**Activity 2.3 - HSQLDB**

The objective of this activity is to be able to find solutions to problems that we face for the first time. You should read and understand some information that you need to solve the problem.

**Upload a document with the code and explanations on how you are solving the activity. Upload also the database file.**

**1. Install HSQLDB**

Download HSQLDB and install it. Explore the directory tree of the installation folder.

**2. Create a Database with HSQLDB**

Read this [web](http://www.michaelwilliams.co.za/connect-to-hypersql-database-via-sqltool/).

The web shows how to connect to a database on HSQLDB, using an included utility called sqltool, in \lib directory. Find the reference manual of sqltool [here](http://www.hsqldb.org/doc/2.0/util-guide/sqltool-chapt.html#sqltool_baremin-sect).

Use HSQLDB to create a database called act2.3 in a path like ./Unit2/Act2.3.HSQLDB.

Type \? for help and look for the option to execute commands from an external file.

Create the tables Departments and Teachers, with the following structure:

| **Departments** | |  | **Teachers** | |
| --- | --- | --- | --- | --- |
| **dept\_num** | **int primary key** |  | **id** | **int primary key** |
| name | varchar(20) |  | name | varchar(15) |
| office | varchar(20) |  | surname | varchar(40) |
|  |  |  | email | varchar(50) |
|  |  |  | start\_date | date |
|  |  |  | *dept\_num* | *References Departments* |

CREATE TABLE Departments

(

dept\_num int primary key,

name varchar(20),

office varchar(20)

);

CREATE TABLE Teachers

(

id int primary key,

name varchar(15),

surname varchar(40),

email varchar(50),

start\_date date,

dept\_num int References Departments (dept\_num)

);

**3. Insert data**

Insert these data in Departments:

10, INFORMATICA, DESPA6

20, COMERCIO, DESPA7

30, ADMINISTRATIVO, DESPA8

40, FOL, DESPA5

INSERT INTO Departments (dept\_num, name, office)

VALUES (10, 'INFORMATICA', 'DESPA6'),

(20, 'COMERCIO', 'DESPA7'),

(30, 'ADMINISTRATIVO', 'DESPA8'),

(40, 'FOL', 'DESPA5');

Insert these data in Teachers:

1, Luz Martinez, luz.martinez@iesabastos.org, 01/01/90

2, Cristina Ausina, c.ausina@iesabastos.org, 01/02/90

3, Imma Cabanes, i.cabanes@iesabastos.org, 01/03/90

4, Mercedes Sánchez, m.sanchez@iesabastos.org

INSERT INTO Teachers(id, name, surname, email, start\_date, dept\_num)

VALUES (1, 'Luz', 'Martinez', 'luz.martinez@iesabastos.org', '90-01-01', 10),

(2, 'Cristina', 'Ausina', 'c.ausina@iesabastos.org', '90-02-01', 10),

(3, 'Imma', 'Cabanes', 'i.cabanes@iesabastos.org', '90-03-01', 10),

(4, 'Mercedes', 'Sánchez', 'm.sanchez@iesabastos.org', NULL, 40);

**3. Queries**

Make the following queries:

1. Show the teachers of the department of FOL.

**Query**

SELECT id, Teachers.name, surname

FROM TEACHERS,

DEPARTMENTS

WHERE Teachers.dept\_num = Departments.dept\_num

AND Departments.name = 'FOL';

**Result**

4,Mercedes,Sánchez

2. Show all teachers in the office DESPA6.

**Query**

SELECT Teachers.id, Teachers.name, surname, office

FROM Teachers,

Departments

WHERE Teachers.dept\_num = Departments.dept\_num

AND Departments.office = 'DESPA6';

**Result**

1,Luz,Martinez,DESPA6

2,Cristina,Ausina,DESPA6

3,Imma,Cabanes,DESPA6

3. Add a new column to the table Teachers, called Salary

**Query**

ALTER TABLE Teachers

ADD COLUMN Salary DOUBLE;