

DASC 5333 Database Systems for Data Science
CSCI 4333 Design of Database Systems
Spring 2023
Homework #6

Web Database Development with MySQL, PyMySQL and Python

You should have already installed XAMPP so you can have Apache in your computer for development. Follow the steps in the class lecture notes to ensure that Apache supports Python CGI.

Use the relation schema for the Clear Lake Youth Swimming Team Management System (SWIM) project as the basis of this homework. Create SWIM DB in MySQL by using the following script:
[createSwimDB.sql.txt](#).

Write a Python CGI application, `h6.py`, to accept zero or one HTTP parameter: *sid*, the id of a swimmer in the swim DB.

The Web application displays information about all caretakers If no HTTP parameter is supplied. Study the following format, especially the highlight parts, to ensure that your application will reproduce it. For

<http://.../h6.py>

the Web application displays all caretakers in the following manner.

Caretaker Info: click to see swimmer info

[1] Azalea Khan (Id: 1):
primary caretaker for 2 swimmer(s):
1. [Bobby Khan](#)
2. [Billy Khan](#)
other caretaker for 1 swimmer(s):
1. [Nina Khan](#)

All caretakers are listed with names and id. The display is numbered.

[2] Joseph Khan (Id: 2):
primary caretaker for 1 swimmer(s):
1. [Nina Khan](#)
other caretaker for 1 swimmer(s):
1. [Bobby Khan](#)

Link to individual swimmer.

[3] Jim Khan (Id: 3):
other caretaker for 3 swimmer(s):
1. [Bobby Khan](#)
2. [Billy Khan](#)
3. [Nina Khan](#)

[4] Katie Johnson (Id: 4):
primary caretaker for 2 swimmer(s):
1. [Clara Johnson](#)
2. [Joe Fen](#)

Caretakers with no current swimmer under their guidances are also listed.

[5] Elizabeth Johnson (Id: 5):
primary caretaker for 1 swimmer(s):
1. [Philip Johnson](#)
other caretaker for 1 swimmer(s):
1. [Clara Johnson](#)

[6] Benjamin Smith (Id: 6):

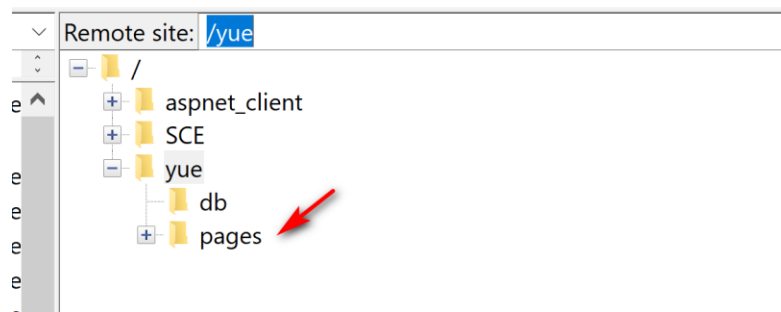
If a link to a swimmer is clicked, h6.py shows simple information of the swimmer in the following manner. For example, if the link for 'Billy Khan' is selected, it will lead to the page

<http://.../h6.py?sid=2>

Swimmer #2, Billy Khan: current level: Blue. participated in 4 events.



Host the Python application in your dcm account by uploading your Python program to the pages folder within your account by using FTP. For example, for my account, upload h6.py to the pages folder. Example:



You can then be able to access through the link <http://dcm.uhcl.edu/yue/h6.py> (after replacing yue by your account name).

Note that dcm server may have problems in using dbconfig.py and dbconfig.ini. You should use the following version of dbconfig.py:

```
import configparser
from pathlib import Path

# simplistic and no error handling.
def get_mysql_param(filename='dbconfig.ini', section='mysql'):
    config = configparser.ConfigParser()
    file_path = (Path(__file__).parent / filename).resolve()
    config.read(file_path)

    return config[section]
```

If problems persist, you may simply include your dcm's MySQL credential *directly* in h6.py. Your MySQL credential at the dcm server should be something like the following (assuming that you have not changed the password.)

dbconfig.ini:

```
Host: localhost
user: <<your dcm MySQL username>: full last name + first character of first name (a
number 1, 2, 3, etc., may be added in case of conflict. Check your account here:
https://sceweb.sce.uhcl.edu/support/?page=sceStudentAccountLookup >>
password: <<your dcm MySQL password: "Sce" + Your 7-digit UHCL student ID + "!!">>
database: swim
```

Submit URL at dcm for the Web application and the Python code to the TA so he can grade your work.

Your program file name should be h6.py. Submit your homework through Blackboard. *Add the extension .txt in your submission as Blackboard may not know how to handle .py file.*