



FACULTY OF COMPUTING

SEMESTER 1 2024/2025

SECP3723 SYSTEM DEVELOPMENT TECHNOLOGY

SECTION 01

Individual Project

Course Registration System

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1.0 System Introduction

The Course Registration System is an online platform that helps students efficiently register for courses, modify their registrations and access course details. Students can use the system to manage their course selections, review past and current semesters and update their profiles. It also helps students manage their academic schedules and ensure they are enrolled in the correct courses.

Meanwhile, lecturers use the system to manage the courses they are assigned each semester. They get access to student lists and course information. This enables lecturers to manage their courses and engage students in a more efficient manner, all within the same platform.

The admin or IT staff are needed for maintaining and in charge of the system. Admins have full control to add, edit or remove courses and handle student registrations. By streamlining these processes, the system aims to help admins, lecturers and students with an effective and user-friendly experience.

2.0 System Design

2.1 Use Case Diagram

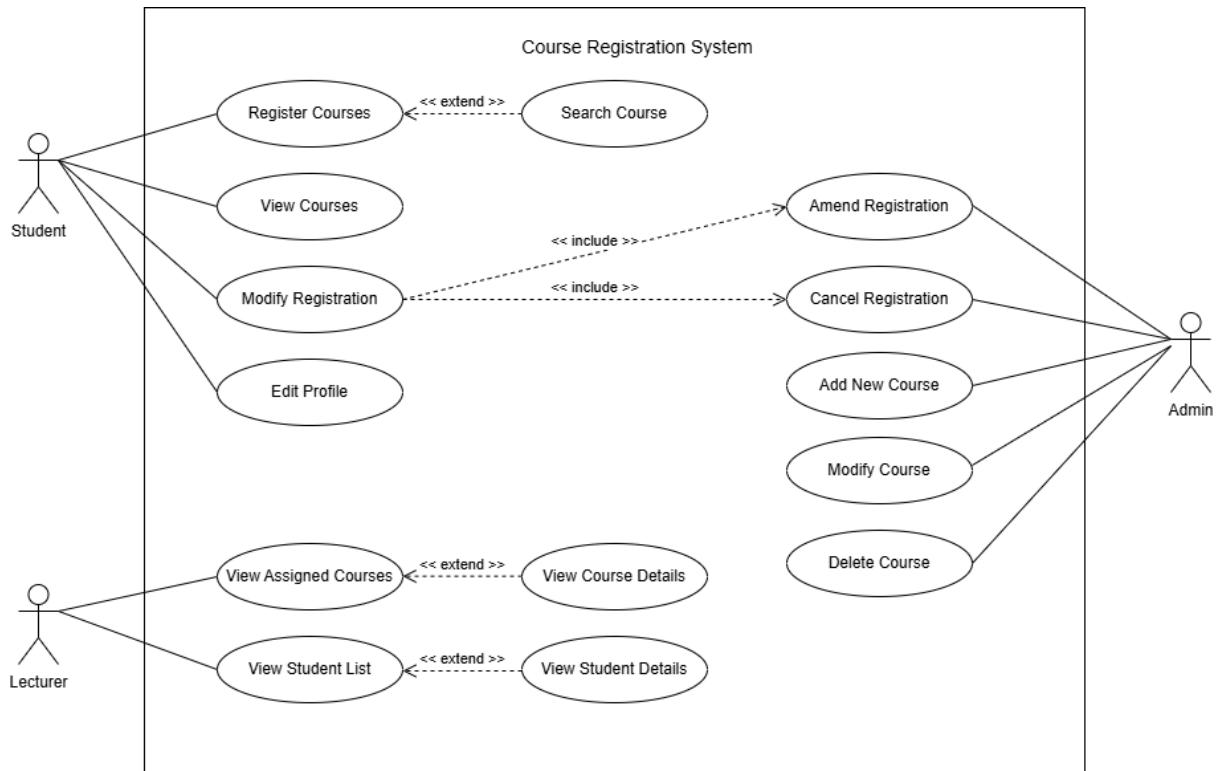


Figure 2.1 Use Case Diagram

2.2 Entities Relationship Diagram (ERD)

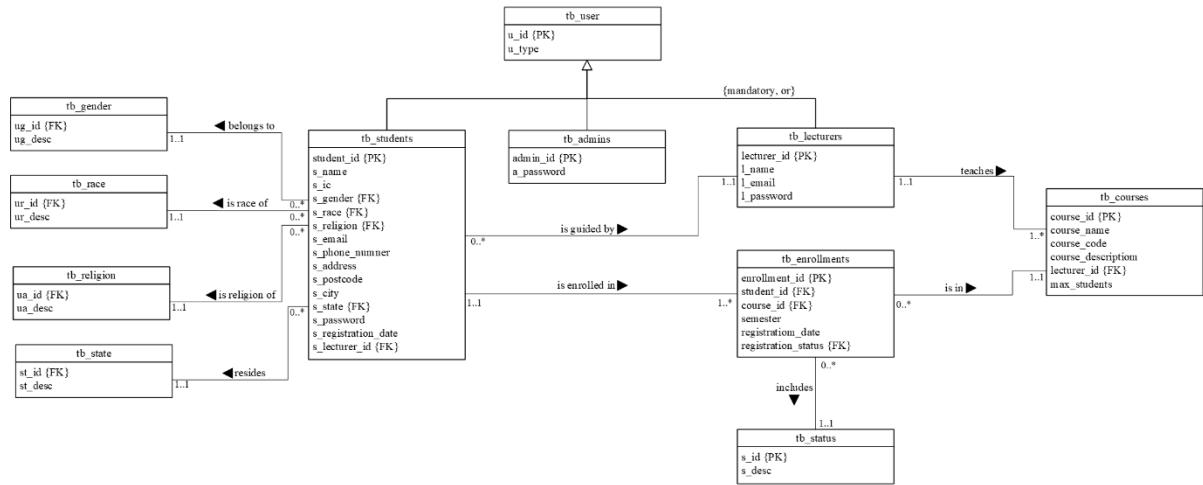


Figure 2.2 Entities Relationship Diagram (ERD)

Original Photo Link: [SDT_ERD CRS.vsdx](#)

3.0 Development Software, Language, Technology and Tools

3.1 Software

I completed the Course Registration System using many software tools. **Visual Studio Code**, a source code editor that supports multiple types of programming and markup languages, is the main component of software used. It offers extensions that improve the organization and efficiency of coding. Besides, I used **XAMPP**, a free and open-source package that comes with the Apache HTTP server and MySQL database, to run the system locally. This configuration enabled me to host the Course Registration System offline on my computer. I also designed and managed the database using **phpMyAdmin**. Besides, I also use **FileZilla** to transfer the file from local computer to web host server by using File Transfer Protocol (FTP). Lastly, I used the **Microsoft Edge** browser to assess the system's operation.

3.2 Languages

The Course Registration System is designed with many programming languages. Web pages are structured using **HTML** (Hypertext Markup Language), and their appearance is determined by **CSS** (Cascading Style Sheets), which controls the layout and design. **JavaScript** is used to make web sites more interactive by triggering functions when a user submits a form or clicks a button. **PHP** (Hypertext Preprocessor) powers the system's backend, enabling dynamic content by establishing a connection between the database and the front-end sites. Last but not least, phpMyAdmin uses **MySQL** (My Structured Query Language) to control and communicate with the MySQL database, that stores all of the system data.

