**Overview**

In this exercise, you will create an Apache Airflow DAG that loads a dataset, performs some transformations on it, and saves the transformed data back to a file. This exercise will help you practice basic ETL and Batch operations using Airflow.

**Requirements**

1. Create an Airflow DAG that runs daily
2. The DAG should have the following tasks:
   * A task to extract data from a CSV file
   * A task to transform the data
   * A task to load the transformed data back to a new CSV file

**Dataset**

For this exercise, you can use the "Iris" dataset, which is a well-known dataset in machine learning.

**Instructions**

1. Set up your Airflow environment (if not already done)
2. Create a new Python file called **data\_processing\_dag.py** in your Airflow DAGs folder
3. Implement the DAG with the following specifications:

**Task 1: Extract Data**

* Create a function to read the Iris dataset (from a local CSV file )
* The function should return a pandas DataFrame

**Task 2: Transform Data**

* Create a function that takes the DataFrame from Task 1 and performs the following transformations:
  + Add a new column called 'sepal\_area' that multiplies 'sepal\_length' by 'sepal\_width'
  + Add a new column called 'petal\_area' that multiplies 'petal\_length' by 'petal\_width'
  + Convert Species columns into number base on the next details:
    - Iris-setosa : 1
    - Iris-versicolor : 2
    - Iris-versicolor : 3

**Task 3: Load Data**

* Create a function that takes the transformed DataFrame and saves it to a new CSV file
* The filename should include the execution date and save in dedicated folder

**DAG Configuration**

* Set the DAG to run daily
* Use appropriate retry settings
* Set task dependencies correctly (extract → transform → load)
* Add documentation to your DAG