

DLO - DMO Mapping Flow in Salesforce Data Cloud

1. Introduction

In Salesforce Data Cloud, data flows from raw ingestion to unified, modelled objects through a structured pipeline:

Data Lake Object (DLO) → Data Model Object (DMO) → Calculated Insight Object (CIO) → Activation or Analytics

This **DLO → DMO mapping process** is the backbone of **data unification and modeling**.

It converts **raw source data** into **standardized business objects** that can be used in segmentation, identity resolution, and AI insights.

2. Conceptual Overview

Layer	Purpose	Example
DLO (Data Lake Object)	Stores raw, ingested data from files, APIs, connectors	Purchase_Transactions_DLO
DMO (Data Model Object)	Represents clean, structured, and unified data mapped from one or more DLOs	Customer_360_DMO or Transaction_DMO
CIO (Calculated Insight Object)	Stores computed metrics and KPIs based on DMOs	Sales_Insights_CIO

The **mapping flow** between these layers defines how fields from raw data (DLOs) are transformed and aligned with Salesforce's **standard data model**.

3. Step-by-Step DLO → DMO Mapping Flow

Step 1: Data Ingestion (DLO Creation)

- Source data is ingested via **Data Streams**.
- The result is a **Data Lake Object (DLO)** containing the raw schema.
- Each DLO represents a table or dataset.

Example:

CSV file: purchase_transactions.csv

transaction_id	customer_id	amount	purchase_date	region
T1001	C001	850	2025-10-10	East
T1002	C002	450	2025-10-12	West

→ Ingested as Purchase_Transactions_DLO

Step 2: Create Data Model Object (DMO)

- In the **Data Manager**, create a **Data Model Object** representing a standardized entity (e.g., Customer, Transaction).
- You define the DMO schema based on your business requirements or Salesforce standard data model.

Example:

DMO Name: Transaction_DMO

Field Label	API Name	Type
Transaction ID	transaction_id	Text
Customer ID	customer_id	Text

Field Label	API Name	Type
Amount	amount	Number
Purchase Date	purchase_date	Date
Region	region	Text

Step 3: Configure DLO → DMO Mapping

In this step, you connect fields from DLOs to DMOs using a **Mapping UI** or **Mapping Table View**.

This mapping defines **how data flows from source to target**.

Visual Mapping View

In Salesforce Data Cloud UI, the mapping is shown as a **drag-and-drop visual flow**:

```

Purchase_Transactions_DLO (Source)
  |--- transaction_id → Transaction_DMO.transaction_id
  |--- customer_id   → Transaction_DMO.customer_id
  |--- amount        → Transaction_DMO.amount
  |--- purchase_date → Transaction_DMO.purchase_date
  |--- region        → Transaction_DMO.region
  
```

Each connection line shows the **data lineage** from source fields to model fields.

Admins can easily see which fields are mapped, missing, or duplicated.

Tabular Mapping View

For documentation or technical validation, mappings can also be represented in a table:

Source DLO Field	Target DMO Field	Transformation	Required	Notes
transaction_id	transaction_id	None	Yes	Primary key field
customer_id	customer_id	None	Yes	Used for identity resolution
amount	amount	ROUND(amount,2)	Yes	Normalized value
purchase_date	purchase_date	DATE(purchase_date)	Yes	Converted to date type
region	region	UPPER(region)	Optional	Standardized region name

Step 4: Validate and Transform

Once mappings are defined:

- The system **validates data types and transformation logic**.
- Any missing required fields or mismatched types are flagged.
- Transformation jobs (batch or streaming) run to populate the DMO.

After processing, data in Transaction_DMO appears standardized and ready for analysis.

Step 5: Use DMO for Downstream Processes

Mapped and validated DMOs are used for:

1. **Identity Resolution:** Matching and unifying profiles.
2. **Segmentation:** Creating customer groups.
3. **Activation:** Sending unified data to Marketing Cloud or other destinations.
4. **Insights:** Feeding CIOs for metric calculations.

4. Required Mappings for Downstream Use

To ensure DMOs can be used effectively in downstream workflows, several mappings are **mandatory** or **strongly recommended**.

Mapping Category	Field Type	Description	Required for
Primary Key Mapping	Unique ID (e.g., transaction_id, customer_id)	Establishes uniqueness of each record	DMO population, identity resolution
Identity Fields	Email, Phone, External ID	Used to match records across systems	Unification, profile resolution
Timestamp Fields	Date/Time	Used to order and filter events	Calculated Insights, trend analysis
Metric Fields	Amount, Score, Quantity	Used for KPI calculation	CIOs and dashboards
Dimension Fields	Region, Product, Segment	Enables filtering and grouping	Analytics and segmentation

5. Example: End-to-End DLO → DMO Flow

DLO: Purchase_Transactions_DLO

transaction_id	customer_id	amount	purchase_date	region
T1001	Coo1	850	2025-10-10	East
T1002	Coo2	450	2025-10-12	West

Mapping Logic

DLO Field	DMO Field	Transformation
transaction_id	transaction_id	No change
customer_id	customer_id	No change
amount	amount	ROUND(amount,2)
purchase_date	purchase_date	DATE(purchase_date)
region	region	UPPER(region)

DMO Output: Transaction_DMO

transaction_id	customer_id	amount	purchase_date	region
T1001	C001	850.00	2025-10-10	EAST
T1002	C002	450.00	2025-10-12	WEST

6. Real-World Use Case Example

Company

A telecommunications provider ingests daily subscriber interaction logs (DLO) and maps them to a standardized Customer Interaction model (DMO).

Implementation Summary

Step	Action	Object	Description
1	Ingest logs from CRM and website	Interactions_DLO	Contains customer_id, event_type, timestamp
2	Map DLO fields	Customer_Interaction_DMO	Mapped fields like contact method, time, status

Step	Action	Object	Description
3	Transform	Identity and timestamp normalization	Ensures consistency
4	Use DMO	Segmenting churn-risk customers	Data now ready for activation in Marketing Cloud

Result

- Reduced data mismatch errors by 40%.
 - Enabled unified customer activity insights.
 - Improved data trust and marketing effectiveness.
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7. Best Practices for DLO → DMO Mapping

Practice	Description
Define clear field naming standards	Maintain consistency across all mappings.
Always map unique identifiers	Required for unification and deduplication.
Validate data types	Avoid mapping text to number/date fields.
Use transformation formulas wisely	Apply normalization early to avoid downstream complexity.
Test mappings with sample data	Use Data Explorer to validate mapping output.
Document all mappings	Maintain a table or export for governance and audit.
Leverage visual mapping UI	Easier to identify missing or duplicate mappings.

8. Summary Table: DLO → DMO Mapping Overview

Stage	Description	Tool	Output
Ingestion	Import data from source systems	Data Stream	DLO
Mapping	Connect and transform raw fields to modeled objects	Mapping UI / Table	DMO
Validation	Check schema alignment and data consistency	Data Explorer	Clean, unified DMO
Activation	Use unified data for segmentation, insights, and AI	Segmentation / CIO	Ready data for business use

9. Key Takeaway

The **DLO → DMO mapping flow** in Salesforce Data Cloud is where **raw data becomes structured, unified, and business-ready**.

It ensures accurate, validated data for **identity resolution, analytics, segmentation, and AI activation**.

By maintaining clear mappings, validation steps, and required field relationships, you create a **trustworthy, reusable data foundation** inside Salesforce Data Cloud.