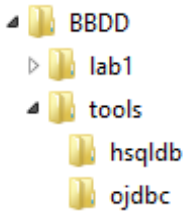
Lab Session 1

Objectives

- To introduce ***HSQLDB*** basic conceptcs in order to configure, start, and stop the database.
- To introduce ***SQuirreL*** basic concepts in order to connect, query, insert, delete, and update a database.
- To introduce **SQL** language basic concepts to perform queries.

Environment arrangements

Java 1.6+ should be installed.
Download the environment from the virtual campus. You have to unzip it. The result is this folder hierarchy:

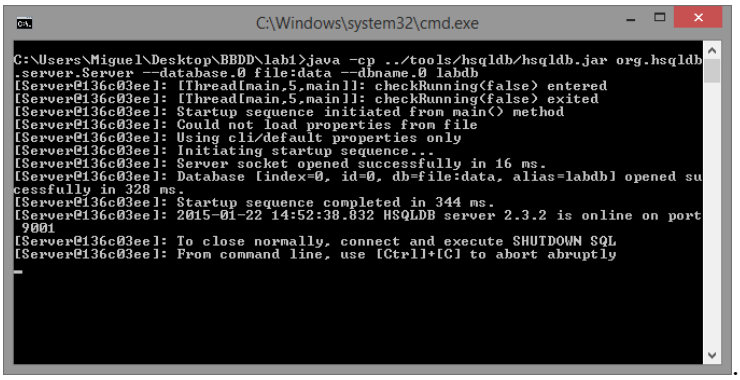


tools folder contains the tools needed to develop lab sessions: HSQLDB database, and the Oracle JDBC driver. Later we will use other tools.

lab1 folder contains the materials for session 1. The materials for each of the following sessions will be provided (labX) before each session.

HSQLDB

Double click on "rundb.cmd" within *lab1* folder in order to start the HSQLDB database.



The systems starts on `localhost` port `9001` by default.

Close the window or Ctrl+C to stop the database.

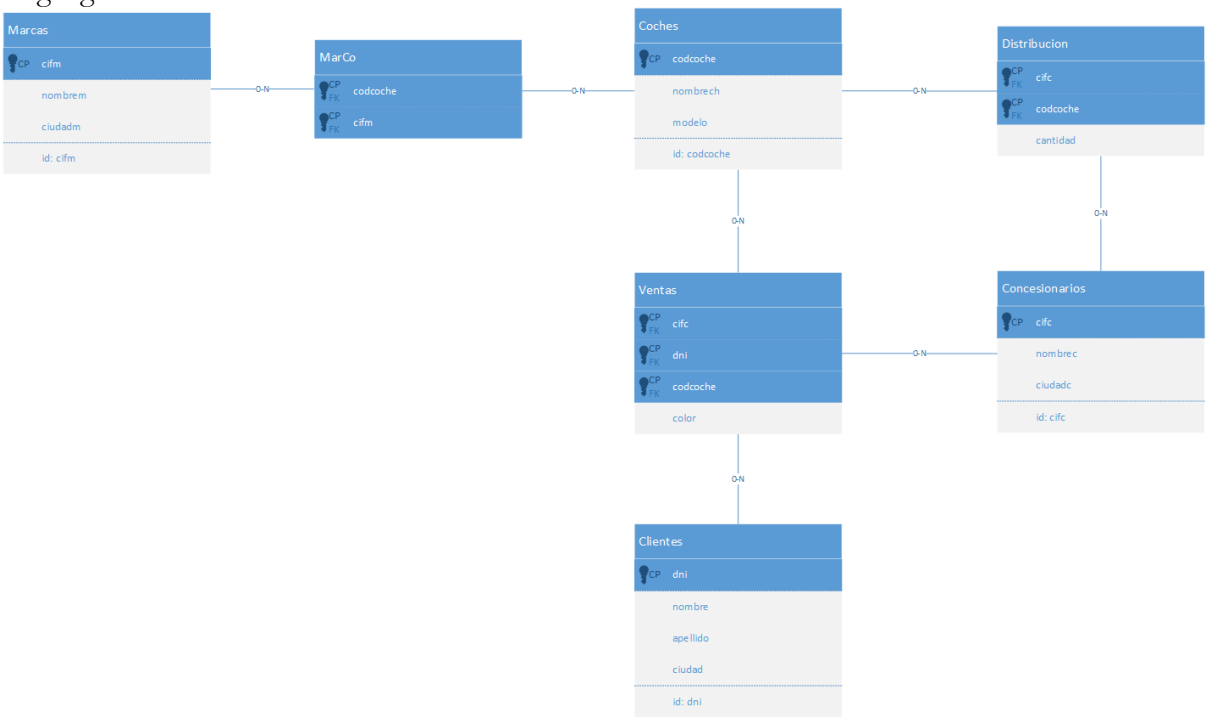
SQuirreL

SQuirrel is a SQL client that connects to any JDBC database to perform CRUD operations (Create, Retrieve, Update, and Delete). A SQuirreL tutorial can be found on the campus, together with the instructions to connect to the HSQLDB database.

The HSQLDB driver is in the `/tools/hsqldb/hsqldb.jar` folder.

Exercises

Using the database shown in the following E-R model, develop the following queries using the SQL language.



1) Get all the data about the cars stored in entity (table) "coches".
2) Get all the data about the cars in the "coches" table with 'gtd' model.
3) Insert a new car into the "coches" entity.
4) Delete an existing car from the "coches" entity.
5) Update some data about a given car in the "coches" entity.

Lab attendance control

- Each student has the responsibility to register her attendance to the lab sessions.
- Both IP and date/time are recorded.
- A connection between SQuirreL (or client of choice) and DESA Oracle database is needed.
  - Connection is made selecting the Oracle Thin Driver in SQuirreL (instead of the HSQLDB one).
  - Oracle Thin Driver is in /tools/ojdbc/ojdbc6.jar folder.
  - Connection URL is jdbc:oracle:thin:@156.35.94.99:1521:DESA
  - ManualSQuirreL.pdf tutorial on the campus holds the information needed to configure SQuirreL.
- To register attendance, the following instruction should be used:

```
select apuntame_bd from dual
```

- To check that everything is OK, use:

```
select estoy_apuntado_bd from dual
```

- There is more info about attendance control on the campus.