



In this lab, you will connect to the MySQL server with your (currently empty) database via the faculty's login server. You will set up an empty table in the database and you will populate it with some data. Then you will retrieve the data with SELECT.

These lab sheets are not assessed, but they may be discussed in tutorials and their content is examinable!

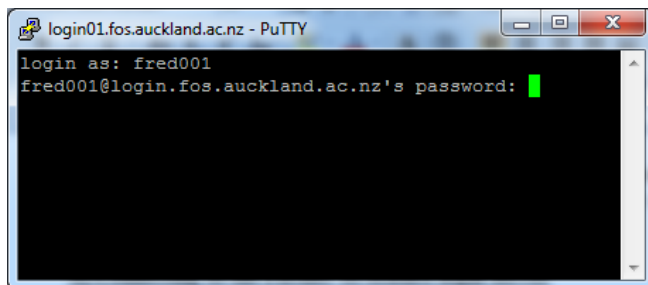
Estimated time to complete this lab: 30minutes.

### A) Connecting to the Faculty of Science login server

In order to be able to work with a database server, we need a **client** program. Such client programs can either be standalone programs, such as the mysql client we will be working with in this exercise, or they can be more extensive applications using the database, which talk to the database server via a **client library** that has been integrated into the application (e.g., by compiling and linking).

In this exercise, we will use the **mysql** client. This is a command line program available for both Windows and Unix/Linux. In our case, it's not installed in the labs, and we will need to access this program via the Faculty of Science login server. So we need to log into this server first, using the SSH client PuTTY on the lab machines. If you are trying this exercise from home, you can use any SSH client you like. For the moment, we'll assumed that your NetID is fred001.

In the PuTTY client, open a connection to host **login.fos.auckland.ac.nz**. In the black window that appears, enter your NetID and university password as credentials:



PuTTY will then show a blurb followed by a command line prompt such as:

```
fred001@login01:~$
```

meaning you've logged in successfully. We are now ready to start the mysql client and log into the database server and our database:

### B) Starting the mysql client and connecting to the DB server studdb-mysql

At the prompt, enter the following command (assuming you're fred001):

```
mysql -h studdb-mysql -u fred001 -p
```

The DB server will then prompt you for your password. **Use the password that we e-mailed to you, not your university password!** Enter the password and you should see a short blurb followed by a mysql command prompt. Well done, you're in!

Now you can enter a command to list all the databases on the server:

```
show databases;
```

This lists everyone's database on the server, but you really only have access to one database: your own. Its name is **stu\_fred001\_COMPSCI\_280\_C\_S1\_2011** (presuming you're fred001, of course). So let's tell MySQL that we want to use this database for our work:

```
use stu_fred001_COMPSCI_280_C_S1_2011;
```

MySQL will now tell you that it's changed the database to **stu\_fred001\_COMPSCI\_280\_C\_S1\_2011**. If it tells you that it cannot find the DB or you couldn't log in, let us know (note that due to enrolment delays, some logins may not work until a little later).

### **C) Creating a table**

You can now enter SQL statements to create tables in your database, insert records into them, update or delete the records, or select data from the tables as explained in the lectures.

So here is your exercise for today: Create a table named **City**. It should store the following information in each row (record):

- The name of the city, with up to 60 characters
- The name of the country that the city is in, with up to 60 characters
- The number of people that live in the city

Once you have create the table, find the names of six cities whose names start with a letter from your NetID. Find out their population (on the web) and enter them into the table using an INSERT.

Finally, use SELECT to retrieve a list of the cities to see whether your inserts worked.

Then log out of the mysql client with **quit**. You should then log out of login.fos.auckland.ac.nz with **exit**.

### **D) Getting into a routine**

Log back in again as above and use another SELECT to verify that your data is still there!