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APPLICATION OF NOSQL CASSANDRA IN BIG DATA ANALYTICS

CREATE KEYSPACE SuperCompany

with replication = {'class':'SimpleStrategy','replication_factor': 2};

use SuperCompany;

```
root@ed53f8222586: /
Microsoft Windows [Version 10.0.22635.5235]
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C:\Users\Andile>docker ps
CONTAINER ID   IMAGE          COMMAND                  NAMES
ed53f8222586   cassandra:latest "docker-entrypoint.s..." 11 days ago    Up 16 minutes    0.0.0.0:7000-7001->7000-7001/tcp, 0.0.0.0:9042->9042/tcp, 0.0.0.0:9160->9160/tcp, 7199/tcp    cassandra

C:\Users\Andile>docker exec -it ed53f8222586 bash
root@ed53f8222586:/# cqlsh
Connected to Test Cluster at 127.0.0.1:9042
[cqlsh 6.2.0 | Cassandra 5.0.4 | CQL spec 3.4.7 | Native protocol v5]
Use HELP for help.
cqlsh>
cqlsh> CREATE KEYSPACE SuperCompany
... with replication = {'class':'SimpleStrategy','replication_factor': 2};

Warnings :
Your replication factor 2 for keyspace supercompany is higher than the number of nodes 1

cqlsh> use SuperCompany;
cqlsh:supercompany> |
```

create table Employees(

EmployeeID uuid,

FirstName text,

LastName text,

Department text,

Salary float,

primary key(FirstName, Department)

);

select*from Employees;

```

cqlsh:supercompany> create table Employees(
    ... EmployeeID uuid,
    ... FirstName text,
    ... LastName text,
    ... Department text,
    ... Salary float,
    ... primary key(FirstName, Department)
    ... );
cqlsh:supercompany> select*from Employees;

  firstname | department | employeeid | lastname | salary
-----+-----+-----+-----+-----
(0 rows)
cqlsh:supercompany>

```

```
insert into Employees(EmployeeID, FirstName, LastName, Department, Salary)
```

```
values
```

```
(uuid(), 'John', 'Doe', 'IT', 60000.00);
```

```
insert into Employees(EmployeeID, FirstName, LastName, Department, Salary)
```

```
values
```

```
(uuid(), 'Jane', 'Smith', 'HR', 55000.00);
```

```
insert into Employees(EmployeeID, FirstName, LastName, Department, Salary)
```

```
values
```

```
(uuid(), 'Robert', 'Brown', 'Finance', 75000.00);
```

```
insert into Employees(EmployeeID, FirstName, LastName, Department, Salary)
```

```
values
```

```
(uuid(), 'Emily', 'Jones', 'Marketing', 50000.00);
```

```
insert into Employees(EmployeeID, FirstName, LastName, Department, Salary)
```

```
values
```

```
(uuid(), 'Michael', 'Davis', 'IT', 65000.00);
```

```
insert into Employees(EmployeeID, FirstName, LastName, Department, Salary)
values
(uuid(),'Sarah', 'Wilson', 'Finance', 70000.00);
```

```
insert into Employees(EmployeeID, FirstName, LastName, Department, Salary)
values
(uuid(),'David', 'Taylor', 'HR', 52000.00);
```

```
insert into Employees(EmployeeID, FirstName, LastName, Department, Salary)
values
(uuid(),'Laura', 'Anderson', 'Marketing', 48000.00);
```

```
insert into Employees(EmployeeID, FirstName, LastName, Department, Salary)
values
(uuid(),'James', 'Thomas', 'IT', 72000.00);
```

```
insert into Employees(EmployeeID, FirstName, LastName, Department, Salary)
values
(uuid(),'Elizabeth', 'Jackson', 'Finance', 68000.00);
```

1.)

```
cqlsh:supercompany> select*from Employees;
```

firstname	department	employeeid	lastname	salary
David	HR	1e66791f-bd18-466d-88d0-d7a6dab38501	Taylor	52000
Elizabeth	Finance	72fa7758-0b49-4816-b2a9-f0143e57d4c1	Jackson	68000
James	IT	062bcda5-ff1e-4f9f-9be8-dd8383652a24	Thomas	72000
Robert	Finance	c6b25f1a-7f3f-44e4-ac77-aab626925d12	Brown	75000
John	IT	032db6b0-42d1-43cb-b9ca-837e4d5a1e8e	Doe	60000
Emily	Marketing	978f6e38-1dd4-47b6-9494-dabf70e08b5a	Jones	50000
Laura	Marketing	4c39f665-1851-435f-9b4d-366b97083a99	Anderson	48000
Sarah	Finance	b8ff2819-8a43-4693-ae06-2779f1e2a9ab	Wilson	70000
Jane	HR	2ca40c58-ffba-4089-9a15-579bda1896ab	Smith	55000
Michael	IT	bd61ea05-8c06-4b0e-b882-d6e7efd1d315	Davis	65000

(10 rows)

```
cqlsh:supercompany>
```

2.)

select FirstName, Salary from Employees where Department = 'IT' allow filtering;

```
cqlsh:supercompany>
cqlsh:supercompany> select FirstName, Salary from Employees where Department = 'IT' allow filtering;

firstname | salary
-----+-----
      James | 72000
       John | 60000
    Michael | 65000

(3 rows)
cqlsh:supercompany>
```

3.)

