

problem statement : “ CPQ & Order Visibility Hub for Industrial Manufacturing”



Phase8: Data Management & Deployment

◆ Data Import Wizard

- Use for small, non-technical imports (like uploading test Inventory records or Products).
- Wizard is good for: CSV import of < 50,000 records.

In this project:

- Import initial Inventory_c stock data (Item Name, Stock_Level_c, Reorder_Point_c).
- Import Products (Product2) used in Quotes.

Step 1: Prepare Your CSV File

Created a .csv file with headers matching to Inventory_c fields

Inventory Name	Stock_Level_c	Location_c	Reorder_Point_c
Pump Motor Stock	100	Warehouse A	20
Seal Kit	250	Warehouse B	50
Motor Assembly	50	Warehouse A	10

Step 2: Open Data Import Wizard

1. In Setup → Data Import Wizard.
2. Click Launch Wizard.

Step 3: Choose Object

1. Scroll down to Custom Objects.
2. Select Inventory_c (custom Inventory object).
3. Click Add New Records.

Step 4: Upload Your CSV

1. Click Choose a CSV File → upload InventoryImport.csv.
2. Salesforce will auto-map columns.

Step 5: Map Fields

- Confirm that:
 - Inventory Name → Name
 - Stock_Level_c → Stock Level field
 - Location_c → Location field
 - Reorder_Point_c → Reorder Point field

Step 6: Review & Start Import

1. Click Next → Review
2. Click Start Import.

The screenshot shows the Bulk Data Load Jobs page in the Salesforce Setup interface. The main title is "Bulk Data Load Jobs". Below it is a "Bulk Data Load Job Detail" table with the following data:

Job ID	750WU00000UVpGJ	Job Type	Bulk V1	Status	Closed
Submitted By	sales_manager	Operation	Insert	Total Processing Time (ms)	0
Start Time	25/09/2025, 6:55 pm IST	Queued Batches	1	API Active Processing Time (ms)	0
End Time		In Progress Batches	0	Apex Processing Time (ms)	0
Time to Complete ([hh:]mm:ss)		Completed Batches	0		
Object	Inventory	Failed Batches	0		
External ID Field		Progress	0%		
Content Type	CSV	Records Processed	0		
Concurrency Mode	Parallel	Records Failed	0		
API Version	64.0	Retries	0		

Below the table is a "Batches" section with a table:

View Request	View Result	Batch ID	Start Time	End Time	Total Processing Time (ms)	API Active Processing Time (ms)	Apex Processing Time (ms)	Records Processed	Records Failed	Retry Count	State Message	Status
View Request		751WU00000MCUSM	25/09/2025, 6:55 pm		0	0	0	0	0	0	Queued	

◆ Data Loader

Setup Data Loader

1. Install Data Loader

- Go to Setup in Salesforce → search Data Loader.
- Download for your OS (Windows/Mac).
- Install and open it.

2. Log in

- Open Data Loader.
- Choose Production (or Sandbox if you're testing).
- Enter your Salesforce username + password
-

Use Cases in Project

1) Bulk Update Inventory Stock Levels from ERP

ERP might send you a CSV daily with stock updates.

Steps:

1. Export current Inventory from Salesforce:

- Click **Export** → select object **Inventory_c**.
- Choose fields: Id, Name, Stock_Level_c.
- Save as CSV.

2. Update Stock in the CSV with ERP numbers.

3. In Data Loader:

- Click **Update** → Object = **Inventory_c**.
- Upload the modified CSV.
- Map:
 - Id → Salesforce Id (required for update).
 - Stock_Level_c → Stock Level.

4. Run the update.

2) Export Shipments for Testing

When QA wants to validate shipments:

1. Open Data Loader → **Export**.
2. Object: Shipment__c.
3. Select fields: Id, Name, Tracking_Number__c, Status__c, Expected_Date__c.
4. Save to CSV → hand over to testers.