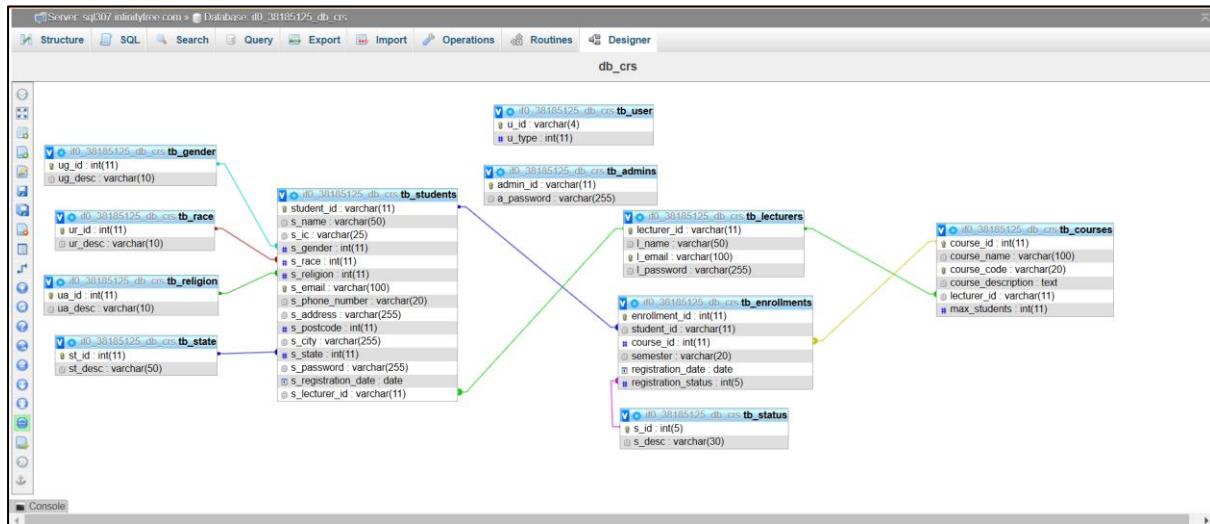
3.3 Tools

I used some tools to assist with system design and management beside that software and programming languages. **Microsoft Visio** and **draw.io** is an important tool that was used to draw the system's Use Case Diagram and Entity Relationship Diagram (ERD). The diagrams made it easier to see how users interact with the system and how its different parts are connected.

MailHog is an additional tool I used that enables me to send emails while operating locally on the system. This is especially useful for testing email-related features during development without actually sending emails. **InfinityFree** is a free web hosting service that provides a domain for public access but does not support the PHP mail () function.

4.0 Database design

Database for Course Registration System



tb_admins

The table structure for **tb_admins** is as follows:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	admin_id	varchar(11)	utf8mb4_general_ci		No	None			Change Drop More
2	a_password	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More

Buttons at the bottom include: Check all, With selected:, Browse, Change, Drop, Primary, Unique, Index, Fulltext, Print, Propose table structure, Move columns, Normalize, Add, and Go.

tb_courses

The screenshot shows the 'tb_courses' table structure in phpMyAdmin. The table has six columns: course_id, course_name, course_code, course_description, lecturer_id, and max_students. The 'course_id' column is defined as int(11) with a primary key constraint and auto-increment. The other columns are varchar or text types with various collation and attribute settings.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	course_id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	course_name	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
3	course_code	varchar(20)	utf8mb4_general_ci		No	None			Change Drop More
4	course_description	text	utf8mb4_general_ci		Yes	NULL			Change Drop More
5	lecturer_id	varchar(11)	utf8mb4_general_ci		No	None			Change Drop More
6	max_students	int(11)			No	None			Change Drop More

tb_enrollments

The screenshot shows the 'tb_enrollments' table structure in phpMyAdmin. The table has six columns: enrollment_id, student_id, course_id, semester, registration_date, and registration_status. The 'enrollment_id' column is defined as int(11) with a primary key constraint and auto-increment. The other columns are varchar, date, or int types with various collation and attribute settings.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	enrollment_id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	student_id	varchar(11)	utf8mb4_general_ci		No	None			Change Drop More
3	course_id	int(11)			No	None			Change Drop More
4	semester	varchar(20)	utf8mb4_general_ci		No	None			Change Drop More
5	registration_date	date			No	current_timestamp()			Change Drop More
6	registration_status	int(5)			No	None			Change Drop More

tb_gender

The screenshot shows the 'tb_gender' table structure in phpMyAdmin. The table has two columns: ug_id and ug_desc. The 'ug_id' column is defined as int(11) with a primary key constraint and auto-increment. The other column is a varchar type with various collation and attribute settings.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	ug_id	int(11)			No	None			Change Drop More
2	ug_desc	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More

tb_lecturers

The screenshot shows the 'tb_lecturers' table structure in phpMyAdmin. The table has four columns: lecturer_id, l_name, l_email, and l_password. All columns are of type varchar with specific lengths and collation utf8mb4_general_ci. The 'l_email' column includes a key icon, indicating it is a primary key.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	lecturer_id	varchar(11)	utf8mb4_general_ci		No	None			Change Drop More
2	l_name	varchar(50)	utf8mb4_general_ci		No	None			Change Drop More
3	l_email	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
4	l_password	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More

With selected: Check all Browse Change Drop Primary Unique Index Fulltext

tb_race

The screenshot shows the 'tb_race' table structure in phpMyAdmin. The table has two columns: ur_id and ur_desc. ur_id is of type int(11) and ur_desc is of type varchar(10). Both columns have a length of 10 and a collation of utf8mb4_general_ci.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	ur_id	int(11)			No	None			Change Drop More
2	ur_desc	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More

With selected: Check all Browse Change Drop Primary Unique Index Fulltext

tb_religion

The screenshot shows the 'tb_religion' table structure in phpMyAdmin. The table has two columns: ua_id and ua_desc. ua_id is of type int(11) and ua_desc is of type varchar(10). Both columns have a length of 10 and a collation of utf8mb4_general_ci.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	ua_id	int(11)			No	None			Change Drop More
2	ua_desc	varchar(10)	utf8mb4_general_ci		No	None			Change Drop More

With selected: Check all Browse Change Drop Primary Unique Index Fulltext

tb_state

The screenshot shows the 'tb_state' table structure in phpMyAdmin. The table has two columns: st_id and st_desc. st_id is of type int(11) and st_desc is of type varchar(50). Both columns have a length of 50 and a collation of utf8mb4_general_ci.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	st_id	int(11)			No	None			Change Drop More
2	st_desc	varchar(50)	utf8mb4_general_ci		No	None			Change Drop More

With selected: Check all Browse Change Drop Primary Unique Index Fulltext

tb_status

The screenshot shows the 'tb_status' table structure in phpMyAdmin. The table has two columns: 's_id' (int(5)) and 's_desc' (varchar(30)). Both columns have a collation of utf8mb4_general_ci, attributes of 'None', and are set to 'No' for both Null and Default. There are no comments or extra options.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	s_id	int(5)			No	None			Change
2	s_desc	varchar(30)	utf8mb4_general_ci		No	None			Change

With selected: [Browse](#) [Change](#) [Drop](#) [Primary](#) [Unique](#) [Index](#) [Fulltext](#)

tb_students

The screenshot shows the 'tb_students' table structure in phpMyAdmin. The table has 15 columns: student_id, s_name, s_ic, s_gender, s_race, s_religion, s_email, s_phone_number, s_address, s_postcode, s_city, s_state, s_password, s_registration_date, and s_lecturer_id. Most columns have a collation of utf8mb4_general_ci, attributes of 'None', and are set to 'No' for both Null and Default. The 's_registration_date' column is of type date and has a default value of current_timestamp(). There are no comments or extra options.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	student_id	varchar(11)	utf8mb4_general_ci		No	None			Change
2	s_name	varchar(50)	utf8mb4_general_ci		No	None			Change
3	s_ic	varchar(25)	utf8mb4_general_ci		No	None			Change
4	s_gender	int(11)			No	None			Change
5	s_race	int(11)			No	None			Change
6	s_religion	int(11)			No	None			Change
7	s_email	varchar(100)	utf8mb4_general_ci		No	None			Change
8	s_phone_number	varchar(20)	utf8mb4_general_ci		No	None			Change
9	s_address	varchar(255)	utf8mb4_general_ci		No	None			Change
10	s_postcode	int(11)			No	None			Change
11	s_city	varchar(255)	utf8mb4_general_ci		No	None			Change
12	s_state	int(11)			No	None			Change
13	s_password	varchar(255)	utf8mb4_general_ci		No	None			Change
14	s_registration_date	date			Yes	current_timestamp()			Change
15	s_lecturer_id	varchar(11)	utf8mb4_general_ci		No	None			Change

With selected: [Browse](#) [Change](#) [Drop](#) [Primary](#) [Unique](#) [Index](#) [Fulltext](#)

tb_user

The screenshot shows the 'tb_user' table structure in phpMyAdmin. The table has two columns: u_id and u_type. The 'u_id' column is of type varchar(4) with a collation of utf8mb4_general_ci, attributes of 'None', and is set to 'No' for both Null and Default. The 'u_type' column is of type int(11) and has a comment of '1-Students 2-Lecturer 3-IT Staff'. There are no extra options.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	u_id	varchar(4)	utf8mb4_general_ci		No	None			Change
2	u_type	int(11)			No	None	1-Students 2-Lecturer 3-IT Staff		Change

With selected: [Browse](#) [Change](#) [Drop](#) [Primary](#) [Unique](#) [Index](#) [Fulltext](#)

5.0 Development Steps

5.1 Phase 1: Planning and Requirements Gathering

In this phase, I carefully analysed the Course Registration System's requirements by understanding the specific needs of students, lecturers and admins. I discovered that the system's main objective is to make it easier for students to register for classes while giving lecturers and admins easy management options. The system's goals are to give lecturers access to student lists and course information, as well as to enable students to register, modify or cancel their course registrations. Admins have full control of course management, which includes managing student registrations and adding, modifying or deleting courses. This system's target audiences are students (who will register and manage courses), lecturers (who will view course and student information) and admins (who will manage the entire system).

