SQL Commands to Demo

This part will be done after students have submitted their worksheets.

1. **Log into the database.** Inform students they will learn all that they’ll see over the next week or two. You’ll hear me say SQL and Sequel. I use them to mean the same thing, but you’ll find out in about a week why there are two pronunciations for this database language. And actually, I’m dating myself here to call it Sequel.
2. **use dvwa;** A db is like an Excel workbook or a Google Sheets file.
3. **show tables;** A database can contain multiple tables, like how an Excel spreadsheet can contain multiple worksheets.
4. **SELECT \* FROM guestbook;** Not much in here
5. **SELECT \* FROM users;** This is the data you were working off.
6. **SELECT user\_id, first\_name, last\_name FROM users WHERE user\_id='';**
   1. 1
   2. 2
   3. 6
   4. 0
   5. 1’ or ‘’=’
      1. Why did this work?
      2. What else could we have tried?
      3. Any questions?
7. **describe users;** Let’s look at the schema, or the structure, of this table.
8. You’ll learn what all of this means. But what do you notice now that you recognize already?
9. Do you notice something weird with our command (retype it) and this table description?  
   **SELECT \* FROM users WHERE user\_id='1';**
   1. Hint: Something weird about the command and one of the columns
   2. Hint hint: Has to do with the types
10. **SELECT \* FROM users WHERE user\_id=5;**
    1. SQL can be tolerant of different types
    2. SQL was designed for more than computer programmers, but also businesspeople, scientists, etc. So it’s more user-friendly.
    3. In fact, the indices are 1-based, not 0-based.
11. **SELECT \* FROM users WHERE first\_name LIKE 'b%';** We can ask more complicated questions.

Students may ask: Can anyone on the Internet directly issue the command to the database?

Answer: Usually not. The database checks the IP address of the issuer’s IP address, which doesn’t match the database server’s IP address. However, if you can get onto the server then it’s easier.

In fact, I leave as a challenge after this lesson for students to hack the database. I don’t tell them directly but all the config files are on there with the web pages, so once you find the right file you can get the username and password to the database. By the end of the unit they will have learned the commands needed to modify the data.