

## **Project Title: Nationwide Weather Data Collection for Nigerian Cities**

### **Objective:**

The objective of this project is to develop a comprehensive system for collecting weather data from the **OpenWeather API** for all cities in Nigeria. The project will involve creating a scalable data pipeline that retrieves, stores, and maintains real-time weather information for each city, facilitating broad-scale weather analysis.

### **Key Tasks for Data Collection:**

#### **1. API Integration:**

- Develop a Python-based script or application to interface with the OpenWeather API.
- Configure the system to iteratively collect weather data for all cities in Nigeria.

#### **2. City Data:**

- Create a file to store information about all cities in Nigeria, including their names.

#### **3. Batch Data Retrieval:**

- Implement a mechanism to batch process weather data retrieval for each city.
- Optimize the data retrieval process for efficiency and speed.

#### **4. Data Storage:**

- Choose an appropriate data storage solution (e.g., CSV files, SQLite database, or relational database) to store the collected weather data for each city.
- Ensure data persistence for historical weather information.

### **Deliverables for Data Collection:**

- Python script or application for data collection.
- Documentation describing the integration process with the **OpenWeather API** and the structure of the city database.
- Sample data files showcasing retrieved weather data for a subset of cities in Nigeria.