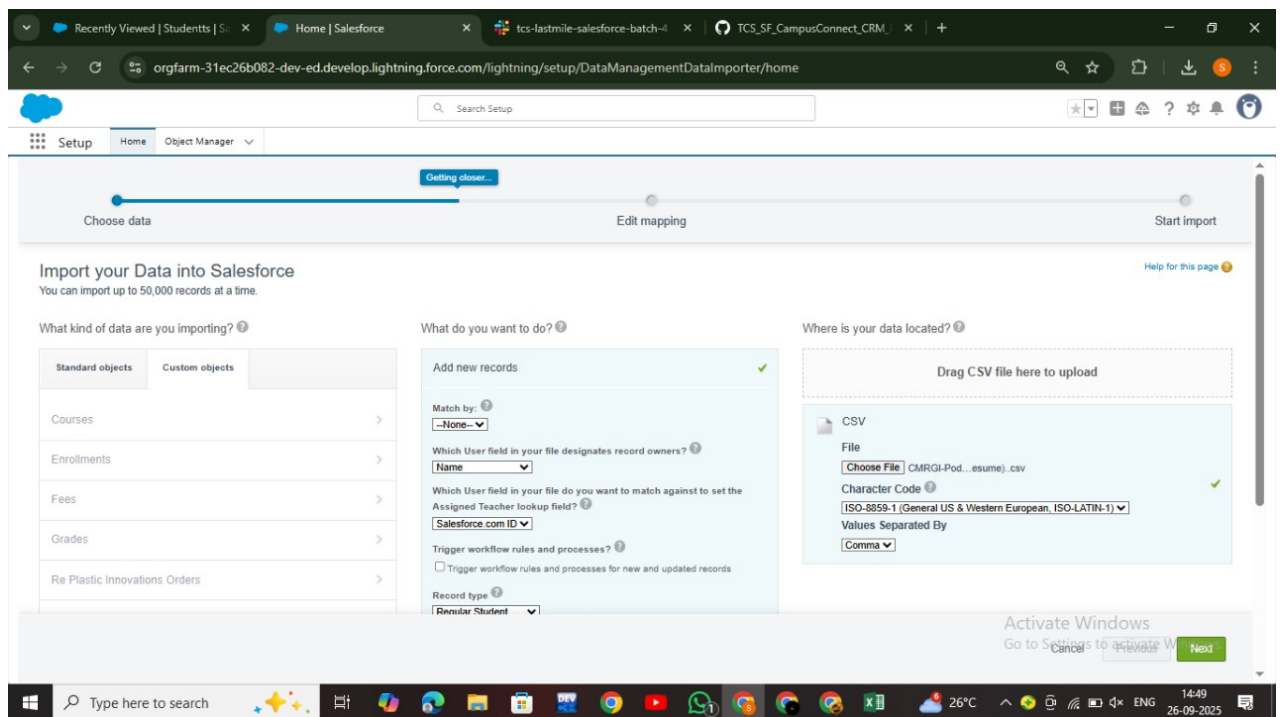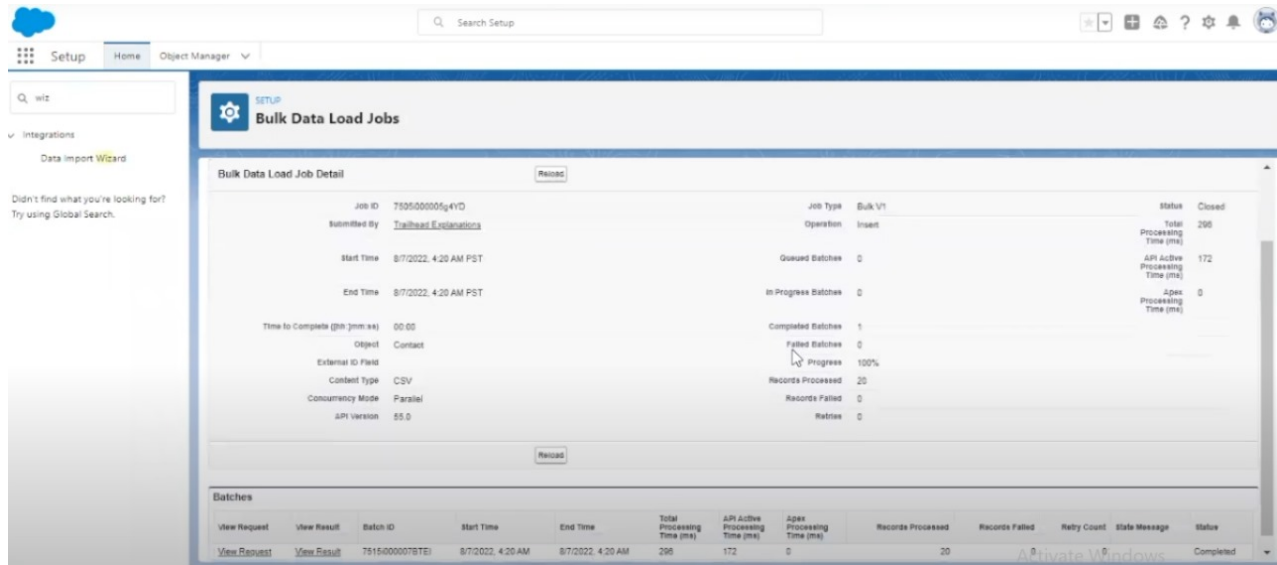# Phase 8 — Data Management & Deployment

**1. Import Student & Club Data**

**Option A: Data Import Wizard (for small data loads, <50k records)**

- Go to Setup → Data Import Wizard

- Choose the object (e.g., Student__c, Club__c, ClubMembership__c)

