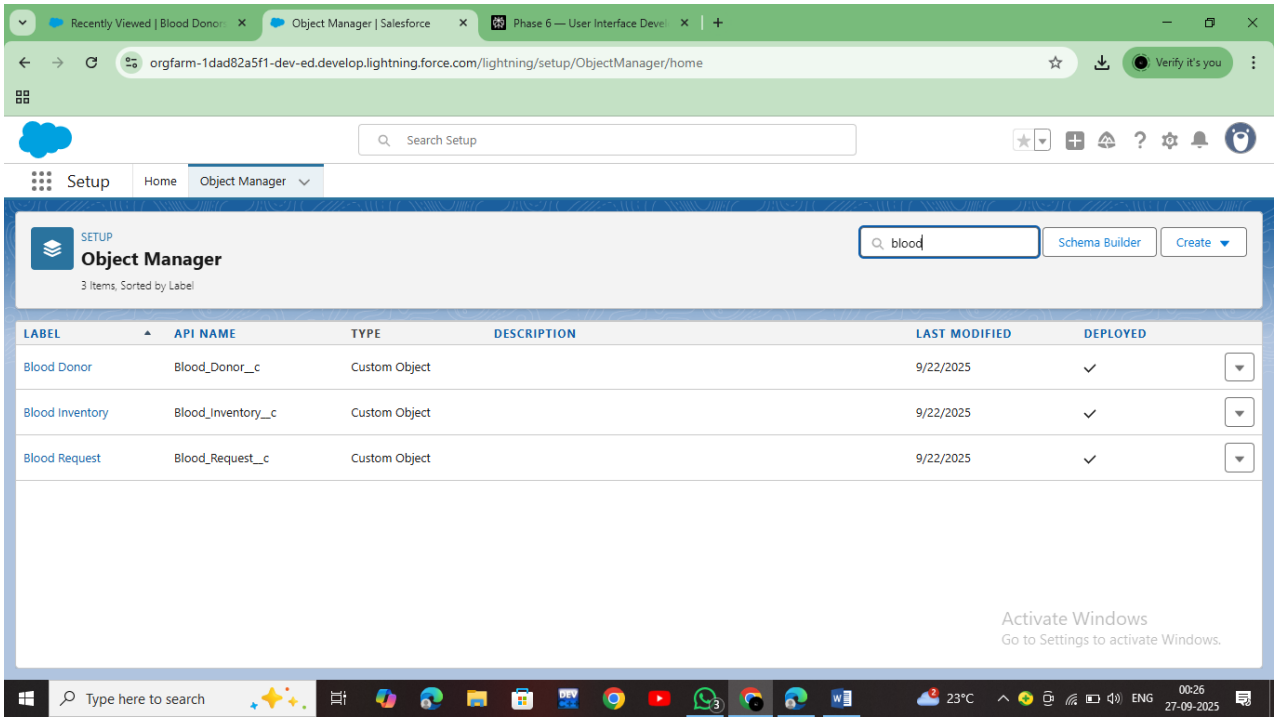
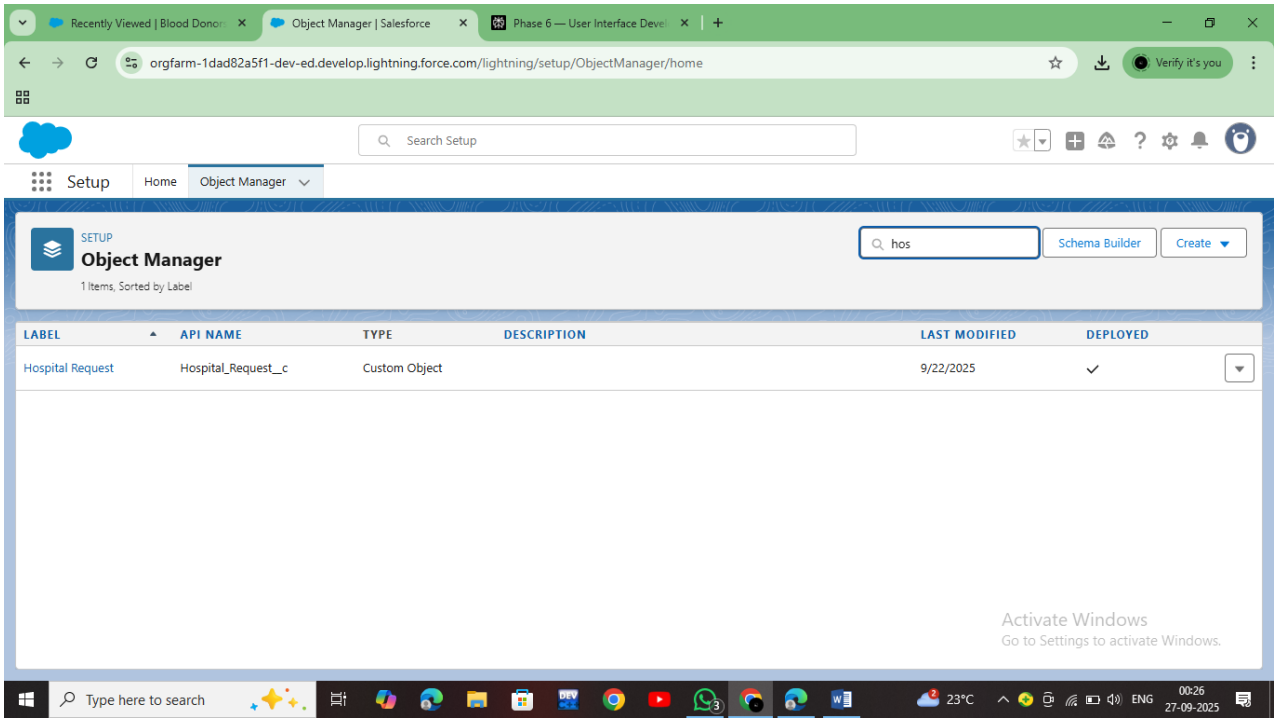
Phase 3: Data Modeling & Relationships

