

Md Yaseen Ahmed

1BM19CS404

Lab-03: 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> DESCRIBE KEYSPACES;

library      system_auth      system_schema  system_views
system       system_distributed  system_traces  system_virtual_schema

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,
... counter_value counter,
... Stud_name text,
... Book_name text,
... Book_id int,
... date_of_issue timestamp,
... PRIMARY KEY(Stud_id, Stud_name, Book_name, Book_id, date_of_issue));
cqlsh:library> DESCRIBE TABLE Library_info;

CREATE TABLE library.library_info (
  stud_id int,
  stud_name text,
  book_name text,
  book_id int,
  date_of_issue timestamp,
  counter_value counter,
  PRIMARY KEY (stud_id, stud_name, book_name, book_id, date_of_issue)
) WITH CLUSTERING ORDER BY (stud_name ASC, book_name ASC, book_id ASC, date_of_issue ASC)
AND additional_write_policy = '99p'
AND bloom_filter_fp_chance = 0.01
AND caching = {'keys': 'ALL', 'rows_per_partition': 'NONE'}
AND cdc = false
AND comment = ''
AND compaction = {'class': 'org.apache.cassandra.db.compaction.SizeTieredCompactionStrategy', 'max_threshold': '32', 'min_threshold': '4'}
AND compression = {'chunk_length_in_kb': '16', 'class': 'org.apache.cassandra.io.compress.LZ4Compressor'}
AND crc_check_chance = 1.0
AND default_time_to_live = 0
AND extensions = {}
AND gc_grace_seconds = 864000
AND max_index_interval = 2048
AND memtable_flush_period_in_ms = 0
AND min_index_interval = 128
AND read_repair = 'BLOCKING'
AND speculative_retry = '99p';
cqlsh:library> █
```

3. Insert the values into the table in batch & Display the details of the table created and increase the value of the counter

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```
cqlsh:library> UPDATE Library_info set counter_value = counter_value + 1 WHERE Stud_id = 101 AND Stud_name = 'Md Yaseen' AND Book_name = 'BDA' AND Book_id = 1001 AND date_of_issue = '2021-01-26';
cqlsh:library> UPDATE Library_info set counter_value = counter_value + 1 WHERE Stud_id = 102 AND Stud_name = 'Arbaz Ahmed' AND Book_name = 'ML' AND Book_id = 1002 AND date_of_issue = '2021-02-03';
cqlsh:library> UPDATE Library_info set counter_value = counter_value + 1 WHERE Stud_id = 103 AND Stud_name = 'David' AND Book_name = 'OOMB' AND Book_id = 1003 AND date_of_issue = '2021-03-13';
cqlsh:library> UPDATE Library_info set counter_value = counter_value + 1 WHERE Stud_id = 104 AND Stud_name = 'Smith' AND Book_name = 'CNS' AND Book_id = 1004 AND date_of_issue = '2021-02-13';
cqlsh:library> UPDATE Library_info set counter_value = counter_value + 1 WHERE Stud_id = 105 AND Stud_name = 'John' AND Book_name = 'ME' AND Book_id = 1005 AND date_of_issue = '2021-01-06';
cqlsh:library> SELECT * FROM Library_info;
```

stud_id	stud_name	book_name	book_id	date_of_issue	counter_value
105	John	ME	1005	2021-01-06 00:00:00.000000+0000	1
104	Smith	CNS	1004	2021-02-13 00:00:00.000000+0000	1
102	Arbaz Ahmed	ML	1002	2021-02-03 00:00:00.000000+0000	1
101	Md Yaseen	BDA	1001	2021-01-26 00:00:00.000000+0000	1
103	David	OOMB	1003	2021-03-13 00:00:00.000000+0000	1

(5 rows)

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

```
cqlsh:library> UPDATE Library_info SET counter_value = counter_value + 1 WHERE Stud_id = 101 AND Stud_name = 'Md Yaseen' AND Book_name = 'BDA' AND Book_id = 1001 AND date_of_issue = '2021-01-30';
cqlsh:library> SELECT * FROM Library_info WHERE Stud_id = 101 AND Stud_name = 'Md yaseen' AND Book_name = 'BDA' AND book_id = 1001;
```

stud_id	stud_name	book_name	book_id	date_of_issue	counter_value
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(0 rows)

```
cqlsh:library> SELECT * FROM Library_info WHERE Stud_id = 101;
```

stud_id	stud_name	book_name	book_id	date_of_issue	counter_value
101	Md Yaseen	BDA	1001	2021-01-26 00:00:00.000000+0000	1
101	Md Yaseen	BDA	1001	2021-01-30 00:00:00.000000+0000	1

(2 rows)

```
cqlsh:library> UPDATE Library_info SET counter_value = counter_value + 1 WHERE Stud_id = 101 AND Stud_name = 'Md Yaseen' AND Book_name = 'BDA' AND Book_id = 1001 AND date_of_issue = '2021-01-30';
cqlsh:library> SELECT * FROM Library_info WHERE Stud_id = 101;
```

stud_id	stud_name	book_name	book_id	date_of_issue	counter_value
101	Md Yaseen	BDA	1001	2021-01-26 00:00:00.000000+0000	1
101	Md Yaseen	BDA	1001	2021-01-30 00:00:00.000000+0000	2

(2 rows)