Phase 3: Data Modeling & Relationships

Introduction

A robust and well-structured data model is critical for ensuring that ApexHub can efficiently manage recipes, execution logs, and integrate with Salesforce standard objects. Phase 3 focuses on designing scalable custom objects, defining relationships, enforcing data integrity, and enabling the system to support both automation and reporting.

A clean data model not only improves application performance but also ensures maintainability and reduces future development errors. By standardizing object relationships and validation rules, the team can ensure that data captured by ApexHub is consistent, secure, and meaningful.

Objectives

The objectives of this phase are:

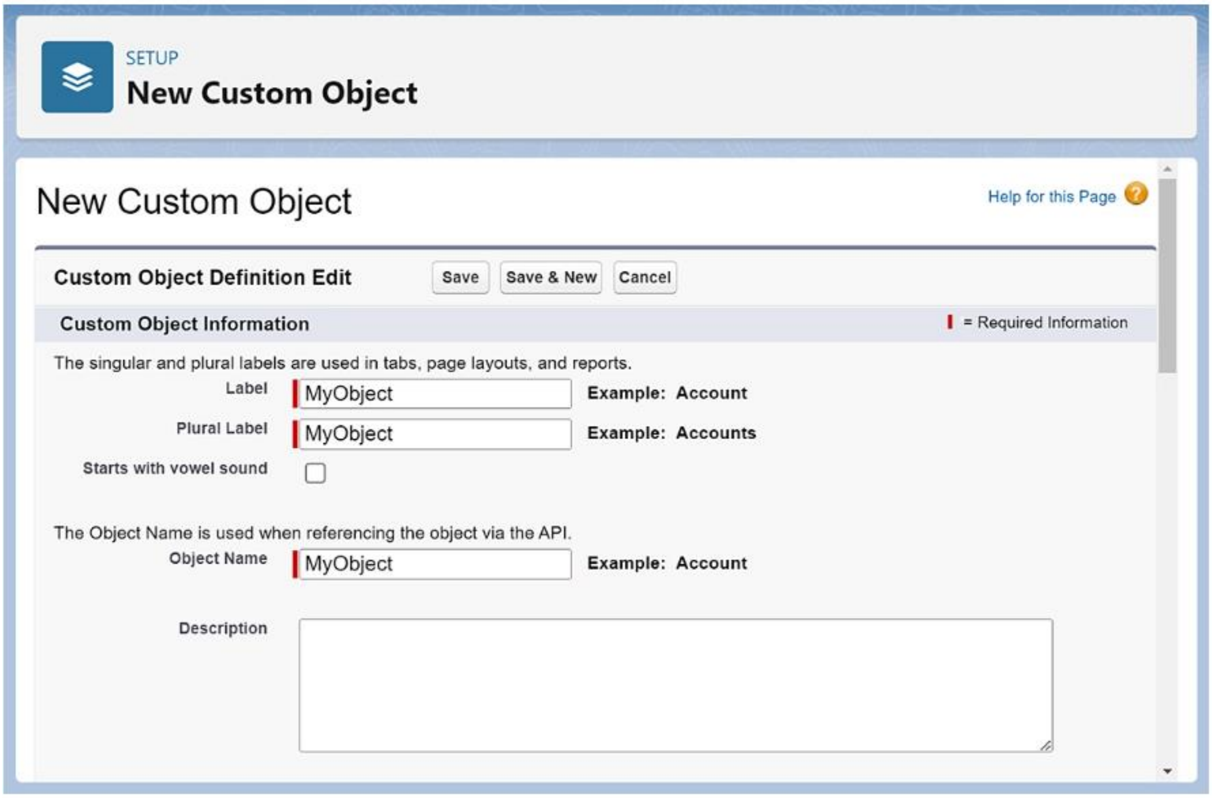
1. Design custom objects to store recipe and execution log information.
2. Establish object relationships to maintain data consistency and enable reporting.
3. Define field-level details, validation rules, and picklists for standardization.
4. Create an ERD (Entity Relationship Diagram) to visualize data structure.
5. Ensure optional integration with standard Salesforce objects such as Account, Contact, and Opportunity.