1. Standard & Custom Objects

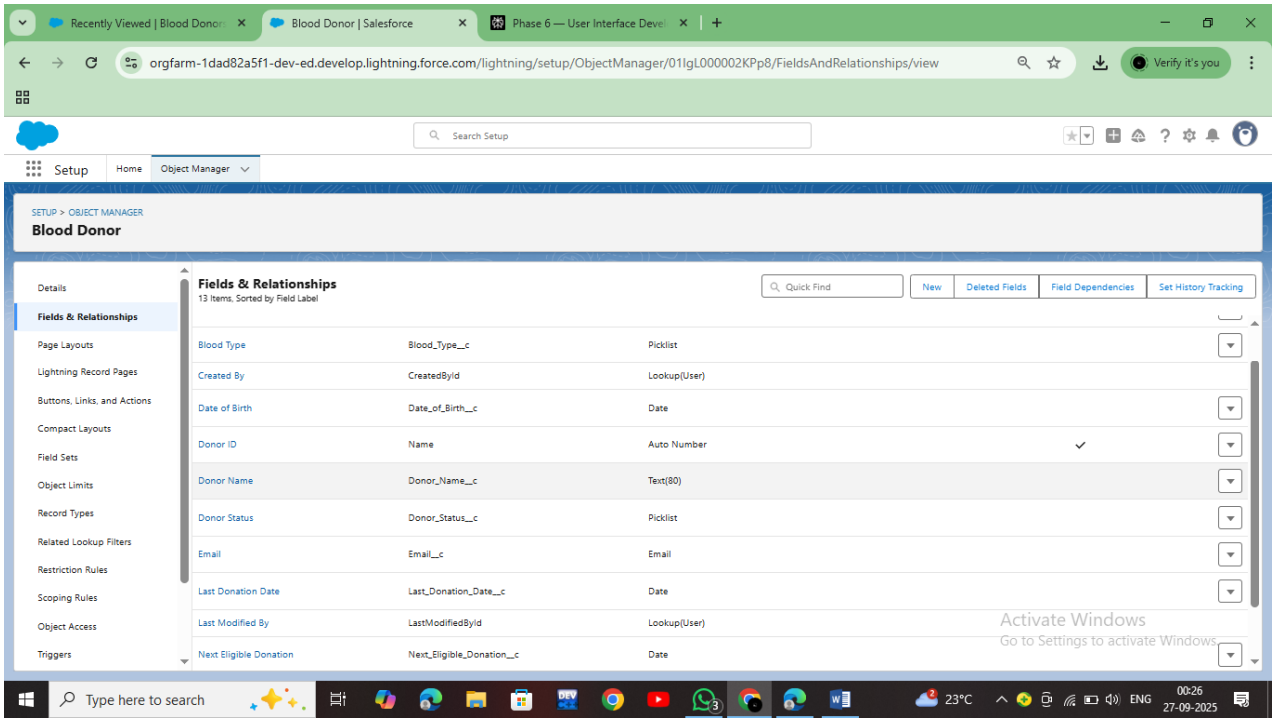
- Created 4 core custom objects:
  - **Blood Donor:** Individual donor information.
  - **Blood Request:** Internal departmental requests.
  - **Blood Inventory:** Available blood units and stock.
  - **Hospital Request:** External hospital blood requests.