5.2 Phase 2: Designing the System

I started the design phase by drawing the Use Case Diagram and Entity Relationship Diagram (ERD) to show the system's architecture and user interactions. The relationships between entities like students, courses, lecturers, enrolments and more were outlined with the aid of the ERD. Additionally, I created the system's wireframes, which enabled me to see how important sites like the lecturer views, course registration page and student dashboard would look and work. I selected a visually appealing and user-friendly framework for the platform's design in order to achieve simple navigation. Making the sites both visually appealing and functional was the main goal, and I made buttons and navigation bars to improve the user experience.

5.3 Phase 3: Developing the System

During the development phase, I focused on writing code for both the system's backend and frontend. I used PHP, MySQL, JavaScript, CSS and HTML to implement the system. Beginning with the development of fundamental functions including user authentication, course registration, and profile management, the system was constructed in an organized and systematic method. To maintain the integrity of the system, I gave particular attention to security concerns including password encryption, SQL injection prevention, and password validation during the development process. This phase also addressed other issues, such as fixing login problems and preventing unauthorized access. With a primary focus on the objectives established during the planning stage, the system was developed to be practical, safe, and easy to use.

5.4 Phase 4: Testing the System

During the testing phase, I focused on evaluating the Course Registration System's performance and functionality on desktop computers, making sure that essential features like user profile management, login/logout functionality and course registration operated properly on web browsers like Microsoft Edge and Google Chrome. I tracked and fixed them, including registration problems and login errors, while making sure security features like password encryption were correctly put in place to protect user information. I carried out extensive internal testing in order to model user behaviour, detect possible issues and enhance system performance. I improved the system after fixing any problems to make sure that every user had

a seamless experience.

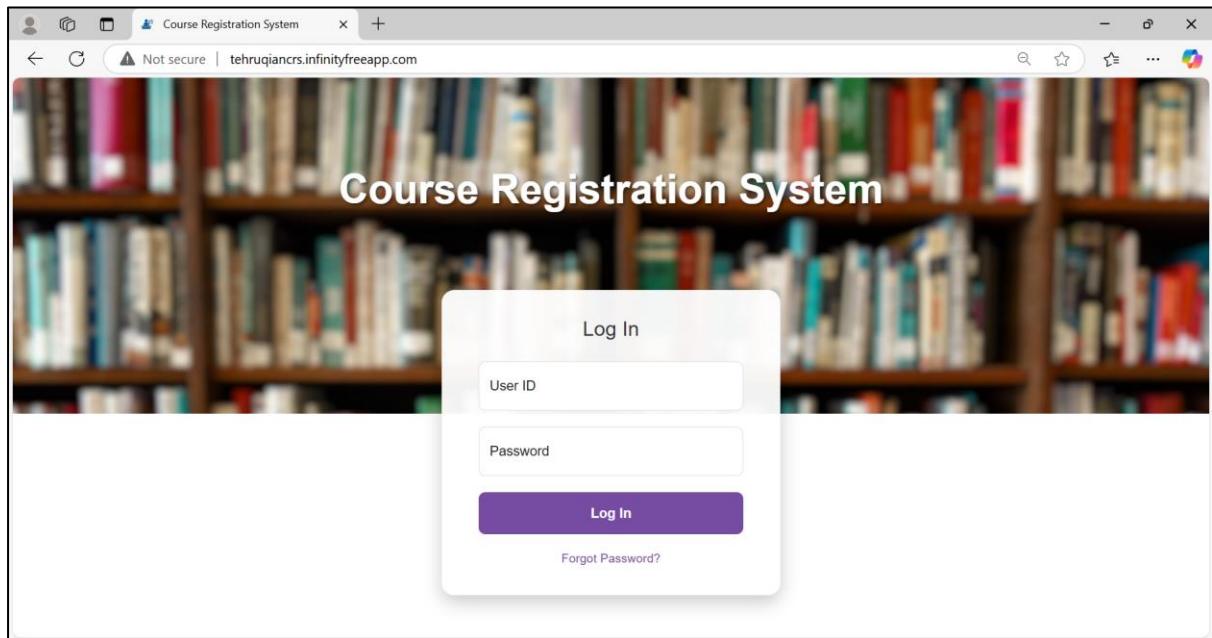
6.0 System Interface for All Users

Login for All Users

Student: Enter User ID (S001/S002/S003) and Password (123456).

Lecturer: Enter User ID (L001/L002) and Password (123456).

Admin: Enter User ID (A001/A002) and Password (123456).



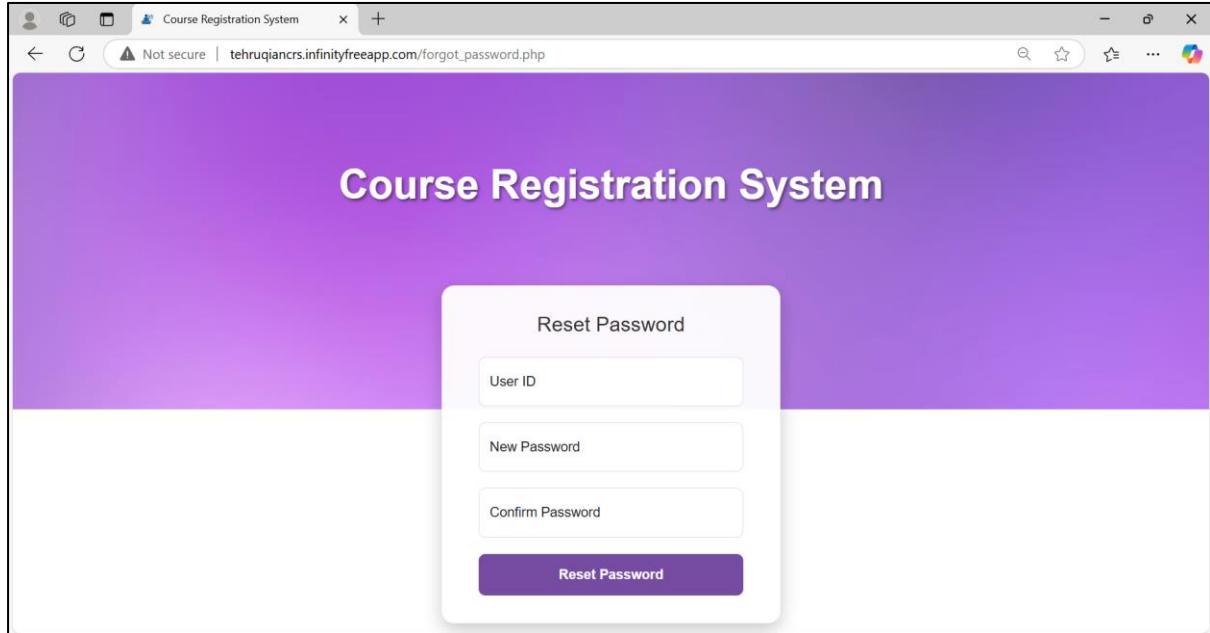
Forgot Password

Student: Enter User ID (S001/S002/S003).

Lecturer: Enter User ID (L001/L002).

