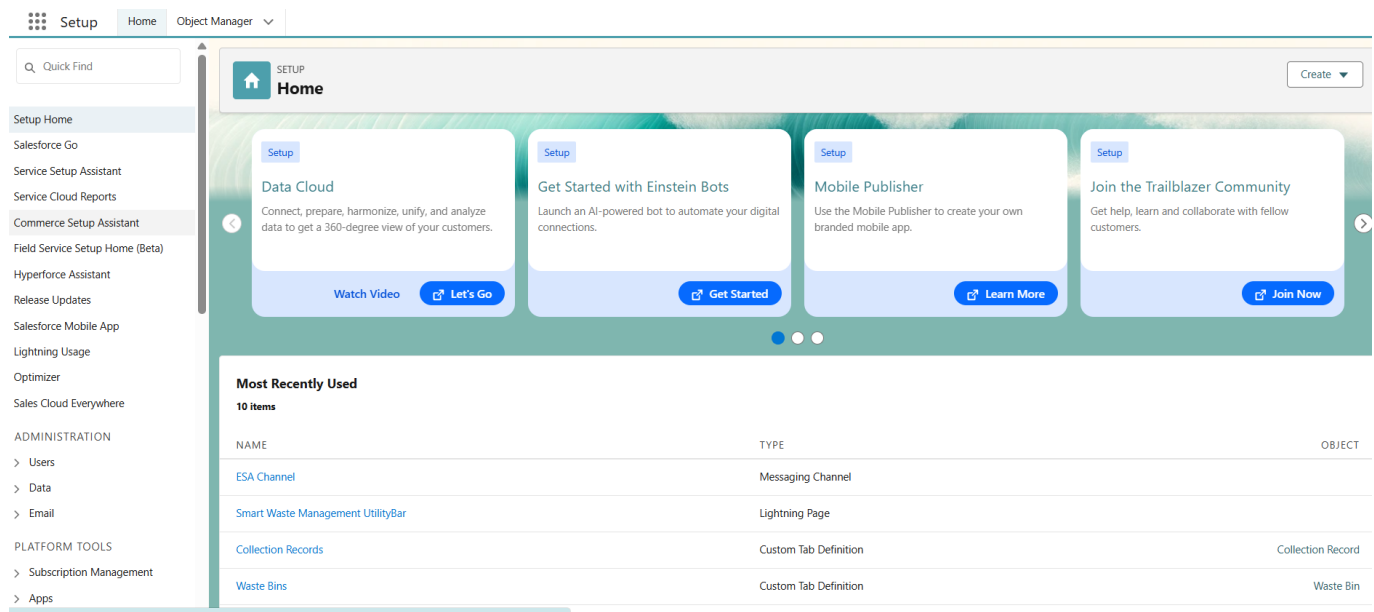**Smart Waste Management Tracker – Salesforce Project**
Phase 3: Data Modeling & Relationships

Step 1: Goal of Phase 3

- Define data model for Waste Management.

- Create custom objects: **WasteBin__c** and **CollectionRecord__c**.

- Define fields, relationships, validation rules, and page layouts.
  Expected Outcome: Objects ready for record creation & data capture.

Step 2: Create Custom Objects
WasteBin__c

- Object Name: Waste Bin

- Record Name: Waste Bin Name (Text)

- Optional: Allow Reports & Activities → ✓

- Save.

SETUP > OBJECT MANAGER
Waste Bin

Details

- 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

Details   Edit   Delete

Description

API Name
Waste_Bin__c

Custom
✓

Singular Label
Waste Bin

Plural Label
Waste Bins

Enable Reports
✓

Track Activities
✓

Track Field History
✓

Deployment Status
Deployed

Help Settings
Standard salesforce.com Help Window

CollectionRecord__c

- Object Name: Collection Record

- Record Name: Collection Record Name (Text)

- Optional: Allow Reports & Activities → ✓

- Save.