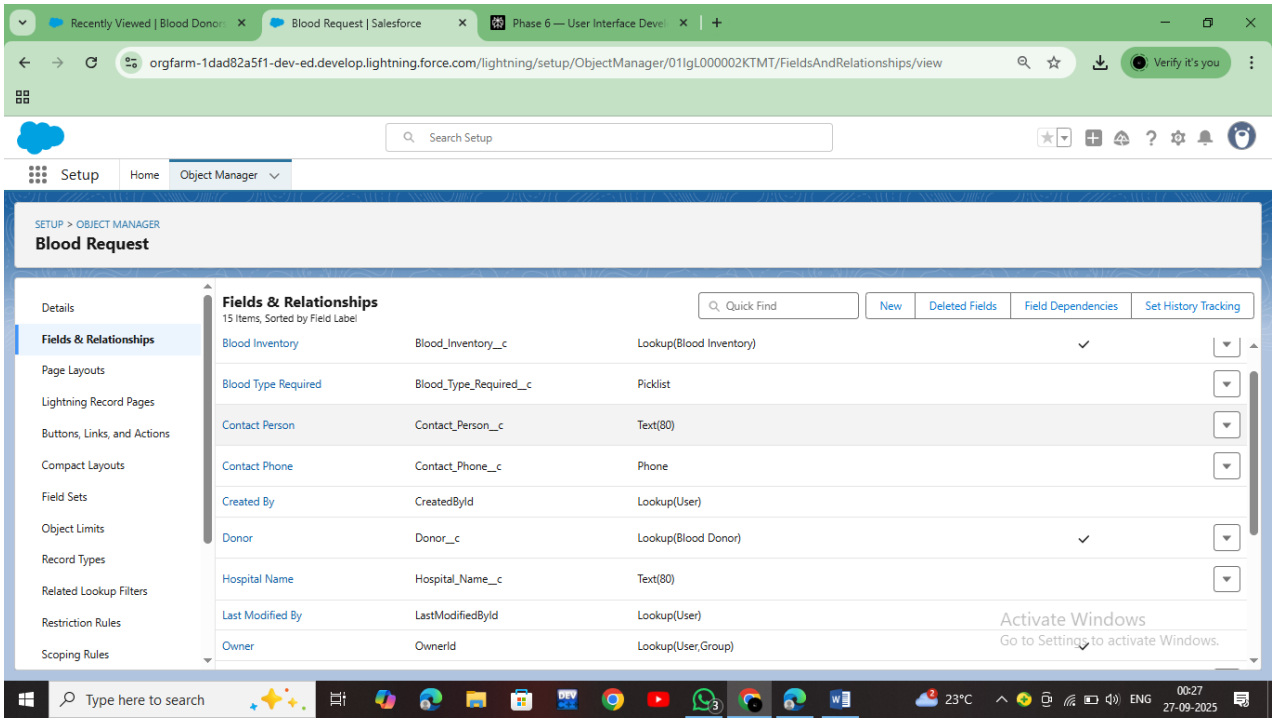


2. Fields

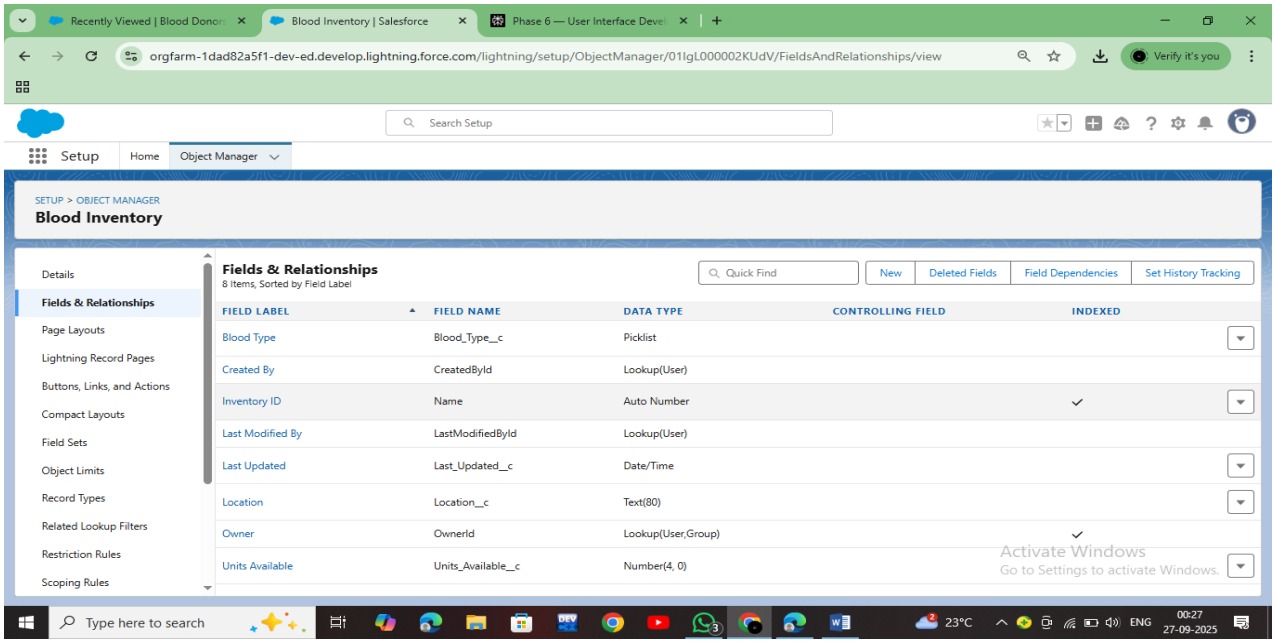
- **Blood Donor:** Donor Name, Blood Type (A+/A-/B+/B-/AB+/AB-/O+/O-), Phone, Email, DOB, Last Donation Date, Status, Address.



