

# Lab 2 – Querying Database

## Set up Connection to SQL Server

Find and run the MySQL Workbench 6.3 CE (GUI) client program to connect to a database server. You may find the connection is still in place from last week's lab, however you may need to set up a 'New Connection' to the DBMS using the + icon



To set up the connection again,

- Connection Name – you can name the connection any name, e.g. DB Lab, Your Firstname, etc.
- Identify the server (hostname): e.g. 157.190.43.7 or com-db-02.student-cit.local
- Security: your user name (Student ID)
- Click on Test Connection button, and enter the password – Spring2018
- Click OK, and then select the new connection added to your MySQL Connections as shown above

Make the **Estateagent5thed** Database (schema) the current/active database.

## Assignment 1: SQL Queries

The SELECT statement is used to query the database and retrieve selected data that match the criteria that you specify. The format of a simple select statement:

```
SELECT "column1" [, "column2", etc]
FROM tablename
[WHERE "condition"];
[ ] = optional
```

The column names that follow the **select** keyword determine which columns/fields will be returned in the results. You can select as many column names that you would like, or you can use the \* to select all the columns.

The table name that follows the keyword **from** specifies the table that will be queried to retrieve the desired results.

The **where** keyword is optional and specifies which data values or rows will be returned or displayed, based on the criteria described.

Conditional selectors used in the where clause:

=	Equal
>	Greater than
<	Less than
>=	Greater than or equal to
<=	Less than or equal to
<>	Not equal to
LIKE	* See note below

**Note:** **LIKE** is a pattern matching operator and can also be used in the conditional selection of the where clause. LIKE is a very powerful operator that allows you to select only rows that are “like” what you specify. The percent sign “%” can be used as a wildcard to match any possible character that might appear before or after the characters specified.

### Queries to run:

1. Find all staff who are managers, work in B003 and are male
2. Find all staff who were born before 1970
3. Find all staff whose last name begins with the letter “B”.
4. Find all staff whose last name begins with “W” and are managers
5. Find all staff who are managers but not in branch B005
6. What client provided no comment when they viewed a property
7. What properties available to rent have 3 rooms, are flats and are managed by the branch B003
8. Find a property to rent that is not located in London
9. Find the property to rent with no staff allocated to it
10. What client has the letter “t” in their last name
11. What owner lives in Well St
12. What is the name, telephone number and email address of the private owner who is living in Aberdeen
13. Find the fname, lname and telephone number of the clients who are looking to rent a flat for under €500.
14. Find the branchNo and Street address of the branch located in Aberdeen.

**Note:** where there is no entry in a particular field for a record, i.e. a cell in the table is left blank, the database assigns the value “NULL”. A query to find a null value in the database table would contain:

```
SELECT _____ FROM _____ WHERE fieldname is NULL;
```

## Assignment 2: Using Aggregate Functions

Aggregate functions are used to compute against a “returned column of numeric data” from your SELECT statement. They basically summarise the results of a particular column of selected data.

MIN	Returns the smallest value in a given column
MAX	Returns the largest value in a given column
SUM	Returns the sum of the numeric values in a given column
AVG	Returns the average value of a given column
COUNT	Returns the total number of values in a given column
COUNT(*)	Returns the number of rows in a table

1. What is the total Salary paid to staff
2. What is the total Salary paid to staff who are managers
3. What is the total Salary paid to staff working in branch B003
4. What is the average salary paid to staff
5. What is the maximum rent on a property
6. What is the minimum rent on a property
7. What is the maximum and minimum rent on a property in Glasgow
8. What is the minimum rent on a property that is not in Glasgow
9. How many properties have been viewed
10. How many properties have been viewed in May 01
11. How many properties rent for more than 400
12. How many branches are located in London
13. How many branches are not located in London
14. How many properties did not receive a comment from clients when they viewed a property