

# MANAGE SQL DATABASES WITH PHPMYADMIN

## 1 Starting phpMyAdmin

### 1.1 Under Windows

- Launch Wampserver64 and click on the green “W” icon (bottom right of your screen).
- Click on “phpMyAdmin 5.1.1”. This starts your browser.
- Connect with the username “root” and empty password.

### 1.2 Under Mac

- Launch the Mamp application and click on “Mamp” (icon with an elephant).
- Click on “WebStart” (icon with a plane). This starts your browser. Scroll down and click on “MySQL” and then on “phpMyAdmin”.
- Connect with the username “root” and the password “root”.

## 2 Create a database

First, create a new database (there are already some created). Please name this database “ict\_db” (or if you choose another name, then use this name wherever I’ll use the name “ict\_db”).

Then, select the database, and click on the “SQL” button on top, to be able to enter SQL commands. We will use one of the examples from last year. You need the following file. Just copy / paste its code inside phpMyAdmin:

[http://www.barsamian.am/2022-2023/S7ICTB/TP8\\_Library\\_database.sql](http://www.barsamian.am/2022-2023/S7ICTB/TP8_Library_database.sql)

You should now see the new database on the left panel, and you can navigate through it.

## 3 Query the database

While still in the new database (selected in the left panel), you can click once more on the “SQL” button on top, and test some queries on your database, to see the results. Those are the same queries as last year, see:

[http://www.barsamian.am/2021-2022/S6ICTB/TP15\\_Databases\\_3.pdf](http://www.barsamian.am/2021-2022/S6ICTB/TP15_Databases_3.pdf)

```
-- Request 1
SELECT * FROM books;

-- Request 2
SELECT title, author, genres.genre
FROM books, genres
WHERE books.genre=genres.identifier;

-- Request 3
SELECT title, author, genres.genre
FROM books JOIN genres ON books.genre=genres.identifier;

-- Request 4
SELECT title
FROM books, genres
WHERE books.author='Hugo' AND books.genre=genres.identifier AND genres.genre='Novel';
```

## 4 Combining PHP and MySQL

Listing 1 ([http://www.barsamian.am/2022-2023/S7ICTB/TP8\\_Php\\_sql\\_first.txt](http://www.barsamian.am/2022-2023/S7ICTB/TP8_Php_sql_first.txt)) is our first PHP program that actually does something dynamic according to a database.

```
1 <?php
2 // Connect to the database.
3 $hostname = "localhost";
4 $username = "root";
5 $password = ""; // WARNING: Under MAMP, it is "root"!
6 $database_name = "ict_db";
7 $link = mysqli_connect($hostname, $username, $password, $database_name);
8 if(!$link) {
9     // Could not connect!
10    echo "<p>Problem while connecting to the SQL server.</p>\n";
11    die;
12 }
13
14 // Create a request and process it.
15 $request = "SELECT * FROM books;";
16 $result = mysqli_query($link, $request);
17 if (!$result) {
18     echo "<p>Problem with request: " . mysqli_error($link) . ".</p>\n";
19     die;
20 }
21 while ($line = mysqli_fetch_array($result)) {
22     echo "<p>Book id " . $line['identifier'] . " is " . $line['title'] .
23         " written by " . $line['author'] . ".</p>";
24 }
25 mysqli_free_result($result);
26 // Close the connexion.
27 mysqli_close($link);
28 ?>
```

Listing 1: Our first connexion to the SQL database

1. Test this script through your browser.
2. Update this script to output an HTML table. The first row will indicate “identifier”, “title” and “author”, and the following rows will indicate the book entries found in the database.
3. Process the 2nd request from Section 3. Explain why, in the request, I had to write `genres.genre` and why `genre` was not enough (look at the tables specifications!).
4. Create a new request in the PHP script to handle the 2nd request after the first request already handled in the file. If you copy/paste the code, there are several problems:
  - The new request is on multiple lines. In PHP, to create a string on multiple lines, you can end each line with a backslash.
  - It is not possible to call `$line['genres.genre']` from PHP. To do this, instead, modify the request to write instead `SELECT title, author, genres.genre as genres_genre`, and then `genres_genre` is a field of the answer table that you can call from PHP.
5. Write a new request to print all the users.
6. Create two new PHP files. The first page will contain a form with 2 inputs (first name, last name). The second PHP file will catch the values from this first PHP webpage (see previous work: [http://www.barsamian.am/2022-2023/S7ICTB/TP7\\_Php\\_get\\_post.pdf](http://www.barsamian.am/2022-2023/S7ICTB/TP7_Php_get_post.pdf)), and will insert into the users table the new user.
7. Modify the 2nd webpage to first test that the user was not already in the database.