
Databases and the Web – Exercise 5

This week a relative quickie for catch-up reasons: Experiment with search & create a login page. You could use it in future weeks to restrict access to pages you develop that make changes to your database.

Outcomes:

After you work through this exercise you should be able to:

- Design and construct a simple MySQL database.
- Use PHP sessions to maintain login information.
- Use HTTP redirection with PHP pages.

Debugging:

Because PHP is *server-side* you **must** check your code in the browser through the web server “http://...” *not* by loading the page as “file:///”! It is a good idea to:

- i. Make small changes to code.
- ii. Save the file to the server.
(Tools like Notepad++ or WinSCP can do this automatically for remote hosts.)
- iii. Refresh the page in the browser.
- iv. Fix any reported syntax errors.
- v. Test the changes – goto ii.

Repeat *ad nauseum*. (Get used to using Alt-Tab to cycle through windows ☺)

Task 1: Create a simple search form for cities

Following-on from last week, the cities list is much longer than the continents so radio buttons would not be an appropriate way to find a given city so this task is to create a simple search form to locate cities by name:

1. Create a new page with a text entry box, <label> and submit button to allow a user to enter a partial city name. Should you use GET or POST?
2. Create a separate PHP page *or* use “PHP_SELF” to submit the data back to the same page, to run the submitted text against the city table using “LIKE” to find substrings (or a more sophisticated query if you prefer!)
3. List the cities that are partial matches, together with their country and continent.
4. Once that’s working, modify the “continent” text so that it is a link that uses the page from week 4 to list all of the countries in that continent.
5. Do some research on “sanitisation” functions in PHP, or use parameterised queries, to ensure that the search page is secure from “SQL injection” style attacks.

If you have time over “enrichment activities week” *etc.* and would like to get ahead of lecture 5/6, read the slides on sessions and then try this:

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Task 2: Create a database table holding user ID and passwords

You could use phpMyAdmin or the SQL command-line for this:

1. Create a MySQL table suitable for storing user names and passwords.
2. Populate it with at least one record.

Task 3: Create a login, logout and secure page

1. Following something like the example from lecture 5 create a **login.php** page that
 - a. presents a login form with user name *and* password fields,
 - b. submits to itself and authenticates the login details against the database table you created above,
 - c. gives a link to **content.php** when the login is successful,
 - d. opens a **session** to pass a field that verifies that the user has logged-in (*e.g.* the lecture 5 example passed the **userName** field when logged-in)
2. Create the **content.php** page that
 - a. opens the session,
 - b. checks for the login,
 - c. shows some “private” content if logged-in with a link to **logout.php**, “public” otherwise with a link to the login page.
3. Create the **logout.php** page to destroy the session.