SETUP > OBJECT MANAGER
Collection Record

Details

- Details
- Fields & Relationships
- Page Layouts
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- Object Access
- Triggers

Details   Edit   Delete

Description

API Name
Collection_Record__c

Custom
✓

Singular Label
Collection Record

Plural Label
Collection Records

Enable Reports
✓

Track Activities
✓

Track Field History

Deployment Status
Deployed

Help Settings
Standard salesforce.com Help Window

Step 3: Define Fields for WasteBin__c

Field Label	Data Type	Notes
Location	Text	255 chars
Type	Picklist	Recyclable, Organic, Non-Recyclable
Capacity	Number	Max 8,2
Status	Picklist	Empty, Full, Needs Maintenance
LastServicedDate	Date	-

Setup | Home | Object Manager

SETUP > OBJECT MANAGER
Waste Bin

Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
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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	
Capacity	Capacity__c	Number(8, 2)			▼
Created By	CreatedById	Lookup(User)			
Last Modified By	LastModifiedById	Lookup(User)			
Last Serviced Date	Last_Serviced_Date__c	Date			▼
Location	Location__c	Text(255)			▼
Owner	OwnerId	Lookup(User,Group)		✓	
Status	Status__c	Picklist			▼
Type	Type__c	Picklist			▼
Waste Bin Name	Name	Text(80)		✓	▼

Step 4: Define Fields for CollectionRecord__c

Field Label	Data Type	Notes
CollectionDate	Date/Time	-
CollectedBy	Lookup(User)	Optional filter: Collection Staff
QuantityCollected	Number	Max 8,2
Notes	Text Area	Optional
WasteBin	Lookup(WasteBin__c)	Relates record to bin

SETUP > OBJECT MANAGER
Collection Record

Fields & Relationships
8 Items, Sorted by Field Label

Quick Find | New | Deleted Fields | Field Dependencies | Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Collected By	User__c	Lookup(User)		✓
Collection Date	Collection_Date__c	Date/Time		
Collection Record Name	Name	Text(80)		✓
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Owner	OwnerId	Lookup(User,Group)		✓
Quantity Collected (Litres)	Quantity_Collected_Litres__c	Number(8, 2)		
Waste Bin	Waste_Bin__c	Lookup(Waste Bin)		✓

Step 5: Validation Rule

- Object: CollectionRecord__c

- Rule: **QuantityCollected >= 0**

- Error Message: "Quantity cannot be negative."

- Location: Top of page or specific field.

SETUP
Object Manager

Collection Record Validation Rule

Help for this Page

Back to Collection Record

Validation Rule Detail   Edit   Clone

Rule Name	Check_Negative_Quantity	Active	✓
Error Condition Formula	Quantity_Collected_Litres__c < 0		
Error Message	Quantity cannot be negative.	Error Location	Top of Page
Description			
Created By	Kiran kumari Thati, 21/09/2025, 1:33 pm	Modified By	Kiran kumari Thati, 21/09/2025, 1:33 pm

Edit   Clone

Step 6: Page Layouts
Waste Bin Layout

- Fields order: Location → Type → Capacity → Status → LastServicedDate

SETUP > OBJECT MANAGER
Waste Bin

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

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Scoping Rules

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Triggers

Waste Bin Layout ▾

Custom Console Components | Mini Page Layout | Mini Console View | Video Tutorial Help for this Page

Save ▾ Quick Save Preview As... ▾ Cancel | ⟲ Undo ⟳ Redo | 🔲 Layout Properties

Fields
Buttons
Quick Actions
Mobile & Lightning Actions
Expanded Lookups
Related Lists
Report Charts

🔍 Quick Find Field Name ✕

➕ Section	Last Modified By	Status
➕ Blank Space	Last Serviced Date	Type
Capacity	Location	Waste Bin Name
Created By	Owner	

