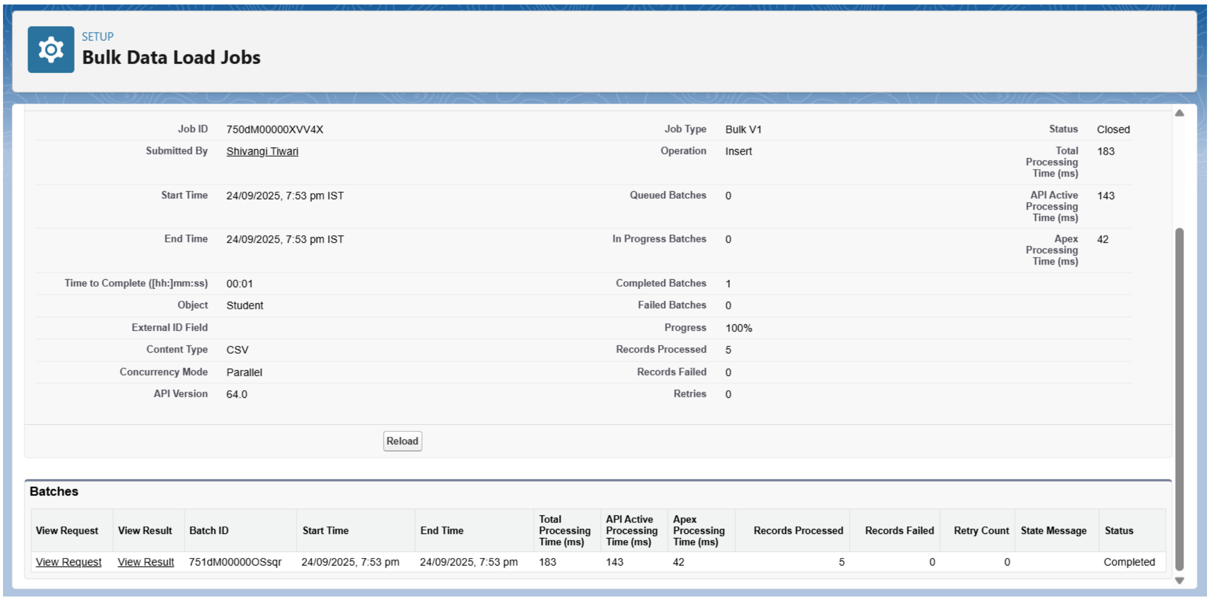
Phase 8: Data Management & Deployment

1. Data Import Wizard

- Used to import student records (Student__c) into Salesforce with fields like Class and Risk Level.
- Simple, web-based tool with a limit of 50,000 records, sufficient for our project data.
- Validations ensured only clean student data was imported.



SETUP

Bulk Data Load Jobs

Job ID	750dM00000XVV4X	Job Type	Bulk V1	Status	Closed
Submitted By	Shivangi Tiwari	Operation	Insert	Total Processing Time (ms)	183
Start Time	24/09/2025, 7:53 pm IST	Queued Batches	0	API Active Processing Time (ms)	143
End Time	24/09/2025, 7:53 pm IST	In Progress Batches	0	Apex Processing Time (ms)	42
Time to Complete ([hh:]mm:ss)	00:01	Completed Batches	1		
Object	Student	Failed Batches	0		
External ID Field		Progress	100%		
Content Type	CSV	Records Processed	5		
Concurrency Mode	Parallel	Records Failed	0		
API Version	64.0	Retries	0		

Batches

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	View Result	751dM00000OSsqr	24/09/2025, 7:53 pm	24/09/2025, 7:53 pm	183	143	42	5	0	0		Completed

