

Assignment 0

CS 451/551, Spring 2024

due April 12, 2024

The goal of this assignment is to get your own instance of a MySQL server installed and running on the department machine `ix`. You will need this server for your final project and the sooner you get started on this the better. There will likely be a lot of small, fussy *unix* problems and you will not be penalized for them, and we will be flexible about the due date. The overall goals are to

- Install your MySQL server on `ix.cs.uoregon.edu`.
- Create an account that allows you to access your instance remotely.
- Create a `guest` account, which will also work remotely with the correct permissions
- Get used to using MySQLWorkBench. *Note*: this is optional as you may choose to access `mysql` from the command line.
- Install the `stores7` database in your instance and give the `guest` account `SELECT` privileges to it.

What you will turn in, on Canvas, is

- your login name (your `cs` account name on `ix` – we use this to name the connection and search for the process)
- hostname (use `ix`, not `ix-dev`, so host should be `ix.cs.uoregon.edu`)
- port number
- guest password (if different from ‘`guest`’)

Note: some of the steps below are from the class Links page
<https://classes.cs.uoregon.edu/24S/cs451/links.html>

STEP 1

Log on to the department machine `ix`. From a terminal that would be via

```
ssh cwilson@ix.cs.uoregon.edu
```

(Obviously replace `cwilson` with your login name.) If you do not have an account, you can create one by running the `newuser` script from the system's Account page.

<https://systems.cs.uoregon.edu/wiki/index.php?n=Help.Account>

STEP 2

Follow the instructions for installing MySQL on the systems page

<https://systems.cs.uoregon.edu/wiki/index.php?n=Help.ToolsMysql>

In summary

- In your home directory, run `mysqlctl install`
- It will ask you for a password. This password is for MySQL, not your CS unix account so it does not need to be the same (and best if different).
- IMPORTANT: remember what password you use!
- MORE IMPORTANT: keep remembering that password !!!!!
- If you forget your MySQL password, you can reinstall, but you will have to remove the `mysql_data/` directory (and you are on your own here) ... (see below for instructions)
- It will be handy to remember your port number (which you can also find from `mysqlctl status`).

STEP 3

You will need to create and modify your `.my.cnf` file.

- Run `mysqlctl start` (this starts your process and creates the `.my.cnf` file)
- Run `mysqlctl stop` (so now you can edit the file)
- Here's a hard part: you need to edit a file whose name starts with a dot, typically these are invisible
- At the command line you can see if it's there via `ls -a`
- And if you know `emacs` or `vi`, you can open the file with one of them (some apps can see dot-files with shift-command-period when opening)
- comment out the line that says `skip-innodb`
- ... and also the line that says `default-storage-engine=myisam`
- ... and if you can figure out how to allow logging, do that too
- Restart MySQL (`mysqlctl start`)
- Note that your port number is in the `.my.cnf` file.

Note: From time to time your MySQL process will stop and you will need to restart it. When you restart it will attempt to use the port number in the `.my.cnf` file. But that may not be available and another port will be chosen (and the `.my.cnf` entry will be modified).

