
INSTITUTE MANAGEMENT SYSTEM

Phase 8: Data Management & Deployment

1 Data Import Wizard – Import Students, Courses, and Enrollments

Purpose: Quickly load small datasets (students, courses, enrollments) using Salesforce UI.

Step-by-Step:

1. Go to Setup → Data Import Wizard.
2. Click Launch Wizard.
3. Choose object to import:
 - Student__c → student records
 - Course__c → course catalog
 - Faculty__c → faculty records
4. Upload your CSV file for each object.

Student csv file:

	A	B	C	D	E	F
1	Name	Student ID	Email	Course	Enrollment status	
2	pallavi	STU-1001	saipallavi1	121	admitted	
3	John Doe	STU-1005	a@gmail.c	a02gK000C	admitted	
4	sai	STU-1002	abc@gma	a02gK000C	admitted	
5						
6						

Faculty csv file:

Faculty Name	Faculty ID	email	departmer	Phone
shiva	FAC-1001	shiva@gm	CSE	1.23E+08
raj	FAC-1002	raj@gmail.	ECE	(029)928-3839
sita	FAC-1003	sita@gmai	CE	(029)928-3527

Course csv file:

Course Code	Course Name	Duration	Credits	Fees	Faculty
a02gK000C	CSE101	12	7	35000	FAC-1001
a02gK000C	ECE102	12	8	38000	FAC-1002
121	CE	12	6	100000	FAC-1001

5. Map CSV columns to Salesforce fields. Example:

- Full_Name → Full_Name__c
- Email → Email__c
- Course Name → Course__c

6. Check checkboxes for:

- “Trigger workflow rules, processes, and flows” if you want automation to run.

7. Click Start Import.

8. Review the success/error report. Correct any errors if necessary.

Outcome after importing csv files:

Salesforce import of "Course.csv" has finished. 3 rows were processed. Inbox x

 noreply@salesforce.com <noreply@salesforce.com> 2:52 P
to me ▾
Your Courses import is complete. Here are your results:

Courses Created: 0
Courses Updated: 3
Courses Ignored: 0 (We ignored updates that we couldn't match to an existing record.)
Courses Failed: 0 (We couldn't import these due to errors.)
Courses Rejected: 0 (We rejected duplicate rows.)
Processed job information for imported Courses: <https://orgfarm-9f7f54caa4-dev-ed.my.salesforce.com/750gK00000DroQbQAJ?fromEmail=1>

Salesforce import of "Faculty.csv" has finished. 3 rows were processed. Inbox x

 noreply@salesforce.com <noreply@salesforce.com> 2:56
to me ▾
Your Faculties import is complete. Here are your results:

Faculties Created: 0
Faculties Updated: 3
Faculties Ignored: 0 (We ignored updates that we couldn't match to an existing record.)
Faculties Failed: 0 (We couldn't import these due to errors.)
Faculties Rejected: 0 (We rejected duplicate rows.)
Processed job information for imported Faculties: <https://orgfarm-9f7f54caa4-dev-ed.my.salesforce.com/750gK00000DrpphQAB?fromEmail=1>

 noreply@salesforce.com <noreply@salesforce.com> 3:03 PM
to me ▾
Your Students import is complete. Here are your results:

Students Created: 0
Students Updated: 3
Students Ignored: 0 (We ignored updates that we couldn't match to an existing record.)
Students Failed: 0 (We couldn't import these due to errors.)
Students Rejected: 0 (We rejected duplicate rows.)
Processed job information for imported Students: <https://orgfarm-9f7f54caa4-dev-ed.my.salesforce.com/750gK00000Drmv5QAB?fromEmail=1>

2. Duplicate Rules – Prevent Duplicate Students or Courses

Purpose: Ensure data integrity by preventing duplicate entries.

Step-by-Step:

1. Setup → **Duplicate Rules** → New.
2. Select Object:
 - **Student__c** (use Email as unique identifier)
 - **Course__c** (use Course Name as unique identifier)
3. Define Matching Rules:
 - Exact match on Email__c for students
 - Exact match on Course_Name__c for courses
4. Choose Actions:
 - **Block** → prevent duplicates completely
 - **Alert** → notify user but allow save
5. Save & Activate the rule.

Reason for IMS: Prevents multiple records for the same student or course. Essential for accurate reporting and fee management.

