Phase 8 – Data Management & Deployment

Flight Reservation & Scheduling System

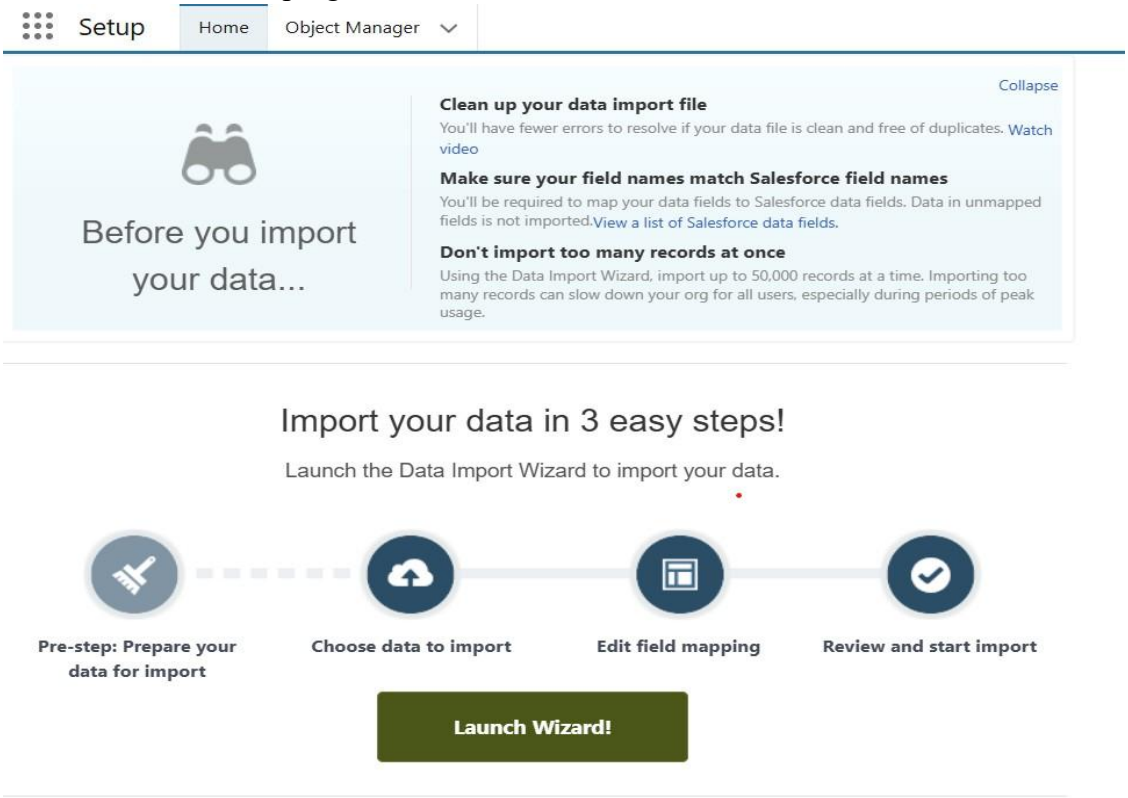
Salesforce-Based Flight Operations and Scheduling System

Step 1: Import Data with Data Import Wizard

Purpose: Quickly add or update data for standard/custom objects without coding.

How to do it:

1. Go to App Launcher → Data Import Wizard.
2. Select the object you want to import (e.g., Leads, Accounts, Contacts, or your custom object like Flight__c).
3. Click "Launch Wizard".
4. Upload your CSV file containing records.
5. Map CSV columns to Salesforce fields.
6. Click Start Import.
7. Monitor the progress; Salesforce will show success/error count