select*from Employees where salary>60000 allow filtering;

```
cqlsh:supercompany>
cqlsh:supercompany> select*from Employees where salary>60000 allow filtering;

firstname | department | employeeid | lastname | salary
-----+-----+-----+-----+-----
Elizabeth | Finance    | 72fa7758-0b49-4816-b2a9-f0143e57d4c1 | Jackson | 68000
      James | IT         | 062bcd5a5-ff1e-4f9f-9be8-dd8383652a24 | Thomas  | 72000
    Robert  | Finance    | c6b25f1a-7f3f-44e4-ac77-aab626925d12 | Brown   | 75000
      Sarah | Finance    | b8ff2819-8a43-4693-ae06-2779f1e2a9ab | Wilson  | 70000
    Michael | IT         | bd61ea05-8c06-4b0e-b882-d6e7efd1d315 | Davis   | 65000

(5 rows)
cqlsh:supercompany>
```

4.)

select FirstName, Department from Employees where lastName = 'Thomas'allow filtering;

```
cqlsh:supercompany>
cqlsh:supercompany> select FirstName, Department from Employees where lastName = 'Thomas'allow filtering;

firstname | department
-----+-----
      James | IT

(1 rows)
cqlsh:supercompany>
```

5.)

```
insert into Employees(EmployeeID, FirstName, LastName, Department, Salary)
values
(uuid(), 'John', 'Edward', 'Chemistry', 49000.00);
```

```
select * from Employees;
```

```
cqlsh:supercompany> insert into Employees(EmployeeID, FirstName, LastName, Department, Salary)
... values
... (uuid(), 'John', 'Edward', 'Chemistry', 49000.00);
cqlsh:supercompany> select * from Employees;
```

firstname	department	employeeid	lastname	salary
David	HR	1e66791f-bd18-466d-88d0-d7a6dab38501	Taylor	52000
Elizabeth	Finance	72fa7758-0b49-4816-b2a9-f0143e57d4c1	Jackson	68000
James	IT	062bcda5-ff1e-4f9f-9be8-dd8383652a24	Thomas	72000
Robert	Finance	c6b25f1a-7f3f-44e4-ac77-aab626925d12	Brown	75000
John	Chemistry	06447098-55ed-40b7-b552-886e014dac98	Edward	49000
John	IT	032db6b0-42d1-43cb-b9ca-837e4d5a1e8e	Doe	60000
Emily	Marketing	978f6e38-1dd4-47b6-9494-dabf70e08b5a	Jones	50000
Laura	Marketing	4c39f665-1851-435f-9b4d-366b97083a99	Anderson	48000
Sarah	Finance	b8ff2819-8a43-4693-ae06-2779f1e2a9ab	Wilson	70000
Jane	HR	2ca40c58-ffba-4089-9a15-579bda1896ab	Smith	55000
Michael	IT	bd61ea05-8c06-4b0e-b882-d6e7efd1d315	Davis	65000

(11 rows)

6.)

```
update Employees set Salary = 52000.00 where FirstName = 'Emily' and department = 'Marketing';
```

```
select * from Employees;
```

```
cqlsh:supercompany>
cqlsh:supercompany> update Employees set Salary = 52000.00 where FirstName = 'Emily' and department = 'Marketing';
cqlsh:supercompany> select * from employees;
```

firstname	department	employeeid	lastname	salary
David	HR	1e66791f-bd18-466d-88d0-d7a6dab38501	Taylor	52000
Elizabeth	Finance	72fa7758-0b49-4816-b2a9-f0143e57d4c1	Jackson	68000
James	IT	062bcda5-ff1e-4f9f-9be8-dd8383652a24	Thomas	72000
Robert	Finance	c6b25f1a-7f3f-44e4-ac77-aab626925d12	Brown	75000
John	Chemistry	06447098-55ed-40b7-b552-886e014dac98	Edward	49000
John	IT	032db6b0-42d1-43cb-b9ca-837e4d5a1e8e	Doe	60000
Emily	Marketing	978f6e38-1dd4-47b6-9494-dabf70e08b5a	Jones	52000
Laura	Marketing	4c39f665-1851-435f-9b4d-366b97083a99	Anderson	48000
Sarah	Finance	b8ff2819-8a43-4693-ae06-2779f1e2a9ab	Wilson	70000
Jane	HR	2ca40c58-ffba-4089-9a15-579bda1896ab	Smith	55000
Michael	IT	bd61ea05-8c06-4b0e-b882-d6e7efd1d315	Davis	65000

(11 rows)

```
cqlsh:supercompany>
```

7.)

delete from Employees where firstname = 'Michael' and department = 'IT';

select*from Employees;

```
cqlsh:supercompany>
cqlsh:supercompany> delete from Employees where firstname = 'Michael' and department = 'IT';
cqlsh:supercompany> select*from Employees;
```

firstname	department	employeeid	lastname	salary
David	HR	1e66791f-bd18-466d-88d0-d7a6dab38501	Taylor	52000
Elizabeth	Finance	72fa7758-0b49-4816-b2a9-f0143e57d4c1	Jackson	68000
James	IT	062bcda5-ff1e-4f9f-9be8-dd8383652a24	Thomas	72000
Robert	Finance	c6b25f1a-7f3f-44e4-ac77-aab626925d12	Brown	75000
John	Chemistry	06447098-55ed-40b7-b552-886e014dac98	Edward	49000
John	IT	032db6b0-42d1-43cb-b9ca-837e4d5a1e8e	Doe	60000
Emily	Marketing	978f6e38-1dd4-47b6-9494-dabf70e08b5a	Jones	52000
Laura	Marketing	4c39f665-1851-435f-9b4d-366b97083a99	Anderson	48000
Sarah	Finance	b8ff2819-8a43-4693-ae06-2779f1e2a9ab	Wilson	70000
Jane	HR	2ca40c58-ffba-4089-9a15-579bda1896ab	Smith	55000

(10 rows)

```
cqlsh:supercompany>
```