

Phase 8: Data Management & Deployment

This phase focuses on managing data effectively in Salesforce and deploying your AI Career Coach application from a development environment to production or another org.

1. Data Import Wizard

- **Purpose:** To easily import data into Salesforce for standard and custom objects without coding.
 - **Use Case in AI Career Coach:**
 - Importing bulk **student profiles**, **career assessments**, or **quiz results** from CSV files.
 - **Steps:**
 1. Go to **Setup** → **Data** → **Data Import Wizard**.
 2. Select the object (e.g., `Student__c`, `Course__c`).
 3. Map CSV columns to Salesforce fields.
 4. Validate and import.
 - **Tip:** Supports up to 50,000 records at a time.
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2. Data Loader

- **Purpose:** A more powerful tool for importing, exporting, updating, or deleting large volumes of records.
- **Use Case:**
 - Sync AI Career Coach data with external sources (like LMS or Excel databases).
 - Update **scores**, **career recommendations**, or **feedback logs** in bulk.
- **Steps:**
 1. Download **Data Loader** and login via Salesforce credentials.
 2. Choose operation: Insert, Update, Upsert, Delete, Export.
 3. Map CSV columns to Salesforce fields.
 4. Run and check success/error files.

- **Tip:** Handles millions of records and supports command-line automation.
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3. Duplicate Rules

- **Purpose:** Prevent duplicate data entry and maintain data integrity.
 - **Use Case:**
 - Ensure **students** or **mentors** aren't entered multiple times.
 - Avoid duplicate **career paths** or **assessment results**.
 - **Setup:**
 1. **Setup** → **Duplicate Management** → **Duplicate Rules**.
 2. Create rules for `Student__c` or `User` object.
 3. Choose actions: Alert, Block, or Report only.
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4. Data Export & Backup

- **Purpose:** To safely back up Salesforce data for disaster recovery or migration.
 - **Use Case:**
 - Backup **all student activities, assessment results, and career recommendations** periodically.
 - **Methods:**
 - **Manual Export:** Setup → Data → Data Export → Schedule Export.
 - **Weekly/Monthly Export:** Automated CSV backup.
 - **Third-Party Backup Tools:** For incremental backups.
 - **Tip:** Always keep sensitive data encrypted and comply with privacy rules.
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5. Change Sets

- **Purpose:** Deploy metadata (objects, fields, flows, Apex classes) between Salesforce orgs.

- **Use Case:**
 - Deploy the AI Career Coach customizations (LWC, Flows, Apex triggers) from **Sandbox** → **Production**.
 - **Steps:**
 1. Setup → **Outbound Change Sets** → Create New.
 2. Add components (Objects, Fields, Apex Classes, LWC).
 3. Upload to target org.
 4. Validate & Deploy in Production.
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6. Unmanaged vs Managed Packages

- **Unmanaged Packages:**
 - Typically used for **custom apps**, educational purposes, or small projects.
 - Example: AI Career Coach app shared with a team for testing.
 - **Managed Packages:**
 - Used for **distributing production-ready apps** on AppExchange.
 - Supports versioning, license management.
 - **Use Case:**
 - Create a **managed package** if AI Career Coach is to be sold or distributed externally.
 - Use **unmanaged** during development and internal testing.
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7. ANT Migration Tool

- **Purpose:** A command-line tool for deploying metadata between Salesforce orgs.
- **Use Case:**
 - Automate deployment of AI Career Coach metadata for CI/CD pipelines.
 - Useful for large-scale projects with multiple orgs (dev, QA, prod).

- **Steps:**
 1. Install ANT + Salesforce Migration Tool.
 2. Configure `build.xml` and `build.properties`.
 3. Run commands: `ant retrieve/ant deploy`.
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8. VS Code & SFDX

- **Purpose:** Modern developer-friendly tools for Salesforce development.
 - **Use Case:**
 - Develop, test, and deploy AI Career Coach components efficiently.
 - **Setup:**
 1. Install **VS Code + Salesforce Extension Pack**.
 2. Authenticate using **SFDX CLI**: `sfdx auth:web:login`.
 3. Create Salesforce DX project: `sfdx force:project:create -n AI_Career_Coach`.
 4. Pull metadata from org: `sfdx force:source:pull`.
 5. Push changes: `sfdx force:source:push`.
 - **Tip:** Combine with **Git** for version control and CI/CD.
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Practical Example for AI Career Coach:

- Import **students** and **courses** using Data Import Wizard.
- Use Data Loader to update **career recommendations** after AI model analysis.
- Prevent duplicates in **user profiles** with Duplicate Rules.
- Back up all assessment data monthly using **Data Export**.
- Deploy LWC dashboards & Apex triggers using **Change Sets** or **SFDX**.
- Package the solution for internal or external distribution using **Managed/Unmanaged Packages**.

Data Import Wizard

SV

Student

Unmatched Records

Step 1: Specify the CSV file for Data Import

Datastore object

Student__c

Choose CSV file

students.csv

[Download a sample or update the CSV file](#)

Step 2: Specify the field mapping

CSV Field	Salesforce Field
Student	Student
Name	Name
Email	Email

Cancel

Previous

Next