Create and Manage NoSQL databases with Cassandra

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Problem Statement 1:
1. Create keyspace : employee
2. Create : emp_table (emp_id int, name text, city text, designation text, experience float, primary key(emp_id));
3. Perform following operations on created table:
    a. Insert rows
    b. Update rows
    c. Update rows with upsert
    d. Retrieve data from table
    e. Alter table add columns ((email set<text>, expertise list<text>, prev_jobs map<text, int>)
    f. Insert new rows
    g. Delete rows and values

```
cqlsh> CREATE KEYSPACE employee WITH replication = {'class': 'SimpleStrategy', 'replication_factor': 1};
cqlsh> CREATE TABLE employee.emp_table (
   ... emp_id int PRIMARY KEY,
   ... name text,
   ... city text,
   ... designation text,
   ... exp float
   ... );
cqlsh>
```

```
cqlsh> INSERT INTO employee.emp_table (emp_id, name, city, designation, exp) VALUES ( 3, 'Avdhut', 'Pune', 'MERN Developer', 4.0);
cqlsh> INSERT INTO employee.emp_table (emp_id, name, city, designation, exp) VALUES ( 4, 'Ritesh', 'Hyderabad', 'Junior Tester', 4.7);
cqlsh> INSERT INTO employee.emp_table (emp_id, name, city, designation, exp) VALUES ( 5, 'Ankita', 'Pune', 'Java Developer', 4.8);
cqlsh> INSERT INTO employee.emp_table (emp_id, name, city, designation, exp) VALUES ( 6, 'Sejal', 'Benglore', 'DevOps Engineer', 3.9);
cqlsh> SELECT * FROM employee.emp_table;

 emp_id | city      | designation       | exp | name
--------+-----------+-------------------+-----+----------
      5 |      Pune |    Java Developer | 4.8 |   Ankita
      1 |  Benglore | Software Engineer |   5 | Pushkaraj
      2 |      Pune |    Data Scientist | 3.5 |    Aryan
      4 | Hyderabad |     Junior Tester | 4.7 |   Ritesh
      6 |  Benglore |   DevOps Engineer | 3.9 |    Sejal
      3 |      Pune |    MERN Developer |   4 |   Avdhut

(6 rows)
```

```
        5 |      Pune |    Java Developer | 4.8 |    Ankita
        1 |  Benglore | Software Engineer |   5 | Pushkaraj
        2 |      Pune |    Data Scientist | 3.5 |     Aryan
        4 | Hyderabad |     Junior Tester | 4.7 |    Ritesh
        6 |  Benglore |   DevOps Engineer | 3.9 |     Sejal
        3 |      Pune |    MERN Developer |   4 |    Avdhut

(6 rows)
cqlsh> UPDATE employee.emp_table SET city = 'Benglore', exp = 5.5 WHERE emp_id = 5;
cqlsh> SELECT * FROM employee.emp_table;

 emp_id | city      | designation       | exp | name
--------+-----------+-------------------+-----+----------
        5 |  Benglore |    Java Developer | 5.5 |    Ankita
        1 |  Benglore | Software Engineer |   5 | Pushkaraj
        2 |      Pune |    Data Scientist | 3.5 |     Aryan
        4 | Hyderabad |     Junior Tester | 4.7 |    Ritesh
        6 |  Benglore |   DevOps Engineer | 3.9 |     Sejal
        3 |      Pune |    MERN Developer |   4 |    Avdhut

(6 rows)
cqlsh>
```

```
cqlsh> ALTER TABLE employee.emp_table ADD email set <TEXT>;
cqlsh> ALTER TABLE employee.emp_table ADD exp LIST<TEXT>;
InvalidRequest: Error from server: code=2200 [Invalid query] message="Column with name 'exp' already exists"
cqlsh> ALTER TABLE employee.emp_table ADD expertise LIST<TEXT>;
cqlsh> ALTER TABLE employee.emp_table ADD prev_nobs MAP<TEXT, INT>;
cqlsh> SELECT * FROM employee.emp_table;

 emp_id | city      | designation       | email | exp | expertise | name      | prev_nobs
--------+-----------+-------------------+-------+-----+-----------+-----------+----------
      5 |  Benglore |    Java Developer |  null | 5.5 |      null |    Ankita |      null
      1 |  Benglore | Software Engineer |  null |   5 |      null | Pushkaraj |      null
      2 |      Pune |    Data Scientist |  null | 3.5 |      null |     Aryan |      null
      4 | Hyderabad |     Junior Tester |  null | 4.7 |      null |    Ritesh |      null
      6 |  Benglore |   DevOps Engineer |  null | 3.9 |      null |     Sejal |      null
      3 |      Pune |    MERN Developer |  null |   4 |      null |    Avdhut |      null
cqlsh> UPDATE employee.emp_table SET email = {'pushkaraj@mail.com'}, expertise = ['Java', 'Sprigboot', 'React Native'], prev_nobs = {'Java developer': 2} WHERE emp_id = 1;
cqlsh> SELECT * from
employee.                system_auth.             system_schema.           system_views.
system.                  system_distributed.      system_traces.           system_virtual_schema.
cqlsh> SELECT * from employee.emp_table
   ... ;

 emp_id | city      | designation       | email                  | exp | expertise                              | name      | prev_nobs
--------+-----------+-------------------+------------------------+-----+----------------------------------------+-----------+------------------------
      5 |  Benglore |    Java Developer |                   null | 5.5 |                                   null |    Ankita |                   null
      1 |  Benglore | Software Engineer | {'pushkaraj@mail.com'} |   5 | ['Java', 'Sprigboot', 'React Native'] | Pushkaraj | {'Java developer': 2}
      2 |      Pune |    Data Scientist |                   null | 3.5 |                                   null |     Aryan |                   null
      4 | Hyderabad |     Junior Tester |                   null | 4.7 |                                   null |    Ritesh |                   null
      6 |  Benglore |   DevOps Engineer |                   null | 3.9 |                                   null |     Sejal |                   null
      3 |      Pune |    MERN Developer |                   null |   4 |                                   null |    Avdhut |                   null

(6 rows)
cqlsh>
```

```
cqlsh> DELETE from employee.emp_table WHERE emp_id = 6;
cqlsh> SELECT * FROM employee.emp_table;

 emp_id | city      | designation       | email                | exp | expertise                               | name     | prev_nobs
--------+-----------+-------------------+----------------------+-----+-----------------------------------------+----------+------------------------
      5 |  Benglore |    Java Developer  |                 null | 5.5 |                                    null |   Ankita |                   null
      1 |  Benglore | Software Engineer | {'pushkaraj@mail.com'} |   5 | ['Java', 'Sprigboot', 'React Native'] | Pushkaraj | {'Java developer': 2}
      2 |      Pune |    Data Scientist |                 null | 3.5 |                                    null |    Aryan |                   null
      4 | Hyderabad |     Junior Tester |                 null | 4.7 |                                    null |   Ritesh |                   null
      3 |      Pune |     MERN Developer |                 null |   4 |                                    null |   Avdhut |                   null

(5 rows)
cqlsh>
```

