Weather Analyzer

I have used Java and Spring Boot framework to build this application. MySQL is the database used to store and persist the data.

Please make sure that Java (11) and an IDE is installed on the machine to run the application; Tools like Postman to test the endpoints and MySQL database to see that data is stored and retrieved properly when testing the endpoints.

Below are the calls that can be made using this application. All of them are POST requests.

1. <http://localhost:8080/api/addSensor>
2. <http://localhost:8080/api/addRecord>
3. <http://localhost:8080/api/query>
4. /addSensor call is to add a new sensor.

The application should be able to query the sensor data. In order to do that, we need to have few sensors and related information in place, this is the reason why I have added this provision to create/add the sensors. Sample payload below.

{"name":"sensor 2"}

1. /addRecord call is to add data to the sensors.

In order to query the data from sensors, data should be first available for each sensor; this is the endpoint where the data can be added to the sensor. Sample payload below.

{"sensorId": 1, "temperature": 40 , "humidity": 21, "windSpeed":45}

1. /query is to query the sensor data

This call allows the user to query the required data related to the sensors. The below sample payload helps us to query the max humidity for sensor 1 for the given from and to dates.

{"sensorIds":[1], "metrics":["humidity"], "statistic": "max", "fromDate":"2023-05-09", "toDate": "2023-05-11"}

I have implemented the input validations and exception handling on the code.