# Lab 4

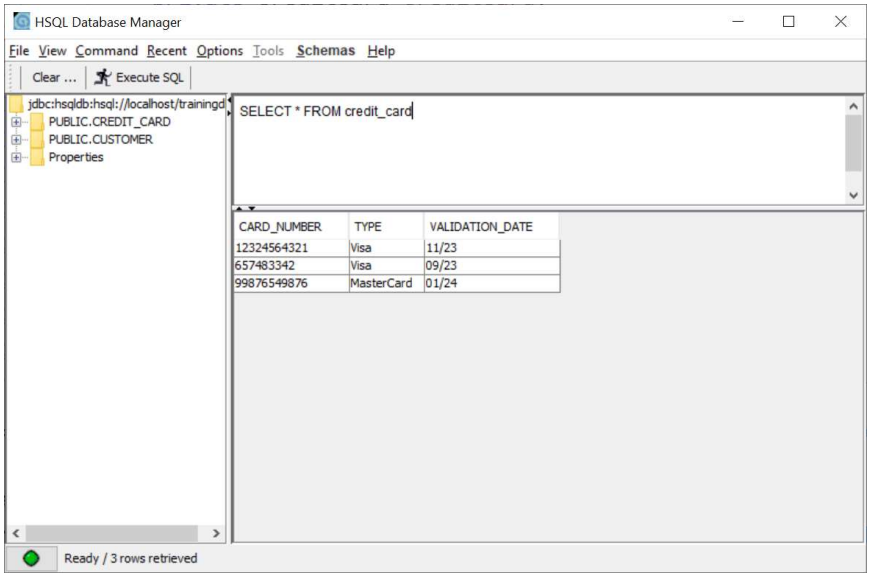
## Part 1

First install the **HSQLDB** database (See **install databases** document)

Modify the given **Lesson4SpringJPADemo** application so that the application stores students in the database
A Student contains the attributes name, phoneNumber and email.
A student has also an address.
Create a class Address with the attributes street, city and zip.
In the application add 5 students in the database.
Then perform the following queries:

- Get all students
- Get all students with a certain name
- Get a student with a certain phoneNumber
- Get all students from a certain city

Check the data in the database with the HSQLDatabase manager



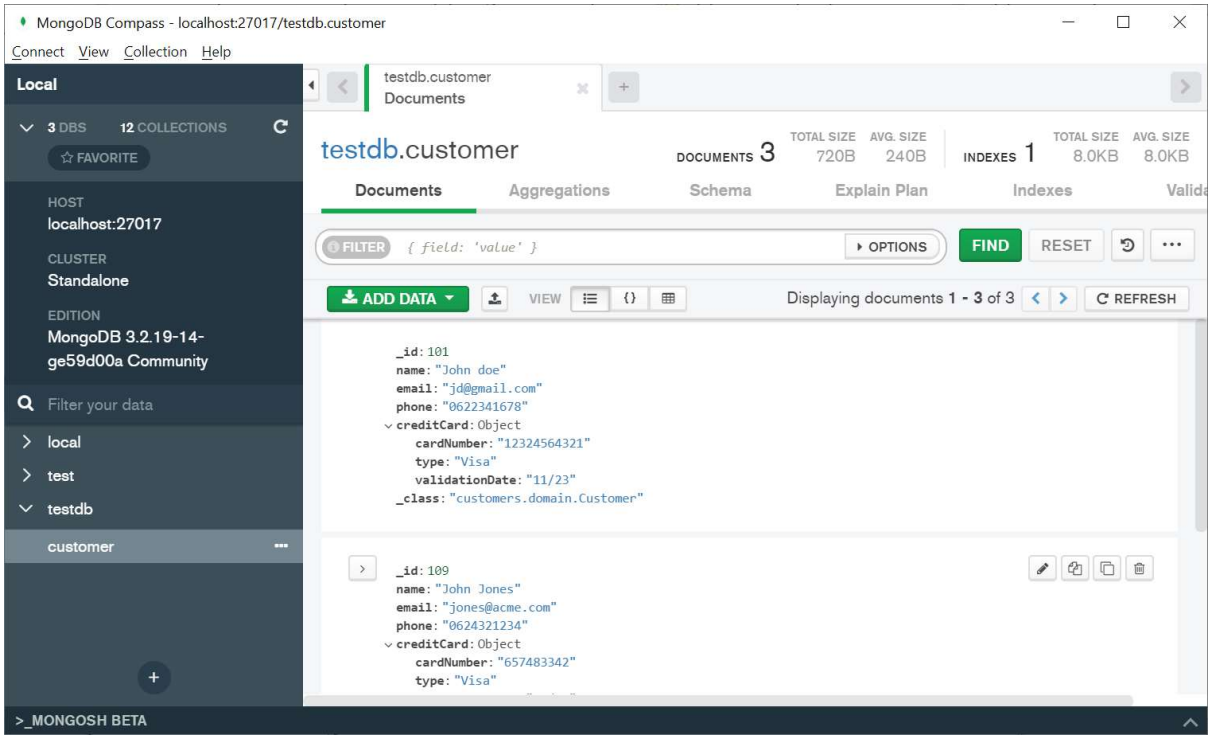
**Part 2**

First install **MongoDB** and **MongoCompass** (See install databases document)

Modify the given **Lesson4SpringMongoDemo** application so that the application stores students in the database
A Student contains the attributes name, phoneNumber and email.
A student has also an address.
Create a class Address with the attributes street, city and zip.
In the application add 5 students in the database.
Then perform the following queries:

- Get all students
- Get all students with a certain name
- Get a student with a certain phoneNumber
- Get all students from a certain city

Check the data in the collection using Mongo compass.



**Part 3**

Suppose you need to store the following order in the database:

Ordernumber:122435
Orderdate 11/09/2021
Customer name: Frank Brown
Customer email: fbrown@gmail.com
Customer phone: 0623156543
Total price : 5160.00

| quantity | Product number | Product name | price |
|---|---|---|---|
| 2 | A546 | IPhone 12 | 980.00 |
| 4 | S333 | Samsung Galaxy 12S | 800.00 |

1. Draw the tables including data that you need to store this order in a relational database.
2. Draw the collections including data that you need to store this order in a mongo database.
3. Draw the tables including data that you need to store this order in a cassandra database.
4. Draw the database structure including data that you need to store this order in a neo4j database.

**What to hand in?**

1. A zip file of part 1
2. A zip file of part 2
3. A PDF of part 3
4. Write a readme.txt file with the following statement and sign with your name:

***I hereby declare that this submission is my own original work and to the best of my knowledge it contains no materials previously published or written by another person. I am aware that submitting solutions that are not my own work will result in an NC of the course.***

***I am aware that I am not allowed to share solutions with other students.***

***I am aware that if I submit only parts of this lab that points will be subtracted.***

***I am aware that if my lab submission does not contain this readme.txt file that I do not get points for this lab.***

***[your name as signature]***