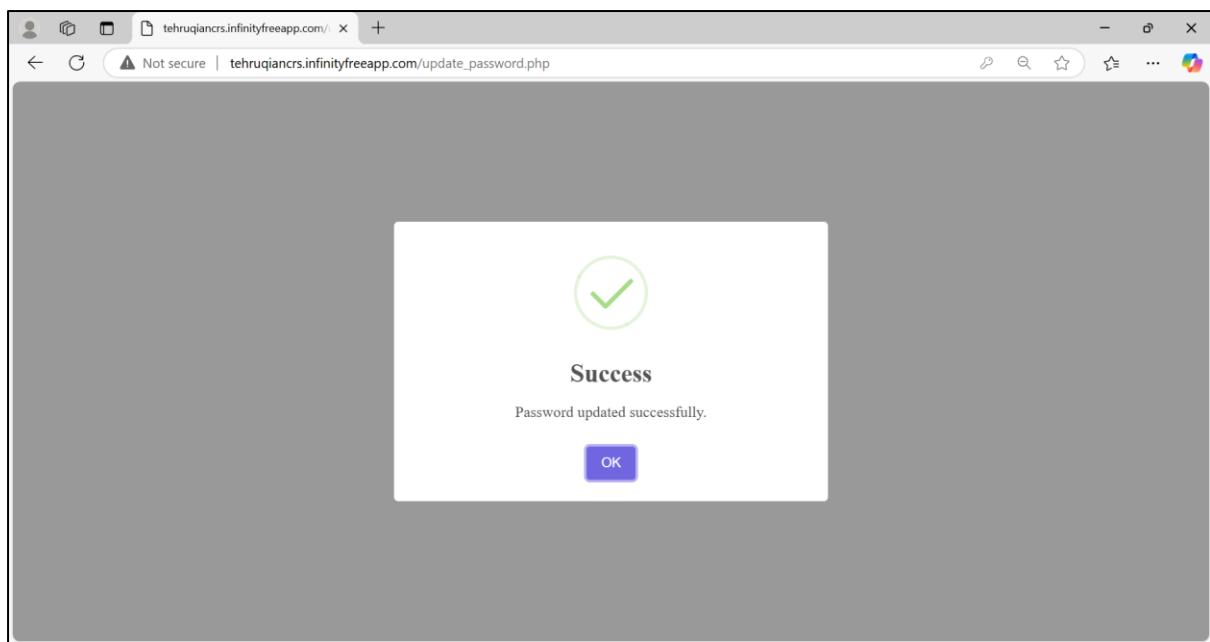
Admin: Enter User ID (A001/A002).

Enter new password for reset password.



Successful Updated Password

After click “OK”, it will go to login page again.



Student View: Student Dashboard

The screenshot shows the 'Student Dashboard' page of the Course Registration System. At the top, there are four purple boxes: 'Current Semester' (2024/2025 Semester 1), 'Current CGPA' (3.00), 'Activity' (64), and '\$ Outstanding' (\$0.00). Below this is a section titled 'Course List' containing a table with two rows of course information:

No.	Course Code	Course Name	Semester	Registration Date	Status
1	SECJ2013	Data Structure and Algorithm	2024/2025-1	2024-07-23	Approved
2	SECR2213	Network Communication	2024/2025-1	2024-07-15	Rejected

At the bottom, a purple footer bar states 'Developed by Teh Ru Qian @2025'.

Register Course

Search course by course code

The screenshot shows the 'Course Information' page. At the top right are a search bar ('Search by Course Code') and a 'Search' button. Below is a section titled 'Course Offered' with a table of courses:

No.	Course Code	Course Name	Course Description	Capacity	Action
1	SECJ2013	Data Structure and Algorithm	Core concepts in data structures and algorithms.	40	<button>✓ Register</button>
2	SECP2523	Database (WBL)	Comprehensive study of database systems.	38	<button>✓ Register</button>
3	SECR2213	Network Communication	Communication protocols and network architecture.	25	<button>✓ Register</button>
4	SECP3204	Software Engineering (WBL)	Principles and practices of software development.	30	<button>✓ Register</button>

At the bottom, a purple footer bar states 'Developed by Teh Ru Qian @2025'.

The screenshot shows a web browser window for the 'Course Registration System'. The URL is tehruqiancrs.infinityfreeapp.com/student/register_course.php. The page has a purple header with the system name and navigation links for 'Register Course', 'Manage Course', 'Profile', and 'Logout'. Below the header is a table titled 'Course Offered' with columns: No., Course Code, Course Name, Course Description, Capacity, and Action. The table lists five courses. Each row has a green 'Register' button with a checkmark icon. A 'Back' button is at the bottom left, and a footer note 'Developed by Teh Ru Qian @2025' is at the bottom right.

No.	Course Code	Course Name	Course Description	Capacity	Action
1	SECJ2013	Data Structure and Algorithm	Core concepts in data structures and algorithms.	40	Register
2	SECP2523	Database (WBL)	Comprehensive study of database systems.	38	Register
3	SECR2213	Network Communication	Communication protocols and network architecture.	25	Register
4	SECP3204	Software Engineering (WBL)	Principles and practices of software development.	30	Register
5	SECP3723	System Development Technology (WBL)	Basic technologies and components for web application developments.	35	Register

Successful Registered

After click "OK", it will go to student dashboard.

The screenshot shows the same web browser window after a course has been registered. A modal dialog box is centered over the page with the title 'Course Information'. Inside the dialog, there is a green circular icon with a checkmark, the text 'Registration Successful!', and the message 'You have successfully registered for the course.' Below this is a blue 'OK' button. The background of the main page is dimmed. The footer note 'Developed by Teh Ru Qian @2025' is visible at the bottom.

Manage Course

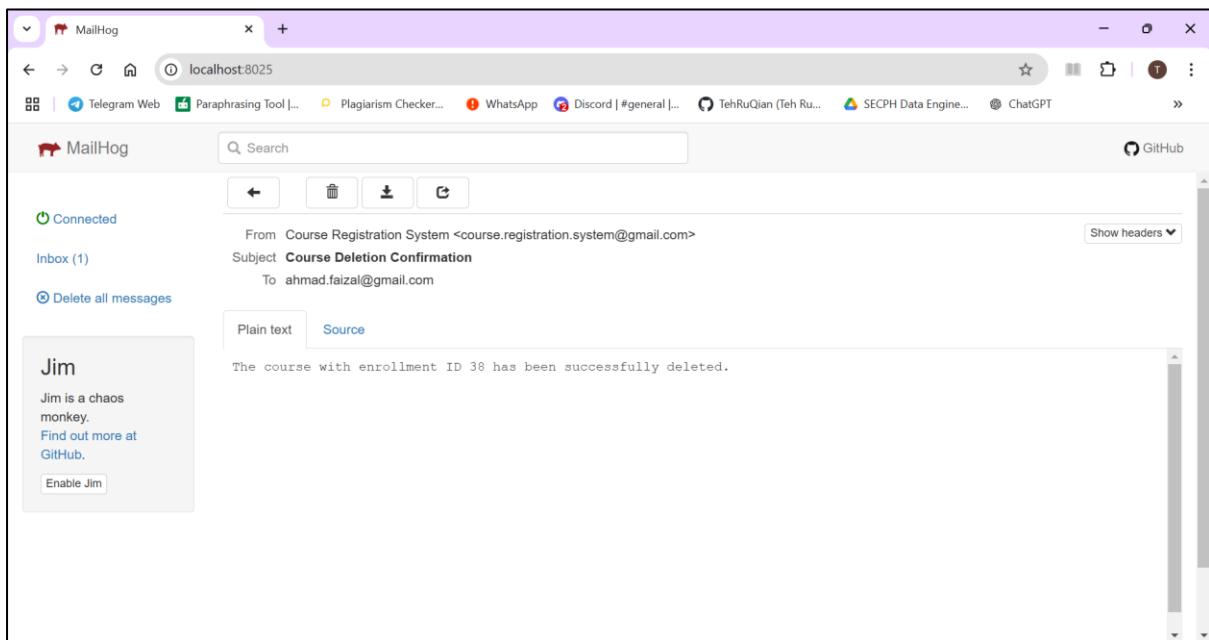
Can delete the course that registered.

