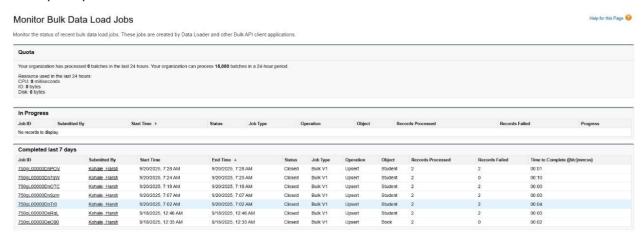
# Phase 8: Data Management & Deployment - Library Tracking Project

#### 1. Data Import Wizard

Use it to quickly import small sets of Book\_c, Student\_c, or Rental\_c records from Excel/CSV. Example: Upload a list of 100 new students or books into Salesforce at once.

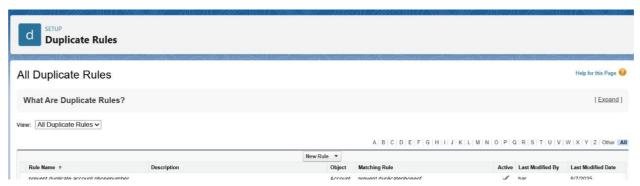


#### 2. Data Loader

For large/bulk operations when your data grows. Example: Import 10,000 historical rental transactions or mass update the status of books. Use export function to check which books are overdue.

#### 3. Duplicate Rules

Set up a Matching Rule on Student Email or Library Card Number. Prevents creating duplicate student records during imports or manual entry. Example: Two librarians trying to enter the same student—Salesforce alerts them.



# 4. Data Export & Backup

Schedule a weekly export of all Book\_c, Student\_c, and Rental\_c data for backup. Before making major changes to triggers or automation, export your data first.

Name	Emailc	Phonec	Date_of_A	Membership_IDc
	asha@exa			
Rohit Shar	rohit@exa	9.99E+09	7-20-2025	MEM002

Name	Authorc	ISBN_c	Pricec	Statusc	Copies_Availablec	
The Hobbi	J.R.R. Tolk	9.78E+11	399	Available	3	
Clean Code	Robert C. I	9.78E+12	899	Available	2	

### 5. Change Sets

Move your custom objects (Book\_c, Student\_c, Rental\_c), flows, triggers, and layouts from your sandbox/dev org to your production org. Example: After testing a new flow for overdue notifications, deploy it via a change set.

### 6. Unmanaged vs Managed Packages

Unmanaged Package: Share your Library App with classmates or evaluators—others can see and edit the code. Managed Package: If you later decide to publish a polished version on AppExchange, use this to lock the code.

# 7. ANT Migration Tool

Script deployments for repeatability. Example: Your project has 10 Apex classes + 3 triggers; you can deploy them in one go with a single command. Useful if you're also using Git to track changes.

# 8. VS Code & SFDX (Salesforce DX)

Develop all custom code (triggers, Apex classes, Lightning components) locally. Use SFDX to pull changes from your org, push new metadata, and run tests. Example: Run sfdx force:apex:test:run to test your RentalHandler class or deploy your triggers to another org.

RentalTriggerHandler		Pass		
RentalTriggerHandler_Test.testBulkInsertAndReturn RentalTriggerHandler_Test.testPreventDoubleRent RentalTriggerHandler_Test.testRentAndReturnFlow RentalTriggerHandler_Test.testValidationRules			743 415 374 233	
=== Test Summary NAME	VALUE			
Fail Rate Skip Rate Test Run Id Test Setup Time Test Execution Time Test Total Time	Passed 4 100% 0% 0% 707gL00000EgnKb 0 ms 1765 ms 1765 ms 00DgL000007Sd0nUAC harshkohale04378@agentforce.com	π		

tatus: Succeeded

eploy ID: 0AfgL00000AenyjSAB

arget Org: harshkohale04378@agentforce.com

lapsed Time: 1.26s

#### ployed Source

State	Name	Туре	Path
Unchanged	RentalTriggerHandler	ApexClass	force-app\main\default\classes\RentalTriggerHa ndler.cls
Unchanged	RentalTriggerHandler	ApexClass	force-app\main\default\classes\RentalTriggerHa ndler.cls-meta.xml

Deploying v64.0 metadata to harshkohale04378@agentforce.com using the v64.0 SOAP API.

- ✓ Preparing 526ms
- Waiting for the org to respond Skipped
- ✓ Deploying Metadata 717ms
  - ► Components: 1/1 (100%)
- Running Tests Skipped
- Updating Source Tracking Skipped
- ✓ Done 0ms

Status: Succeeded

Deploy ID: 0AfgL00000AenyjSAB

# user@LAPTOP-8NDVPUMB MINGW64 /d/Library (main)

\$ sf apex run test --target-org Learn --tests RentalTriggerHandler\_Test --result-format human

» Warning: @salesforce/cli update available from 2.103.7 to 2.106.6.

Run "sf apex get test -i 707gL00000Egozw -o harshkohale04378@agentforce.com" to retrieve test results

Run with --synchronous or increase --wait timeout to wait for results.

#### user@LAPTOP-8NDVPUMB MINGW64 /d/Library (main)

\$ sf apex run test --target-org Learn --tests RentalTriggerHandler\_Test --result-format human --w ait 600

» Warning: @salesforce/cli update available from 2.103.7 to 2.106.6.

=== Test Results

TEST NAME OUTCOME MESSAGE RUNTIME (MS)

RentalTriggerHandler\_Test.testBulkInsertAndReturn Pass 743

Topic	Library App Example	Benefit	
Data Import Wizard	Import a small batch of new books or students	Quick and easy	
Data Loader	Bulk import/update rental records	Handles large data sets	
Duplicate Rules	Stop duplicate student records	Cleaner data	
Data Export	Weekly backup of all data	Safety	
Change Sets	Move app components from sandbox to production	Low-code deployment	
Unmanaged Package	Share your Library App with others	Collaboration	
ANT Migration Tool	Automate deployment of metadata	Repeatable & scriptable	
VS Code & SFDX	Build, test, deploy Apex code and components	Full developer workflow	