

## LAB 3

### Perform the following DB operations using Cassandra

1. Create a keyspace by name Library

```
cqlsh> CREATE KEYSPACE Library WITH REPLICATION = { 'class' : 'SimpleStrategy', 'replication_factor' : 1 };
cqlsh> show keyspaces;
Improper show command.
cqlsh> use Library;
cqlsh:library> |
```

2. Create a column family by name Library-Info with attributes  
Stud\_Id Primary Key, Counter\_value of type Counter,  
Stud\_Name, Book-Name, Book-Id, Date\_of\_issue

```
cqlsh:library> CREATE TABLE Library_Info (Stud_Id int PRIMARY KEY, Counter_value counter, Stud_Name text, Book_Name text, Book_Id text, Date_of_issue timestamp);
InvalidRequest: Error from server: code=2200 [Invalid query] message="Cannot mix counter and non counter columns in the same table"
cqlsh:library> CREATE TABLE Library_Info (
...     Stud_Id int PRIMARY KEY,
...     Stud_Name text,
...     Book_Name text,
...     Book_Id text,
...     Date_of_issue timestamp
... );
cqlsh:library> CREATE TABLE Library_Counters (
...     Stud_Id int PRIMARY KEY,
...     Counter_value counter
... );
cqlsh:library>
```

3. Insert the values into the table in batch

```
cqlsh:library> BEGIN BATCH
... INSERT INTO Library_Info (Stud_Id, Stud_Name, Book_Name, Book_Id, Date_of_issue) VALUES (112, 'John Doe', 'BDA', 'B001', '2023-01-01');
... INSERT INTO Library_Info (Stud_Id, Stud_Name, Book_Name, Book_Id, Date_of_issue) VALUES (113, 'Jane Smith', 'ML', 'B002', '2023-01-02');
... APPLY BATCH;
```

4. Display the details of the table created and increase the value of the counter

```
cqlsh:library> SELECT * FROM Library_Info;

stud_id | book_id | book_name | date_of_issue | stud_name
-----+-----+-----+-----+-----
113 | B002 | ML | 2023-01-02 00:00:00.000000+0000 | Jane Smith
112 | B001 | BDA | 2023-01-01 00:00:00.000000+0000 | John Doe

(2 rows)
cqlsh:library> SELECT * FROM Library_Counters;

stud_id | counter_value
-----+-----
113 | 1
112 | 1

(2 rows)
```

5. Write a query to show that a student with id 112 has taken a book “BDA” 2 times.

```
cqlsh:library> UPDATE Library_Counters SET Counter_value = Counter_value + 1 WHERE Stud_Id = 112;
cqlsh:library> SELECT * FROM Library_Counters WHERE Stud_Id = 112;
```

stud_id	counter_value
112	2

(1 rows)

## 6. Export the created column to a csv file

```
cqlsh:library> COPY Library_Info (Stud_Id, Stud_Name, Book_Name, Book_Id, Date_of_issue) TO 'file.csv' WITH HEADER = TRUE;
Using 11 child processes

Starting copy of library.library_info with columns [stud_id, stud_name, book_name, book_id, date_of_issue].
Processed: 2 rows; Rate: 10 rows/s; Avg. rate: 6 rows/s
2 rows exported to 1 files in 0.374 seconds.
cqlsh:library> COPY Library_Counters (Stud_Id, Counter_value) FROM 'library_counters.csv' WITH HEADER = TRUE;
Using 11 child processes
```

## 7. Import a given csv dataset from local file system into Cassandra column family

```
cqlsh:library> copy library_info(Stud_Id,Stud_Name,Book_Name,Book_Id,Date_of_issue) from 'file.csv' with header=true;
Using 7 child processes

Starting copy of library.library_info with columns [stud_id, stud_name, book_name, book_id, date_of_issue].
Processed: 2 rows; Rate: 2 rows/s; Avg. rate: 4 rows/s
2 rows imported from 1 files in 0.513 seconds (0 skipped).
cqlsh:library> select * from library_info;
```

stud_id	book_id	book_name	date_of_issue	stud_name
113	B002	ML	2023-01-02 00:00:00.000000+0000	Jane Smith
112	B001	BDA	2023-01-01 00:00:00.000000+0000	John Doe