The screenshot shows a web browser window for the "Course Registration System". The URL is tehruqiancrs.infinityfreeapp.com/student/manage_course.php. The page has a purple header with the system name and navigation links for Register Course, Manage Course, Profile, and Logout. Below the header is a "Course List" section with a table. The table has columns: No., Course Code, Course Name, Semester, Registration Date, Status, and Action. There is one row with data: No. 1, Course Code SECJ2013, Course Name Data Structure and Algorithm, Semester 2024/2025-2, Registration Date 2025-01-27, Status Pending, and Action with a red "Delete" button. At the bottom of the page, a purple footer bar displays the text "Developed by Teh Ru Qian @2025".

Successful deleted

The screenshot shows a web browser window for the "Course Registration System" at the URL localhost/crs/student/manage_course.php. A modal dialog box is centered on the screen, displaying a green checkmark icon and the text "Course deleted successfully" with an "OK" button. In the bottom right corner of the main page area, there is a small "Google Chrome" window showing an email from "Course Registration System" with the subject "Course Deletion Confirmation" and the message "localhost:8025".

Email Notification (localhost setting)



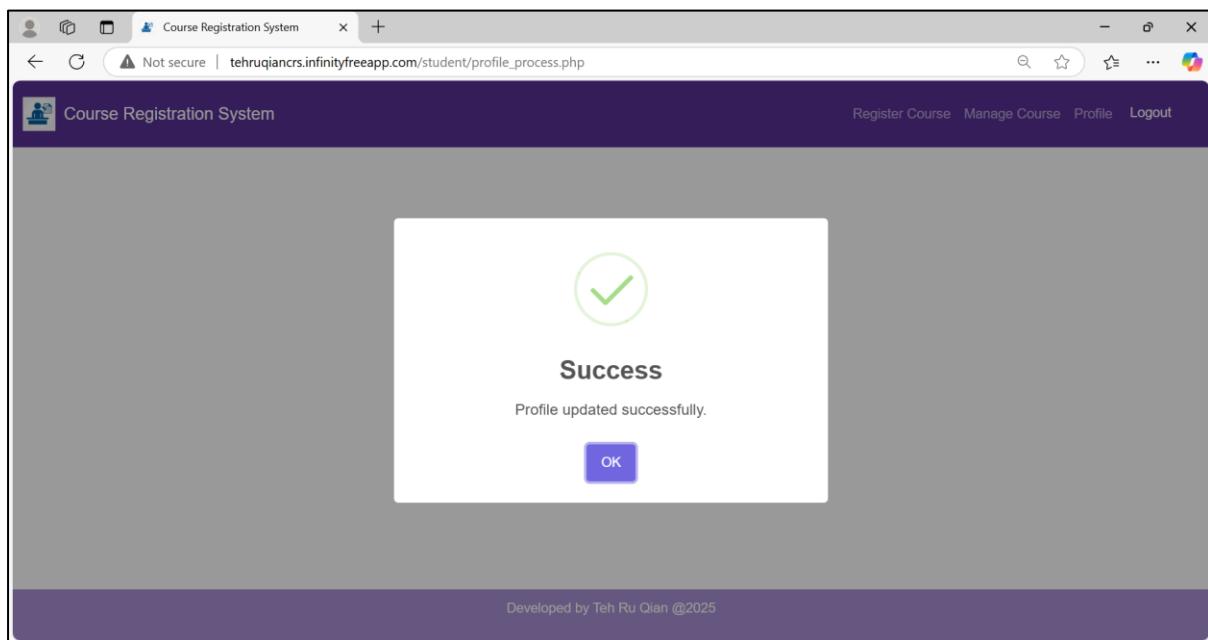
Edit Profile

The screenshot shows a web application titled 'Course Registration System' with a purple header bar containing links for 'Register Course', 'Manage Course', 'Profile', and 'Logout'. The main content area is titled 'Student Profile' and features a purple header 'Personal Information'. It includes fields for 'Name' (Ahmad Faizal bin Ali), 'IC Number' (040101-02-0111), and 'Email' (ahmad.faizal@gmail.com). At the bottom of the page, a purple footer bar displays the text 'Developed by Teh Ru Qian @2025'.

A screenshot of a web browser showing the 'Course Registration System'. The URL is tehruqiancrs.infinityfreeapp.com/student/profile.php?i=1. The page has a purple header with the system name and navigation links for Register Course, Manage Course, Profile, and Logout. The main content area contains fields for updating personal information: Phone Number (0145657866), Gender (Male), Race (Melayu), Religion (Islam), Address (No. 48, Jalan Raja Laut, Kampung Baru), Postcode (50000), City (Kuala Lumpur), and State (Wilayah Persekutuan Kuala Lumpur). There are 'Back' and 'Update' buttons at the bottom.

Successful Updated

After click “OK”, it will refresh profile page.



Lecturer View: Lecturer Dashboard

The screenshot shows a web browser window for the 'Course Registration System'. The title bar says 'Course Registration System' and there is a 'Logout' link in the top right. On the left, a sidebar has 'Course List' and 'Student List' options. The main area is titled 'Course List' and contains a table with four rows:

No.	Course Code	Course Name	Semester	Action
1	SECP2523	Database (WBL)	2024/2025-1	View Details
2	SECP3204	Software Engineering (WBL)	2024/2025-1	View Details
3	SECJ2013	Data Structure and Algorithm	2024/2025-1	View Details
4	SECJ2013	Data Structure and Algorithm	2024/2025-2	View Details

At the bottom, it says 'Developed by Teh Ru Qian @2025'.

Course Details and Student List who has enrolled in that course

The screenshot shows a web browser window for the 'Course Registration System'. The title bar says 'Course Registration System' and there is a 'Logout' link in the top right. The main area is titled 'Course Details' and shows the following information:

Course Code	SECP2523
Course Name	Database (WBL)
Lecturer	Dr. Noraini Musa

Below this is a section titled 'Student List' with a table:

No.	Student ID	Student Name	Action
1	S002	Nur Aisyah binti Abu	Details

At the bottom, it says 'Developed by Teh Ru Qian @2025'.

The screenshot shows a web browser window for the 'Course Registration System'. The URL is tehruqiancrs.infinityfreeapp.com/lecturer/course_details.php?id=1. The page displays course information: Course Name is 'Database (WBL)' and Lecturer is 'Dr. Noraini Musa'. Below this, a 'Student List' section shows one student entry: No. 1, Student ID S002, Student Name Nur Aisyah binti Abu, with a 'Details' button. At the bottom left is a 'Back' button, and at the bottom right is a developer credit: 'Developed by Teh Ru Qian @2025'.

View Student Details

The screenshot shows a web browser window for the 'Course Registration System'. The URL is tehruqiancrs.infinityfreeapp.com/lecturer/student_details.php?id=S002. The page displays student details for Nur Aisyah binti Abu, including Name, IC Number, Email, and Phone Number. The developer credit 'Developed by Teh Ru Qian @2025' is visible at the bottom right.

 Course Registration System

Logout

Phone Number		
0196546536		
Gender	Race	Religion
Female	Melayu	Islam
Address		
103, Jalan Laksamana, Taman Indah		
Postcode	City	State
84000	Muar	Johor

[← Back](#)

Developed by Teh Ru Qian @2025

List of students assigned

 Course Registration System

Logout

Course List	Student List									
	<p> Student List</p> <table border="1"><thead><tr><th>Student ID</th><th>Student Name</th><th>Action</th></tr></thead><tbody><tr><td>S001</td><td>Ahmad Faizal bin Ali</td><td>Course List</td></tr><tr><td>S002</td><td>Nur Aisyah binti Abu</td><td>Course List</td></tr></tbody></table>	Student ID	Student Name	Action	S001	Ahmad Faizal bin Ali	Course List	S002	Nur Aisyah binti Abu	Course List
Student ID	Student Name	Action								
S001	Ahmad Faizal bin Ali	Course List								
S002	Nur Aisyah binti Abu	Course List								

[← Back](#)

Developed by Teh Ru Qian @2025

Course List for that student enrolled

The screenshot shows a web browser window for the "Course Registration System". The URL is tehrqiancrs.infinityfreeapp.com/lecturer/s_course_list.php?id=S001. The page title is "Course List for Student ID: S001". On the left, there is a sidebar with a "Logout" link. The main content area has a purple header "Enrollment List". Below it is a table with four columns: "Course Code", "Course Name", "Registration Status", and "Action". The table contains three rows:

Course Code	Course Name	Registration Status	Action
SECP2523	Database (WBL)	Pending	<button>Approve</button>
SECJ2013	Data Structure and Algorithm	Approved	
SECR2213	Network Communication	Rejected	

At the bottom left is a "Back" button. At the bottom right is a footer bar with the text "Developed by Teh Ru Qian @2025".