Activities

1. Custom Object Design

- **Recipe__c:** Stores metadata for each Apex recipe. Key fields include:
  - Name
  - Type (Picklist: Trigger, Batch, LWC, Flow)
  - Category
  - Description
  - LastModifiedBy
- **RecipeLog__c:** Tracks the execution of recipes. Key fields include:
  - ExecutionTime
  - Status (Picklist: Success, Failure, In Progress)
  - Message (Details about execution)
  - Recipe__c (Lookup to Recipe__c)

Purpose: These objects form the core of the ApexHub system, storing both configuration and runtime data.



SETUP

New Custom Object

New Custom Object

Help for this Page

Custom Object Definition Edit Save | Save & New | Cancel

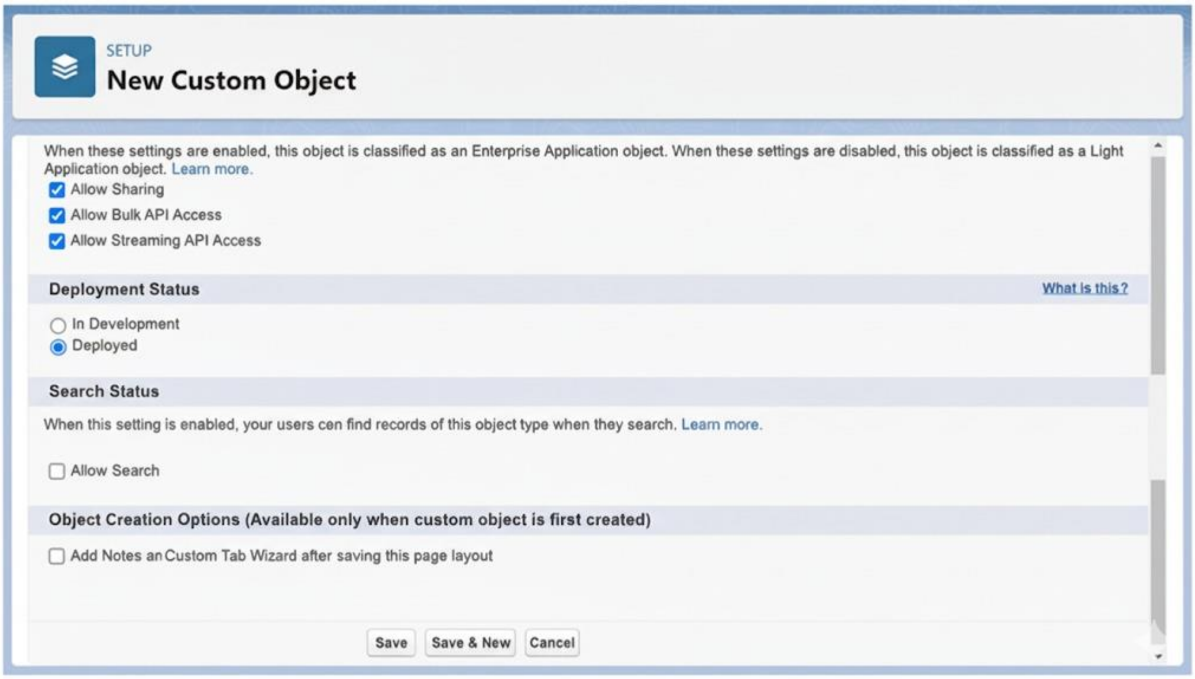
Custom Object Information = Required Information

The singular and plural labels are used in tabs, page layouts, and reports.

Label	MyObject	Example: Account
Plural Label	MyObject	Example: Accounts
Starts with vowel sound	□	

The Object Name is used when referencing the object via the API.

Object Name	MyObject	Example: Account
Description		



SETUP

New Custom Object

When these settings are enabled, this object is classified as an Enterprise Application object. When these settings are disabled, this object is classified as a Light Application object. Learn more.

☑ Allow Sharing

☑ Allow Bulk API Access

☑ Allow Streaming API Access

Deployment Status What is this?