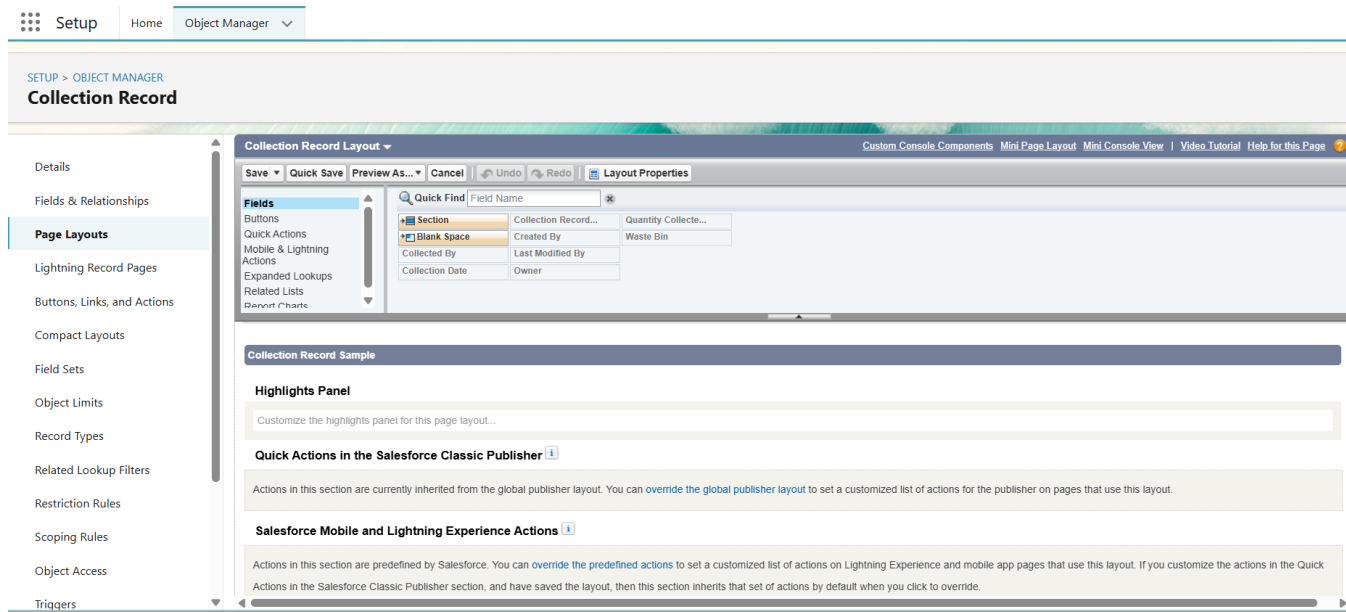**Waste Bin Sample**

Highlights Panel

Customize the highlights panel for this page layout...

Quick Actions in the Salesforce Classic Publisher ℹ

Actions in this section are currently inherited from the global publisher layout. You can override the global publisher layout to set a customized list of actions for the publisher on pages that use this layout.
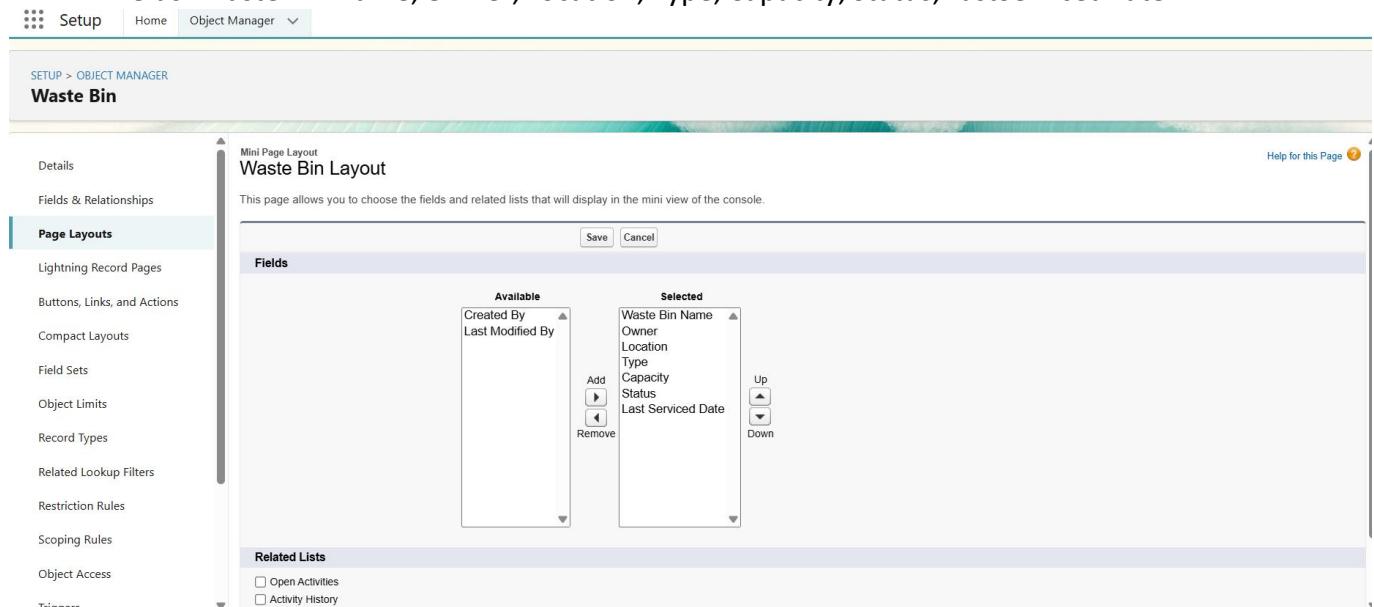
Salesforce Mobile and Lightning Experience Actions ℹ

