University of Lincoln Assessment Framework
Assessment Briefing Template 2020-2021

Module Code & Title: CMP2806M Scalable Database Systems

Contribution to Final Module Mark: 100%

Description of Assessment Task and Purpose:

Introduction

A parcel delivery company wishes to build a system to track its vehicles and drivers throughout the working day, i.e. from 8.00 am to 4:00 pm. The company has fitted each of its vehicles with a GPS tracking device which will send the data to a database hosted on a cloud system.

You are required to design and implement a MySQL database schema to be used to store relevant data from these GPS devices. At the start of any day's work drivers use whatever vehicle is assigned to them by the company. Drivers work on shift basis so a morning shift is from 8:00 am to 11:55 am and an afternoon shift is from 12:00 noon to 4:00 pm.

Requirements:
1.   Create a database with all appropriate tables, constraints, and relationships.
2.   The database should be normalised, at least to 2NF.
3.   Populate and add records to the tables.
        Assume you have 10 drivers and 5 vehicles. Assume data records are entered for one week.
4.   A number of SQL queries should be defined to analyse vehicle, driver, and parcel movements. These queries are:
        4.1.   The location of any vehicle and its driver at any hour during the working day.
        4.2.   Number of parcels delivered by any specific driver during a day's work.
        4.3.   A listing of all drivers.
        4.4.   A listing of drivers who have driven only during morning hours shifts.

5.   Choose any two queries from the above and implement them as Procedures.
6.   To document your work, write and submit a report that describes how your database system works. The report should include:
        6.1.   an overview of the design process.
        6.2.   a schematic/diagram of the tables and their relationships.
        6.3.   a listing of the queries, i.e. the SQL syntax for each query, AND their outputs.
        6.4.   anything else seen as relevant.

You must implement your final database solution, via an SQL script, using the phpMyAdmin and MySQL database platform. In terms of deployment of the SQL script, your solution must only be implemented and deployed with the tools given to you through the delivery team.

Your SQL script for this task should include MySQL DDL code for creating your final database solution on your phpMyAdmin.

Learning Outcomes Assessed:

LO1   Through development of key concepts of database theory, use appropriate tools and techniques to design a database.

LO2   Use cognition to appraise the structure of a database design using standard evaluation mechanisms.

LO3   Implement and use a relational database using industry standard query language.

Knowledge & Skills Assessed:
Ability to analyse and database requirement and build a good SQL database system for a given scenario.

Assessment Submission Instructions:
This assessment is an individually assessed component – all submitted assessment material is passed through the university TurnitIn plagiarism detection tools. Your work must be presented according to the School of Computer Science guidelines, and where identified in this assessment briefing document, meet any further requirements. Please make sure you have a clear understanding of the grading principles for this component as detailed in the associated CRG.

Required submission documents:

1.   A report. This should be in PDF format. Maximum word not exceeding 200 words.
2.   .sql script.

Every student should individually upload their .sql script to the assessment supporting documentation upload area (NOT Turnitin!); if you failed to do that a penalty will be applied.

Every student should individually upload their .pdf Report to the Assessment Turnitin upload area; failure to do this will result in a penalty being applied.

The deadline for submission of this work is included in the hand in sheet on Blackboard.

The work you submit must be your own individual work. Submissions will be checked for evidence of plagiarism

Date for Return of Feedback: 15 days after deadline for submission. Please check the hand-in spreadsheet for dates.

Format for Assessment: Report and .sql script to be submitted.

Feedback Format: Face to face or written feedback via Blackboard.

Additional Information for Completion of Assessment:

- Creation of the .sql file

Please read the below for clear information regarding the creation of your .sql file for the assessment. This is to clear up any questions you may have in this respect.
The below must always be followed in the first instance:

"Your database solution must not be implemented or deployed to phpMyAdmin instance in any way other than via your SQL script file, in other words no part of your database solution can be automatically generated by third party tools. "

This means you should not use anything other than your own text file (.txt extension or other text-based file) to generate the required .sql file that contains your DDL and DML code. This includes ensuring you do not use the PhpMyAdmin import/export functions as they will truncate data and cause errors when your script is marked – you have been warned!

