CI402 / CI405

Week 1 – Lab: Create and Populate SQL Server Relational Database

Tasks [Download week1.zip and extract the files to USB stick or OneDrive]

This week is about sorting out any problems, ensuring that you can connect to the databases etc. Don't worry if you don't understand everything that is going on. Please do not panic if these tasks do not work first time. That's normal.

By the end of this tutorial, you will have two versions of the same database:

- On **Microsoft SQL Server** (on the university *CSSQL* server, accessed via *SQL Server Management Studio*, only usable at university)
- On **MySQL** (on *Brighton Domains* with a *PHPMyAdmin* interface, usable from home)

These are both relational databases, and although the interfaces are different, the language used to query the data (talk to it) is the same: **SQL**. Using both will give you a good opportunity to practice your core SQL skills, rather than focusing on the interface.

Make notes on these tasks so that when you have to do them again, you have a quick way to access the material. In the weeks to come, we will learn how to build more complex queries.

Keep Calm and Ask for Help! That's what practical tutorials are for.

Create database using SQL SERVER on *cssql* server(see lecture slides for more detail)

1. Open *SQL Server Management Studio* on your PC and connect to the server CSSQL.

2. Create your database following information from the lecture slides.

3. Open the *import.sql file.* Run *import.sql* (in the *SQLServer* folder) – this will create and populate 4 new tables (tProduct / tOrder / tOrderLine / tCust). [NOTE: you will probably need to refresh the list before you see your tables – right-click on your database node, and click refresh.]

4. Use the Object Explorer to review the table names and the field (column) names / datatypes (what kind of data that they can hold)

5. Open a new query window [click on *New Query*] and then run the other queries for the week1_sql folder. *Make sure that you are working in your*

database. You can do this by checking the title bar. You can press *F5* to run the queries, or select the *Execute* toolbar item

Create database using MySQL on *BrightonDomains* Server (see lecture slides for more detail)

1. First time use – you will need to register with Brighton Domains – see attached document for more information

2. Open BrightonDomains and create a new database – you will create empty tables and then populate them

3. Create new empty tables using the *CreateTables.sql* file (in the *MySQL* folder)

4. Investigate the empty tables using the *structure* tab

5. Populate your tables from the supplied CSV files (comma separated files) in the *MySQL* folder

6. Now move to the SQL tab, for entering queries in the SQL language. Press *Go* (bottom right hand side of the screen to run them).

IN BOTH DATABASES

1. Run a very simple SQL query to see all of the data from one table e.g.

    - *select * from tCustomer* [assumes table called tCustomer – double check the name in Object Explorer / PHPMyAdmin– I've made it wrong on purpose]

   If you get an error, check the *Common DB Errors and how to solve them* file under *Study Materials.* You'll start to recognise them after a while.

2. Run the SQL queries supplied (root folder) to look at the contents of the tables. Don't worry about understand them at this point – we'll start looking at the SQL language in detail next week.

Reading

Kriegel, A (2011). *Discovering SQL*. Wrox. – read chap 1 [pp.1-28]
Do not worry if you do not understand all of this chapter immediately, it will be a good introduction and will help you understand the lectures.

Nielsen, P (2009). *SQL Server 2008 Bible*. Wiley – read chap 6 "Using Management Studio". This is a very detailed presentation of the features in Studio but you might want to dip into it!

Other reading:

- http://www.economist.com/node/15557443
- https://www.economist.com/open-future/2018/08/25/is-democracy-safe-in-the-age-of-big-data
- https://www.cbronline.com/analytics/how-is-big-data-changing-the-world-4508856/