Phase 8 – Data Management & Deployment (Smart Education Portal)

Overview

This phase ensures smooth handling of large student datasets (applications, enrollments, fees, academic performance) and deployment of portal components using Salesforce Data Loader and VS Code with manifest-based deployment.

Part 1: Data Loader

Step 1: Install Data Loader
- Download from Salesforce Setup and install on machine.

Step 2: Login
- Open Data Loader → Select Production or Sandbox → Enter Username, Password + Security Token.

Step 3: Insert & Update Data
- Use CSV files with fields matching Salesforce API names.
- Insert → Select Object (e.g., Students, Courses, Payments) → Map Fields → Finish.

Step 4: Review Results
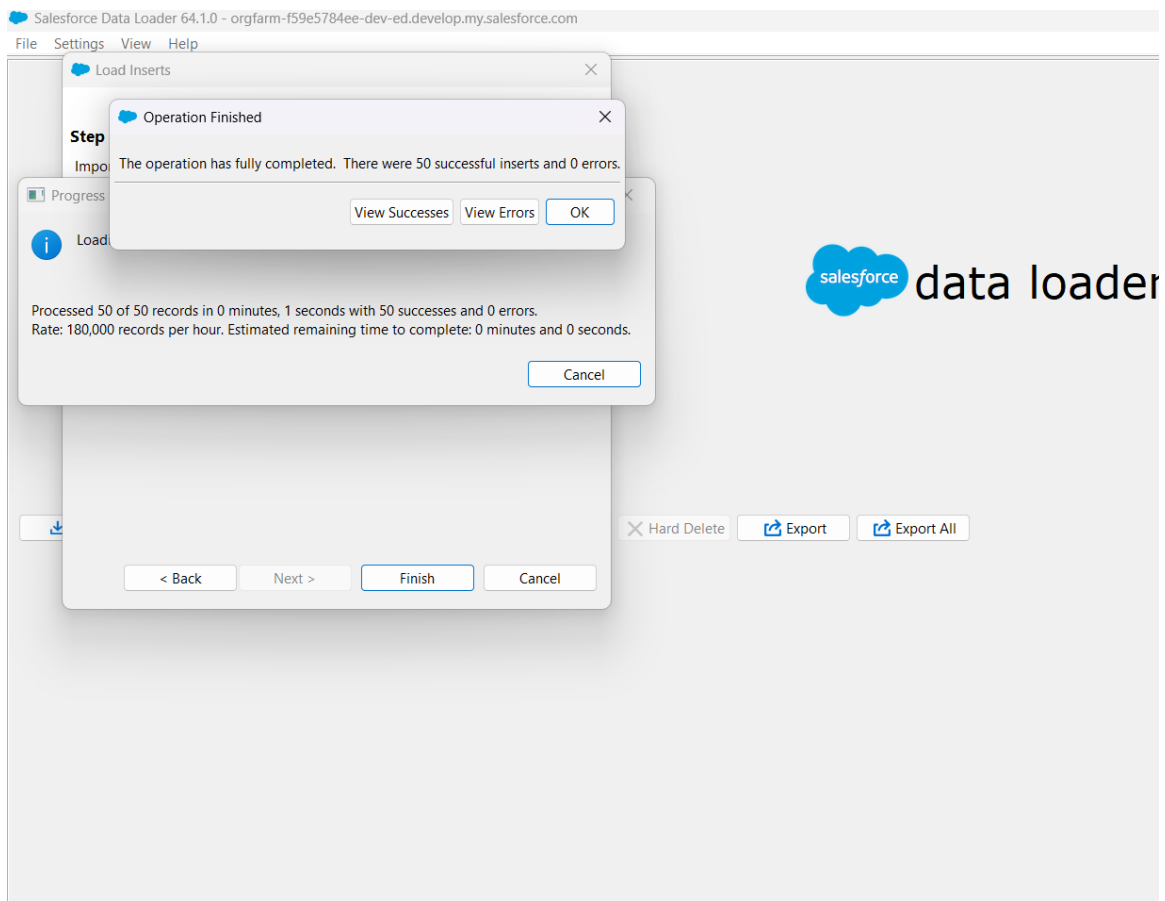- Data Loader generates Success.csv and Error.csv for verification.

```
Microsoft Windows [Version 10.0.26100.6584]
(c) Microsoft Corporation. All rights reserved.

D:\Downloads\dataloader_v64.1.0>java -jar DataLoader-64.1.0.jar

***************************************************************************
**                                                                     **
**              Salesforce Data Loader                                 **
**              ======================                                 **
**                                                                     **
**  Data Loader v64 is a Salesforce supported Open Source project to   **
**  help you import data to and export data from your Salesforce org.  **
**  It requires Java JRE 17 or later to run.                           **
**                                                                     **
**  Github Project Url:                                                **
**       https://github.com/forcedotcom/dataloader                     **
**  Salesforce Documentation:                                          **
**       https://help.salesforce.com/articleView?id=data_loader.htm    **
**                                                                     **
***************************************************************************
```
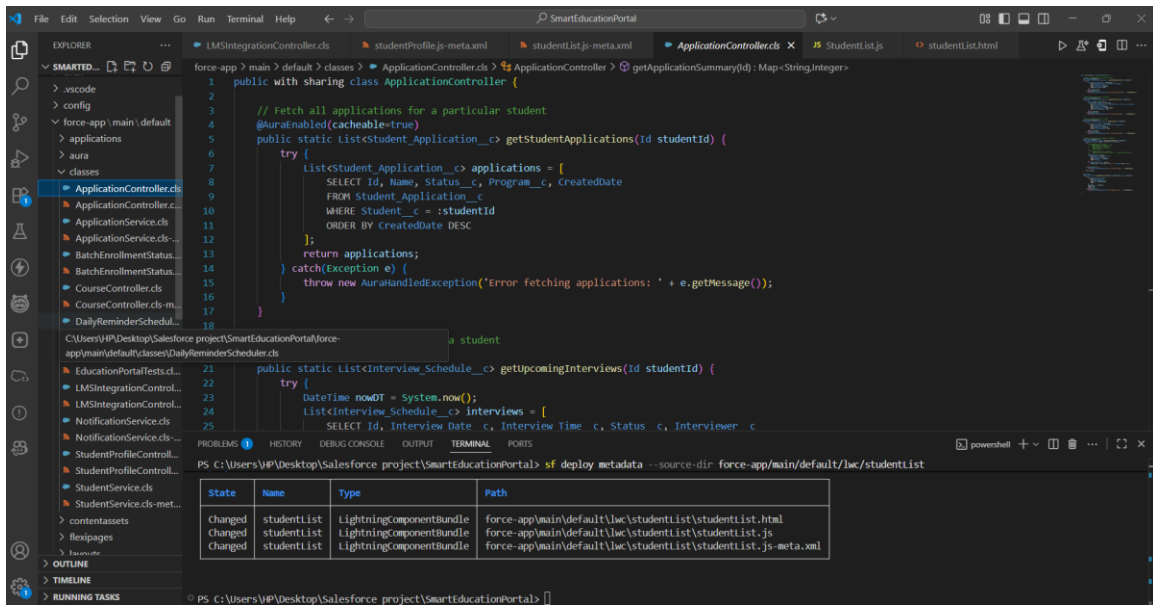
Authorization Successful!

