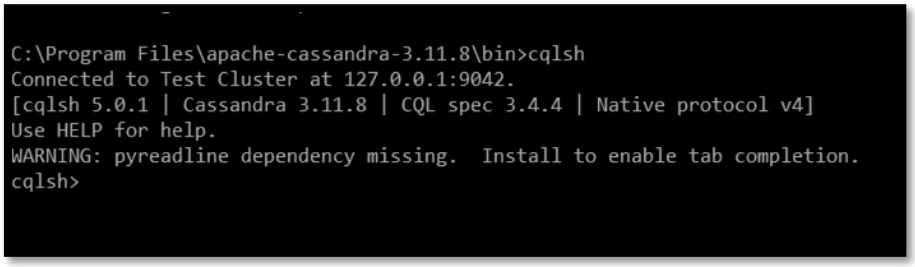
Practical – 7

Aim: Working with NoSQL Databases.(Cassandra)

1. **Install Cassandra on your operating system.**
   a. **Install jdk 8 or above.**
   b. **Go to Apache Cassandra Download Page. And Download the latest version. The latest version at that time is cassandra-3.11.4**

- Unzip it and place all files inside sub folder into "C:\ProgramFiles\apache-cassandra-3.11.8".
- Edit Cassandra.bat and add JAVA_HOME path.
- Save the cassandra.bat then run "cassandra.bat -f" with CMD Run as Administrator. Don't close this window.

c. **Install Python2.7 to run Cassandra Query shell cqlsh .**



2. **Consider a domain of your choice and create a key space suitable for the given domain.**

```
cqlsh> CREATE KEYSPACE employee WITH replication = {'class':'SimpleStrategy', 'replication_factor' : 3};
cqlsh>
```

3. **For the chosen domain, create two tables suitable for the key space.**

```
cqlsh> CREATE TABLE employee.emp(emp_id int PRIMARY KEY,
   ...     emp_name text,
   ...     emp_city text,
   ...     emp_sal varint,
   ...     emp_phone varint
   ...     );
cqlsh> select * from employee.emp;

 emp_id | emp_city | emp_name | emp_phone | emp_sal
--------+----------+----------+-----------+---------

(0 rows)
cqlsh>
```

```
cqlsh>  CREATE TABLE employee.leave(
   ... leave_id INT PRIMARY KEY,
   ... duration VARCHAR, date VARCHAR);
cqlsh>
```

4. **Demonstrate the basic database operations – create, delete, update, select, delete on the given tables.**

- **Create data**

```
cqlsh> INSERT INTO employee.emp (emp_id, emp_name, emp_city,emp_phone, emp_sal) VALUES(1,'ram', 'Hyderabad', 9848022338, 50000);
cqlsh> INSERT INTO employee.emp (emp_id, emp_name, emp_city,emp_phone, emp_sal) VALUES(2,'robin', 'Hyderabad', 9848022339, 40000);
cqlsh> INSERT INTO employee.emp (emp_id, emp_name, emp_city,emp_phone, emp_sal) VALUES(3,'rahman', 'Chennai', 9848022330, 45000);
cqlsh> select * from employee.em0;
InvalidRequest: Error from server: code=2200 [Invalid query] message="unconfigured table em0"
cqlsh> select * from employee.emp;

 emp_id | emp_city  | emp_name | emp_phone  | emp_sal
--------+-----------+----------+------------+---------
      1 | Hyderabad |      ram | 9848022338 |   50000
      2 | Hyderabad |    robin | 9848022339 |   40000
      3 |   Chennai |   rahman | 9848022330 |   45000

(3 rows)
cqlsh>
```

- **Update**

```
cqlsh> UPDATE employee.emp SET emp_city='Delhi',emp_sal=50000 WHERE emp_id=2;
cqlsh> select * from employee.emp;

 emp_id | emp_city  | emp_name | emp_phone  | emp_sal
--------+-----------+----------+------------+---------
      1 | Hyderabad |      ram | 9848022338 |   50000
      2 |     Delhi |    robin | 9848022339 |   50000
      3 |   Chennai |   rahman | 9848022330 |   45000

(3 rows)
cqlsh>
```

- **Delete**

```
cqlsh> DELETE emp_sal FROM employee.emp WHERE emp_id=3;
cqlsh> select * from employee.emp;

 emp_id | emp_city  | emp_name | emp_phone  | emp_sal
--------+-----------+----------+------------+---------
      1 | Hyderabad |      ram | 9848022338 |   50000
      2 |     Delhi |    robin | 9848022339 |   50000
      3 |   Chennai |   rahman | 9848022330 |    null

(3 rows)
```

- **Select**

```
cqlsh> CREATE INDEX ON employee.emp(emp_sal);
cqlsh> SELECT * FROM employee.emp WHERE emp_sal=50000;

 emp_id | emp_city  | emp_name | emp_phone  | emp_sal
--------+-----------+----------+------------+---------
      1 | Hyderabad |      ram | 9848022338 |   50000
      2 |     Delhi |    robin | 9848022339 |   50000

(2 rows)
```

```
cqlsh> SELECT emp_name, emp_sal from employee.emp;

 emp_name | emp_sal
----------+---------
      ram |   50000
    robin |   50000
   rahman |   45000

(3 rows)
```

5. Drop the tables and key space created.

- **Drop Table**

```
cqlsh> drop table employee.emp;
```

```
Keyspace system_traces
----------------------
events  sessions
```

- **Drop Keyspaces**

```
cqlsh> drop keyspace employee;
```

```
cqlsh> describe keyspaces;

system_schema  system_auth  system  system_distributed  system_traces
```