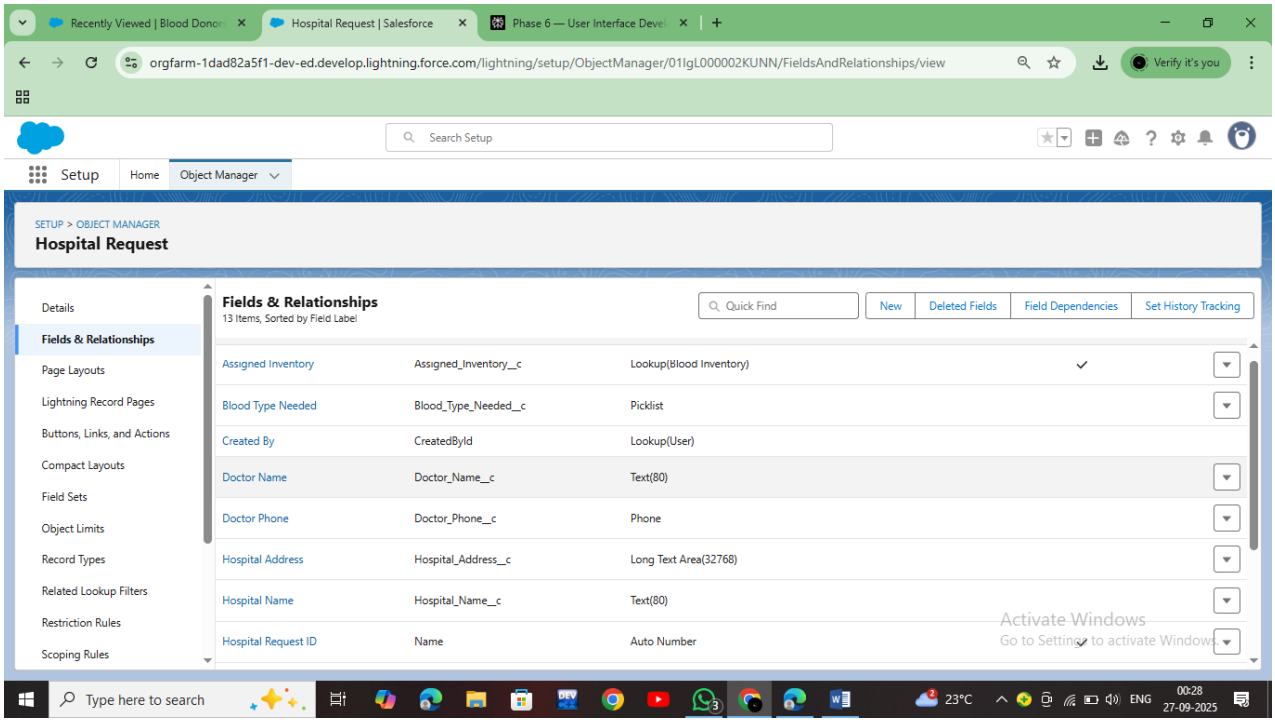
- **Blood Request:** Hospital Name, Blood Type Required, Units Required, Priority (Emergency/High/Medium/Low), Status, Request Date, Required By Date, Contact Person, Contact Phone.



