

| Cassandra CQL  | Vs SQL                             |
|--|------------------------------------|
| CREATE <b>KEYSPACE</b> myDatabase WITH replication = {'class': 'SimpleStrategy', 'replication_factor': 1};                                       | CREATE <b>DATABASE</b> myDatabase; |
| USE myDatabase;  | --"--                              |
| CREATE TABLE IF NOT EXISTS myTable (id INT PRIMARY KEY);<br>-- (synonyms in cql: COLUMNFAMILY=TABLE)<br><b>NB table need primary key</b> in CQL. | --"--                              |
| ALTER TABLE myTable ADD myField INT;   | --"--                              |
| CREATE INDEX myIndex ON myTable (myField);   | --"--                              |
| <b>INSERT</b> INTO myTable (id, myField) VALUES (1, 7);  | --"--                              |
| SELECT * FROM myTable WHERE myField = 7;   | --"--                              |
| SELECT COUNT(*) FROM myTable;  | --"--                              |
| DELETE FROM myTable WHERE myField = 7;   | --"--                              |

| CQL  | SQL  |
|--|--|
| <ul style="list-style-type: none"> <li>- No support for things like <b>JOIN, GROUP BY, or FOREIGN KEY</b>. Leaving these features out is important because it makes writing and retrieving data from Cassandra much more efficient.</li> </ul>   | <b>JOIN, GROUP BY, FOREIGN KEY</b>   |
| <p><b>Writes are cheap.</b> Write everything the way you want to read it. CQL does not perform a read while inserting. Without a read, there is no way to know if the data being inserted is replacing an existing record. This means that both inserts and updates are extremely fast.</p>  |  |
| <p><b>UPDATE</b> myTable SET myField = 2 WHERE id = 6;</p> <ul style="list-style-type: none"> <li>- However, if the row does not exist, it will still get created. Similarly as unintuitive, an INSERT statement will actually replace data if it exists. In where-clause, only primary key column can be used.</li> </ul> <p>Under the hood, INSERT and UPDATE are treated the same by Cassandra ("Upserts"), except for Counter columns/tables. Both INSERT and UPDATE require complete PRIMARY KEY.</p> | --"  |
| Transaction Control Language (TCL) - <b>Not in CQL</b>   | <p>COMMIT – It saves the work done</p> <p>SAVEPOINT – It identifies a point in a transaction to which you can later roll back</p> <p>ROLLBACK – It restores database to original since the last COMMIT</p> |
| <p>Data Retrieval/Query Language (DRL/DQL): <b>Simple transactions</b> (Relation between database objects is not possible):</p> <ul style="list-style-type: none"> <li>- Where clause: only on primary key or secondary indexes!</li> <li>- Can use only AND operator, There are no OR and NOT operators.</li> </ul>   | Data Retrieval/Query Language (DRL/DQL): <b>Full transactions.</b>   |