Actions in this section are predefined by Salesforce. You can override the predefined actions to set a customized list of actions on Lightning Experience and mobile app pages that use this layout. If you customize the actions in the Quick Actions in the Salesforce Classic Publisher section, and have saved the layout, then this section inherits that set of actions by default when you click to override.

Collection Record Layout

- Fields order: CollectionDate → CollectedBy → QuantityCollected → WasteBin → Notes

- Effect: Record creation page neat and user-friendly.

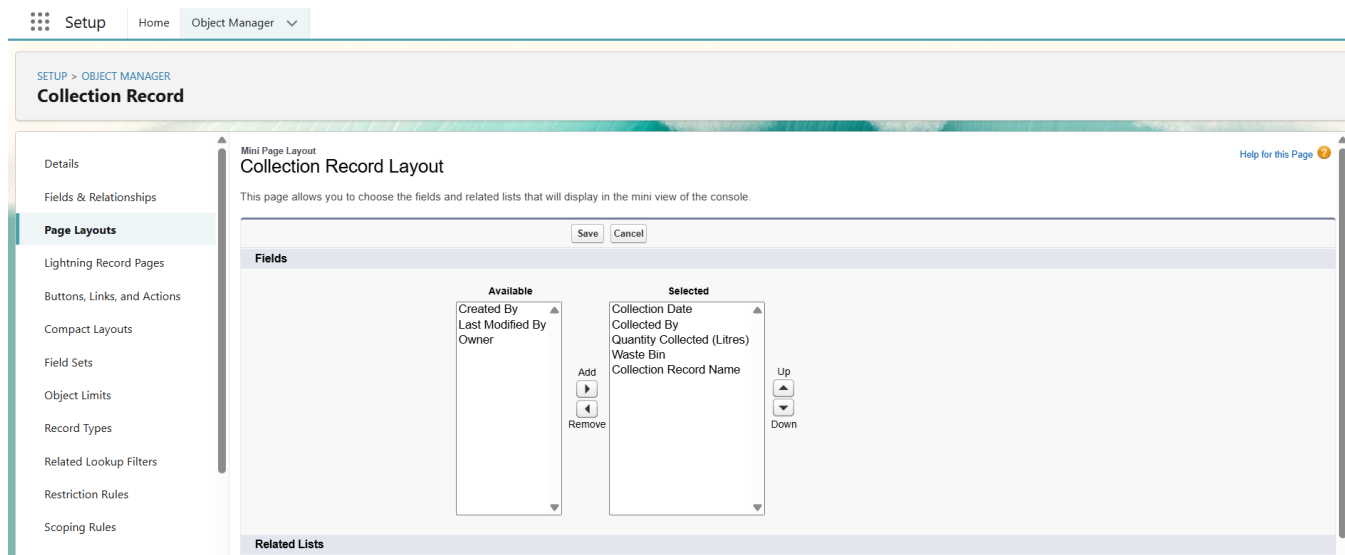## Step 7: Mini Page Layouts (Optional)