You can now close this browser window and return to Data Loader.

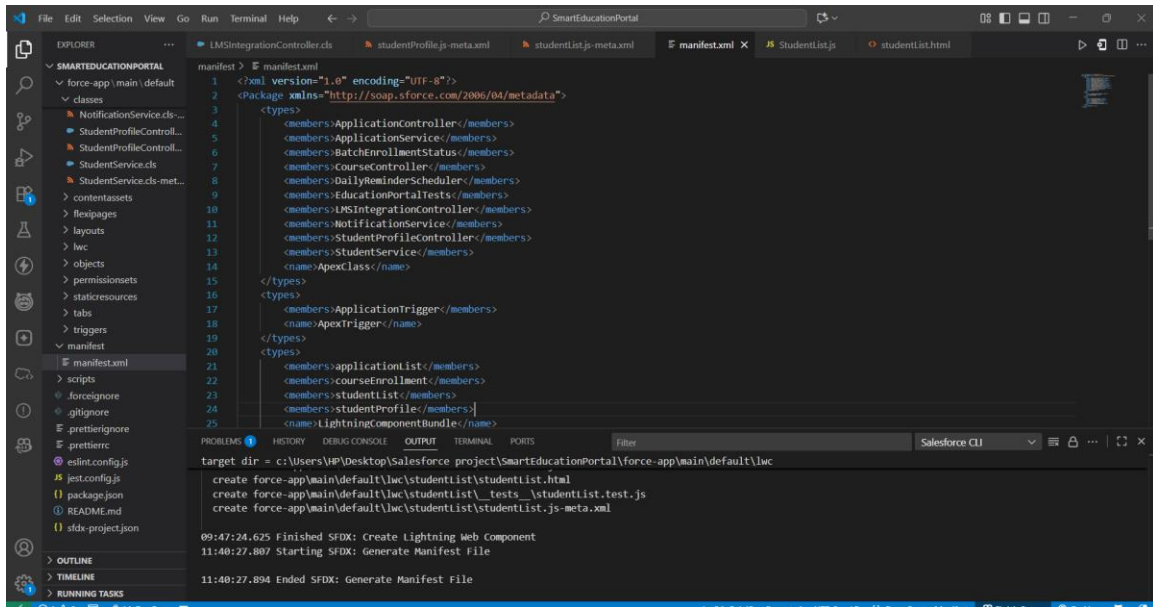## Part 2: Deployment Using VS Code

Step 1: Prepare Project
- Organize LWCs, Apex classes, and metadata in force-app/main/default.

Step 2: Use Manifest (package.xml)
- Include required components for deployment. Example:
```xml
<types>
    <members>*</members>
    <name>ApexClass</name>
</types>
<types>
    <members>*</members>
    <name>LightningComponentBundle</name>
</types>
<types>
    <members>*</members>
    <name>CustomObject</name>
</types>
```

Step 3: Deploy to Org
- Right-click manifest/package.xml → SFDX: Deploy Source to Org.

Step 4: Verify Deployment
- Check Salesforce org for deployed objects:
  - LWCs (Student Portal, Faculty Dashboard)
  - Apex Classes (AdmissionProcessHandler, FeeIntegrationHandler)
  - Custom Objects (Course Enrollment, Transcripts, Payments)