

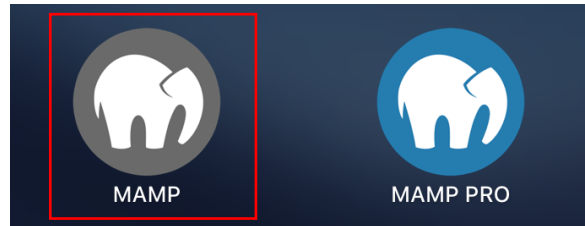
Lab 7: MySQL & PHP

1. Setup PHP server

1.1 Download MAMP from <https://www.mamp.info/en/downloads/> based on your operating system.

1.2 Install the program.

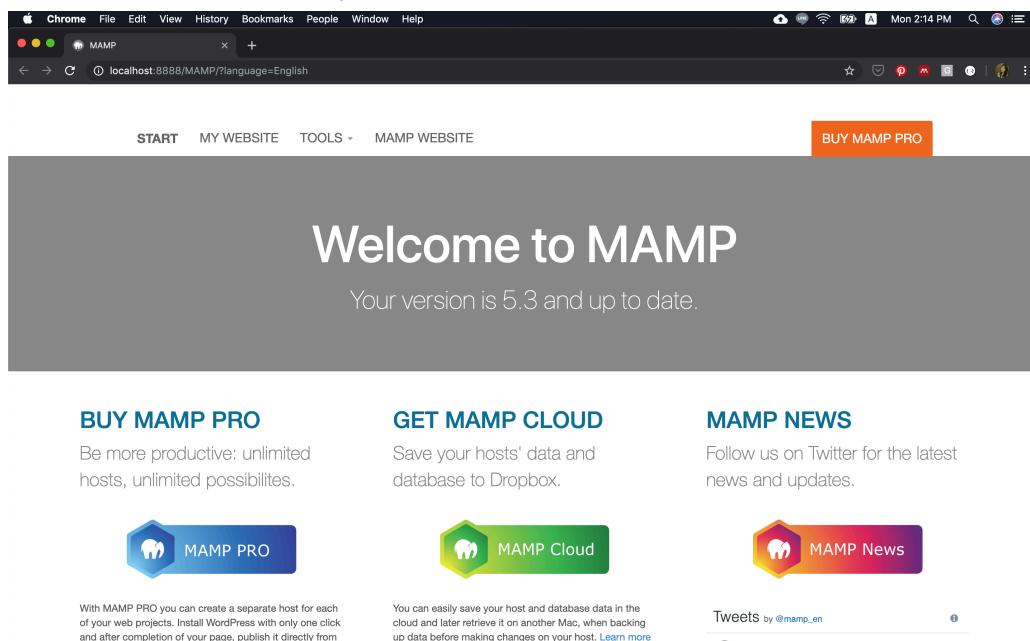
1.3 Start the program. Note that there may be 2 new programs installed on your machine, we can use just the regular MAMP with gray icon.



1.4 There will appear a screen like shown below. Click on “Start Servers” button.



1.5 There will be a new webpage popped up in a browser. See the address bar, there will be an address like localhost:xxxx/MAMP/. Note the port number xxxx, we will use that for the rest of this lab.



1.6 Download all the PHP scripts from myCourseVille. Extract and rename the folder to 593zzzzz21_lab6 (replace zzzzz with your own student ID). Then, locate the folder at the following directory:

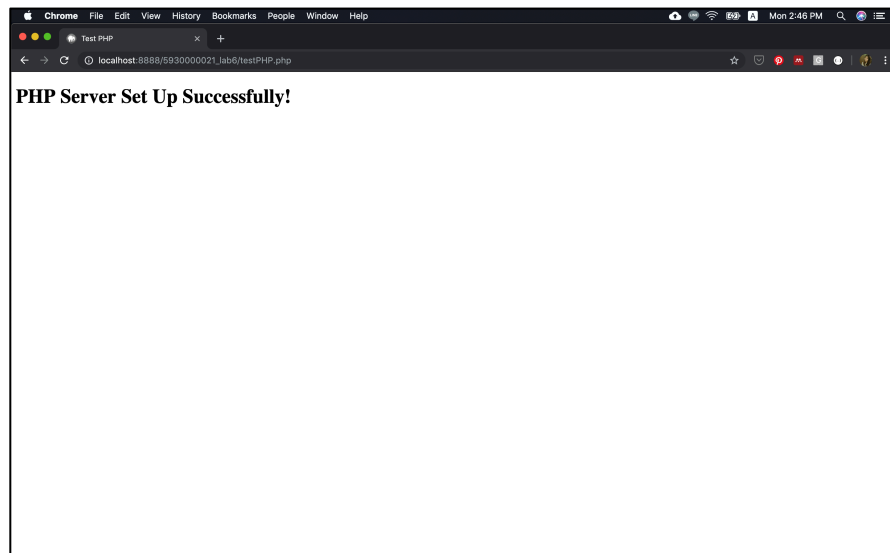
For Windows: “C:\AppServ\www” or “C:\MAMP\htdocs”

For OS X: Applications > MAMP > htdocs

1.7 Test the server by enter the following address in the browser.

localhost:xxxx/593zzzzz21_lab6/testPHP.php

If the following screen is shown, you could continue to the next step.



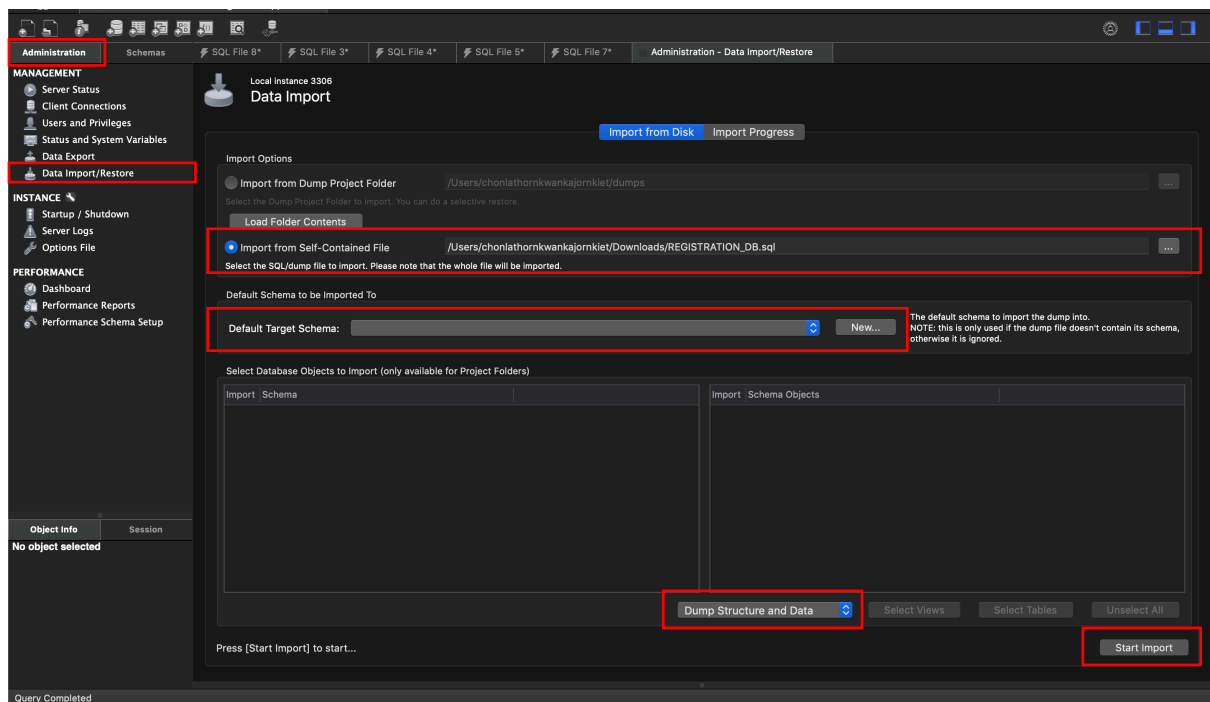
2. Connect to the database

2.1 Open “connectDB.php” file and edit password for the database in mysqli_connect function. You may need to change username and database name as well.

2.2 Open that file in the server (in the same way we open the test page in 1.7). If the database is connected to PHP server, there should be message “Database Connected.” In the webpage.

2.3 (Optional) Import database. In order to have data in database matched with data in the lab sheet, you can import file named “REGISTRATION_DB.sql” in myCourseVille to the new database by following these steps:

- 1) Select “Administration” tab
- 2) Select “Data Import/Restore” under Management section
- 3) Select “Import from Self-Contained File” and browse .sql file downloaded from myCourseVille
- 4) At “Default Target Schema”, click at “New” button to create a new database
- 5) Select “Dump Structure and Data” option
- 6) Click “Start Import” button



3. List the data records

3.1 Open “listRecord.php” in an editor, edit username and password to match your own database configuration. This step is needed to be done before opening any file in web browser.

3.2 Open listRecord.php in the web browser. The results should look like this.

← → ↻ ⓘ localhost:8888/5930000021_lab6/listRecord.php			
Student ID	Name	Year	Email
57723547	Jasmine	2015	57723547@student.chula.ac.th
57723547	Jasmine	2015	57723547@student.chula.ac.th
57712358	Lotus	2015	57712358@student.chula.ac.th
57712358	Lotus	2015	57712358@student.chula.ac.th
56756421	Orchid	2015	56756421@student.chula.ac.th
56717931	Rose	2015	56717931@student.chula.ac.th
55748896	Tulip	2015	55748896@student.chula.ac.th
55489317	Zinnia	2015	55489317@student.chula.ac.th

Your task

3.3 Modify the code in this file to show information of each student and their enrollment(s). (name, course id, sect_id, semester, year, and grade). The results must be sorted by student’s name. Capture the screen (results on web browser) and submit through myCourseVille.

Sample results

← → ↻ ⓘ localhost:8888/5930000021_lab6/listRecord.php						
Student ID	Name	Course ID	Section ID	Year	Email	Grade
57723547	Jasmine	101001	1	2015	57723547@student.chula.ac.th	A
57723547	Jasmine	101002	1	2015	57723547@student.chula.ac.th	B+
57712358	Lotus	101001	1	2015	57712358@student.chula.ac.th	A
57712358	Lotus	101002	2	2015	57712358@student.chula.ac.th	B
56756421	Orchid	201001	1	2015	56756421@student.chula.ac.th	A
56717931	Rose	201001	3	2015	56717931@student.chula.ac.th	B
55748896	Tulip	201002	1	2015	55748896@student.chula.ac.th	A
55489317	Zinnia	301001	1	2015	55489317@student.chula.ac.th	C

4. Search data from tables

4.1 Open “searchRecord.php”, there will be the screen like shown below. You can search for professors’ information by their name.


Keyword s <input type="text"/> <input type="button" value="Search"/>		
ProfessorID	Name	Salary
002	Simon	40000
005	Steve	50000

Your task

4.2 Create your own PHP script that let user search for students and their enrollment.

(name, course id, title, sect_id, semester, year and grade). Note that the results must be sorted by student name. Capture the screen of your result on web browser and submit through myCourseVille.

Sample results

 **localhost:8888/5930000021_lab6/searchStudent.php?txtKeyword=tu**

Keyword tu <input type="button" value="Search"/>						
Name	Course ID	Title	Section	Semester	Year	Grade
Lotus	101001	Physics	1	1	2015	A
Lotus	101002	Mathematics	2	1	2015	B
Tulip	201002	Database Systems	1	2	2015	A

5. Insert a data record

5.1 There are 3 files inside folder “Add”

- “addForm.php” is the main script used as form for inserting data via web browser.
- “addSave.php” is the script used for insert data into “Course” table in the database.
- “listRecord.php” is the script used for listing all courses after the insertion.

5.2 Edit your database configuration in all PHP files as necessary. Then, open “addForm.php” in the web browser.

5.3 Check the result in your database to ensure that the data are correctly inserted into the database.



Before insert

- In MySQL Workbench

	cid	title	dept_name	credits
▶	101001	Physics	Science	3
	101002	Mathematics	Science	3
	201001	Programming	Computer Engineering	2
	201002	Database Systems	Computer Engineering	3
	301001	Software Engineering	Computer Engineering	3

- In web browser (addForm.php)

Select #Record : 2 

CourseID	Title	Dept_Name	Credits
<input type="text" value="301002"/>	<input type="text" value="Computer Graphics"/>	<input type="text" value="Computer Engineering"/>	<input type="text" value="3"/> 
<input type="text" value="301003"/>	<input type="text" value="Computer Network"/>	<input type="text" value="Computer Engineering"/>	<input type="text" value="3"/> 

Then, click submit button. If these data are successfully inserted to the database, the results should match the following sample pictures.

After insert

- In web browser (addSave.php), click “here” to continue to listRecord.php.

Save Done. Click [here](#) to view.

- in web browser (listRecord.php)

CourseID	Title	Dept_Name	Credits
101001	Physics	Science	3
101002	Mathematics	Science	3
201001	Programming	Computer Engineering	2
201002	Database Systems	Computer Engineering	3
301001	Software Engineering	Computer Engineering	3
301002	Computer Graphics	Computer Engineering	3
301003	Computer Network	Computer Engineering	3

- In MySQL Workbench

▶	101001	Physics	Science	3
	101002	Mathematics	Science	3
	201001	Programming	Computer Engineering	2
	201002	Database Systems	Computer Engineering	3
	301001	Software Engineering	Computer Engineering	3
	301002	Computer Graphics	Computer Engineering	3
	301003	Computer Network	Computer Engineering	3

Your task

5.4 Edit all scripts in the folder “Add” to make an ability to insert professor information.

5.5 Add the new professor with professor id 006, with your name, and the salary of 100000.

5.6 Capture the result of your PHP scripts on web browser (for all 3 scripts) and MySQL Workbench after inserting the new professor and submit through myCourseVille.

6. Edit and update data record(s)

6.1 Open “editRecord.php” in web browser. There will be a list of all sections inside textboxes. You can edit section information within this page and click submit to update changes to the database.

CourseID	SectionID	Semester	Year	Building	Room	Timeslot_ID
101001	1	1	2015	SCI 03	512	1
101002	1	1	2015	SCI 28	418	2
101002	2	1	2015	SCI 28	317	3
201001	1	summer	2015	ENG 3	305	3
201001	2	summer	2015	ENG 3	405	3
201001	3	summer	2015	ENG 3	309	1
201002	1	2	2015	ENG 100	405	2
301001	1	2	2015	ENG 3	309	2
301001	2	2	2015	ENG 3	305	1

submit

6.2 Try updating through the web browser by changing the Database System (201002) time and location from ENG 100 building, room 405, and timeslot id 2 to ENG 100 building, room 403, and timeslot id 1

Before update

- In MySQL Workbench

	cid	sect_id	semester	year	building	room	timeslot_id
▶	101001	1	1	2015	SCI 03	512	1
	101002	1	1	2015	SCI 28	418	2
	101002	2	1	2015	SCI 28	317	3
	201001	1	summer	2015	ENG 3	305	3
	201001	2	summer	2015	ENG 3	405	3
	201001	3	summer	2015	ENG 3	309	1
	201002	1	2	2015	ENG 100	405	2
	301001	1	2	2015	ENG 3	309	2
	301001	2	2	2015	ENG 3	305	1

After update

- In MySQL Workbench

	cid	sect_id	semester	year	building	room	timeslot_id
▶	101001	1	1	2015	SCI 03	512	1
	101002	1	1	2015	SCI 28	418	2
	101002	2	1	2015	SCI 28	317	3
	201001	1	summer	2015	ENG 3	305	3
	201001	2	summer	2015	ENG 3	405	3
	201001	3	summer	2015	ENG 3	309	1
	201002	1	2	2015	ENG 100	403	1
	301001	1	2	2015	ENG 3	309	2
	301001	2	2	2015	ENG 3	305	1

- In web browser

CourseID	SectionID	Semester	Year	Building	Room	Timeslot_ID
101001	1	1	2015	SCI 03	512	1
101002	1	1	2015	SCI 28	418	2
101002	2	1	2015	SCI 28	317	3
201001	1	summer	2015	ENG 3	305	3
201001	2	summer	2015	ENG 3	405	3
201001	3	summer	2015	ENG 3	309	1
201002	1	2	2015	ENG 100	403	1
301001	1	2	2015	ENG 3	309	2
301001	2	2	2015	ENG 3	305	1

submit

Your task

6.3 Modify “editRecord.php” for editing enrollment data (in “Takes” table)

6.4 Change the section of student with student ID 57723547 for course 101002 semester 1/2015, from section 1 to section 2, using your script in web browser.

6.5 Capture the result screen on web browser and MySQL Workbench and submit through myCourseVille.

7. Delete a data record

7.1 There are 2 files in folder “Delete”

- “deleteForm.php” is the script for displaying all records in “Takes” table.
- “deleteRecord.php” is the script for deleting the selected record in the database.

7.2 Try deleting this record via web browser: “55489317, 301001, 2, 2, 2015, C”

StudentID	CourseID	SectionID	Semester	Year	Grade	Delete
55489317	301001	1	2	2015	C	Delete
55748896	201002	1	2	2015	A	Delete
56717931	201001	3	summer	2015	B	Delete
56756421	201001	1	summer	2015	A	Delete
57712358	101001	1	1	2015	A	Delete
57712358	101002	2	1	2015	B	Delete
57723547	101001	1	1	2015	A	Delete
57723547	101002	1	1	2015	B+	Delete

Before delete

▶	55489317	301001	1	2	2015	C
	55748896	201002	1	2	2015	A
	56717931	201001	3	summer	2015	B
	56756421	201001	1	summer	2015	A
	57712358	101001	1	1	2015	A
	57712358	101002	2	1	2015	B
	57723547	101001	1	1	2015	A
	57723547	101002	1	1	2015	B+

After delete

- In web browser, there will be message “Record Deleted.”
- In MySQL Workbench

	student_id	cid	sect_id	semester	year	grade
▶	55748896	201002	1	2	2015	A
	56717931	201001	3	summer	2015	B
	56756421	201001	1	summer	2015	A
	57712358	101001	1	1	2015	A
	57712358	101002	2	1	2015	B
	57723547	101001	1	1	2015	A
	57723547	101002	1	1	2015	B+

Your task

7.3 Modify the scripts in folder “Delete” to delete data in “Student” table

7.4 Try to delete record of student with student id 57712358 and id 57712358. Can you remove these records? Why?

7.5 Capture the result screen on web browser and MySQL Workbench after delete attempts, and also provide your answer from 7.4 and submit through myCourseVille.