Successful Approved

After click "OK", it will refresh this page.

The screenshot shows the same web browser window as the previous one, but now a modal dialog box is displayed in the center. The dialog has a green checkmark icon and the word "Success!". Below it is the text "Status updated successfully". At the bottom is a blue "OK" button. The background of the page is dimmed, and the "Approve" button in the table is now grayed out, indicating it has been clicked.

Admin View: Admin Dashboard

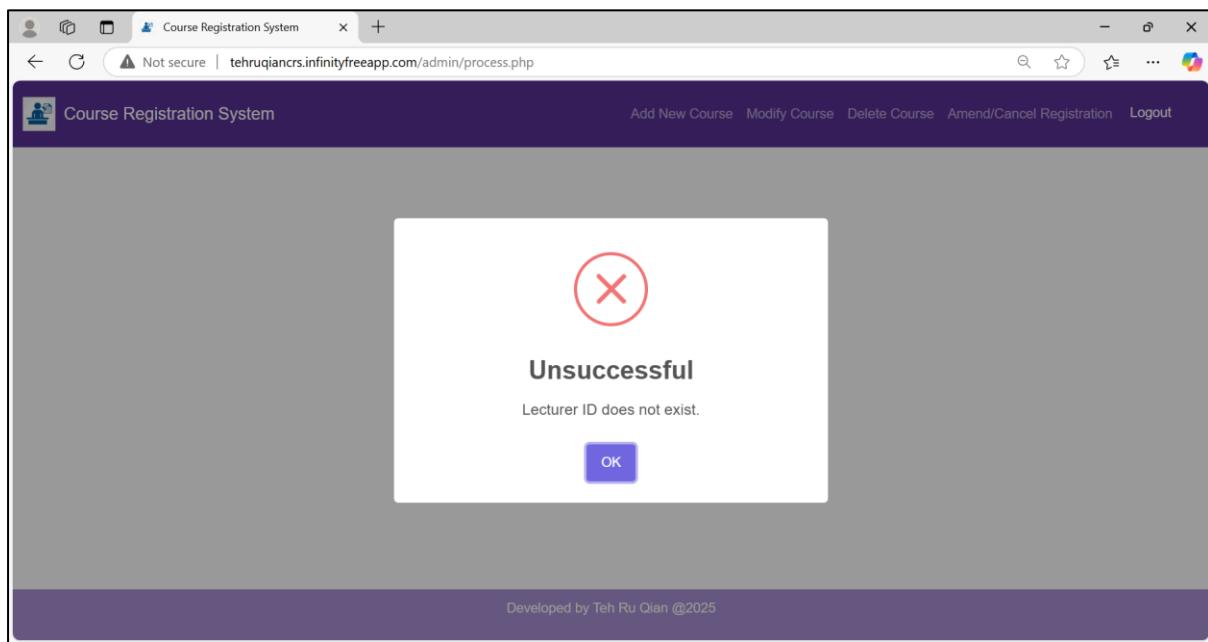
The screenshot shows the 'Admin Dashboard' page of the Course Registration System. The header includes a logo, the title 'Course Registration System', and links for 'Add New Course', 'Modify Course', 'Delete Course', 'Amend/Cancel Registration', and 'Logout'. The main content area features two sections: 'Course Management' (with links for adding, modifying, or deleting courses) and 'Registration Management' (with a link for amending/cancelling registrations). A footer at the bottom right credits 'Developed by Teh Ru Qian @2025'.

Add New Course

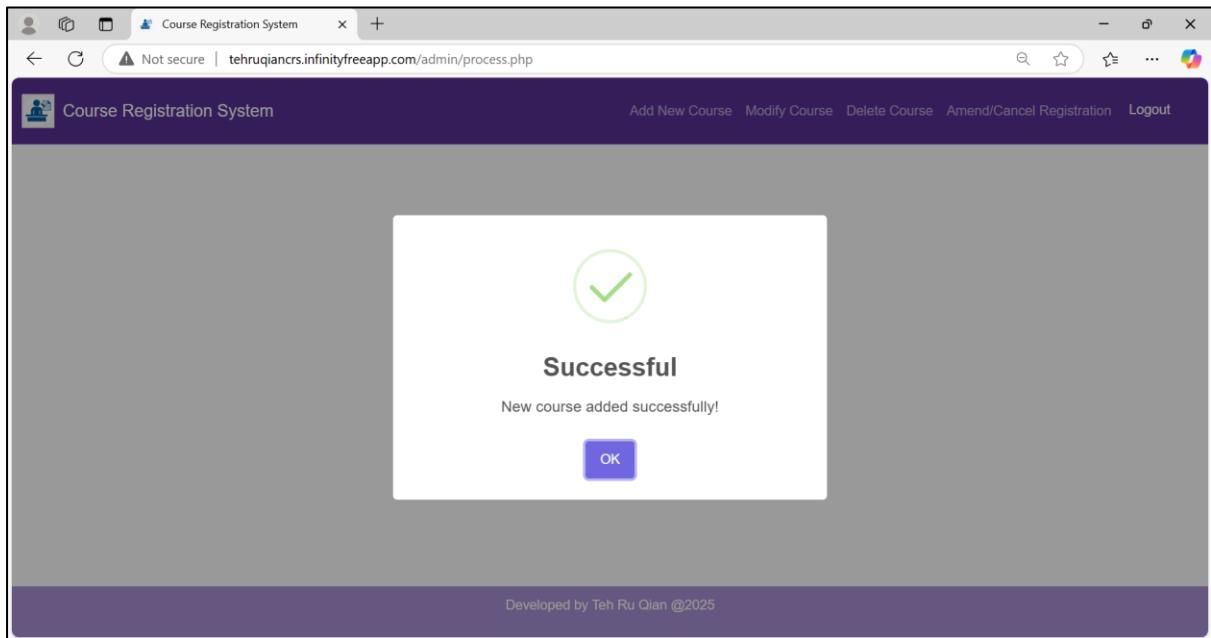
The screenshot shows the 'Add New Course' page. The header includes a logo, the title 'Course Registration System', and links for 'Add New Course', 'Modify Course', 'Delete Course', 'Amend/Cancel Registration', and 'Logout'. The main content area contains five input fields for 'Course Name', 'Course Code', 'Course Description', and 'Lecturer ID'. A footer at the bottom right credits 'Developed by Teh Ru Qian @2025'.

A screenshot of a web browser window titled "Course Registration System". The URL is "tehruqiancrs.infinityfreeapp.com/admin/add_course.php". The page has a purple header bar with the system name and navigation links: "Add New Course", "Modify Course", "Delete Course", "Amend/Cancel Registration", and "Logout". Below the header are four input fields: "Course Code", "Course Description", "Lecturer ID", and "Maximum Students", each with a placeholder text. A central "Add Course" button is visible. At the bottom, a purple footer bar displays the text "Developed by Teh Ru Qian @2025".

Warning if Lecturer ID does not exist



Successful Added



Dashboard for Modify Course

A screenshot of a web browser displaying a course list. The title bar says "Course Registration System". The main content area has a purple header "Course List". Below it is a table with columns: No., Course Code, Course Name, Lecturer ID, Max Students, and Action. The table contains five rows of data. Each row has an "Edit" button in the "Action" column. The footer of the page says "Developed by Teh Ru Qian @2025".