You must manually create the .sql file by following the below steps:

i) Create a text file (.txt) file using Notepad++ (or another basic text editor i.e. Notepad) that will contain all your DDL and DML code (and stored procedure code if attempted);

ii) Manually write 'your own' DDL and DML code and run/test it as you have learned in the workshops by entering/pasting it into the SQL tab in phpMyAdmin (see figure 1 below);

iii) When all your DDL and DML code has been tested and working to your satisfaction through executing in the SQL tab in phpMyAdmin, ensure it is *all* pasted into your text file. At this point you will have a text file that contains all your DDL and DML code in the correct running order (DDL first of course!)

iv) As a final check with all your code contained in your text file, copy all the code from your text file into the SQL tab again in phpMyAdmin and run it - ensure it fully creates and deploys your database, and runs all your DML statements to your satisfaction and meets the criteria you are aiming for – your .sql script must also create the database from scratch so when you run the script each time you may have to delete the database it created previously;

v) When all the above is done and you are happy with it, rename the extension of your text file from .txt to .sql. DO NOT USE ANY OTHER METHODS TO CREATE YOUR .SQL FILE, if you do you are taking the risk of failing the assessment.

vi) Your .sql file should now be ready for submission!

vii) The delivery team will run your submitted .sql file for marking purposes through the SQL tab in phpMyAdmin.
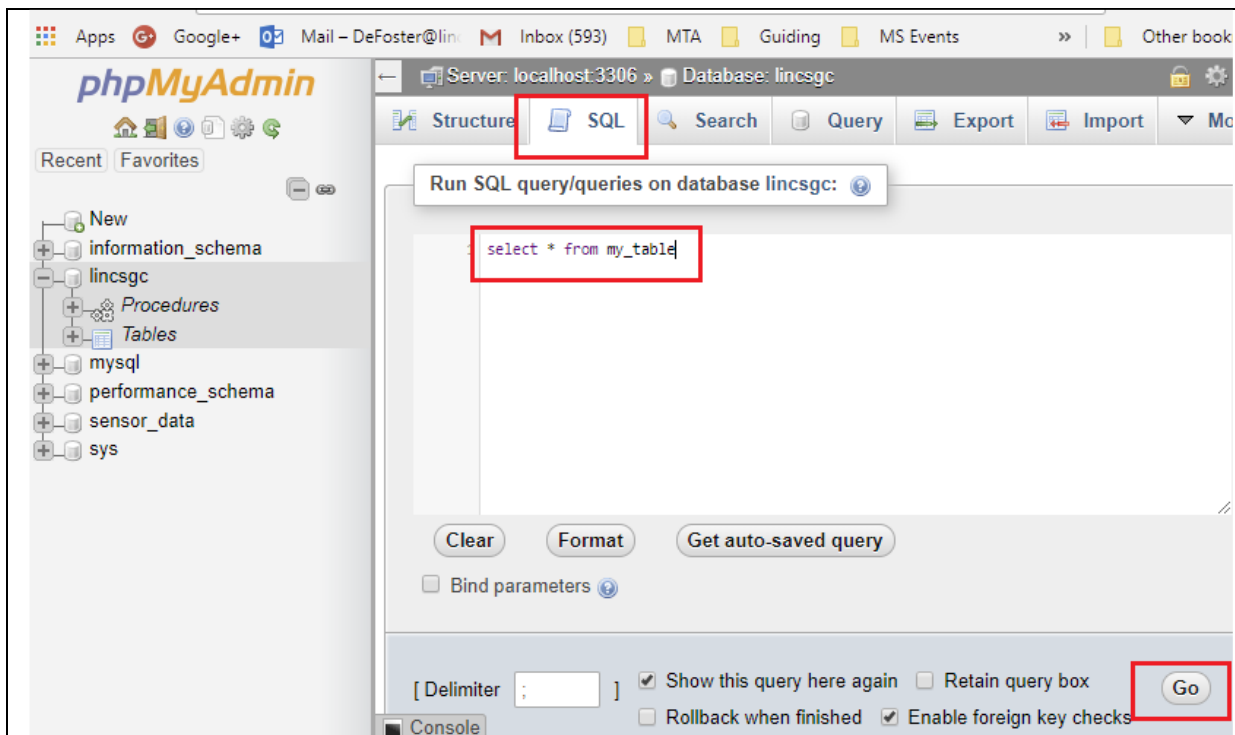
Figure 1 – SQL tab in phpMyAdmin for entering and running SQL DDL / DML statements

- Please make sure you have a clear understanding of the grading principles for this component as detailed in the accompanying Criterion Reference Grid (CRG).
- If you are unsure about any aspect of this assessment component, please seek the advice of a member of the delivery team.

Assessment Support Information: In class or via Teams a support session to be organised nearer the time.

Important Information on Dishonesty & Plagiarism:

University of Lincoln Regulations define plagiarism as 'the passing off of another person's thoughts, ideas, writings or images as one's own...Examples of plagiarism include the unacknowledged use of another person's material whether in original or summary form. Plagiarism also includes the copying of another student's work'.

Collusion is defined as when a student submits work for assessment done in collaboration with another person as entirely their own work or collaborates with another student to complete work which is submitted as that other student's work. Collusion does not apply in the case of the submission of group projects, or assessments that are intended to be produced collaboratively.

Plagiarism and collusion are a serious offence and is treated by the University as a form of academic dishonesty. Students are directed to the University Regulations for details of the procedures and penalties involved.

For further information, see www.plagiarism.org