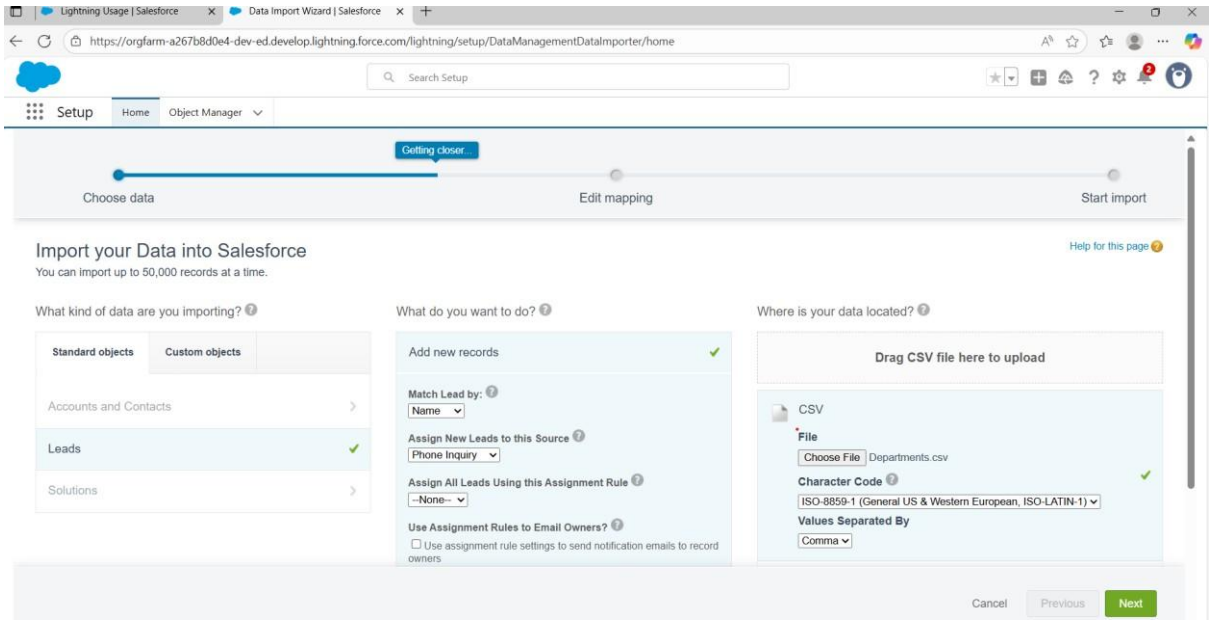


Step 2: Import/Export Large Data with Data Loader

Purpose: Handle large volumes of records (>50k) and perform bulk operations.

How to do it:

1. Go to **Setup → Data Loader → Download** (install on your machine).
2. Open **Data Loader** and login using **username + security token**.
3. Choose operation: **Insert, Update, Upsert, Delete, Export**.
4. Select the object and the CSV file.
5. Map fields (CSV → Salesforce fields).
6. Click **Next → Finish** to start operation.
7. Exported files will be saved as CSV.

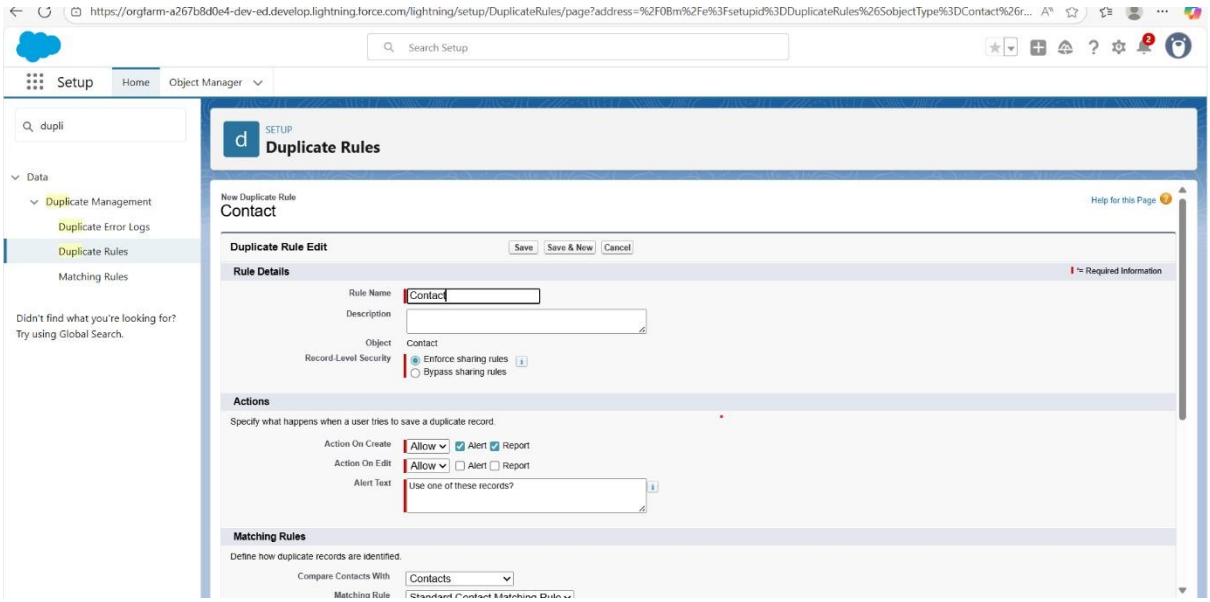


Step 3: Prevent Duplicates (Duplicate Rules)

Purpose: Ensure clean data by blocking or alerting duplicates.

