
Lab One

The DBMS Environment

CS1103, 2021F

In order to complete this lab, you'll need to VPN to the UNB network and then ssh to the appropriate lab machine. See the "Remote Lab Access" document under "Course-Level Information" on the lms.

Learning Outcomes

At the conclusion of the lab, students should be able to

- Login to their DBMS account
- Use some commands to explore a database
- Use the SELECT statement to display table data

Ice Breaker

In your Learning Group, give your thoughts on

- Your favourite flavour of ice cream
 - One thing you'd like to do before the start of Winter term in January
- Students should "present" in ascending order of their first name

Submit:

- the names of two people and their answers.

Background

A DBMS provides a centralized, structured place to store data. In an organization, this is usually on a dedicated computer, accessed over the network, and secured by username and password credentials. Access to the DBMS server is done through a client program running on a local machine. The client connects to the DBMS and passes commands and data to and from the server.

Our DBMS is MySQL and is located on **cs1103.cs.unb.ca**. We use our normal FCS login username to access it from the command line of a terminal window in Linux. You should have received your MySQL password in an email from your instructor recently. To begin accessing MySQL we use the MySQL client:

```
$ mysql -h cs1103.cs.unb.ca -u <your username> -p
```

Enter password:

Note that your username and credentials should have been sent to you. The username should be in lowercase. The password is a mix of upper and lowercase letters as well as numbers and special symbols.

For this course, every student has their own database with all access rights as well as read-only access to several databases for exercises and assignments. To specify a database:

```
mysql> use <database>;
```

Just like Java, lines end with a semicolon (“;”).

To list the tables that are held in a database:

```
mysql> show tables;
```

To list the columns of a table:

```
mysql> show columns from <table>;
```

Listing Table Contents

Table records (or rows) can be selected from a table:

```
mysql> SELECT * FROM <table>;
```

This will display all the information from a table. To show only specific columns, replace the asterisk (“*”) with the desired, comma separated, column names:

```
mysql> SELECT <column1>, <column2>, <...> FROM <table>;
```

You will notice that database, table and column names are all case sensitive.

To end the DBMS session, exit the DBMS:

```
mysql> exit;
```

Exercise

You will need to submit screen shots of output from the terminal.

Storing your progress and results in a word processor file, do the following:

1. Using the **mysql** client, login to the DBMS
2. Specify the **Ch01_Text** database to work in
3. List the tables in this database
4. List the columns and their characteristics for the **AGENT** table
5. List all columns and records from the **EMPLOYEE** table
6. List only the **EMPLOYEE_ID**, and **EMPLOYEE_TITLE** data from the **EMPLOYEE** table
7. Choose another table in the database and *explicitly* list the data for three of the columns

Submission

Before the due date for this lab students should submit online to the lms as per the course's submission guidelines, a word-processed file as a pdf of your answers.