Outcome:

After activation of these rules, some emails are generated. The generated emails are as follows,

Your Salesforce matching rule is now activated [Inbox](#)

Salesforce Duplicate Management (noreply@salesforce.com) <noreply@salesforce.com>
to me [▼](#) 3:09 PM (54 minutes)

Hello SAI PALLAVI PENDAKALLU,

Your matching rule Email matching rule for identifying duplicate records has been activated and is now ready to use.

Salesforce Duplicate Management

You're registered as sai.pallavi1520@gmail.com in Smart Bridge. Need help? Contact Salesforce Customer Support.

Salesforce Duplicate Management (noreply@salesforce.com) <noreply@salesforce.com>
to me [▼](#) 3:11 PM (52 minutes)

Hello SAI PALLAVI PENDAKALLU,

Your matching rule Course Name matching rule for identifying duplicate records has been activated and is now ready to use.

Salesforce Duplicate Management

You're registered as sai.pallavi1520@gmail.com in Smart Bridge. Need help? Contact Salesforce Customer Support.

3.Data Export & Backup – Optional but Recommended

Purpose: Maintain regular backups for safety and disaster recovery.

Step-by-Step:

1. Setup → **Data Export**.
2. Click **Schedule Export**.
3. Select objects to export:
 - Student__c, Course__c, Enrollment__c, Fee_Payment__c
4. Choose **frequency**: Weekly or Monthly
5. Salesforce generates **CSV ZIP files**. Download and store securely.

Reason for IMS: Not mandatory but recommended to protect data and comply with policies.

Your Organization Data Export has completed - Smart Bridge [Inbox](#)

Do not reply
The export of your organization's data has been completed. Please click on the following link within the next 48 hours to receive the export. <https://orgfarm-9f7f54caa4-dev-ed.my.salesforce.com/ui/setup/export/DataExportPage/d>

Do not reply <noreply@salesforce.com>
to me [▼](#) 3:19 PM (45 minute:)

The export of your organization's data has been completed. Please click on the following link within the next 48 hours to receive the export.
<https://orgfarm-9f7f54caa4-dev-ed.my.salesforce.com/ui/setup/export/DataExportPage/d>

Thank you,
Salesforce

[Reply](#) [Forward](#) [Smileys](#)

4. Deploy Metadata

Option A: VS Code & Salesforce CLI

- Move your project to a local folder (avoid OneDrive).
- Open VS Code and authorize org:
sf org login web --alias SourceOrg --set-default
- Retrieve metadata (Student, Course, Faculty objects):
sf project retrieve start --metadata CustomObject:Student__c --metadata CustomObject:Course__c --metadata CustomObject:Faculty__c

The screenshot shows three separate terminal windows within VS Code, each displaying the output of the Salesforce CLI command to retrieve metadata for different objects.

- Terminal 1 (Faculty Object):**

```
PS C:\Users\saipa\Downloads\institute> sf project retrieve start --metadata "CustomObject:Faculty__c" --target-org saipallavi152896@agentforce.com
Elapsed Time: 3.57s
```

Retrieved Source

State	Name	Type	Path
Created	Faculty_c.Department__c	CustomField	force-app/main/default/objects/Faculty__c/fields/Department__c.field-meta.xml
Created	Faculty_c.Email__c	CustomField	force-app/main/default/objects/Faculty__c/fields/Email__c.field-meta.xml
Created	Faculty_c.Faculty_Name__c	CustomField	force-app/main/default/objects/Faculty__c/fields/Faculty_Name__c.field-meta.xml
Created	Faculty_c.Phone__c	CustomField	force-app/main/default/objects/Faculty__c/fields/Phone__c.field-meta.xml
Created	Faculty_c	CustomObject	force-app/main/default/objects/Faculty__c/faculty__c.object-meta.xml
Created	Faculty_c.All	ListView	force-app/main/default/objects/Faculty__c/listViews/All.listView-meta.xml
- Terminal 2 (Course Object):**

```
PS C:\Users\saipa\Downloads\institute> sf project retrieve start --metadata "CustomObject:course__c" --target-org saipallavi152896@agentforce.com
Retrieving Metadata
Retrieving v64.0 metadata from saipallavi152896@agentforce.com using the v64.0 SOAP API
✓ Preparing retrieve request 20ms
✓ Sending request to org 1.02s
✓ Waiting for the org to respond 2.63s
✓ Done 3ms
```

