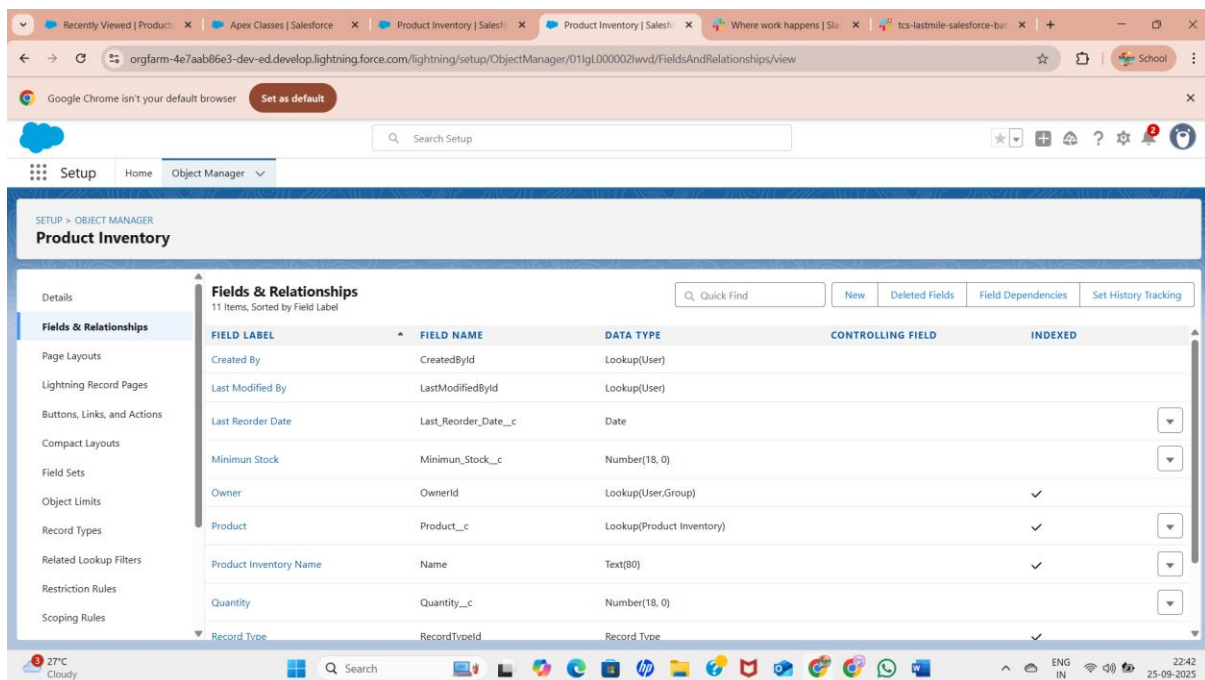
8. Junction Objects

- Used to create **many-to-many relationships** between objects.

- Example: Project_Assignment__c linking Employee__c and Project__c.

- Must have **two master-detail relationships** pointing to the objects being linked.

Summary

- **Objects & Fields**: Foundation for storing Salesforce data.

- **Record Types & Layouts**: Control user experience and processes.

- **Relationships**: Define how objects are connected.

- **Schema Builder**: Visualize the data model.

- **Junction Objects**: Implement many-to-many relationships.