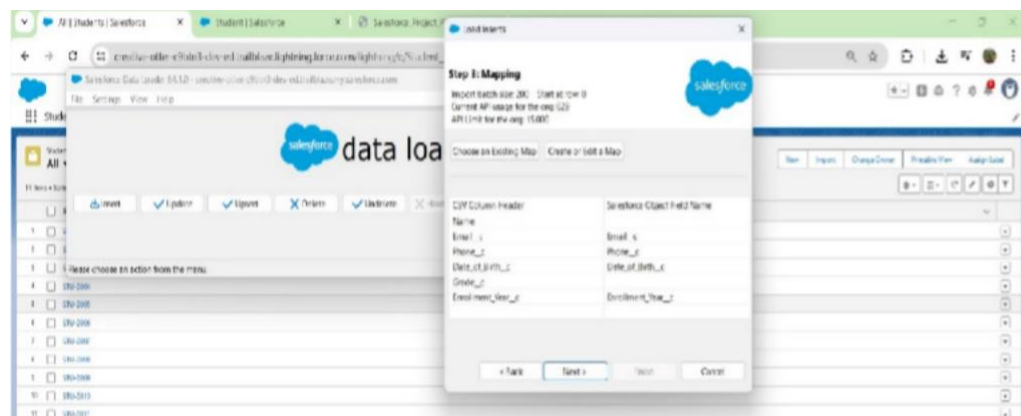# Phase 8: Data Management & Deployment

Goal :

To efficiently manage, migrate, and secure student data and metadata across Salesforce environments using native tools, packages, and modern deployment methods.

1. **Data Import Wizard**

   o   Imported sample student records and related data through the Salesforce UI.

   o   Validated successful import with list views and reports.

   o   Documented mapping fields for reusability.

2. **Data Loader**

   o   Performed bulk inserts, updates, and deletes for large datasets.

   o   Created CSV templates for Student and Course objects.

   o   Logged and reviewed success/error CSVs for audit.

3. **Duplicate Rules**

   o   Defined matching rules to detect duplicate student records.

   o   Configured duplicate rules to block or allow with alerts.

   o   Tested with sample data to ensure data quality.

4. **Data Export & Backup**

   o Scheduled weekly data export from Setup for backup.

   o Downloaded CSVs of critical objects (Students, Courses, Enrollments).

   o Stored backup securely for rollback scenarios.

5. **Change Sets**

   o Created outbound change sets with custom objects and fields.

   o Uploaded change sets to target sandbox and deployed.

   o Validated deployment results post-migration.

6. **Unmanaged vs Managed Packages**

   o Built an unmanaged package containing custom objects for sharing.

   o Created a managed package to test namespace and code protection.

   o Installed both in a new org and documented differences.

7. **ANT Migration Tool**

   o Configured build.xml and package.xml for metadata retrieval.

   o Retrieved custom object and Apex class metadata from source org.

   o Deployed changes to target org and validated success logs.

8. **VS Code & SFDX**

   o   Set up VS Code project with Salesforce CLI and authorized orgs.

   o   Retrieved metadata using sf project retrieve start.

   o   Modified and deployed changes back using sf project deploy start.