3) Insert New Shipments (from ERP file)

If ERP sends new shipment records:

1. Click **Insert** → Object = Shipment__c.
2. Choose ERP CSV.
3. Map fields:
 - Name → Shipment Name.
 - Tracking_Number__c → Tracking Number.
 - Status__c → Status.
 - Order__c → related Order Id.
4. Run.

◆ Duplicate Rules

A. Inventory: Matching rule by Name + Location (Block duplicates)

1. Setup → Quick Find → Matching Rules → New Rule.
 - Object: Inventory__c
 - Rule Label: Inventory - Name & Location Match
2. Add Matching Criteria (click Add):
 - Field: Name → Matching Method: Exact .
 - Field: Location__c → Matching Method: Exact.

3. Save the rule, then click Activate

4. Setup → Quick Find → Duplicate Rules → New Rule.

- Object: Inventory_c
- Rule Label: Prevent Duplicate Inventory
- Matching Rule: Inventory -Name & Location Match matching rule.
- Action on Create: Block or Alert
 - error message: "An Inventory item with this Name and Location already exists."
- Action on Edit: choose Alert

5. Save and Activate the Duplicate Rule.

The screenshot shows the Matching Rules page in the Salesforce Setup interface. The left sidebar is open, showing sections like Users, Data, and Email. Under Data, the Matching Rules section is selected and highlighted in blue. The main content area displays a Matching Rule named "Inventory - Name & Location Match". The rule details include:

Matching Rule Detail	Object	Inventory
Rule Name	Inventory - Name & Location Match	
Unique Name	Inventory_Name_Location_Match	
Description		
Matching Criteria	(Inventory: ERP_Reference_ID EXACT MatchBlank = FALSE) AND (Inventory: Location EXACT MatchBlank = FALSE)	
Status	Inactive	
Created By	sales_manager, 25/09/2025, 8:06 pm	Modified By sales_manager, 25/09/2025, 8:06 pm

Buttons at the top right of the content area include Edit, Delete, Clone, and Activate.

The screenshot shows the Duplicate Rules page in the Salesforce Setup interface. The left sidebar is open, showing sections like Data, Duplicate Management, and Email. Under Data, the Duplicate Rules section is selected and highlighted in blue. The main content area displays a Duplicate Rule named "Prevent Duplicate Inventory". The rule details include:

Duplicate Rule Detail	Rule Name	Prevent Duplicate Inventory	Order	1 of 1 [Reorder]
Description	Inventory			
Object	Inventory			
Record-Level Security	Bypass sharing rules			
Action On Create	Allow		Operations On Create	✓ Alert Report
Action On Edit	Allow		Operations On Edit	✓ Alert Report
Alert Text	An Inventory item with this Name and Location already exists			
Active	✓			
Matching Rule	Inventory - Name & Location Match Mapped		Matching Criteria	(Inventory: ERP_Reference_ID EXACT MatchBlank = FALSE) AND (Inventory: Location EXACT MatchBlank = FALSE)
Conditions				
Created By	sales_manager, 25/09/2025, 8:13 pm		Modified By	sales_manager, 25/09/2025, 8:13 pm

Buttons at the bottom of the content area include Edit, Delete, Clone, and Deactivate.

