

Part one

1

```
Administrator: Command Prompt - D:\apache-cassandra-3.0.29\bin\cqlsh
Use HELP for help.
cqlsh> DESCRIBE KEYSAPCES.
Improper DESCRIBE command.
cqlsh> DESCRIBE KEYSAPCES;

'keysapces' not found in keysapces
cqlsh> DESCRIBE KEYSAPCES;

system_traces system_schema system_auth system system_distributed
... WITH replication = ({'class': 'SimpleStrategy', 'replication_factor': 1});
cqlsh> DESCRIBE KEYSAPCES;

'keysapces' not found in keysapces
cqlsh> DESCRIBE KEYSAPCES;

tranz_metro system_auth system_distributed
system_schema system system_traces
cqlsh>
```

2

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Administrator: Command Prompt - D:\apache-cassandra-3.0.29\bin\cqlsh
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... WITH replication = ({'class': 'SimpleStrategy', 'replication_factor': 1});
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'keysapces' not found in keysapces
cqlsh> DESCRIBE KEYSAPCES;

tranz_metro system_auth system_distributed
system_schema system system_traces

cqlsh> USE tranz_metro;
cqlsh:tranz_metro> CREATE TABLE IF NOT EXISTS driver (
... driver_name text PRIMARY KEY,
... password text,
... mobile bigint,
... current_position text,
... skill set<text>
cqlsh:tranz_metro> INSERT INTO driver (driver_name, password, mobile, current_position, skill)
... VALUES ('wassim_trabelsi', 'password', 123456789, 'location1', {'skill1', 'skill2'})
... VALUES ('wassim_trabelsi', 'password', 123456789, 'location1', {'skill1', 'skill2'});
cqlsh:tranz_metro> DESCRIBE TABLES;

driver

cqlsh:tranz_metro> SELECT * FROM driver
... SELECT * FROM driver;
SyntaxException: line 2:8 no viable alternative at input 'SELECT' (SELECT * FROM [driver]SELECT...)
cqlsh:tranz_metro> SELECT * FROM driver;

driver_name | current_position | mobile | password | skill
-----
wassim_trabelsi | location1 | 123456789 | password | {'skill1', 'skill2'}
(1 rows)
cqlsh:tranz_metro>
```

3

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Administrator: Command Prompt - D:\apache-cassandra-3.0.29\bin\cqlsh
wassim_trabelsi | location1 | 123456789 | password | {'skill1', 'skill2'}

cqlsh:tranz_metro> UPDATE driver
... SET password = 'new_password'
... WHERE driver_name = 'wassim_trabelsi';
cqlsh:tranz_metro> UPDATE driver SET password = 'new_password' WHERE driver_name = 'wassim_trabelsi'
... IF password = 'wassim_new_pass';

[applied] | password
-----
False | new_password

cqlsh:tranz_metro> SELECT * FROM driver;

driver_name | current_position | mobile | password | skill
-----
wassim_trabelsi | location1 | 123456789 | new_password | {'skill1', 'skill2'}

(1 rows)
cqlsh:tranz_metro> UPDATE driver SET current_position='tunis' WHERE driver_name = wassim_trabelsi';
...
UPDATE driver SET current_position= 'tunis' WHERE driver_name = wassim_trabelsi';
SyntaxException: line 1:78 no viable alternative at input ';\n\nUPDATE driver SET current_position= ' (...current_position='tunis' WHERE driver_name = [wassim_trabelsi]);...'
cqlsh:tranz_metro> UPDATE driver SET current_position= 'tunis' WHERE driver_name = wassim_trabelsi';
... UPDATE driver SET current_position= 'tunis' WHERE driver_name = wassim_trabelsi';
SyntaxException: line 1:79 no viable alternative at input ';\n\nUPDATE driver SET current_position= ' (...= 'tunis' WHERE driver_name = [wassim_trabelsi]);...'
cqlsh:tranz_metro> UPDATE driver SET current_position= 'tunis'
... WHERE driver_name = 'wassim_trabelsi';
cqlsh:tranz_metro> SELECT * FROM driver
... SELECT * FROM driver;
SyntaxException: line 2:8 no viable alternative at input 'SELECT' (SELECT * FROM [driver]SELECT...)
cqlsh:tranz_metro> SELECT * FROM driver;

driver_name | current_position | mobile | password | skill
-----
wassim_trabelsi | tunis | 123456789 | new_password | {'skill1', 'skill2'}

(1 rows)
cqlsh:tranz_metro> UPDATE driver SET skill = skill + {'new_skill'}
... WHERE driver_name = 'wassim_trabelsi';
cqlsh:tranz_metro> SELECT * FROM driver;

driver_name | current_position | mobile | password | skill
-----
wassim_trabelsi | tunis | 123456789 | new_password | {'new_skill', 'skill1', 'skill2'}

(1 rows)
cqlsh:tranz_metro>
```