- **Blood Inventory:** Blood Type, Units Available, Location, Last Updated, Status (In Stock/Low Stock/Out of Stock/Reserved).



- **Hospital Request:** Hospital Name, Address, Blood Type Needed, Units Requested, Urgency Level (Critical/High/Normal), Status, Doctor Name, Doctor Phone.



3. Record Types

- Current: Single record types for simplicity.
- Future: Multiple record types planned (Regular Donor, VIP Donor, Emergency Request, Routine Request).

4. Page Layouts

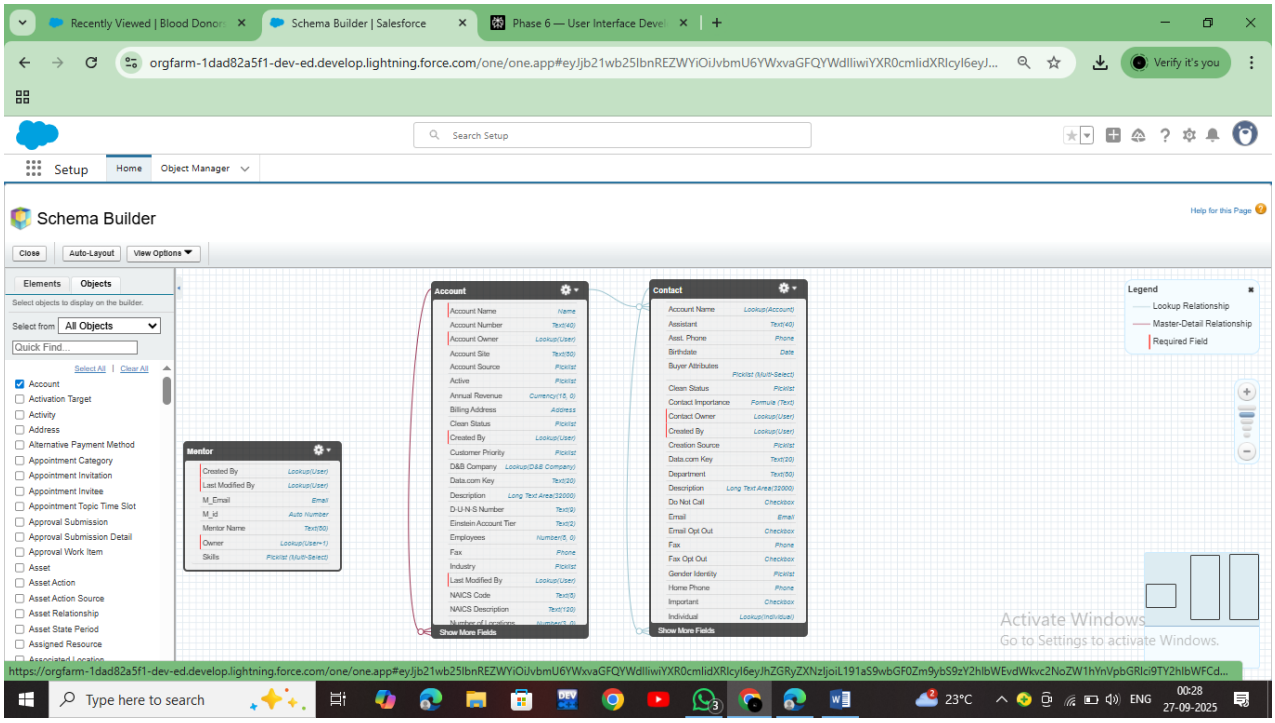
- Current: Default layouts with all custom fields.
- Future: Role-specific layouts for optimized workflows.

5. Compact Layouts

- Current: System-generated layouts.
- Future: Custom compact layouts for mobile optimization.

6. Schema Builder

- Used for visual verification of object relationships.
- Confirmed proper data flow between all four objects.



7. Lookup vs Master-Detail vs Hierarchical Relationships

- Blood Request → Blood Donor (Lookup relationship): Supports multiple requests per donor.
- Blood Request → Blood Inventory (Lookup): Links requests to blood stock.
- Hospital Request → Blood Inventory (Lookup): Allocates inventory to hospitals.
- Avoided Master-Detail relationships to preserve historical data integrity.

8. Junction Objects

- None implemented currently; direct one-to-many relationships used.
- Future plans to implement junction objects for:
    - Blood Donors ↔ Blood Drives
    - Staff ↔ Inventory Allocation

9. External Objects

- None implemented currently.
- Future plans to integrate with:
    - Hospital systems
    - Government health databases
    - Lab systems
    - Regional blood bank networks