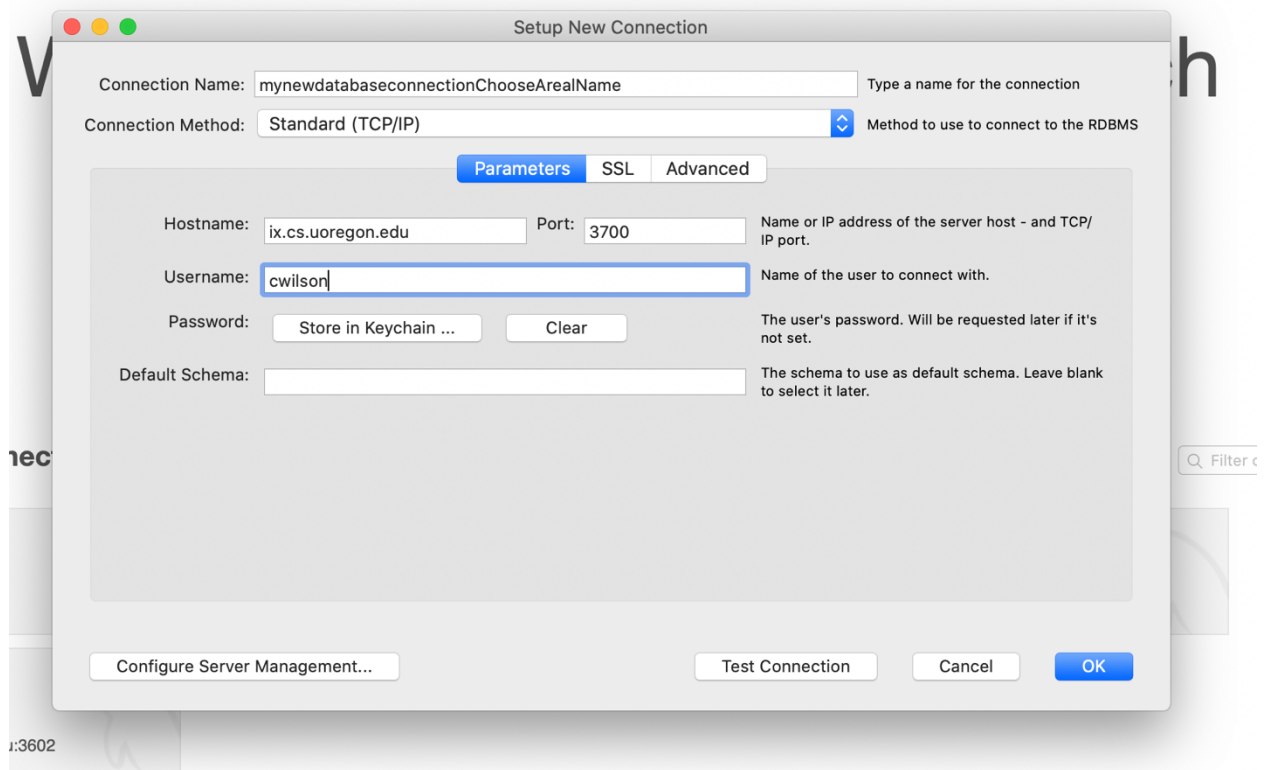
STEP 4

When you create your MySQL instance, the primary user will be [cwilson@%.ix.cs.uoregon.edu](mailto:cwilson@%ix.cs.uoregon.edu) (note: `cwilson` here is an example/placeholder, you need to replace it with your username). This allows you to connect only if you are using the CS domain. So you need to create `cwilson@%` - this is viewed as a different user

(here % is a wildcard). This will allow you to connect remotely, such as by using MySQLWorkbench from home.

- Run MySQL from the command line, via `mysql -p` (this will ask for your MySQL password from the previous step).
- `CREATE USER 'cwilson'@'%' IDENTIFIED BY 'password';`
- Obviously replace `password` by the password you want to use (probably the MySQL password you used before makes the most sense).
- `GRANT ALL PRIVILEGES ON *.* TO 'cwilson'@'%' WITH GRANT OPTION;`
- To leave `mysql`, use the `exit` or `quit` command.

Now you can use MySQLWorkbench by creating a connection. Here is a snapshot of what you will see when you click on the '+' next to Connections in Workbench.



Change the connection name, username, and port number. The rest is mostly obvious.

STEP 5

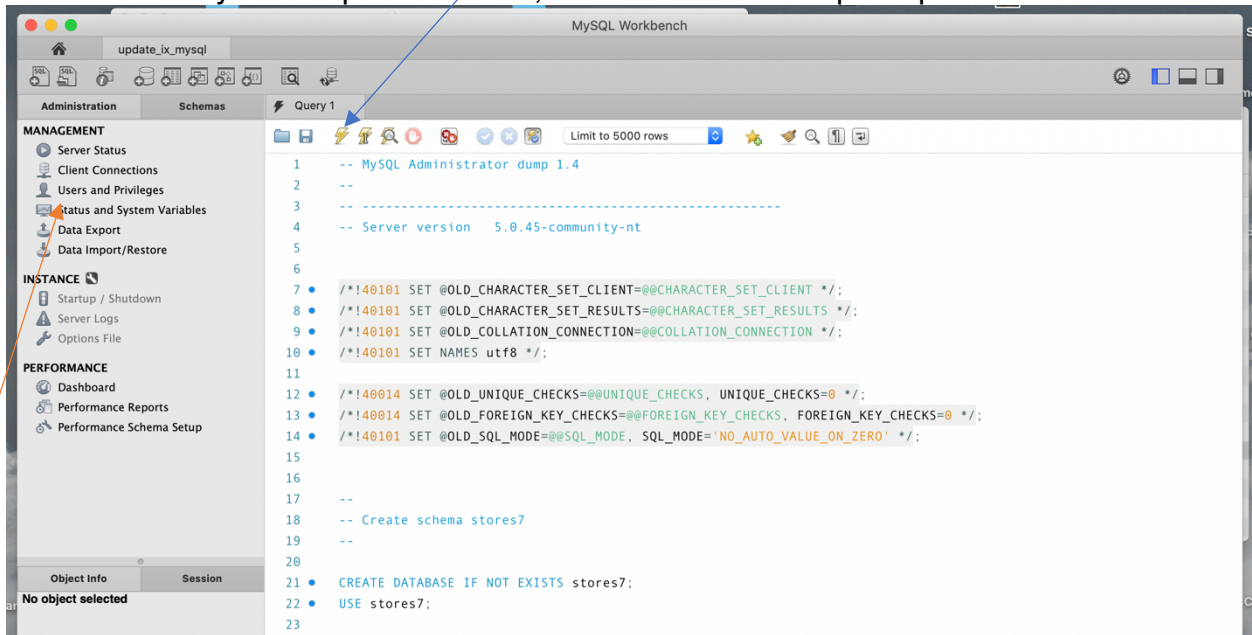
Here you will install the `stores7` database. First you need to download the file `stores7.sql` file from the course website.

If you wish to use the command line, put that file in your home directory. After starting up MySQL you can use `source stores7.sql;` (I think!).

You can also just open `store7.sql` with any text editor, paste it into a Query window of Workbench (connect to your instance first!) and execute it (using the lightning bolt button).

execute here

There are many other options as well, such as the Data Import option in Workbench.



manage users here

STEP 6

Create a guest account that the instructor can use. From the command line (in MySQL) you could run

```
CREATE USER 'guest'@'%' IDENTIFIED BY 'guest';
GRANT SELECT ON stores7.* TO 'guest'@'%';
```

this is standard guest password, you can use another

You can also do this in MySQLWorkbench. It is mostly self-explanatory, but you have to remember to do two steps

1. From the “Users and Privileges” tab, crate an account named guest with hostname %.

2. Go to the “Schema Privileges” sub-tab and give the guest account SELECT privileges to stores7.

RECOVERY

If you forget your MySQL password, the easiest thing to do is reinstall it. You will need to delete your `mysql-data/` directory first. The natural approach, but us is to use `rm -r` (recursively remove), but your configuration file probably has aliased the `rm` command to ask permission to delete each file (there are many hundreds). To avoid that alias, do

```
\rm -rf mysql-data/
```