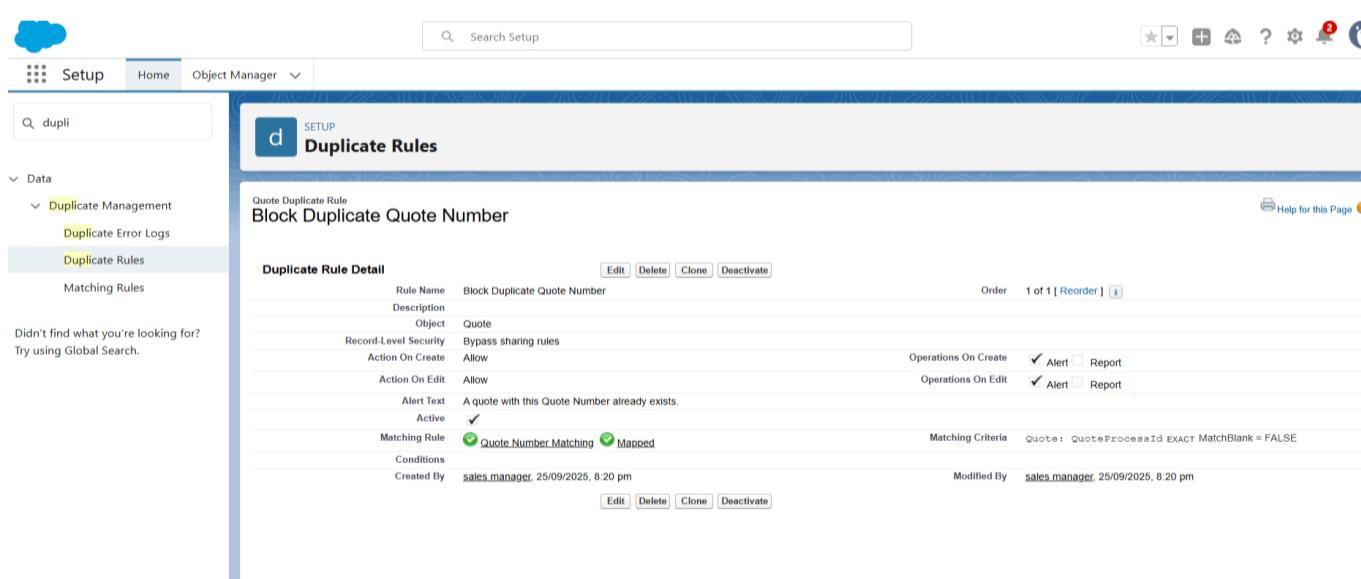
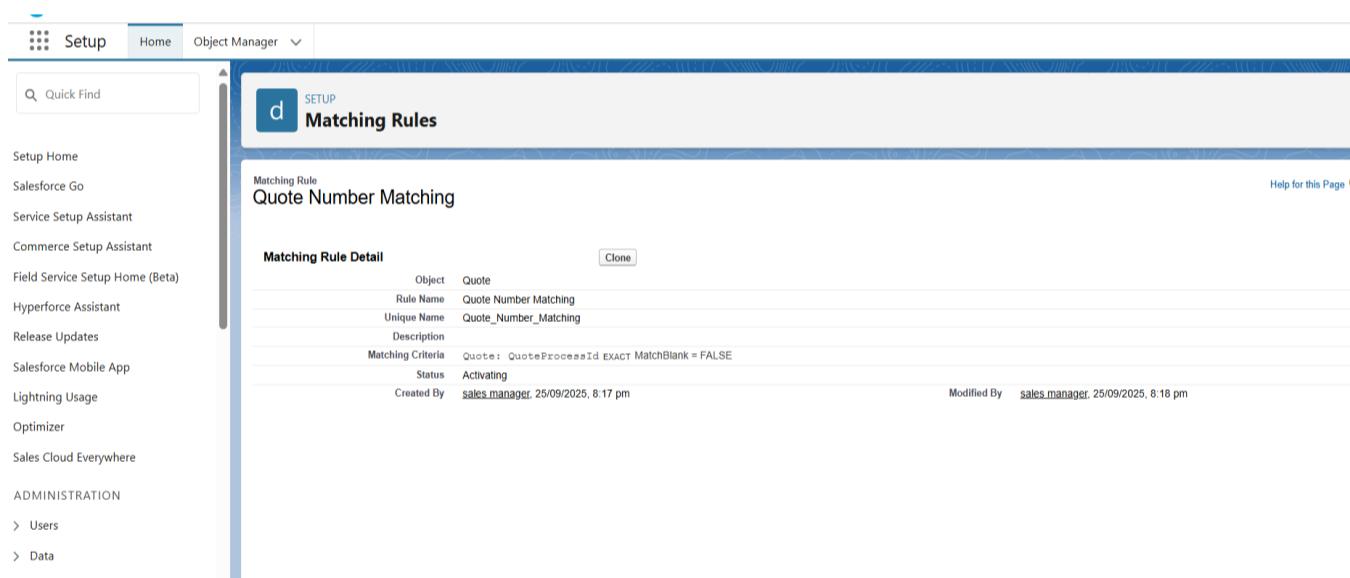
B. Quotes: prevent duplicate Quote Numbers