Retrieved Source

State	Name	Type	Path
Created	Course_c.Course_Compact_Layout	CompactLayout	force-app/main/default/objects/Course__c/compactLayouts/Course_Compact_Layout.compactLayout-meta.xml
Created	course_c.Course_Name__c	CustomField	force-app/main/default/objects/Course__c/fields/Course_Name__c.field-meta.xml
Created	course_c.Credits__c	CustomField	force-app/main/default/objects/Course__c/fields/Credits__c.field-meta.xml
Created	course_c.Creativity__c	CustomField	force-app/main/default/objects/Course__c/fields/Creativity__c.field-meta.xml
Created	course_c.Faculty__c	CustomField	force-app/main/default/objects/Course__c/fields/Faculty__c.field-meta.xml
Created	course_c.Fees__c	CustomField	force-app/main/default/objects/Course__c/fields/Fees__c.field-meta.xml
Created	course_c	CustomObject	force-app/main/default/objects/Course__c/course__c.object-meta.xml
Created	course_c.All	ListView	force-app/main/default/objects/Course__c/listViews/All.listView-meta.xml
- Terminal 3 (Student Object):**

```
PS C:\Users\saipa\Downloads\institute> sf project retrieve start --metadata "CustomObject:course__c" --target-org saipallavi152896@agentforce.com
PS C:\Users\saipa\Downloads\institute> sf project retrieve start --metadata "CustomObject:Student__c" --target-org saipallavi152896@agentforce.com
Retrieving Metadata
Retrieving v64.0 metadata from saipallavi152896@agentforce.com using the v64.0 SOAP API
✓ Preparing retrieve request 32ms
✓ Sending request to org 533ms
✓ Waiting for the org to respond 3.45s
✓ Done 0ms
```

Retrieved Source

State	Name	Type	Path
Changed	Student__c.Student_Compact_Layout	CompactLayout	force-app/main/default/objects/Student__c/compactLayouts/Student_Compact_Layout.compactLayout-meta.xml
Changed	Student__c.Course__c	CustomField	force-app/main/default/objects/Student__c/fields/Course__c.field-meta.xml
Changed	Student__c.DOB__c	CustomField	force-app/main/default/objects/Student__c/fields/DOB__c.field-meta.xml
Changed	Student__c.Email__c	CustomField	force-app/main/default/objects/Student__c/fields/Email__c.field-meta.xml
Changed	Student__c.Enrollment_Status__c	CustomField	force-app/main/default/objects/Student__c/fields/Enrollment_Status__c.field-meta.xml
Changed	Student__c.Name__c	CustomField	force-app/main/default/objects/Student__c/fields/Name__c.field-meta.xml
Changed	Student__c.Phone__c	CustomField	force-app/main/default/objects/Student__c/fields/Phone__c.field-meta.xml
Changed	Student__c	CustomObject	force-app/main/default/objects/Student__c/student__c.object-meta.xml
Changed	Student__c.All	ListView	force-app/main/default/objects/Student__c/listViews/All.listView-meta.xml
Changed	Student__c.Student_DOB	ValidationRule	force-app/main/default/objects/Student__c/validationRules/Student_DOB.validationRule-meta.xml

