

Assignment 4: Scheduled Data Grabbing Job (Hong Kong Weather)

Objective

The objective of this assignment is to create a scheduled job in Python for grabbing weather data from a Hong Kong-based API at regular intervals.

Data Source Description

You will be working with the Hong Kong Observatory (HKO) API, which provides weather data for Hong Kong. The API endpoint for fetching weather information is <https://data.weather.gov.hk/weatherAPI/opendata/weather.php>.

Tasks

Scheduled Job Setup

- Use Python and the requests library to create a script for making a GET request to the HKO API endpoint (<https://data.weather.gov.hk/weatherAPI/opendata/weather.php>).
- Implement a scheduler using Python's schedule library to run the script automatically at a specific time interval (e.g., every hour, every day, etc.).

Data Extraction

- Write code in your script to extract relevant weather information, such as temperature, humidity, wind speed, and weather conditions, from the API response.
- Handle potential errors or unexpected responses gracefully in your code.
- Data Logging or Storage
- Log the extracted weather data to a local text file or CSV file for further analysis.
- Ensure that the logged data includes relevant weather parameters retrieved from the HKO API.

Documentation and Testing

- Provide a README.md file with detailed instructions on how to set up and run your scheduled data grabbing job.
- Include any necessary installation steps for dependencies (e.g., requests, schedule) using pip.
- Test your scheduled job to ensure it runs as expected and captures weather data for Hong Kong at the specified intervals.

Submission Guidelines

- Submit your Python script file (grab_weather_data.py or similar) along with the README.md file in a ZIP archive named Assignment4_Student_ID_Name.zip.
- Ensure that your Python script is well-structured, commented, and follows best practices for readability and maintainability.
- Include any additional configuration files or instructions required for running the scheduled job.