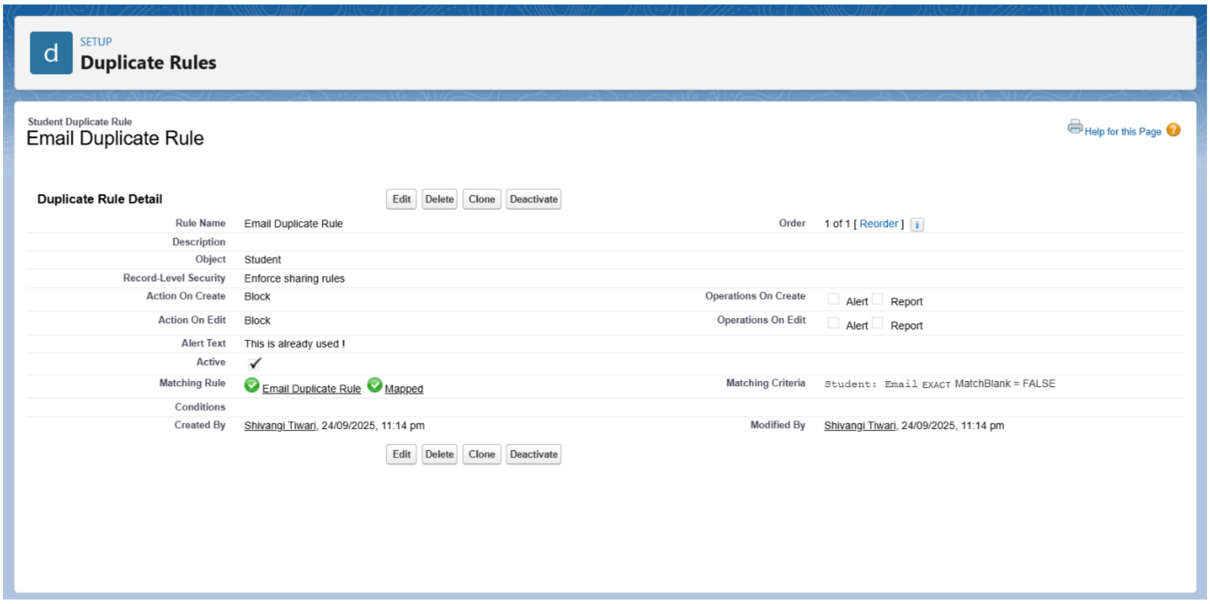
2. Data Loader

- More advanced desktop tool for handling millions of records with bulk insert, update, delete.
- Not implemented for this project since our dataset was small and handled with Import Wizard.
- Documented as an alternative for large-scale or automated data operations.

3. Duplicate Rules

- Created matching rules to detect duplicate students by Email .
- Configured duplicate rules to block duplicate entries during import or manual creation.

- Helps maintain clean and reliable student records.



