

NO SQL LAB – 5

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1. Create a keyspace called 'weather_data' with properties and write a query to select keyspace as 'weather_data'.

```
C:\Windows\System32\cmd.exe - cqlsh
Microsoft Windows [Version 10.0.19042.1826]
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C:\apache-cassandra-3.11.13>cqlsh

WARNING: console codepage must be set to cp65001 to support utf-8 encoding on Windows platforms.
If you experience encoding problems, change your console codepage with 'chcp 65001' before starting cqlsh.

Connected to Test Cluster at 127.0.0.1:9042.
[cqlsh 5.0.1 | Cassandra 3.11.13 | CQL spec 3.4.4 | Native protocol v4]
Use HELP for help.
WARNING: pyreadline dependency missing. Install to enable tab completion.
cqlsh> CREATE KEYSPACE weather_data
... WITH replication = {'class': 'SimpleStrategy', 'replication_factor': '3'}
... AND DURABLE_WRITES=false;

C:\Windows\System32\cmd.exe - cqlsh

system_traces | True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '2'}

(13 rows)
cqlsh> USE weather_data;
cqlsh:weather_data>
```

2. Write a CQL query to verify and display keyspace.

```
C:\Windows\System32\cmd.exe - cqlsh

cqlsh>
cqlsh>
cqlsh> SELECT * FROM system_schema.keyspaces;

keyspace_name | durable_writes | replication
-----
Company | False | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '1'}
roads_car | True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '1'}
system_auth | True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '1'}
roads_cars | True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '1'}
system_schema | True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '1'}
roads_car | True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '1'}
road_car | True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '1'}
roadcars | True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '1'}
weather_data | False | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '3'}
road_cars | True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '1'}
system_distributed | True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '1'}
system | True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '1'}
system_traces | True | {'class': 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor': '2'}
```

3. Create a table called 'weather' with following properties such as city_id, city_name, city_cordinates (longitude, latitude), date, time, temperature, Humidity, Rainfall, Wind Speed, and Wind Direction.

```
C:\Windows\System32\cmd.exe - cqlsh
```

```
cqlsh> USE weather_data;
cqlsh:weather_data> CREATE TABLE weather(
    ... city_id int PRIMARY KEY,
    ... city_name varchar,
    ... temp int,
    ... humidity int,
    ... rainfall int,
    ... wind_speed int,
    ... wind_direction int);
cqlsh:weather_data> select * from weather;

city_id | city_name | humidity | rainfall | temp | wind_direction | wind_speed
-----+-----+-----+-----+-----+-----+-----
(0 rows)
```

4. Write a CQL query to perform insertion of data into table "weather".

```
(0 rows)
cqlsh:weather_data> INSERT INTO weather_data.weather (city_id , city_name , humidity , rainfall , temp , wind_direction , wind_speed) VALUES ( 1 , 'cbe' , 31 , 20 ,
InvalidRequest: Error from server: code=2200 [Invalid query] message="Invalid STRING constant (south) for "wind_direction" of type int"
cqlsh:weather_data> INSERT INTO weather_data.weather (city_id , city_name , humidity , rainfall , temp , wind_speed , wind_direction) VALUES ( 1 , 'cbe' , 31 , 20 ,
cqlsh:weather_data> INSERT INTO weather_data.weather (city_id , city_name , humidity , rainfall , temp , wind_speed , wind_direction) VALUES ( 5 , 'pune' , 25 , 34 ,
cqlsh:weather_data> INSERT INTO weather_data.weather (city_id , city_name , humidity , rainfall , temp , wind_speed , wind_direction) VALUES ( 2 , 'vijayawada' , 45
```

5. Write a CQL query to display all the data in the weather table.

```
C:\Windows\System32\cmd.exe - cqlsh
cqlsh:weather_data>
cqlsh:weather_data> select * from weather;

city_id | city_name | humidity | rainfall | temp | wind_direction | wind_speed
-----+-----+-----+-----+-----+-----+-----
5 | pune | 25 | 34 | 23 | 2 | 45
1 | cbe | 31 | 20 | 35 | 1 | 50
2 | vijayawada | 45 | 12 | 31 | 3 | 40
(3 rows)
cqlsh:weather_data>
```

```
C:\Windows\System32\cmd.exe - cqlsh
(3 rows)
cqlsh:weather_data> INSERT INTO weather_data.weather (city_id , city_name , humidity , rainfall , temp , wind_speed , wind_direction) VALUES ( 3 , 'vijayawada' , 40 , 12 , 40 , 3 , 41
cqlsh:weather_data> select * from weather;

city_id | city_name | humidity | rainfall | temp | wind_direction | wind_speed
-----+-----+-----+-----+-----+-----+-----
5 | pune | 25 | 34 | 23 | 2 | 45
1 | cbe | 31 | 20 | 35 | 1 | 50
2 | vijayawada | 45 | 12 | 31 | 3 | 40
3 | vijayawada | 40 | 12 | 40 | 3 | 41
(4 rows)
```

6. Write a CQL query to update the temperature where city_name ="cbe".

C:\Windows\System32\cmd.exe - cqlsh

```
cqlsh:weather_data> Update weather_data.weather set temp=36 where city_id=1;
cqlsh:weather_data> select * from weather;
```

city_id	city_name	humidity	rainfall	temp	wind_direction	wind_speed
5	pune	25	34	23	2	45
1	cbe	31	20	36	1	50
2	vijayawada	45	12	31	3	40
3	vijayawada	40	12	40	3	41

(4 rows)

7. Write a CQL query to delete the data where city_id=5.

```
cqlsh:weather_data>
cqlsh:weather_data> DELETE city_name , humidity , rainfall , temp , wind_speed , wind_direction from weather_data.weather where city_id=5;
cqlsh:weather_data> select * from weather;
```

city_id	city_name	humidity	rainfall	temp	wind_direction	wind_speed
5	null	null	null	null	null	null
1	cbe	31	20	36	1	50
2	vijayawada	45	12	31	3	40
3	vijayawada	40	12	40	3	41

(4 rows)

8. CQL Querying:

§ Find the city which has maximum temperature in a day.

C:\Windows\System32\cmd.exe - cqlsh

(4 rows)

```
cqlsh:weather_data> SELECT MAX(temp) FROM weather_data.weather ;
```

system.max(temp)

40

(1 rows)

Warnings :

Aggregation query used without partition key

§ Find the average rainfall for the particular city.

C:\Windows\System32\cmd.exe - cqlsh

(1 rows)

```
cqlsh:weather_data> SELECT AVG(rainfall) FROM weather_data.weather where city_name='vijayawada';
InvalidRequest: Error from server: code=2200 [Invalid query] message="Cannot execute this query as it might involve data filtering and thus may have unpredictable performance. If you are willing to accept this tradeoff, use ALLOW FILTERING"
```

```
cqlsh:weather_data> SELECT AVG(rainfall) FROM weather_data.weather ;
```

system.avg(rainfall)

14

(1 rows)

