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Lab 3

Program 1. Perform the following DB operations using Cassandra.

1. Create a key space by name Employee
2. Create a column family by name Employee-Info with attributes Emp_Id Primary Key, Emp_Name, Designation, Date_of_Joining, Salary, Dept_Name
3. Insert the values into the table in batch

```
cqlsh>
cqlsh> create keyspace employee with replication ={ 'class' : 'SimpleStrategy', 'replication_factor' : 1 };
cqlsh> describe employee

CREATE KEYSPACE employee WITH replication = {'class': 'SimpleStrategy', 'replication_factor': '1'}  AND durable_writes = true;

cqlsh>
```

```
cqlsh> create table employee.employee_info( emp_id int primary key,emp_name text,designation text,date_of_joining timestamp,salary double,dept_name text);
cqlsh> select * from employee.employee_info;

 emp_id | date_of_joining | dept_name | designation | emp_name | salary
--------+-----------------+-----------+-------------+----------+--------

(0 rows)
cqlsh>
```

```
  ...
cqlsh> begin batch insert into employee.employee_info(emp_id,date_of_joining,dept_name,designation,emp_name,salary)values(1,'2020-03-03','data analysis','manager','rahul',1200000.00);
   ... insert into employee.employee_info(emp_id,date_of_joining,dept_name,designation,emp_name,salary)values(2,'2020-04-03','machine learning','assistant manager','gagana',900000.00);
   ... apply batch;
cqlsh> select * from employee.employee_info;

 emp_id | date_of_joining                 | dept_name        | designation       | emp_name | salary
--------+---------------------------------+------------------+-------------------+----------+---------
      1 | 2020-03-02 18:30:00.000000+0000 |    data analysis |           manager |    rahul | 1.2e+06
      2 | 2020-04-02 18:30:00.000000+0000 | machine learning | assistant manager |   gagana |   9e+05

(2 rows)
```

```
 emp_id | date_of_joining                 | dept_name        | designation       | emp_name | salary
--------+---------------------------------+------------------+-------------------+----------+---------
      1 | 2020-03-02 18:30:00.000000+0000 |    data analysis |           manager |    rahul | 1.2e+06
      2 | 2020-04-02 18:30:00.000000+0000 | machine learning | assistant manager |   gagana |   9e+05
      4 | 2020-04-02 18:30:00.000000+0000 |          website |     web developer |   kushal | 1.1e+06
      3 | 2021-03-02 18:30:00.000000+0000 | business analysis |           manager |    janet | 1.2e+06

(4 rows)
cqlsh>
```

4. Update Employee name and Department of Emp-Id 1

```
cqlsh> update employee.employee_info set emp_name='karan',dept_name='testing' where emp_id=1;
cqlsh> select * from employee.employee_info;

 emp_id | date_of_joining                 | dept_name        | designation       | emp_name | salary
--------+---------------------------------+------------------+-------------------+----------+---------
      1 | 2020-03-02 18:30:00.000000+0000 |          testing |           manager |    karan | 1.2e+06
      2 | 2020-04-02 18:30:00.000000+0000 | machine learning | assistant manager |   gagana |   9e+05
      4 | 2020-04-02 18:30:00.000000+0000 |          website |     web developer |   kushal | 1.1e+06
      3 | 2021-03-02 18:30:00.000000+0000 | business analysis |           manager |    janet | 1.2e+06
```

6. Alter the schema of the table Employee_Info to add a column Projects which stores a set of Projects done by the corresponding Employee.

```
cqlsh> alter table employee.employee_info add projects set<text>;
cqlsh> select * from employee.employee_info;

 emp_id | date_of_joining                 | dept_name         | designation       | emp_name | projects | salary
--------+---------------------------------+-------------------+-------------------+----------+----------+---------
      1 | 2020-03-02 18:30:00.000000+0000 |           testing |           manager |    karan |     null | 1.2e+06
      2 | 2020-04-02 18:30:00.000000+0000 |  machine learning | assistant manager |   gagana |     null |   9e+05
      4 | 2020-04-02 18:30:00.000000+0000 |           website |     web developer |   kushal |     null | 1.1e+06
      3 | 2021-03-02 18:30:00.000000+0000 | business analysis |           manager |    janet |     null | 1.2e+06

(4 rows)
cqlsh>
```

