

Big Data project - report

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1 Description

This report summarizes the development of a restaurant reservation system using a Cassandra database. The system provides basic UI enabling the user to interact with the database as well as 3 stress tests.

2 System Features

- Generating initial tables, customers and pool of reservations (so that tables are not empty)
- Making a reservation
- Updating a reservation
- Seeing specific reservation
- Seeing all reservations
- Seeing all reservations made for specific day
- Seeing all reservation specific customer made
- Deleting specific reservations
- Stress tests.

3 Technologies Used

- **Cassandra** – for storing house and reservation data.
- **Threading** – for simulating concurrent reservations.

4 Database schema

Databases are in keyspace reservations. I have 3 tables - reservations, customers and tables.

The reservation table contains following columns:

- **res_id** (id of each reservation - primary key)
- **client_id** (id of each client)
- **beg_of_res** (when does the reservation start)
- **end_of_res** (when does the reservation end)
- **number_of_guests** (for how many guests is reservation for)
- **table_id** (id of a table, where guests will be seated)

The tables table contains:

- **table_id** (id of each table - primary key)
- **nr_of_seats** (maximum number of guests that can be seated in this table)

The customers table contains:

- **customer_id** (id of each customer - primary key)
- **name** (name of customer)
- **surname** (surname of customer)

As we can see, if we would be in SQL databases we could easily make 2 joins:

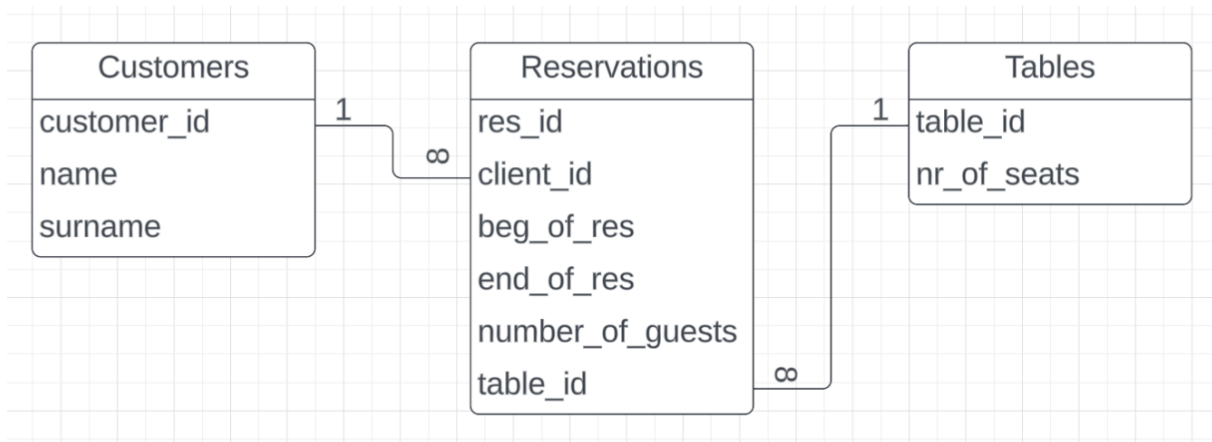


Figure 1: SQL database schema