Problem Statement 2:

1. create table product(id uuid, name text, price float, quant int, primary key(id));
2. Perform following operations on created table:
   a. Insert rows
   b. Alter table product add (inv_date timestamp, available boolean);
   c. Insert new rows

```
cqlsh:employee> CREATE TABLE product (id uuid PRIMARY KEY, name text, price float, quant int);
cqlsh:employee> INSERT INTO product (id, name, price, quant) VALUES ( now(), 'Pen-Drive', 400.20, 12);
cqlsh:employee> INSERT INTO product (id, name, price, quant) VALUES ( now(), 'HDD', 1000.55, 13);
cqlsh:employee> INSERT INTO product (id, name, price, quant) VALUES ( now(), 'SSD', 2000, 300);
cqlsh:employee> SELECT * FROM product;

 id                                   | name      | price      | quant
--------------------------------------+-----------+------------+-------
 740efa50-ab40-11ef-892f-b7f7c08c91a3 | Pen-Drive |  400.20001 |    12
 88471070-ab40-11ef-892f-b7f7c08c91a3 |       SSD |       2000 |   300
 808b3c80-ab40-11ef-892f-b7f7c08c91a3 |       HDD | 1000.54999 |    13

(3 rows)
cqlsh:employee> ALTER TABLE product ADD inv_date time
time        timestamp   timeuuid
cqlsh:employee> ALTER TABLE product ADD inv_date timestamp;
cqlsh:employee> ALTER TABLE product ADD available boolean;
```

```
cqlsh:employee> INSERT INTO product (id, name, price, quant, inv_date, available ) VALUES ( now(), 'Keyboard', 375.55, 100, toTimestamp(now()), true);
cqlsh:employee> INSERT INTO product (id, name, price, quant, inv_date, available ) VALUES ( now(), 'Speakers', 450.00, 50, toTimestamp(now()), false);
cqlsh:employee> SELECT * FROM product ;

 id                                   | available | inv_date                        | name      | price      | quant
--------------------------------------+-----------+---------------------------------+-----------+------------+-------
 31110e40-ab41-11ef-892f-b7f7c08c91a3 |     False | 2024-11-25 15:23:15.620000+0000 |  Speakers |        450 |    50
 740efa50-ab40-11ef-892f-b7f7c08c91a3 |      null |                            null | Pen-Drive |  400.20001 |    12
 88471070-ab40-11ef-892f-b7f7c08c91a3 |      null |                            null |       SSD |       2000 |   300
 22932fb0-ab41-11ef-892f-b7f7c08c91a3 |      True | 2024-11-25 15:22:51.308000+0000 |  Keyboard |  375.54999 |   100
 808b3c80-ab40-11ef-892f-b7f7c08c91a3 |      null |                            null |       HDD | 1000.54999 |    13

(5 rows)
```