Student Duplicate Rule

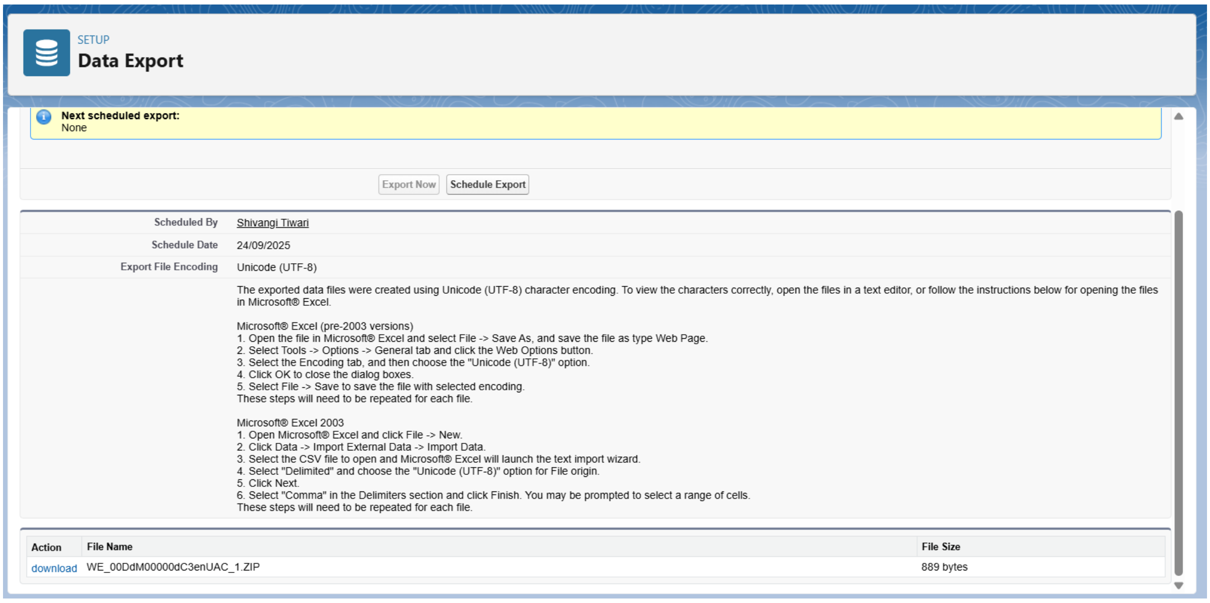
Email Duplicate Rule

Duplicate Rule Detail

Rule Name	Email Duplicate Rule	Order	1 of 1 [Reorder]
Description			
Object	Student		
Record-Level Security	Enforce sharing rules		
Action On Create	Block	Operations On Create	□ Alert □ Report
Action On Edit	Block	Operations On Edit	□ Alert □ Report
Alert Text	This is already used !		
Active	✓		
Matching Rule	✓ Email Duplicate Rule ✓ Mapped	Matching Criteria	Student: Email EXACT MatchBlank = FALSE
Conditions			
Created By	Shivangi Tiwari, 24/09/2025, 11:14 pm	Modified By	Shivangi Tiwari, 24/09/2025, 11:14 pm

4. Data Export & Backup

- Used Salesforce **Data Export** tool to download CSV backups of Student__c data.
- Scheduled regular exports to ensure safe offline copies for recovery.
- Focused on backing up key custom objects (Student, Intervention).



Next scheduled export:
None

Scheduled By	Shivangi Tiwari
Schedule Date	24/09/2025
Export File Encoding	Unicode (UTF-8)

The exported data files were created using Unicode (UTF-8) character encoding. To view the characters correctly, open the files in a text editor, or follow the instructions below for opening the files in Microsoft® Excel.

Microsoft® Excel (pre-2003 versions)
1. Open the file in Microsoft® Excel and select File -> Save As, and save the file as type Web Page.
2. Select Tools -> Options -> General tab and click the Web Options button.
3. Select the Encoding tab, and then choose the "Unicode (UTF-8)" option.
4. Click OK to close the dialog boxes.
5. Select File -> Save to save the file with selected encoding.
These steps will need to be repeated for each file.

Microsoft® Excel 2003
1. Open Microsoft® Excel and click File -> New.
2. Click Data -> Import External Data -> Import Data.
3. Select the CSV file to open and Microsoft® Excel will launch the text import wizard.
4. Select "Delimited" and choose the "Unicode (UTF-8)" option for File origin.
5. Click Next.
6. Select "Comma" in the Delimiters section and click Finish. You may be prompted to select a range of cells.
These steps will need to be repeated for each file.

Action	File Name	File Size
download	WE_00DdM00000dC3enUAC_1.ZIP	889 bytes

5. Change Sets

- Acts as the standard way to deploy metadata between sandbox and production.
- Not required since project was built and demonstrated in a single org.

