NOSQL Cassandra: Exercise

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In this exercise we will simulate a simple **IoT project**, gathering data using NiFi, storing it in Cassandra and run some basic queries in Zeppelin.

Took 0 sec. Last updated by anonymous at November 11 2020, 7:26:11 PM.

Development

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First we will create the table which will store the sensor data. This is the data we want to store:

- **Machine ID**: Identifies the machine we are gathering data from (there can be many)
- **Sensor ID**: Identifies which sensor (from a machine) is sending the data
- **Event Timestamp**: When the observation was made
- **Observation Type**: The metric we are measuring (e.g. Temperature, Pressure, Humidity...)
- **Observation Value**: The metric value

Took 0 sec. Last updated by anonymous at November 11 2020, 7:26:15 PM.

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```
CREATE KEYSPACE IF NOT EXISTS iot WITH replication = {'class': 'SimpleStrategy', 'replication_factor' : 3};
DESCRIBE KEYSPACE iot;
```

iot DESCRIBE KEYSPACE iot; Legend

iot

Replication	Durable Writes
{'class' : 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor' : '3'}	true

As CQL statement

Took 2 sec. Last updated by anonymous at November 11 2020, 7:26:19 PM.

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```
USE iot;
CREATE TABLE IF NOT EXISTS sensor_data (
    machine_id text,
    sensor_id text,
    event text,
    obs_type text,
    obs_value float,
    PRIMARY KEY ((machine_id, sensor_id), event),
);
DESCRIBE TABLE sensor_data;
```

DESCRIBE TABLE sensor_data; Legend

sensor_data

Column Type	Column Name	Data Type
	machine_id	text
	sensor_id	text
	event	text
	obs_type	text
	obs_value	float

As CQL statement

Took 2 sec. Last updated by anonymous at November 11 2020, 7:53:20 PM.

Once the table is created, then we need to start inserting data. Given that we don't have machines or sensors, we simulate it following the Readme instru FINISHED

Took 0 sec. Last updated by anonymous at November 11 2020, 7:26:27 PM.

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```
select * from sensor_data;
```

settings

machine_id	sensor_id	event	obs_type	obs_value
Fridge	humidity	2020/11/11 19:05:27	temperature	65.5
Freezer	temp	2020/11/11 19:05:27	temperature	-4.9
Fridge	temp	2020/11/11 19:05:27	temperature	4.9
Fridge	weight	2020/11/11 19:05:27	temperature	0.3

Took 0 sec. Last updated by anonymous at November 11 2020, 8:05:30 PM.

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```
truncate sensor_data;
```

Dashboard

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Took 0 sec. Last updated by anonymous at November 11 2020, 8:05:36 PM.

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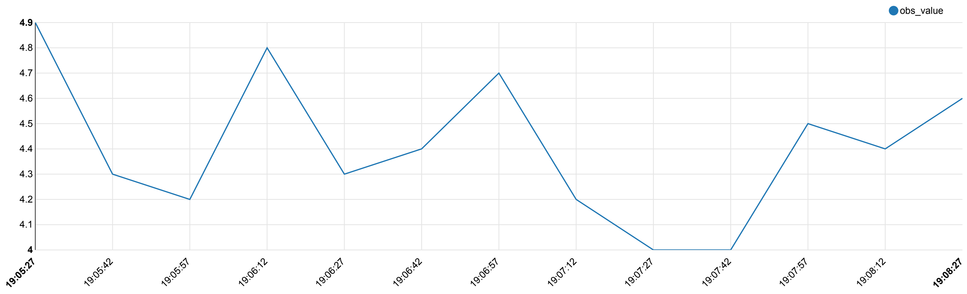
```
SELECT * FROM sensor_data WHERE machine_id='${machine_id}' AND sensor_id='${sensor_id}';
```

machine_id: Fridge

sensor_id: temp

settings



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