4

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Administrator: Command Prompt - D:\apache-cassandra-3.0.29\bin\cqlsh
cqlsh:tranz_metro> CREATE TABLE IF NOT EXISTS vehicle (
... vehicle_id text PRIMARY KEY,
... status text,
... type text
...);
cqlsh:tranz_metro> INSERT INTO vehicle (vehicle_id, status, type)
... VALUES('BMW', 'available', 'sport');
cqlsh:tranz_metro> DESCRIBE TABLES.
Improper DESCRIBE command.
cqlsh:tranz_metro> DESCRIBE TABLES;

driver vehicle

cqlsh:tranz_metro> SELECT * FROM vehicle
... SELECT * FROM vehicle;
SyntaxException: line 2:8 no viable alternative at input 'SELECT' (SELECT * FROM [vehicle]SELECT...)
cqlsh:tranz_metro> SELECT * FROM vehicle;

vehicle_id | status | type
-----
BMW | available | sport

(1 rows)
cqlsh:tranz_metro>
```

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Administrator: Command Prompt - D:\apache-cassandra-3.0.29\bin\apache-cassandra-3.0.29\bin\cqlsh
cqlsh:tranz_metro> CREATE TABLE IF NOT EXISTS vehicle (
...   vehicle_id text PRIMARY KEY,
...   status text,
...   type text
... );
cqlsh:tranz_metro> INSERT INTO vehicle (vehicle_id, status, type)
... VALUES('BMW', 'available', 'sport');
cqlsh:tranz_metro> DESCRIBE TABLES;
Improper DESCRIBE command;
cqlsh:tranz_metro> DESCRIBE TABLES;

driver vehicle

cqlsh:tranz_metro> SELECT * FROM vehicle
... SELECT * FROM vehicle;
SyntaxException: line 2:0 no viable alternative at input 'SELECT' (SELECT * FROM [vehicle]SELECT...)
cqlsh:tranz_metro> SELECT * FROM vehicle;

vehicle_id | status | type
-----
BMW | available | sport

(1 rows)
cqlsh:tranz_metro> UPDATE vehicle
... SET status = 'wellington'
... WHERE vehicle_id = 'BMW';
cqlsh:tranz_metro> UPDATE vehicle
... SET status = 'in use'
... WHERE vehicle_id = 'BMW';
cqlsh:tranz_metro> UPDATE vehicle
... SET status = 'destination_station'
... WHERE vehicle_id = 'BMW';
cqlsh:tranz_metro> SELECT * FROM vehicle
... SELECT * FROM vehicle;
SyntaxException: line 2:0 no viable alternative at input 'SELECT' (SELECT * FROM [vehicle]SELECT...)
cqlsh:tranz_metro> SELECT * FROM vehicle;

vehicle_id | status | type
-----
BMW | destination_station | sport

(1 rows)
cqlsh:tranz_metro>
```

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```
Administrator: Command Prompt - D:\apache-cassandra-3.0.29\bin\apache-cassandra-3.0.29\bin\cqlsh
cqlsh:tranz_metro> CREATE TABLE IF NOT EXISTS time_table (
...   line_name TEXT,
...   service_no INT,
...   station_name TEXT,
...   latitude DOUBLE,
...   longitude DOUBLE,
...   time INT,
...   distance DOUBLE,
...   PRIMARY KEY (line_name, service_no, time)
... );
cqlsh:tranz_metro> DESCRIBE tables;

time_table driver vehicle

cqlsh:tranz_metro>
```

```
Administrator: Command Prompt - D:\apache-cassandra-3.0.29-bin\apache-cassandra-3.0.29\bin\cqlsh

cqlsh:tranz_metro> CREATE TABLE IF NOT EXISTS vehicle_usage (
...   vehicle_id text PRIMARY KEY,
...   total_distance counter
... );
cqlsh:tranz_metro> DESCRIBE tables;
time_table driver vehicle_usage vehicle
cqlsh:tranz_metro>
```

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Administrator: Command Prompt - D:\apache-cassandra-3.0.29-bin\apache-cassandra-3.0.29\bin\cqlsh

cqlsh:tranz_metro> UPDATE vehicle_usage
...   SET total_distance = total_distance+20
... WHERE vehicle_id = 'BMW';
cqlsh:tranz_metro> SELECT * FROM vehicle_usage;

vehicle_id | total_distance
-----
BMW | 20
(1 row)
cqlsh:tranz_metro>
```

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```
Administrator: Command Prompt - D:\apache-cassandra-3.0.29\bin\cqlsh
cqlsh:tranz_metro> CREATE TABLE IF NOT EXISTS data_point (
...   day INT,
...   sequence TIMESTAMP,
...   latitude DOUBLE,
...   longitude DOUBLE,
...   speed DOUBLE,
...   PRIMARY KEY (day, sequence)
... );
cqlsh:tranz_metro> DESCRIBE TABLES;
time_table data_point driver vehicle_usage vehicle