6. Unmanaged vs Managed Packages

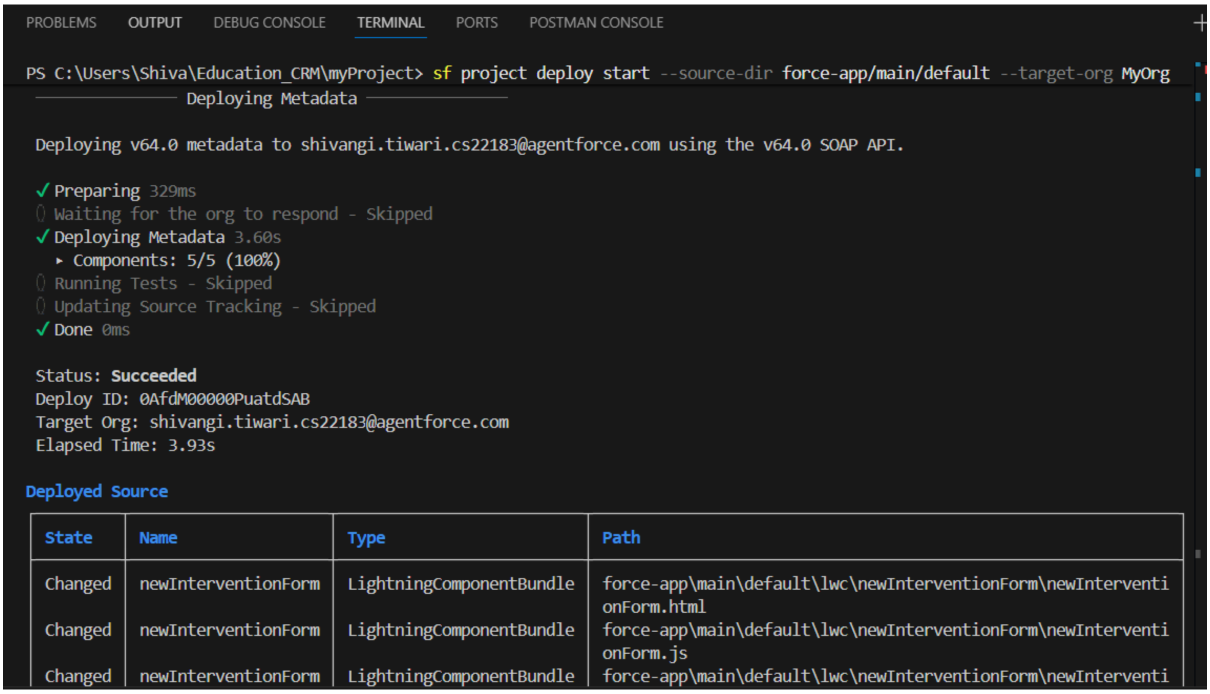
- Unmanaged Packages → share project components with others (e.g., classmates, demo orgs).
- Managed Packages → used by ISVs for AppExchange apps with version control.
- Not implemented in this project; included for understanding deployment options.

7. ANT Migration Tool

- Legacy command-line tool for metadata deployment before SFDX was introduced.
- Can be used for scripting deployments but is rarely preferred now.

8. VS Code & SFDX

- Used to build and deploy Lightning Web Components (LWCs) in this project.
- Industry-standard approach for Salesforce development with CLI-based commands.
- Highlighted as a key skill and modern best practice already applied in our implementation.



```
PS C:\Users\Shiva\Education_CRM\myProject> sf project deploy start --source-dir force-app/main/default --target-org MyOrg
 ─────────────── Deploying Metadata ───────────────

 Deploying v64.0 metadata to shivangi.tiwari.cs22183@agentforce.com using the v64.0 SOAP API.

 ✓ Preparing 329ms
 ◯ Waiting for the org to respond - Skipped
 ✓ Deploying Metadata 3.60s
   ▸ Components: 5/5 (100%)
 ◯ Running Tests - Skipped
 ◯ Updating Source Tracking - Skipped
 ✓ Done 0ms

 Status: Succeeded
 Deploy ID: 0AfdM00000PuatdSAB
 Target Org: shivangi.tiwari.cs22183@agentforce.com
 Elapsed Time: 3.93s

Deployed Source
 ┌─────────┬─────────────────────┬──────────────────────────┬──────────────────────────────────────────────────────────────┐
 │ State   │ Name                │ Type                     │ Path                                                         │
 ├─────────┼─────────────────────┼──────────────────────────┼──────────────────────────────────────────────────────────────┤
 │ Changed │ newInterventionForm │ LightningComponentBundle │ force-app\main\default\lwc\newInterventionForm\newInterventi │
 │         │                     │                          │ onForm.html                                                  │
 │ Changed │ newInterventionForm │ LightningComponentBundle │ force-app\main\default\lwc\newInterventionForm\newInterventi │
 │         │                     │                          │ onForm.js                                                    │
 │ Changed │ newInterventionForm │ LightningComponentBundle │ force-app\main\default\lwc\newInterventionForm\newInterventi │
```