1. Setup → Matching Rules → New Rule → Object: Quote (SBQQ__Quote_c)

- Add criteria: Field: Quote Number → Matching Method: Exact.
- Save → Activate.

2. Setup → Duplicate Rules → New Rule → Object: Quote

- Label: Block Duplicate Quote Number
- Matching Rule: select the rule above.
- Action on Create: Alert or Block.
- Set user message: "A quote with this Quote Number already exists."
- Save → Activate.

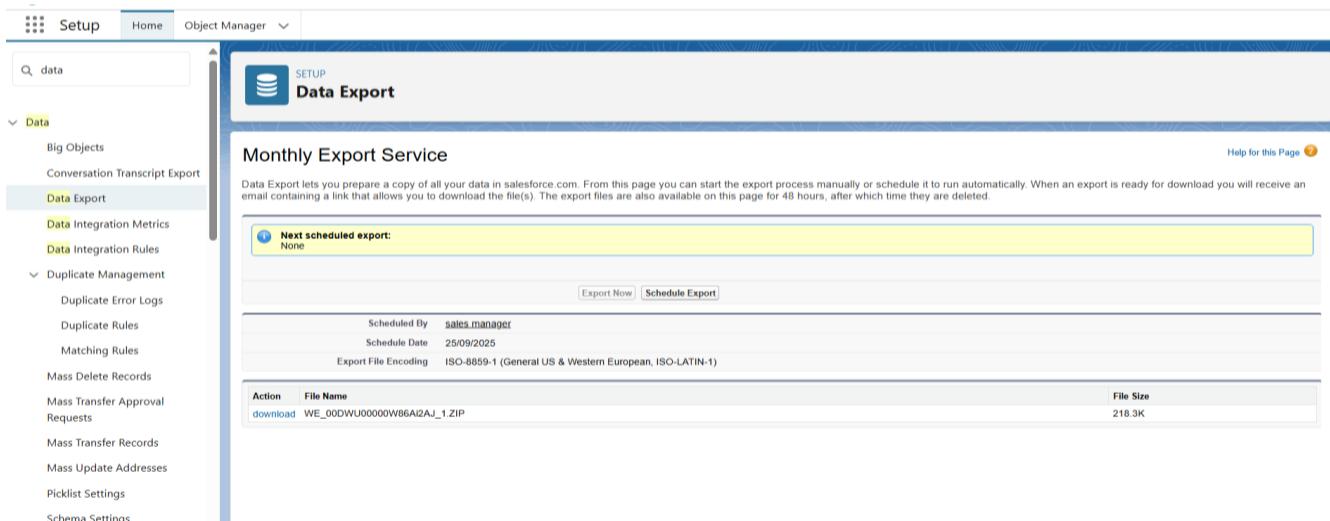


◆ Data Export & Backup

This creates a ZIP of CSV files from Salesforce and can be scheduled weekly.

Schedule Weekly Export

1. Setup → Quick Find → Data Export.
2. Click Schedule Export (or Export Now if you want immediate export).
3. Choose Frequency: Weekly.
4. Choose Start Date & Time, Time Zone, and Preferred Encoding.
5. Select the objects to export (tick checkboxes):
 - SBQQ__Quote__c / Quote (choose whichever is used in your org)
 - Order (standard Order)
 - Shipment__c (custom)
 - Inventory__c (custom)
 - Account
6. Click Save



◆ Change Sets

Change Sets are primarily utilized for migrating customizations and configurations between

interconnected Salesforce environments, such as from a Sandbox to a Production instance.