7. Update the altered table to add project names.

```
cqlsh> update employee.employee_info set projects=projects+{'proj1','proj2'} where emp_id=1;
cqlsh> update employee.employee_info set projects=projects+{'proj1','proj2','proj3'} where emp_id=2;
cqlsh> update employee.employee_info set projects=projects+{'proj3'} where emp_id=3;
cqlsh> update employee.employee_info set projects=projects+{'proj3','proj4'} where emp_id=4;
cqlsh> select * from employee.employee_info;

 emp_id | date_of_joining                 | dept_name         | designation       | emp_name | projects                          | salary
--------+---------------------------------+-------------------+-------------------+----------+-----------------------------------+---------
      1 | 2020-03-02 18:30:00.000000+0000 |           testing |           manager |    karan |          {'proj1', 'proj2'} | 1.2e+06
      2 | 2020-04-02 18:30:00.000000+0000 |  machine learning | assistant manager |   gagana | {'proj1', 'proj2', 'proj3'} |   9e+05
      4 | 2020-04-02 18:30:00.000000+0000 |           website |     web developer |   kushal |          {'proj3', 'proj4'} | 1.1e+06
      3 | 2021-03-02 18:30:00.000000+0000 | business analysis |           manager |    janet |                 {'proj3'} | 1.2e+06

(4 rows)
cqlsh>
```

8 Create a TTL of 15 seconds to display the values of Employees.

```
cqlsh> insert into employee.employee_info(emp_id,date_of_joining,dept_name,designation,emp_name,salary)values(5,'2019-03-03','production',
'manager','aryan',1300000.00)using TTL 15;
cqlsh> select * from employee.employee_info;

 emp_id | date_of_joining                 | dept_name         | designation       | emp_name | projects                          | salary
--------+---------------------------------+-------------------+-------------------+----------+-----------------------------------+---------
      5 | 2019-03-02 18:30:00.000000+0000 |        production |           manager |    aryan |                              null | 1.3e+06
      1 | 2020-03-02 18:30:00.000000+0000 |           testing |           manager |    karan |          {'proj1', 'proj2'} | 1.2e+06
      2 | 2020-04-02 18:30:00.000000+0000 |  machine learning | assistant manager |   gagana | {'proj1', 'proj2', 'proj3'} |   9e+05
      4 | 2020-04-02 18:30:00.000000+0000 |           website |     web developer |   kushal |          {'proj3', 'proj4'} | 1.1e+06
      3 | 2021-03-02 18:30:00.000000+0000 | business analysis |           manager |    janet |                 {'proj3'} | 1.2e+06

(5 rows)
cqlsh> select * from employee.employee_info;

 emp_id | date_of_joining                 | dept_name         | designation       | emp_name | projects                          | salary
--------+---------------------------------+-------------------+-------------------+----------+-----------------------------------+---------
      1 | 2020-03-02 18:30:00.000000+0000 |           testing |           manager |    karan |          {'proj1', 'proj2'} | 1.2e+06
      2 | 2020-04-02 18:30:00.000000+0000 |  machine learning | assistant manager |   gagana | {'proj1', 'proj2', 'proj3'} |   9e+05
      4 | 2020-04-02 18:30:00.000000+0000 |           website |     web developer |   kushal |          {'proj3', 'proj4'} | 1.1e+06
      3 | 2021-03-02 18:30:00.000000+0000 | business analysis |           manager |    janet |                 {'proj3'} | 1.2e+06

(4 rows)
cqlsh>
```