Assignment **06** – **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 (`pdb241_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., `pdb241_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., `pdb241_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)**
  - http://cassandra.apache.org/doc/latest/cql/