How to do it:

1. Go to **Setup → Duplicate Rules → New Rule**.
2. Choose the object (e.g., **Contact**).
3. Define **matching criteria** (Email, Phone, Name, etc.).
4. Choose action: **Block** or **Allow but Alert**.
5. Save and **Activate** the rule.
6. Test by creating a record with duplicate values to ensure it works.

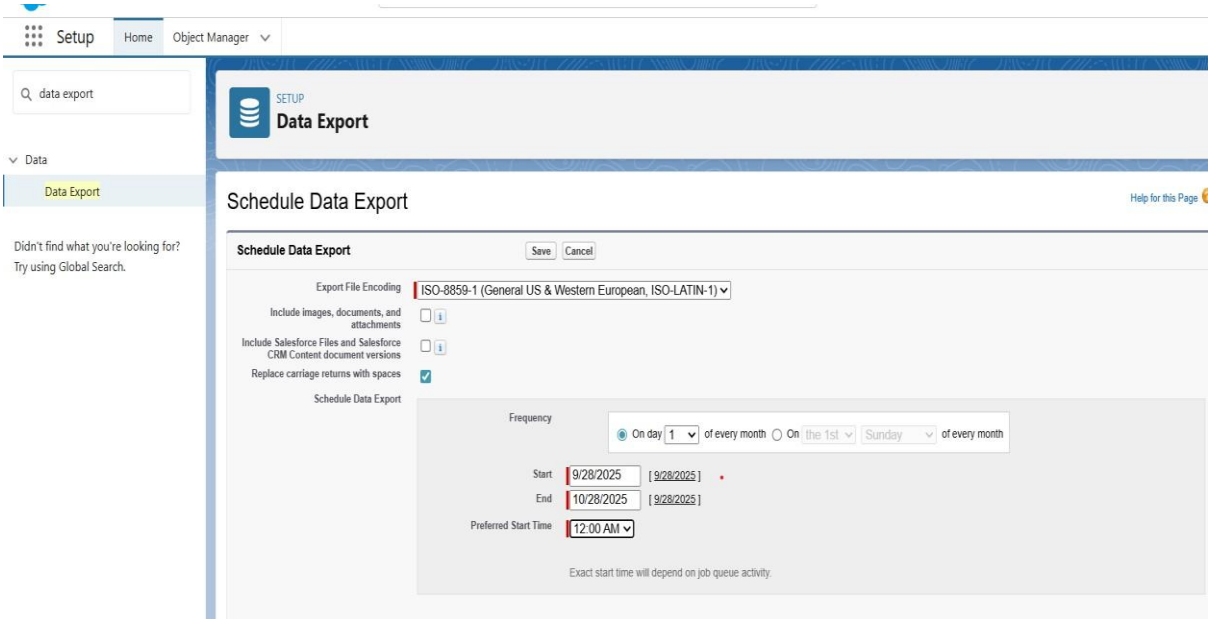


Step 4: Schedule Data Export / Backup

Purpose: Create regular backups of your Salesforce data.

How to do it:

1. Go to **Setup → Data Export → Schedule Export**.
2. Choose **frequency** (Weekly or Monthly).
3. Select objects to backup (e.g., **Flight__c, Booking__c, Passenger__c**).
4. Click **Start Export**.
5. Salesforce will generate a **.zip file** with CSVs for download.



Step 5: Move Metadata with Change Sets

Purpose: Deploy customizations (Apex, LWCs, Objects) between orgs.

How to do it:

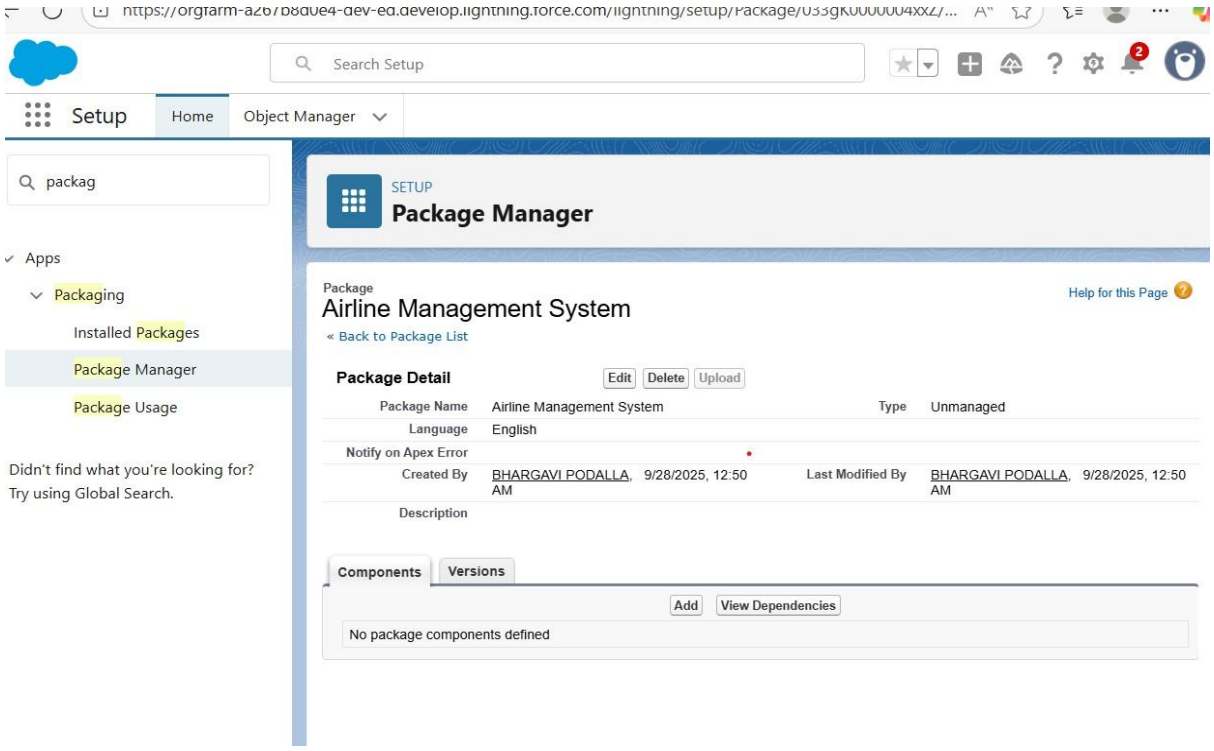
1. In source org → **Setup → Outbound Change Sets → New**.
2. Add components (e.g., Apex Classes, Lightning Web Components, Custom Objects).
3. Upload the Change Set to the target org (Sandbox → Production).
4. In target org → **Inbound Change Sets → Deploy**.
5. Run tests if required.

Step 6: Use Packages

Purpose: Package your components for reuse or AppExchange distribution.

How to do it:

1. Go to **Setup → Package Manager → New Package**.
2. Add components (Apex, Objects, Flows, LWCs).
3. Choose type:
    - **Unmanaged:** Editable, for training/demo.
    - **Managed:** Locked, for AppExchange apps.
4. Upload package → Install in target org.



Step 7: Use ANT Migration Tool (Optional for CI/CD)

Purpose: Automate deployments via command-line.

How to do it:

1. Download **Salesforce ANT Migration Tool**.
2. Configure **build.properties** with username, password, and token.
3. Create **build.xml** to define deployment commands:

```
<sf:deploy username="${sf.username}" password="${sf.password}"
serverurl="https://login.salesforce.com" deployRoot="src"/>
```

4. Run in command line: ant deployCode

Step 8: Use VS Code & SFDX for Deployment

Purpose: Modern development and deployment workflow.

How to do it:

1. Open **SFDX project** in VS Code.
2. Authorize org:

```
sfdx force:auth:web:login -a DevOrg
```

3. Deploy source:

```
sfdx force:source:deploy -p force-app/main/default -u DevOrg
```

4. Retrieve components:

```
sfdx force:source:retrieve -m ApexClass:FlightController
```

Step 9: Version Control with GitHub

Purpose: Track changes and collaborate with team.

How to do it:

1. Initialize repository: git init
2. Add files: git add .
3. Commit: git commit -m "Phase 8 - Deployment setup"
4. Push to GitHub: git push -u origin main

Step 10: Validate Deployment

Purpose: Ensure everything works in the target org.

How to do it:

1. Run **Apex Tests** (≥75% coverage).

2. Check **Lightning Pages, LWCs, Integrations**.
3. Verify **duplicate rules, data imports, backups**.

Phase 8 focuses on ensuring that the **Airline Management System's data and metadata are accurately managed, securely transferred, and effectively deployed** across Salesforce environments. By using tools such as the **Data Import Wizard, Data Loader, Change Sets, VS Code & SFDX, and version control with GitHub**, the project ensures both data integrity and seamless deployment.