○ In Development

● Deployed

Search Status

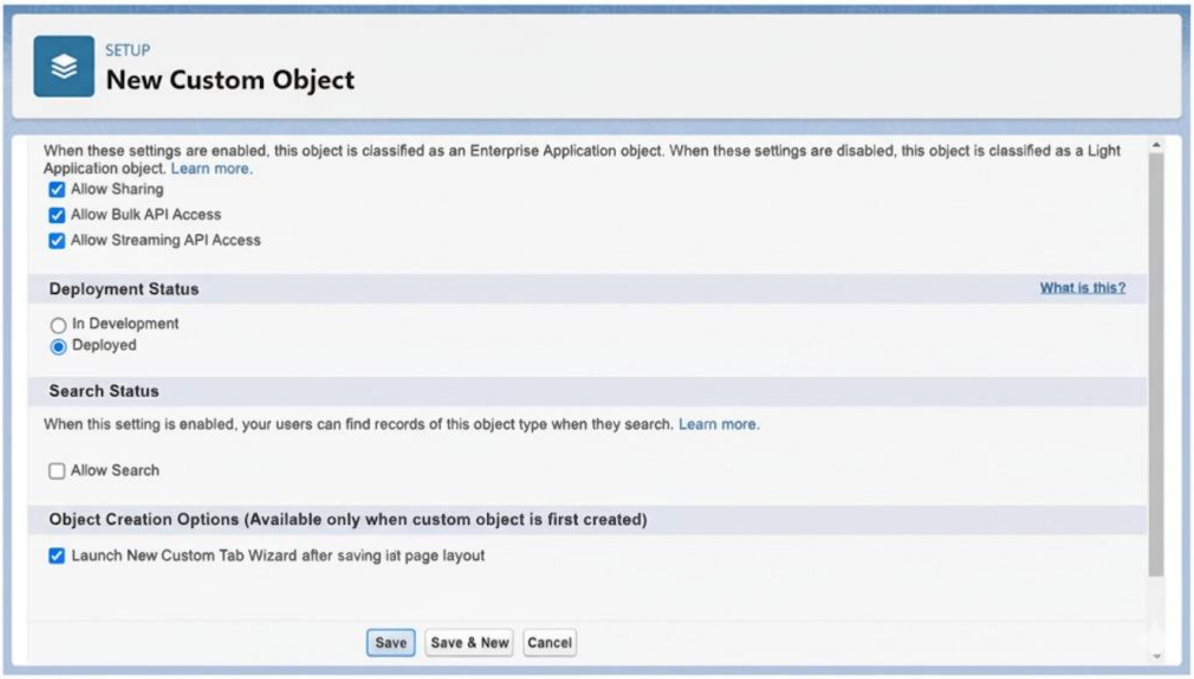
When this setting is enabled, your users cen find records of this object type when they search. Learn more.

□ Allow Search

Object Creation Options (Available only when custom object is first created)

□ Add Notes an Custom Tab Wizard after saving this page layout

Save | Save & New | Cancel



When these settings are enabled, this object is classified as an Enterprise Application object. When these settings are disabled, this object is classified as a Light Application object. Learn more.

☑ Allow Sharing

☑ Allow Bulk API Access

☑ Allow Streaming API Access

Deployment Status What is this?

○ In Development

● Deployed

Search Status

When this setting is enabled, your users can find records of this object type when they search. Learn more.

