

# Phase 8 – Data Management & Deployment

## Airline Management System

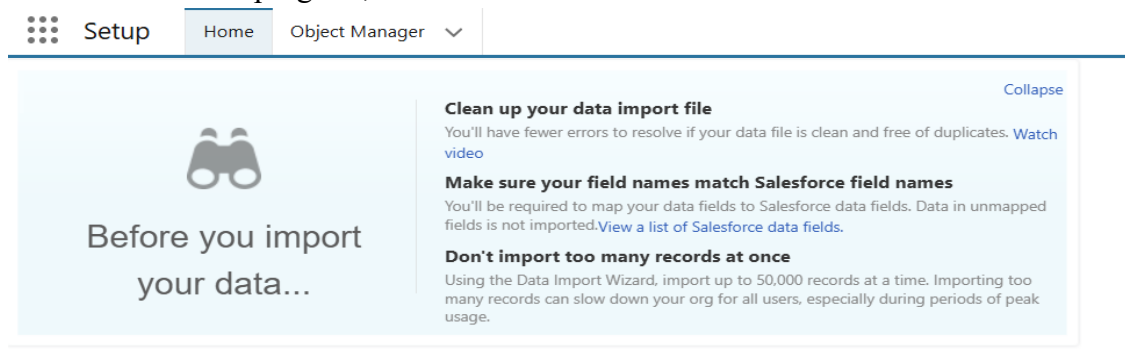
### Salesforce-Based Passenger & Operations Management

#### 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.

The screenshot shows the Salesforce Data Import Wizard interface. At the top, there's a progress bar with three steps: 'Choose data', 'Edit mapping', and 'Start import'. The 'Choose data' step is currently active. Below the progress bar, the main heading is 'Import your Data into Salesforce' with a sub-note 'You can import up to 50,000 records at a time.' The interface is divided into three columns. The first column, 'What kind of data are you importing?', has tabs for 'Standard objects' and 'Custom objects'. Under 'Standard objects', 'Leads' is selected with a green checkmark. The second column, 'What do you want to do?', has a dropdown for 'Match Lead by:' set to 'Name', and a dropdown for 'Assign New Leads to this Source' set to 'Phone Inquiry'. There's also a checkbox for 'Use Assignment Rules to Email Owners?'. The third column, 'Where is your data located?', has a section for 'Drag CSV file here to upload' with a 'Choose File' button and a file named 'Departments.csv'. Below this, there's a 'Character Code' dropdown set to 'ISO-8859-1 (General US & Western European, ISO-LATIN-1)' and a 'Values Separated By' dropdown set to 'Comma'. At the bottom right, there are 'Cancel', 'Previous', and 'Next' buttons.

### 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.

Setup Duplicate Rules

New Duplicate Rule Contact

Duplicate Rule Edit Save Save & New Cancel

Rule Details

Rule Name Contact

Description

Object Contact

Record Level Security Enforce sharing rules Bypass sharing rules

Actions

Specify what happens when a user tries to save a duplicate record.

Action On Create Allow Alert Report

Action On Edit Allow Alert Report

Alert Text Use one of these records?

Matching Rules

Define how duplicate records are identified.

Compare Contacts With Contacts

Matching Rule Standard Contact Matching Rule

## 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.

Setup Data Export

Schedule Data Export

Schedule Data Export Save Cancel

Export File Encoding ISO-8859-1 (General US & Western European, ISO-LATIN-1)

Include images, documents, and attachments

Include Salesforce Files and Salesforce CRM Content document versions

Replace carriage returns with spaces

Schedule Data Export

Frequency On day 1 of every month On the 1st Sunday of every month

Start 9/28/2025

End 10/28/2025

Preferred Start Time 12:00 AM

Exact start time will depend on job queue activity.

## 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.

The screenshot shows the Salesforce Package Manager interface. The left sidebar contains a search bar with 'packag' and a list of navigation items: Apps, Packaging, Installed Packages, Package Manager (highlighted), and Package Usage. The main content area displays the details for the 'Airline Management System' package. The package is unmanaged and created by BHARGAVI PODALLA AM on 9/28/2025 at 12:50. The interface includes tabs for Components and Versions, and buttons for Edit, Delete, Upload, Add, and View Dependencies. The description field is currently empty.

Package Detail	
Package Name	Airline Management System
Language	English
Type	Unmanaged
Created By	BHARGAVI PODALLA AM
Last Modified By	BHARGAVI PODALLA AM
Created	9/28/2025, 12:50
Last Modified	9/28/2025, 12:50

## 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** ( $\geq 75\%$  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.