

CTEC1731/2010F Lab #2 MySQL

In this lab, you will be using MySQL. You can access it using either a MySQL client to technology.niagarac.on.ca (IP address 192.197.62.35, port 3306), via SSH connection to technology.niagarac.on.ca, or with your own local MySQL installation – on Windows, I recommend installing **xampplite** – available for download from the course web site.

Setup

While SSH'ed in to `technology.niagarac.on.ca`:

```
. /shared/ctec1731/bin/setup
```

```
mysql -u your-username -p -D your-username
```

where *your-username* is your Solaris username (and the password is your Solaris password).

From a command-line MySQL client to `technology.niagarac.on.ca`:

set up your SSH to see MySQL

```
mysql -h 192.197.62.35 -u your-username -p -D your-username
```

From the **Xampp** control panel:

Start MySQL. Open a Shell and run `mysql -u root -p`

For each step, record the command(s) that you used and list output.

- Display all the databases on the MySQL server.
 - Determine what database you are currently accessing.
- Create a table `student` which will hold information on students, namely, student number, name, email address, and phone number. (You may need to create a new database first; if so, include the command(s) to do this.)

Allow the phone number to be null but the other columns should not allow nulls.

Use a system command to view the structure of your new table.

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3.
 - (a) Display today's date.
 - (b) Use convert to display the date so that it is in the format:
yyyymmdd
 - (c) On what day of the week were you born?
 - (d) How many hours have elapsed since the beginning of the year?

4. Use the alter command to add the column birthday to your table. This column will be used to record the student's date of birth.

Verify that the column has been added.

5.
 - (a) Insert new rows into your table: make sure that you insert several rows, leaving the phone number and/or birthday column null in a few. Try both forms of the INSERT statement.
 - (b) Using UPDATE, change some of the rows in the table. Try to change the student numbers as well.
 - (c) Delete from your table at least two rows that share a common criteria. Use LIKE and the % wildcard in the WHERE clause to do this.

6. Copy and extract the **world.sql.zip** or **world.sql.gz** file from the /shared/ctec1731/lab2 directory. (Or you can download it.)

Read **world-setup.html** or **world-setup.pdf** to learn how to install the database.

Install the database on your MySQL server.

What tables make up the world database?

What are the columns for each table?

How many rows are there in each table?

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7. Queries against the world database:

- List all the cities from Canada.
- List all the cities from Ontario and their populations, sorted by population, from the highest to the lowest.
- Insert a city row for Welland with population 50331.
- Select all possible information for Welland and include all the tables in the database.
- Find out the head of state for Canada.
- Find out which other countries that person is head of state for (if any).
- List the top ten countries in the world, by life expectancy.
- List the top ten countries in the world, by gross domestic product.
- Group the countries and the sum of their gross domestic products by region.
- Group the countries and the average of their gross domestic products by continent.
- How many countries have English as one of their official languages? French? Spanish? German?
- How many countries do not have English as one of their official languages?
- How many countries have English or an English-like language as one of their official languages?
- List the countries which are older than 500 years and their age in years, arranged from the oldest to the youngest.

To Hand In:

Email your answers to Mike Boldin.