□ Allow Search

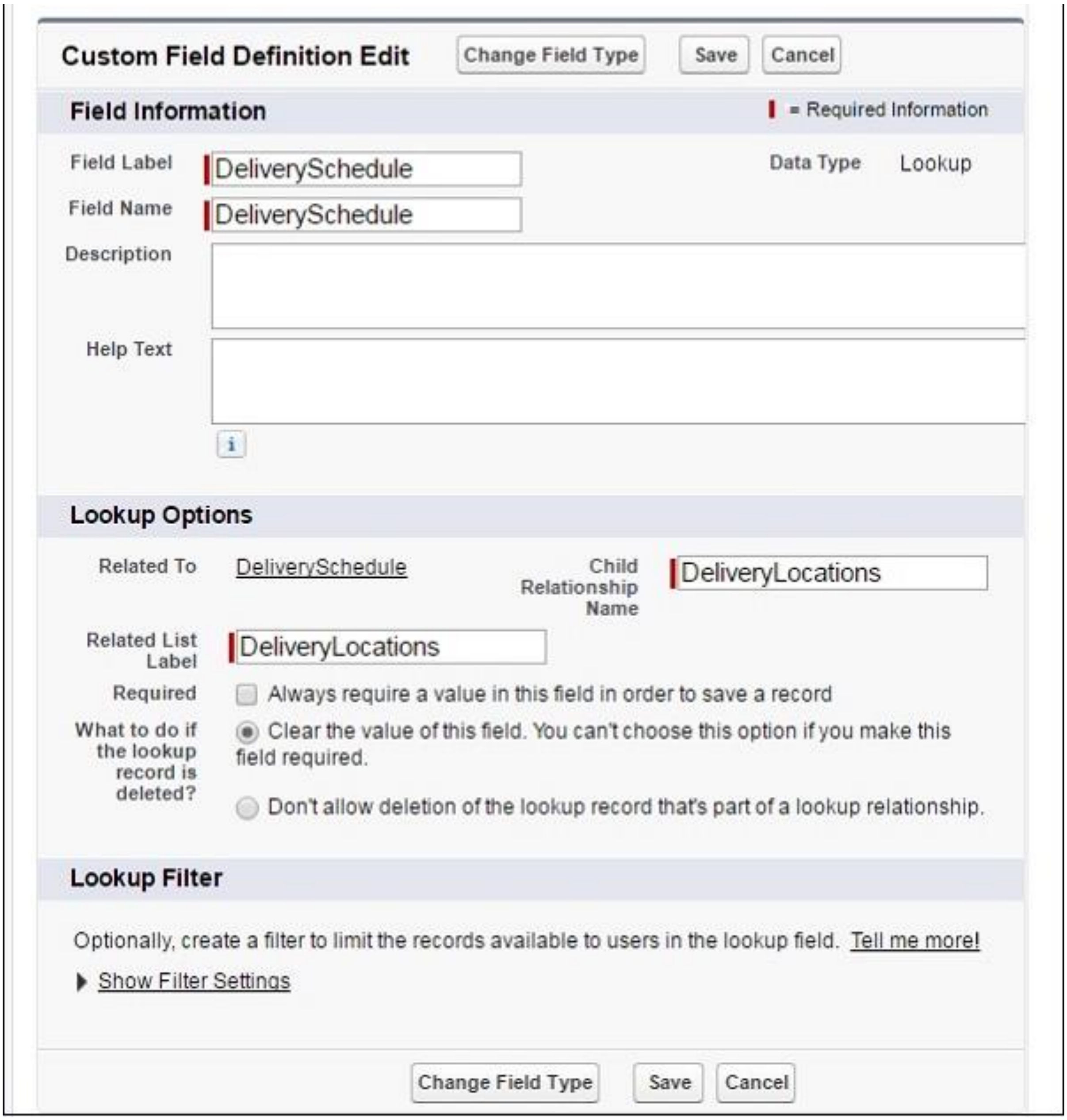
Object Creation Options (Available only when custom object is first created)

☑ Launch New Custom Tab Wizard after saving ist page layout

2. Object Relationships

- **RecipeLog__c → Lookup → Recipe__c** (1-to-many)
- Optional integrations with **Account, Contact, Opportunity** for scenarios like linking recipe executions to customers, contacts, or sales opportunities.

Purpose: This allows tracking multiple executions for each recipe while maintaining clear relational data structure.



Custom Field Definition Edit

Field Information

▌ = Required Information

Field Label	DeliverySchedule	Data Type	Lookup
Field Name	DeliverySchedule		
Description			
Help Text			

Lookup Options

Related To	DeliverySchedule	Child Relationship Name	DeliveryLocations
Related List Label	DeliveryLocations		

Required □ Always require a value in this field in order to save a record

What to do if the lookup record is deleted?

● Clear the value of this field. You can't choose this option if you make this field required.

○ Don't allow deletion of the lookup record that's part of a lookup relationship.

