# **Phase 4: Process Automation (Admin) ⚙️**

**Project:** Supply Chain Traceability & Inventory Management System

**Goal:** Implement declarative automations (Flows and Validation Rules) to enforce data integrity and manage inventory levels automatically without writing Apex code.

### **1. Data Integrity and Validation**

A validation rule was implemented to prevent operational errors at the point of data entry, ensuring logical constraints are always maintained.

| **Component** | **Object** | **Rule Name** | **Description** | **Rationale** |
| --- | --- | --- | --- | --- |
| **Validation Rule** | Shipment\_\_c | Prevent\_Overshipment | Prevents the Quantity\_\_c of a shipment from exceeding the Current\_Inventory\_\_c of the related Lot\_\_c record. | Crucial for inventory accuracy; stops the system from allowing stock to fall into a negative value. |

### **2. Inventory Update Flow**

A Record-Triggered Flow was deployed to handle the inventory increase at the receiving end (Retail Location) when a new shipment record is created.

| **Automation** | **Flow Name** | **Trigger** | **Action** |
| --- | --- | --- | --- |
| **Record-Triggered Flow** | Update\_Retail\_Location\_Inventory | Shipment\_\_c (After Create) | Updates the Current\_Inventory\_\_c field on the corresponding Retail\_Location\_\_c by adding the shipment's quantity (Shipment\_\_c.Quantity\_\_c). |

### **Flow Detail: Update\_Retail\_Location\_Inventory**

The flow runs **After Save** to ensure the Shipment\_\_c record ID is committed before the update action occurs on the related location record.

| **Flow Element** | **Configuration** | **Purpose** |
| --- | --- | --- |
| **Trigger** | On Shipment\_\_c, After record is created. | Initiates the inventory increase process. |
| **Update Records** | Updates a single Retail\_Location\_\_c record. | Sets Current\_Inventory\_\_c = Current\_Inventory\_\_c + {!$Record.Quantity\_\_c}. |

### **Validation Rule Confirmation**

The configuration for the overshipment prevention rule.

### **Flow Builder Confirmation**

The canvas view showing the update path in the Flow.