

Week 5 Labs

ETL & ELT Processes and Automation with Airflow

Due Date: Monday, 2nd December 2024

Lab Exercise 2: DE Taxi Demo Solution in Power Apps and Power Automate

Objective:

As part of this assignment, you will demonstrate your ability to integrate Power Apps, Power Automate, and Dataverse by creating a robust environment and solution. Your deliverable will showcase the end-to-end process of transforming email data into a visualized map of taxi locations while maintaining data quality and providing insightful profiles.

Task Details

1. Environment Setup in Power Apps

- a. Create a Power Apps environment named: DE Lecture.
- b. Within this environment, create a solution named: DE Taxi Demo.

2. Power Automate Flow Creation

Create a Power Automate flow within the DE Taxi Demo solution with the following steps:

a. Email Processing

- Trigger the flow on receiving an email with an attachment.
An email that has “YellowTaxi” in the Body or Subject.
- Download the attachment and save it to your OneDrive location named DE PowerAutomate.

b. Data Transformation and Load

- Load the data from the saved OneDrive file into Power Query.
- Perform the following transformations:
 - Remove unnecessary columns.
 - Filter out rows where the drop-off coordinate is 0.
 - Parse coordinates as text to ensure compatibility with Dataverse.

c. Data Storage in Dataverse

- Load the transformed data into a Dataverse table named TaxiData.

d. **Data Profiling**

- Extract the following profiles into a new Dataverse table TaxiDataProfile:
 - Count of unique records.
 - Number of errors during transformation.
 - Summary of transformations performed.

e. **Notification**

- When the data is refreshed in Dataverse, send an email with an HTML table of the data profile to your mentor and instructor.

3. **Power Apps Canvas App Creation**

- a. Create a Canvas App within the DE Taxi Demo solution.
- b. Use the TaxiData table to visualize:
 - Taxi locations on a map.
 - Additional relevant data about taxis.
- c. Ensure a clean and user-friendly interface.

4. **Deliverables**

a. **Git Repository:**

Push the solution files, including:

- Power Automate Flow file.
- Power Apps Canvas App configuration.
- Details of the Dataverse schema.

b. **Images:**

Include screenshots of:

- The created Power Apps Canvas App.
- The Power Automate Flow setup.