Lookup Filter

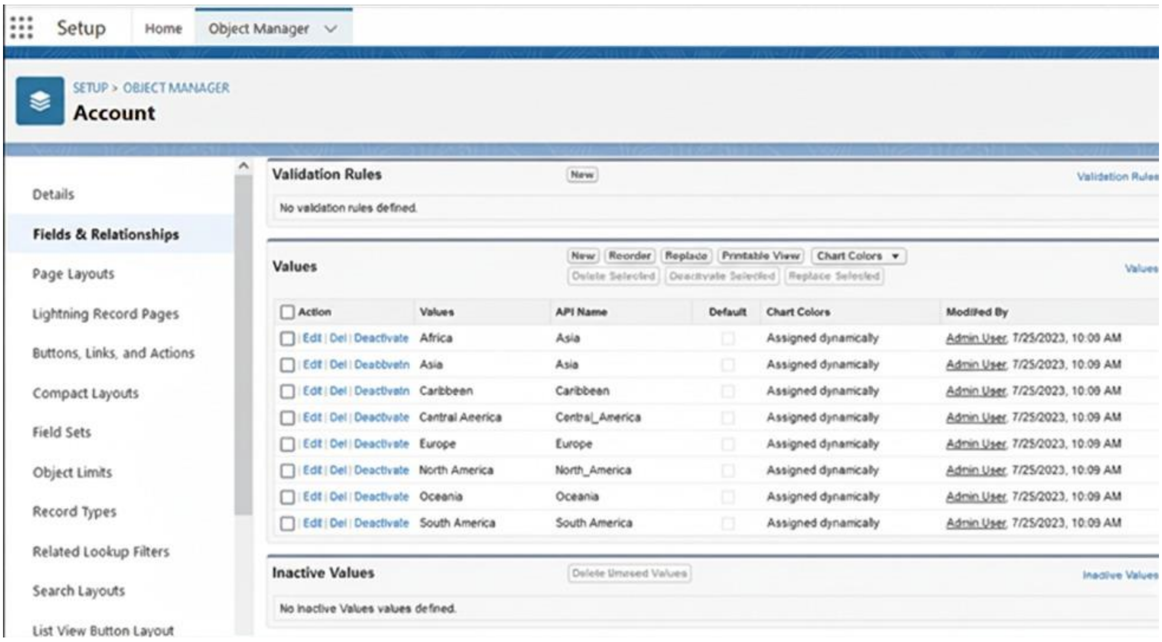
Optionally, create a filter to limit the records available to users in the lookup field. Tell me more!

▸ Show Filter Settings

3. Field Definitions & Validation

- Picklist fields for **Recipe Type** to standardize entries.
- Validation rules to ensure mandatory fields (e.g., Recipe Name, ExecutionTime, Status) are filled before creating records.
- Field-level security set to ensure sensitive information is visible only to authorized roles.

Purpose: Ensures high data quality and reduces user errors.



Validation Rules

No validation rules defined.

Values

□ Action	Values	API Name	Default	Chart Colors	Modified By
□ | Edit | Del | Deactivate	Africa	Asia	□	Assigned dynamically	Admin User, 7/25/2023, 10:00 AM
□ | Edit | Del | Deabbvetn	Asia	Asia	□	Assigned dynamically	Admin User, 7/25/2023, 10:09 AM
□ | Edit | Del | Deactivatn	Caribbean	Caribbean	□	Assigned dynamically	Admin User, 7/25/2023, 10:00 AM
□ | Edit | Del | Deactivate	Central Aeerica	Central_America	□	Assigned dynamically	Admin User, 7/25/2023, 10:09 AM
□ | Edit | Del | Deactivate	Europe	Europe	□	Assigned dynamically	Admin User, 7/25/2023, 10:09 AM
□ | Edit | Del | Deactivate	North America	North_America	□	Assigned dynamically	Admin User, 7/25/2023, 10:09 AM
□ | Edit | Del | Deactivate	Oceania	Oceania	□	Assigned dynamically	Admin User, 7/25/2023, 10:09 AM
□ | Edit | Del | Deactivate	South America	South America	□	Assigned dynamically	Admin User, 7/25/2023, 10:09 AM

Inactive Values

No inactive Values values defined.

4. Entity Relationship Diagram (ERD)

- Visual representation of object relationships:

Recipe__c

|

|---< RecipeLog__c

Account / Contact / Opportunity (optional integration)

Purpose: Provides documentation for developers and stakeholders to understand data flow and dependencies.

5. Initial Validation

- Test creation of Recipe__c and RecipeLog__c records.
- Validate lookups and optional integrations with standard objects.
- Test picklist selections and validation rules for data integrity.

Purpose: Confirms that the data model supports expected operations and enforces business rules.

Deliverables

- Fully defined **custom objects** (Recipe__c, RecipeLog__c).
- Relationships and optional integrations with standard objects.
- **Validation rules** and picklists for standardization.
- **ERD diagram** as documentation.
- Verified field-level security and permissions.

Expected Outcomes

- A scalable and maintainable data model ready for automation and reporting.
- Data integrity enforced via validation rules and picklists.
- Clear visual documentation (ERD) for development and testing.
- Optional integration with Salesforce standard objects for flexibility.