Waste Bin Mini Layout

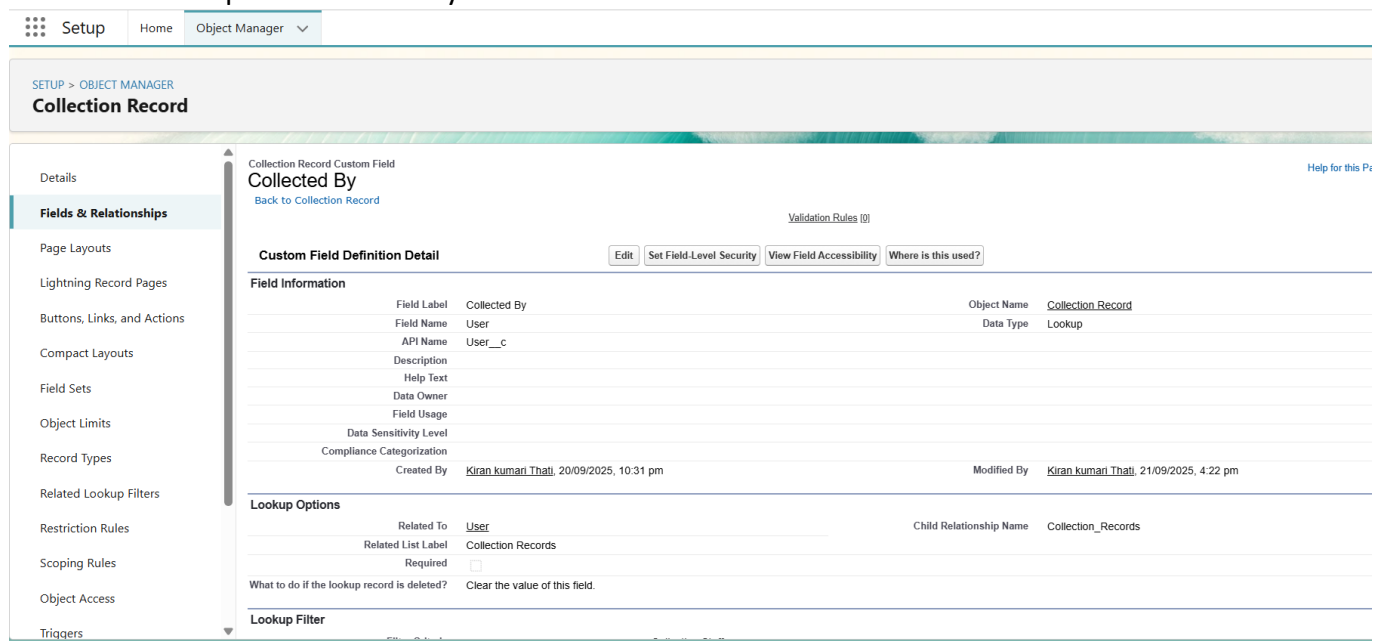- Fields: Waste Bin Name, Owner, Location, Type, Capacity, Status, LastServicedDate

Collection Record Mini Layout

- Fields: Collection Record Name, WasteBin, CollectedBy, QuantityCollected

Step 8: Relationships & Lookup Filters (Optional)

- CollectedBy → Lookup(User)

  - Optional filter: Only Collection Staff users

- WasteBin in CollectionRecord → Lookup(WasteBin__c)

Step 9: Expected Outcome (Phase 3 Completion)

- Custom objects **WasteBin__c** and **CollectionRecord__c** created.

- All fields defined with proper data types.

- Page layouts & mini layouts arranged.

- Validation rules set.

- Ready for record creation & testing in Phase 4.