Since this project was developed entirely within a single Developer Org, environment-to-

environment deployment was not required, and therefore Change Sets were not applied.

◆ ANT Migration Tool

The ANT Migration Tool is a command-line deployment framework provided by Salesforce.

It is primarily used for automating the deployment of metadata between Salesforce orgs, such as

as moving Apex classes, triggers, Lightning components, and configuration changes. It is especially

useful in large-scale projects or when implementing continuous integration/continuous deployment (CI/CD) processes.

- Key Features:
 - Automates deployments across multiple orgs.
 - Supports both retrieve and deploy operations.
 - Works with XML-based package.xml to define metadata to move.
 - Can be integrated with build tools like Jenkins or other CI/CD pipelines.

- Limitations for Small Projects:

- Requires setup of Java & ANT locally.
- Overhead is unnecessary for single-org academic projects.
- Simpler tools like VS Code with Salesforce extensions or Change Sets are more practical.

Conclusion:

For an individual project in a single org, the ANT Migration Tool is not required.

Deployment can be

done using VS Code, Change Sets, or manual setup.

◆ VS Code & SFDX

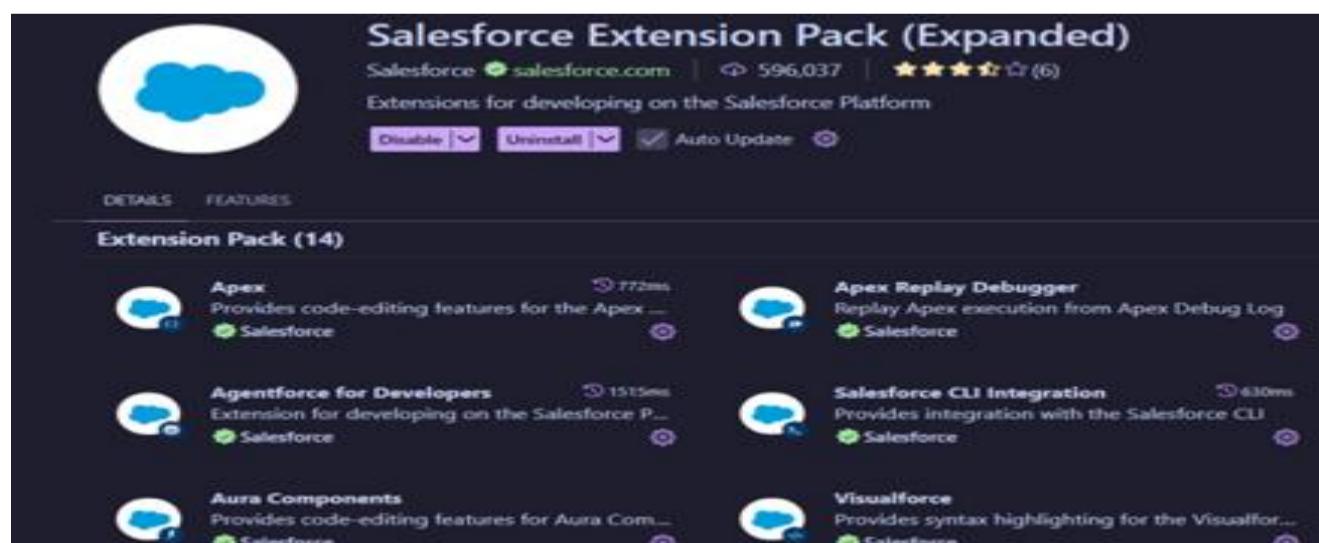
1. Setting Up the VS code for the Salesforce:

Linux	macOS	Windows
Product/file description	File size	Download
x64 Compressed Archive	204.30 MB	https://download.25_windows-x64_
x64 Installer	182.25 MB	https://download.25_windows-x64_
x64 MSI Installer	181.02 MB	https://download.25_windows-x64_

2. Installing Salesforce CLI for integration



3. Installing the necessary extensions in VS Code:



4. Authorizing the salesforce org with vs code

