

Assignment **A06** – **Cassandra**

Assignment

- **Create a script** (ordinary text file) with a **sequence of CQL statements** working with our **Cassandra database**
- **Define a schema for 2 tables** for entities of different types
 - Define at least one column for each of the following **data types**
 - **tuple**, **list**, **set**, and **map**
- **Insert about 3 to 5 rows** into each of your tables
- Express at least **3 update statements** (i.e., **UPDATE** and not **DELETE** statements)
 - You must perform **replace**, **add** and **remove** primitive operations (all of them) on columns of all collection types (all of them)
 - I.e., you must involve at least altogether 9 different primitive operations on such columns
- Express **3 select statements**
 - Use **WHERE** and **ORDER BY** clauses at least once (both of them)
 - Use **ALLOW FILTERING** in a query that cannot be evaluated without this instruction
- Create at least **1 secondary index**

Requirements

- Only **use your own keyspace** when working on the assignment
 - This keyspace already exists and its name is identical to your login name (**pdb251_login**)
 - Therefore, do not create this keyspace in your script
- **Do not switch to your keyspace** when you are inside your script
 - I.e., do not execute **USE** command to change the active keyspace from within the script
 - Specify the intended keyspace outside of your script using command line options (see below)
 - Also, do not use fully qualified names inside your script (e.g., for tables etc.)
- The reason is that a different dedicated keyspace will be used when assessing your homework
 - You can assume that this keyspace will be completely empty at the beginning
- Each select statement must be evaluated to a **non-empty result**

Comments

- The following error messages can be ignored
 - **Error from server: code=1300 [Replica(s) failed to execute read] ...**

Submission

- **script.cql**: text file with CQL statements

Execution

- Execute the following shell command to evaluate the whole CQL script
 - **cqlsh -u \$UserName -p \$UserPassword -k \$KeyspaceName -f \$ScriptFile**
 - **\$UserName** is your Cassandra user name (i.e., **pdb251_login**)
 - **\$UserPassword** is your Cassandra password (if not specified, you will be prompted)
 - **\$KeyspaceName** is a name of keyspace that should be used (e.g., **pdb251_login**)
 - **\$ScriptFile** is a file with CQL queries to be executed (i.e., **script.cql**)

Tools

- **Apache Cassandra** (4.0.6) – <https://cassandra.apache.org/>
 - Already installed on the NoSQL server

References

- **The Cassandra Query Language (CQL)**
 - <https://cassandra.apache.org/doc/4.0/cassandra/cql/>