cqlsh:tranz_metro> INSERT INTO data_point (day, sequence, latitude, longitude, speed) VALUES (1, '2023-11-23 23:20:00', 50, 5, 180.5);
InvalidRequest: Error from server: code=2200 [Invalid query] message='Unable to coerce '2023-11-23 23:20:00' to a formatted date (long)'
cqlsh:tranz_metro>
cqlsh:tranz_metro> SELECT * FROM data_point;
day | sequence | latitude | longitude | speed
-----
1 | 2023-11-23 22:20:00+0000 | 50 | 5 | 180.5
(1 rows)
cqlsh:tranz_metro>
```

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```
Administrator: Command Prompt - D:\apache-cassandra-3.0.29\bin\cqlsh
(1 rows)
cqlsh:tranz_metro> CREATE TABLE IF NOT EXISTS station (
...   name text PRIMARY KEY,
...   latitude double,
...   north_neighbour text,
...   south_neighbour text
... );
cqlsh:tranz_metro> DESCRIBE TABLES;
driver vehicle_usage data_point station vehicle time_table

cqlsh:tranz_metro> SELECT * FROM station;
name | latitude | north_neighbour | south_neighbour
-----
(0 rows)
cqlsh:tranz_metro> INSERT INTO station (name, latitude, north_neighbour, south_neighbour)
... VALUES ('Station1', 23, 'Station2', 'Station3');
cqlsh:tranz_metro> SELECT * FROM station;
... SELECT * FROM station;
SyntaxException: line 2:0 no viable alternative at input 'SELECT' (SELECT * FROM [station]SELECT...)
cqlsh:tranz_metro> SELECT * FROM station;
name | latitude | north_neighbour | south_neighbour
-----
Station1 | 23 | Station2 | Station3
(1 rows)
cqlsh:tranz_metro>
```

Part two

1

```
Administrator: Command Prompt - D:\apache-cassandra-3.0.29\bin\cqlsh
(1 rows)
cqlsh:tranz_metro> CREATE TABLE IF NOT EXISTS driver_working_days (
... driver_name text PRIMARY KEY,
... working_day counter
... );
cqlsh:tranz_metro> DESCRIBE TABLES;
driver_working_days  vehicle_usage  station  time_table
driver              data_point  vehicle

cqlsh:tranz_metro> UPDATE driver_working_days
... SET working_day = working_day + 10
... WHERE driver_name = 'wassim trabelsi';
cqlsh:tranz_metro> SELECT *FROM driver_working_days;

 driver_name | working_day
-----
wassim_trabelsi | 10
(1 rows)
cqlsh:tranz_metro>
```

2

```
Administrator: Command Prompt - D:\apache-cassandra-3.0.29\bin\cqlsh
(1 rows)
cqlsh:tranz_metro> CREATE TABLE IF NOT EXISTS driver_working_days (
... driver_name text PRIMARY KEY,
... working_day counter
... );
cqlsh:tranz_metro> DESCRIBE TABLES;
driver_working_days  vehicle_usage  station  time_table
driver              data_point  vehicle

cqlsh:tranz_metro> UPDATE driver_working_days
... SET working_day = working_day + 10
... WHERE driver_name = 'wassim trabelsi';
cqlsh:tranz_metro> SELECT *FROM driver_working_days;

 driver_name | working_day
-----
wassim_trabelsi | 10
(1 rows)
cqlsh:tranz_metro> SELECT line_name, station_name, time
... FROM time_table;

 line_name | station_name | time
-----
(0 rows)
cqlsh:tranz_metro>
```

3

```
Administrator: Command Prompt - D:\apache-cassandra-3.0.29\bin\cqlsh
(0 rows)
cqlsh:tranz_metro> SELECT station_name, service_no, time
... FROM time_table;
... ORDER BY time DESC;
InvalidRequest: Error from server: code=2200 [Invalid query] message="ORDER BY is only supported when the partition key is restricted by an EQ or an IN."
cqlsh:tranz_metro> SELECT line_name, station_name, time
... FROM time_table;

line_name | station_name | time
-----
(0 rows)
cqlsh:tranz_metro>
```

4

```
Administrator: Command Prompt - D:\apache-cassandra-3.0.29\bin\cqlsh

cqlsh:tranz_metro> SELECT station_name, time, line_name, service_no FROM time_table;

station_name | time | line_name | service_no
-----
(0 rows)
cqlsh:tranz_metro>
```

5

```
Administrator Command Prompt - D:\apache-cassandra-3.0.29\bin\cqlsh
(0 rows)
cqlsh:tranz_metro> SELECT * FROM time_table WHERE line_name = 'Johnsonville Line' AND service_no = 1;

line_name | service_no | time | distance | latitude | longitude | station_name
-----
(0 rows)
cqlsh:tranz_metro>
```

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```
Administrator Command Prompt - D:\apache-cassandra-3.0.29\bin\cqlsh
(0 rows)
cqlsh:tranz_metro> UPDATE driver SET current_position = 'New_Position' WHERE driver_name = 'carol';
SyntaxException: line 1:70 no viable alternative at input 'carol' (...SET current_position = 'New_Position' WHERE [driver_name] 'caro...')
cqlsh:tranz_metro> SELECT * FROM driver WHERE driver_name = 'carol';

driver_name | current_position | mobile | password | skill
-----
(0 rows)
cqlsh:tranz_metro> SELECT password FROM driver WHERE driver_name = 'driver_name';

password
-----
(0 rows)
cqlsh:tranz_metro>
```

8