Deployment Document

**1. Overview**

This document provides the steps to deploy a Python project that includes multiple ETL classes for normalizing Kitchener traffic collision data and pulling in twitter related tweets related to traffic, a system for users to manage traffic related issues, multiple databases, and scheduled processes.

Please read the readme.md file for more information

Project Structure

Traffic-Insight/

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├── Project/

│ ├── Business/

│ ├── Data/

│ │ └── Database/

| | └── TrafficData/

| | └── TwitterXAPI/

│ |── SupportingDocuments/

│ |── Visualization/

│ ├── config.py

│ └── console.py

│ └── Readme.md

| └── requirements.txt

**2. Prerequisites**

* Python 3.7 or higher
* Required Python packages: pandas, sqlalchemy, pyodbc, seaborn, os

3. **Installation**

1. Clone the Repository

git clone https://github.com/DonnyGulley/Traffic-Insight.git

cd traffic-insight

2. Install dependencies

pip install -r requirements.txt

4. **Configuration**

* Database Configuration
  + Ensure the database connection details are correctly configured in the config.py file in the traffic-insight folder
* Scripts
  + Execute scripts files

Navigate to Data\Databases\Script or restore backups from Data\Databases\Backups

5. **Usage**

3 main processes to run

1. Kitchener Traffic Data ETL
   1. Validate database variables and scripts have been update or imported
   2. Navigate to Data\TrafficData folder
   3. Run python trafficinsight\_etl.py

Once the script is running, you should see the output All done! when the script finishes execution. The script will:

* Fetch data from the API or use the local CSV file.
* Load the data into the database.
* Perform transformations.
* Load transformed data into SQL.

If there are any errors (such as connection issues, missing dependencies, or misconfigured settings), they will be printed to the terminal, and you can debug based on the error messages.

1. Twitter Traffic Related Search ETL
   1. Validate database variables and scripts have been update or imported
   2. Navigate to Data\ TwitterXAPIfolder
   3. Run python Twitter\_ETL.py

Once the script is running, you should see the output All done! when the script finishes execution. The script will:

* Fetch data from the API or use the local CSV file.
* Load the data into the database.
* Perform transformations.
* Load transformed data into SQL.

If there are any errors (such as connection issues, missing dependencies, or misconfigured settings), they will be printed to the terminal, and you can debug based on the error messages.

1. Traffic Insight
   1. Validate database variables and scripts have been update or imported
   2. Navigate to \
   3. Run python console.py