No.	Course Code	Course Name	Lecturer ID	Max Students	Action
1	SECP2523	Database (WBL)	L001	38	Edit
2	SECP3204	Software Engineering (WBL)	L001	30	Edit
3	SECJ2013	Data Structure and Algorithm	L001	40	Edit
4	SECR2213	Network Communication	L002	25	Edit
5	SECP3723	System Development Technology (WBL)	L002	35	Edit

Modify Course

The screenshot shows a web browser window for the "Course Registration System". The URL is tehrqiancrs.infinityfreeapp.com/admin/modify_course.php?course_code=SECP2523. The page title is "Modify Course". The navigation menu includes "Add New Course", "Modify Course", "Delete Course", "Amend/Cancel Registration", and "Logout". The main form fields are:

- Course Code: SECP2523
- Course ID: 1
- Course Name: Database (WBL)
- Course Description: Comprehensive study of database systems.

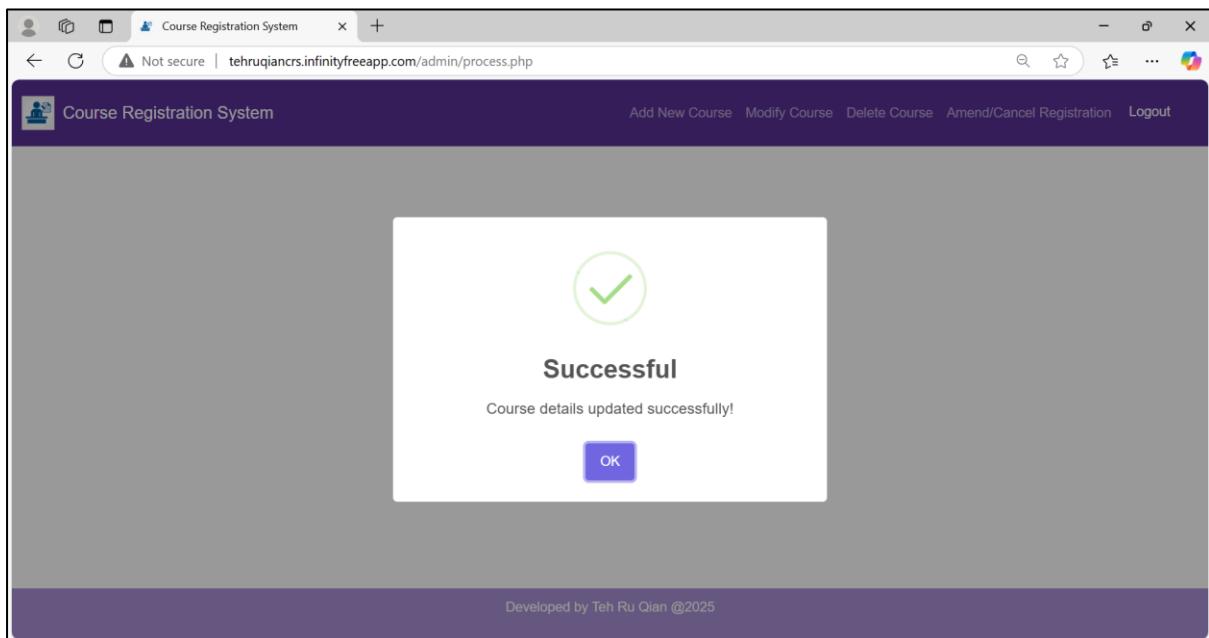
At the bottom, it says "Developed by Teh Ru Qian @2025".

The screenshot shows the same "Course Registration System" interface, but with more fields filled in:

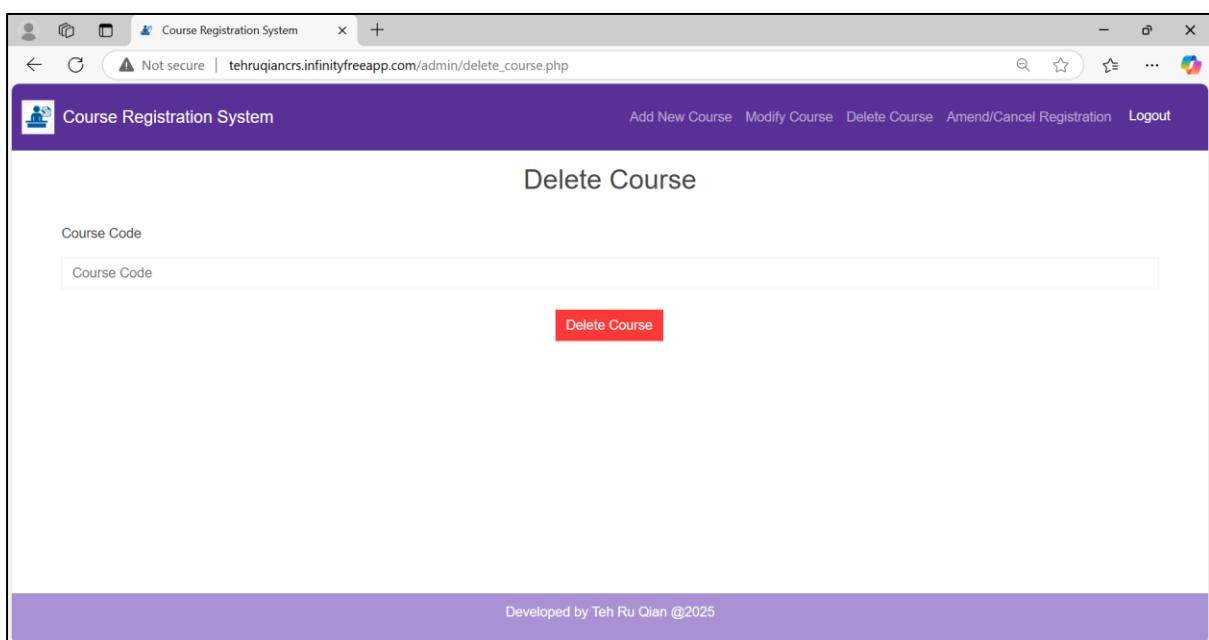
- Course Name: Database (WBL)
- Course Description: Comprehensive study of database systems.
- Lecturer ID: L001
- Maximum Students: 38

A purple "Modify Course" button is visible at the bottom. The footer still says "Developed by Teh Ru Qian @2025".