8. Foreign key constraints

8.1 Open “editRecord.php” to edit section information.

8.2 For this time, we are going to edit section id, try changing section id of course 201002 from 1 to 2.

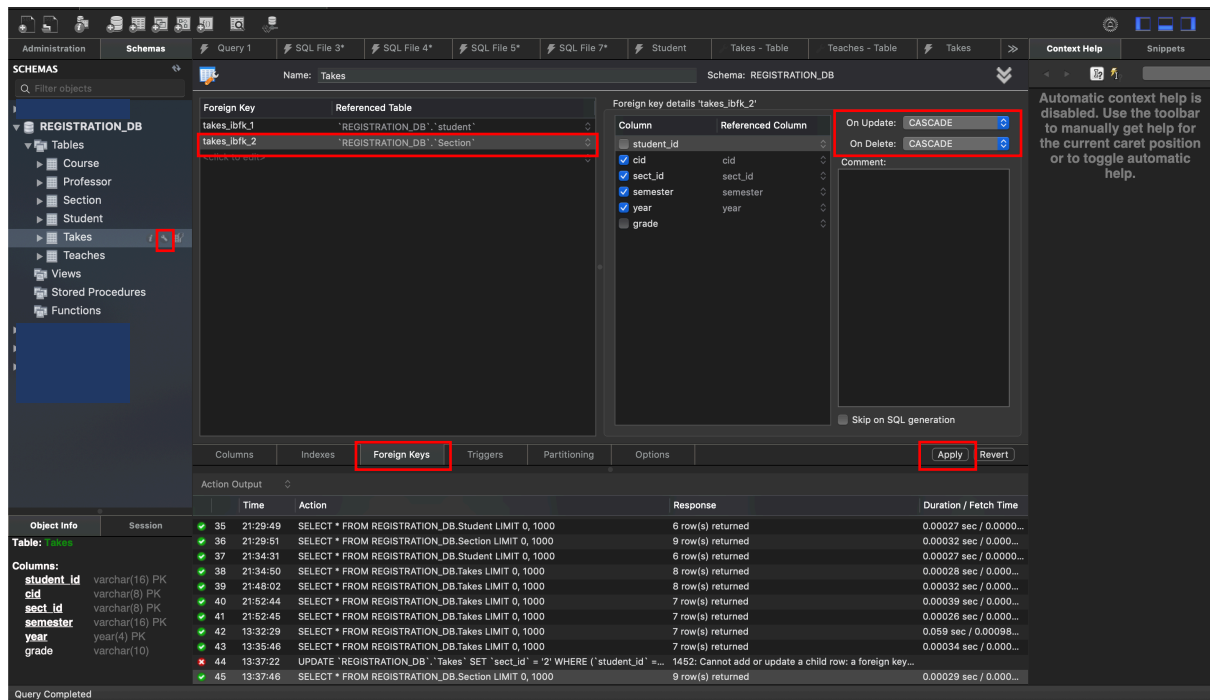
Observe the section id after submitting, **why** the section id did not change as we submit?

CourseID	SectionID	Semester	Year	Building	Room	Timeslot_ID
101001	1	1	2015	SCI 03	512	1
101002	1	1	2015	SCI 28	418	2
101002	2	1	2015	SCI 28	317	3
201001	1	summer	2015	ENG 3	305	3
201001	2	summer	2015	ENG 3	405	3
201001	3	summer	2015	ENG 3	309	1
201002	1	2	2015	ENG 100	405	2
301001	1	2	2015	ENG 3	309	2
301001	2	2	2015	ENG 3	305	1

submit

8.3 Change foreign key constraints via MySQL Workbench.

- 1) At table “Takes”, click on the settings button on the middle.
- 2) Click at “Foreign Keys” tab
- 3) Select “takes_ibkf_2” which is a foreign key constraint for (cid, sect_id, semester, year) which are linked to table “Section”
- 4) To change update and delete constraints, click on dropdowns on the right and change values from RESTRICT to CASCADE.
- 5) Click “Apply” button to apply changes.



8.4 Try changing section id of the same course again via web browser. Does it change?

Your task

8.5 There is still one table that has foreign keys linked to “Section” table. Change that foreign key constraint and capture the screen of MySQL Workbench after successfully changed the constraint, like picture in 8.4), and submit through myCourseVille.

8.6 Try changing section id again. There should be no errors for this time. Capture the screen of “editRecord.php” on web browser and MySQL Workbench, then submit through myCourseVille.