

OPEN DATA HUB CHALLENGE



Data Validator Challenge

Efficiently validates time-series data in JSON format, ensuring data integrity by identifying instances where values deviate beyond configured change speeds. This ensures accurate monitoring of data points, enabling early detection of abnormal variations and potential errors in the dataset.

COMPONENTS USED

DataValidator:

Validates data integrity based on defined parameters.

SimpleHttpClient:

Simplified HTTP client for API communication.

WeatherAPI:

Fetches weather data from `https://tourism.opendatahub.com/v1/Weather``.

WeatherAPIV2:

Retrieves data from `https://mobility.api.opendatahub.com/v2/tree%2Cnode/MeteoStation/air-temperature/latest``

OPERATION

STAGE 1

The project starts with the `SimpleHttpClient`` class creating an HTTP connection to the specified URL and retrieves the response from the API



STAGE 2

The `WeatherAPI`` and `WeatherApiV2`` classes fetch data from the respective APIs and use `SimpleHttpClient`` for API communication



STAGE 3

The `DataValidator`` class validates the fetched data for reliability. It iterates through the data points, compares consecutive values within the allowed variations and returns invalid if a validation fails.

The test class

We also created a test class to check the solution as well as used invalid sequences to test the detection of problems.