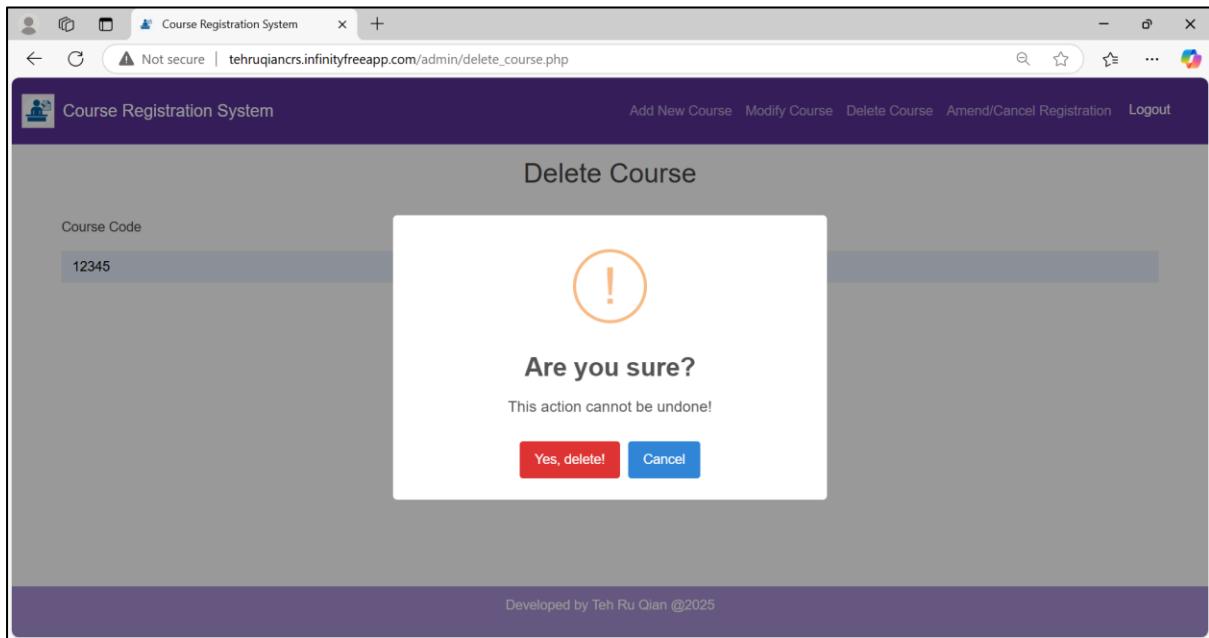
Successful Modified Course



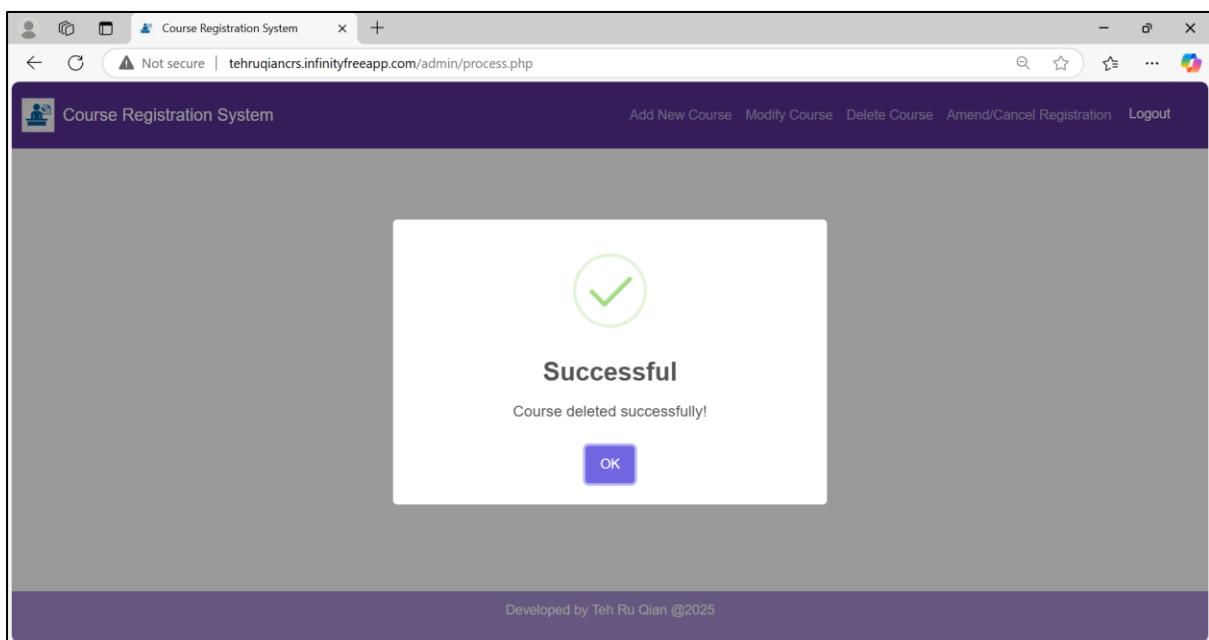
Delete Course



Confirmation for Delete Course



Successful Deleted Course



Dashboard for Amend/Cancel Registration

The screenshot shows a web browser window for the "Course Registration System". The URL is tehrqiancrs.infinityfreeapp.com/admin/amend_registration.php. The page title is "Amend/Cancel Registration". At the top right, there are links for "Add New Course", "Modify Course", "Delete Course", "Amend/Cancel Registration", and "Logout". Below the title, there is a search bar with the placeholder "Search by Student ID" and a "Search" button. The main content area is titled "Enrollment List" and contains a table with the following data:

No.	Student ID	Student Name	Course Code	Course Name	Action
1	S001	Ahmad Faizal bin Ali	SECJ2013	Data Structure and Algorithm	Amend Delete
2	S001	Ahmad Faizal bin Ali	SECR2213	Network Communication	Amend Delete
3	S002	Nur Aisyah binti Abu	SECP2523	Database (WBL)	Amend Delete
4	S002	Nur Aisyah binti Abu	SECP3204	Software Engineering (WBL)	Amend Delete
5	S002	Nur Aisyah binti Abu	SECJ2013	Data Structure and Algorithm	Amend Delete

At the bottom of the page, it says "Developed by Teh Ru Qian @2025".

This screenshot shows the same web browser window as the first one, but with more rows of data in the "Enrollment List" table. The data is as follows:

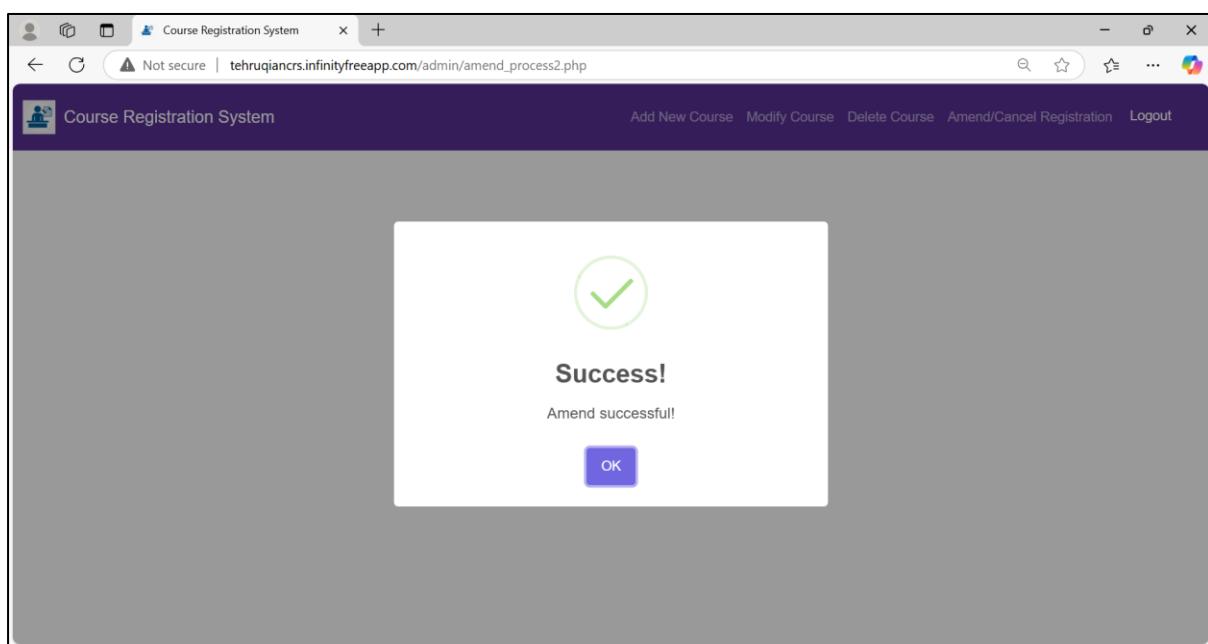
No.	Student ID	Student Name	Course Code	Course Name	Action
1	S001	Ahmad Faizal bin Ali	SECJ2013	Data Structure and Algorithm	Amend Delete
2	S001	Ahmad Faizal bin Ali	SECR2213	Network Communication	Amend Delete
3	S002	Nur Aisyah binti Abu	SECP2523	Database (WBL)	Amend Delete
4	S002	Nur Aisyah binti Abu	SECP3204	Software Engineering (WBL)	Amend Delete
5	S002	Nur Aisyah binti Abu	SECJ2013	Data Structure and Algorithm	Amend Delete
6	S003	Tan Wei Ling	SECJ2013	Data Structure and Algorithm	Amend Delete
7	S003	Tan Wei Ling	SECR2213	Network Communication	Amend Delete
8	S003	Tan Wei Ling	SECP3723	System Development Technology (WBL)	Amend Delete
9	S001	Ahmad Faizal bin Ali	SECP2523	Database (WBL)	Amend Delete

At the bottom of the page, it says "Developed by Teh Ru Qian @2025".

Amend Registration

The screenshot shows the 'Amend Registration' page of the Course Registration System. The URL is tehruiqancrs.infinityfreeapp.com/admin/amend_process.php. The page has a purple header with the system name and navigation links: Add New Course, Modify Course, Delete Course, Amend/Cancel Registration, and Logout. The main content area is titled 'Amend Registration'. It contains several input fields: 'Student ID' (S001), 'Student Name' (Ahmad Faizal bin Ali), 'Course Code' (SECJ2013), 'Course Name' (Data Structure and Algorithm), and a dropdown menu for 'