

CS602 Module5 Assignment

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The following document should not be disseminated outside the purview of its intended purpose.

General Rules for Homework Assignments

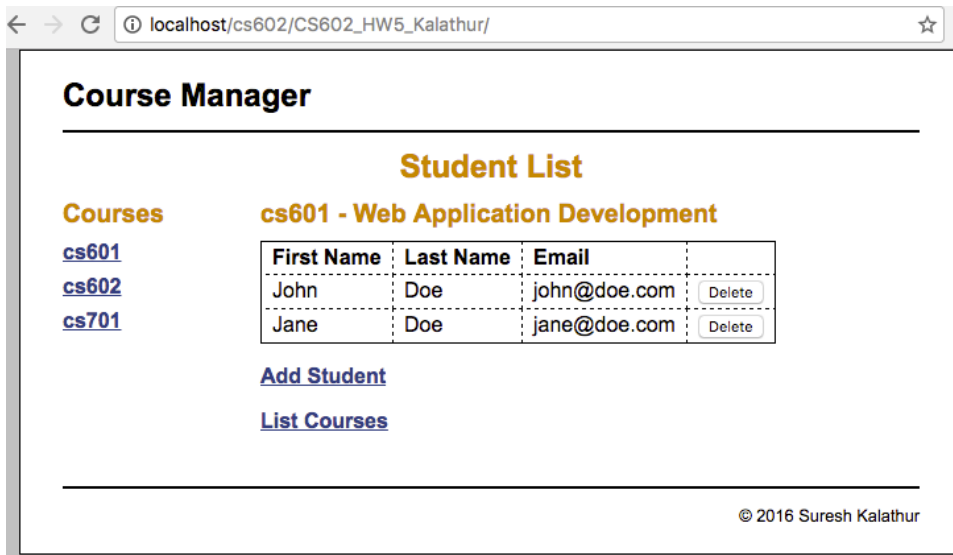
- You are strongly encouraged to add comments throughout the program. Doing so will help your instructor to understand your programming logic and grade you more accurately.
- You must work on your assignments individually. You are not allowed to copy the answers from the others.
- Each assignment has a strict deadline. Assignments submitted after the deadline will carry a penalty.
- When the term *lastName* is referenced in an assignment, please replace it with your last name.

Download and extract the starter template zip file, CS602_HW5_*lastName***. Rename the folder with your last name. Complete the corresponding assignment files in this folder.**

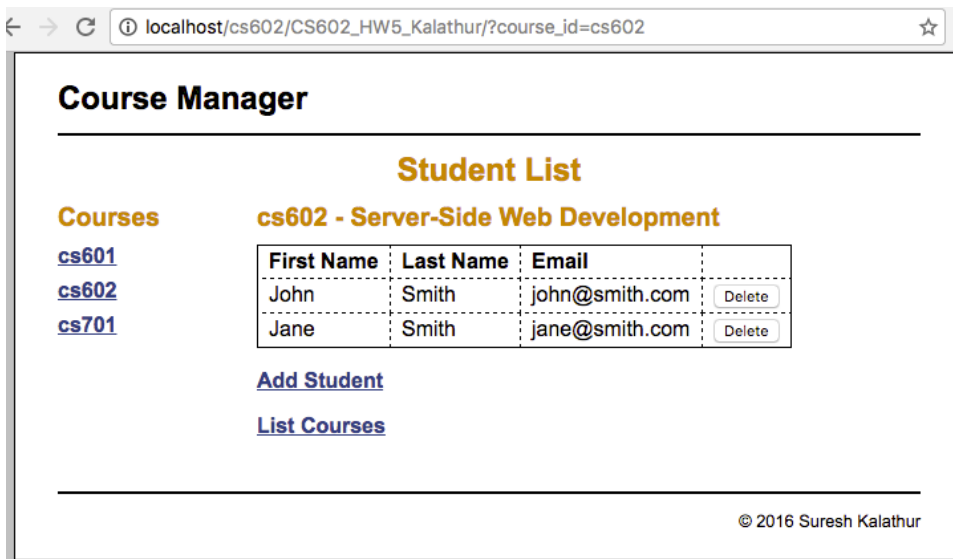
PDO – Course/Student Manager (100 Points)

Create the necessary PHP files using PDO in order to provide the following functionality. The application maintains a list of courses. Each course has a list of students enrolled in that course. The database structure and initial data used for the application is shown at the end of this document.

The home page, *index.php*, shows a list of courses. The students enrolled in the first course are shown as well. The home page has links for deleting a student, adding a student, and a link to manage the list of courses, as shown below.



Selecting a different course shows the same home page along with the request parameter corresponding to the selected *course_id* as shown below.



The [List Courses](#) link shows the *course_list.php* page as shown below. The current set of courses is shown. The page also includes a form for adding a new course. The user can also go the home page by clicking the [List Students](#) link.

The screenshot shows a web browser window with the address bar displaying `localhost/cs602/CS602_HW5_Kalathur/course_list.php`. The page title is "Course Manager". Below the title is a section titled "Course List" containing a table with three rows of course information:

ID	Name
cs601	Web Application Development
cs602	Server-Side Web Development
cs701	Rich Internet Application Development

Below the table is a section titled "Add Course" with two input fields: "Course Id:" and "Course Name:". A button labeled "Add Course" is positioned below the "Course Name" field. At the bottom of the page, there is a link labeled "List Students" and a copyright notice "© 2016 Suresh Kalathur".

The user can enter new course information and submit the form (use POST) by clicking the **Add Course** button, as shown below.

This screenshot shows the same "Course Manager" web application, but with data entered into the "Add Course" form. The "Course Id" field contains the text "cs520" and the "Course Name" field contains the text "Information Structures". A red arrow points to the "Add Course" button. The "Course List" table remains the same as in the previous screenshot. The "List Students" link and copyright notice are also present at the bottom.

The `add_course.php` script handles the above form submission. The result includes the contents of `course_list.php`, as shown below. Note that the courses are always displayed in the ascending order of their *course id*.

Course Manager

Course List

ID	Name
cs520	Information Structures
cs601	Web Application Development
cs602	Server-Side Web Development
cs701	Rich Internet Application Development

Add Course

Course Id:

Course Name:

[List Students](#)

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The [List Students](#) link shows the home page, *index.php*. The newly added course has no students as shown below.

Course Manager

Student List

Courses

[cs520](#)

[cs601](#)

[cs602](#)

[cs701](#)

cs520 - Information Structures

First Name	Last Name	Email
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[Add Student](#)

[List Courses](#)

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The [Add Student](#) link shows the *add_student_form.php* page. The form shows a drop-down list of courses, and the fields for entering the first name, last name, and email of the student. The form is submitted with POST.

localhost/cs602/CS602_HW5_Kalathur/add_student_form.php

Course Manager

Add Student

Course: cs520-Information Structures

First Name: Suresh

Last Name: Kalathur

Email: kalathur@bu.edu

Add Student

[View Student List](#)

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The above form submission is handled by *add_student.php*. The result includes the home page, showing the course selection and the resulting students in that selected course.

localhost/cs602/CS602_HW5_Kalathur/add_student.php

Course Manager

Student List

Courses

[cs520](#)

[cs601](#)

[cs602](#)

[cs701](#)

cs520 - Information Structures

First Name	Last Name	Email	
Suresh	Kalathur	kalathur@bu.edu	Delete

[Add Student](#)

[List Courses](#)

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The Delete button deletes the corresponding student from the database. The following figure shows the current list of students in the *cs701* course.

Course Manager

Courses

[cs520](#)
[cs601](#)
[cs602](#)
[cs701](#)

cs701 - Rich Internet Application Development

First Name	Last Name	Email	
John	Doe	john@doe.com	Delete
Jane	Smith	jane@smith.com	Delete

[Add Student](#)
[List Courses](#)

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The delete action is handled by *delete_student.php*. After the student is deleted, the result includes the home page with the current course.

localhost/cs602/CS602_HW5_Kalathur/delete_student.php

Course Manager

Courses

[cs520](#)
[cs601](#)
[cs602](#)
[cs701](#)

cs701 - Rich Internet Application Development

First Name	Last Name	Email	
Jane	Smith	jane@smith.com	Delete

[Add Student](#)
[List Courses](#)

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The following should be used for connecting to the database, database.php.

```

1 <?php
2 $dsn = 'mysql:host=localhost;dbname=cs602';
3 $username = 'cs602_user';
4 $password = 'cs602_secret';
5
6 try {
7     $db = new PDO($dsn, $username, $password);
8 } catch (PDOException $e) {
9     $error_message = $e->getMessage();
10    include('database_error.php');
11    exit();
12 }
13 ?>

```

Use the following database schema and the sample data shown below. The tables and the columns within the tables should match the schema shown.

```

-- create the tables
CREATE TABLE sk_courses (
  courseID      VARCHAR(12)    NOT NULL,
  courseName    VARCHAR(255)   NOT NULL,
  PRIMARY KEY (courseID)
);

CREATE TABLE sk_students (
  studentID     INT(11)        NOT NULL AUTO_INCREMENT,
  courseID      VARCHAR(12)    NOT NULL,
  firstName     VARCHAR(255)   NOT NULL,
  lastName      VARCHAR(255)   NOT NULL,
  email         VARCHAR(255)   NOT NULL,
  PRIMARY KEY (studentID)
);

-- insert data into the database
INSERT INTO sk_courses VALUES
('cs601', 'Web Application Development'),
('cs602', 'Server-Side Web Development'),
('cs701', 'Rich Internet Application Development');

INSERT INTO sk_students VALUES
(1, 'cs601', 'John', 'Doe', 'john@doe.com'),
(2, 'cs601', 'Jane', 'Doe', 'jane@doe.com'),
(3, 'cs602', 'John', 'Smith', 'john@smith.com'),
(4, 'cs602', 'Jane', 'Smith', 'jane@smith.com'),
(5, 'cs701', 'John', 'Doe', 'john@doe.com'),
(6, 'cs701', 'Jane', 'Smith', 'jane@smith.com');

```

Submission: Export your CS602_HW5_*lastName* **folder containing all the relevant files as a zip file, and upload the zip file to the Assignment section.**