

Documentation

(For running python script read README.md)

API Integration:

I am using OpenWeatherMap API for fetching current weather data of given city
We have to free APIs provided by (<https://openweathermap.org/api>)

For Data Analysis:

Extracting information such as temperature, humidity, and wind speed from the above API response and calculating the average temperature and humidity for the given data.

For Data Visualization:

I am creating a simple bar chart using a Python Matplotlib to visualise the average temperature and humidity. It Includes labels and a title for the chart.

For Database Storage:

I am using MongoDB as a database for storing weather data (city name, temperature, humidity, wind speed) along with the date and time.

For Asynchronous API Requests (10%):

I have modified python script to make asynchronous API requests for fetching weather data from multiple cities concurrently.

To compare the performance of asynchronous requests versus synchronous Requests we have used aiohttp and asyncio

For Exception Handling and Logging (10%):

I have Implemented exception handling for various scenarios, logging relevant information using the logging module.

For Configurability (10%):

- Extend the configuration file to include parameters such as the list of cities to fetch weather data for and the units (e.g., Celsius or Fahrenheit).
- Ensure that the script is easily configurable without modifying the code.

For Historical Weather Data :

For using historical weather data there is no free plan from OpenWeatherMap, so haven't implemented that feature

For Unit Testing Expansion (10%):

I am using unittest for unit test cases