- Upload a CSV file (fields: StudentName, Email, Year, Branch, Mood)

- Map CSV columns to Salesforce fields
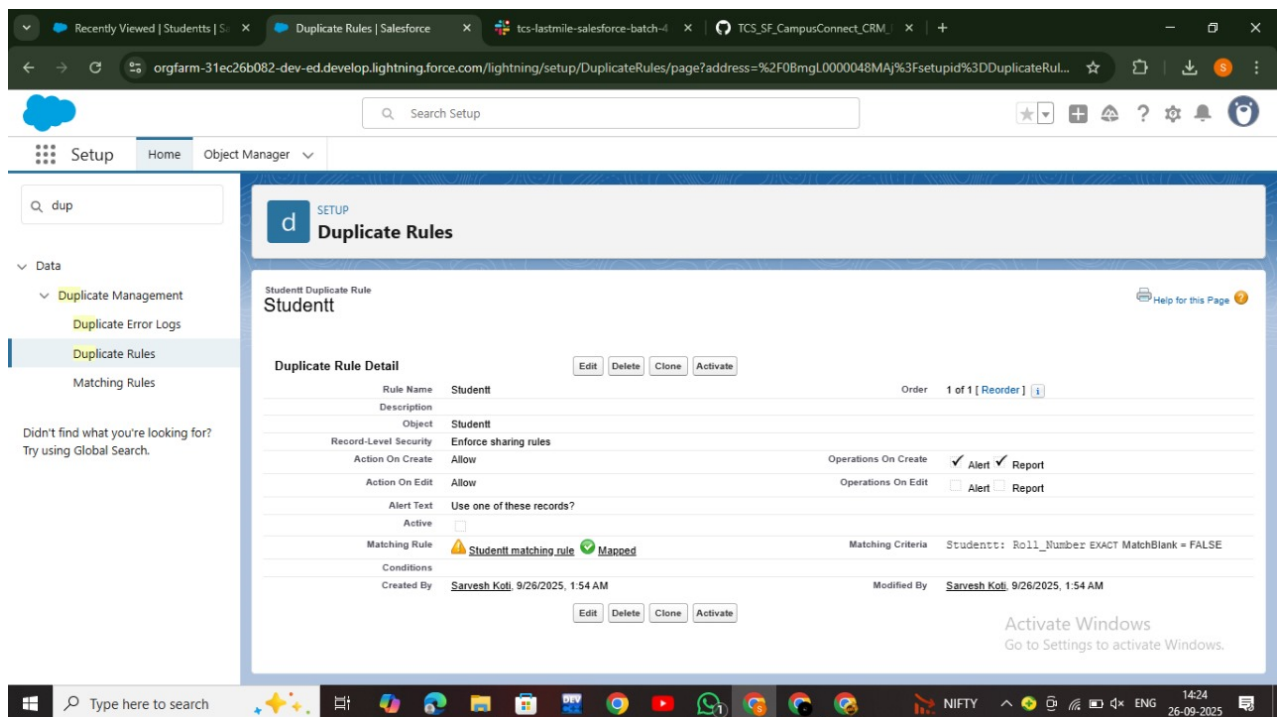
- Run import, then check results

**Option B: Data Loader (for large loads, >50k records)**

- Download Data Loader from Setup → Data Loader

- Login with Salesforce credentials

- Choose operation: Insert / Update / Upsert / Export / Delete

- Use CSVs including record IDs or External IDs

- Example: ClubMembership__c references StudentId and ClubId

- Run import, then check success/error CSVs

**2. Configure Duplicate Rules**

- Go to Setup → Duplicate Rules

- Create New Rule for Object: Student__c

- Matching Rule: Email OR Roll Number

- Action: Block or Allow but Alert

- Activate rule

- Examples:

  o Prevent duplicate Student records with same Roll Number

o Prevent duplicate ClubMembership__c records for same Student + Club



## 3. Data Export & Backup

- Go to Setup → Data Export → Export Now

- Select objects: Student__c, Club__c, ClubMembership__c, ClubEvent__c, Volunteer__c

- Download CSV files for backup/reporting

- Optionally schedule weekly or monthly exports

## 4. Deploy Metadata (Layouts, Objects, Flows, etc.)

## Option A: Change Sets (Declarative)

- Setup → Outbound Change Sets → New Change Set

- Add components: Objects (e.g., Club__c), Fields, Page Layouts, Flows, Validation Rules

- Upload to target org (e.g., Sandbox → Production)

- In target org, go to Inbound Change Sets → Deploy

**Option B: ANT Migration Tool (Scripted)**

- Install ANT locally

- Configure build.xml with source and target org credentials

- Use commands: ant retrieve and ant deploy

- Useful for large or automated deployments

**Option C: VS Code + SFDX (Modern Development)**

- Install VS Code + Salesforce Extensions

- Authorize org: sfdx auth:web:login -d -a DevOrg

- Pull source: sfdx force:source:pull

- Commit to Git for version control

- Push to target org: sfdx force:source:deploy -p force-app

- Ideal for teamwork and CI/CD pipelines

**5. Testing After Deployment**

- Login as Teacher → verify student/course/grade access

- Login as Finance → verify fee records visible

- Login as Parent (Experience Cloud) → verify child's records only

- Test duplicate prevention by trying to import a duplicate record

🔑 **Phase 8 Key Takeaways for This Project**

- **Data Import Wizard** → ideal for small CSV uploads

- **Data Loader** → suits bulk load operations

- **Duplicate Rules** → maintain clean, error-free data

- **Data Export** → schedule regular backups

- **Change Sets / ANT / SFDX** → move metadata/configurations across orgs

- Ensures **CampusConnect CRM** remains scalable, clean, and production-ready