- Verify retrieved files in force-app/main/default/objects/.
- Deploy to target org:
sf project deploy start --source-dir force-app/main/default
- Confirm success in terminal or VS Code output.

```

sftrunk@sftrunk-MacBook-Pro:~/Desktop$ sfdx force:source:deploy -u org
15:46:34.785 Starting SFDX: Deploy This Source to Org

==== Deployed Source =====
STATE      FULL NAME          TYPE        PROJECT
PATH

Unchanged Course_c             CustomObject force-app/main/default/objects/Course_c/Course_c.object-meta.xml
Unchanged Course_c.Course_Compact_Layout CompactLayout force-app/main/default/objects/Course_c/compactLayouts/Course_c_compactLayout.compactLayout-meta.xml
Unchanged Course_c.Course_Name_c CustomField  force-app/main/default/objects/Course_c/fields/Course_Name_c.field-meta.xml
Unchanged Course_c.Credits_c   CustomField  force-app/main/default/objects/Course_c/fields/Credits_c.field-meta.xml
Unchanged Course_c.Duration_c  CustomField  force-app/main/default/objects/Course_c/fields/Duration_c.field-meta.xml
Unchanged Course_c.Faculty_c   CustomField  force-app/main/default/objects/Course_c/fields/Faculty_c.field-meta.xml
Unchanged Course_c.Fees_c     CustomField  force-app/main/default/objects/Course_c/fields/Fees_c.field-meta.xml
Unchanged Course_c.All         ListView    force-app/main/default/objects/Course_c/listViews/All.listView-meta.xml
Unchanged Faculty_c            CustomObject force-app/main/default/objects/Faculty_c/Faculty_c.object-meta.xml
Unchanged Faculty_c.department_c CustomField  force-app/main/default/objects/Faculty_c/fields/Department_c.field-meta.xml
Unchanged Faculty_c.Email_c   CustomField  force-app/main/default/objects/Faculty_c/fields/Email_c.field-meta.xml
Unchanged Faculty_c.Faculty_Name_c CustomField  force-app/main/default/objects/Faculty_c/fields/Faculty_Name_c.field-meta.xml
Unchanged Faculty_c.Phone_c   CustomField  force-app/main/default/objects/Faculty_c/fields/Phone_c.field-meta.xml
Unchanged Faculty_c.All         ListView    force-app/main/default/objects/Faculty_c/listViews/All.listView-meta.xml
Unchanged Student_c             CustomObject force-app/main/default/objects/Student_c/Student_c.object-meta.xml
Unchanged Student_c.Student_Compact_Layout CompactLayout force-app/main/default/objects/Student_c/compactLayouts/Student_compact_layout.compactLayout-meta.xml
Unchanged Student_c.Course_c   CustomField  force-app/main/default/objects/Student_c/fields/Course_c.field-meta.xml
Unchanged Student_c.DOB_c     CustomField  force-app/main/default/objects/Student_c/fields/DOB_c.field-meta.xml
Unchanged Faculty_c.Phone_c   CustomField  force-app/main/default/objects/Faculty_c/fields/Phone_c.field-meta.xml
Unchanged Faculty_c.All         ListView    force-app/main/default/objects/Faculty_c/listViews/All.listView-meta.xml
Unchanged Student_c            CustomObject force-app/main/default/objects/Student_c/Student_c.object-meta.xml
Unchanged Student_c.Student_Compact_Layout CompactLayout force-app/main/default/objects/Student_c/compactLayouts/Student_compact_layout.compactLayout-meta.xml
Unchanged Student_c.Course_c   CustomField  force-app/main/default/objects/Student_c/fields/Course_c.field-meta.xml
Unchanged Student_c.DOB_c     CustomField  force-app/main/default/objects/Student_c/fields/DOB_c.field-meta.xml
Unchanged Student_c.Email_c   CustomField  force-app/main/default/objects/Student_c/fields/Email_c.field-meta.xml
Unchanged Student_c.Enrollment_Status_c CustomField  force-app/main/default/objects/Student_c/fields/Enrollment_Status_c.field-meta.xml
Unchanged Student_c.Name_c     CustomField  force-app/main/default/objects/Student_c/fields/Name_c.field-meta.xml
Unchanged Student_c.Phone_c   CustomField  force-app/main/default/objects/Student_c/fields/Phone_c.field-meta.xml
Unchanged Student_c.All         ListView    force-app/main/default/objects/Student_c/listViews/All.listView-meta.xml
Unchanged Student_c.Student_DOB ValidationRule force-app/main/default/objects/Student_c/validationRules/Student_DOB_validationRule.meta.xml

15:46:40.214 Ended SFDX: Deploy This Source to Org

```

Option B: Change Sets

- In Source Org → Setup → Outbound Change Set → New.
- Add components (objects, fields, Apex classes).
- Upload to target org → Inbound Change Set → Deploy → Validate.

5. ANT Migration Tool

- Configure build.xml and package.xml.
- Retrieve custom object and Apex class metadata from source org.
- Deploy changes to target org.
- Validate success logs.

6. Notes & Best Practices

- Always retrieve metadata to a local folder, not OneDrive, to avoid empty folders.
- Verify all fields, list views, and validation rules are retrieved.
- Keep backups of CSV files and metadata.
- Use CLI commands with correct syntax in new Salesforce CLI (sf).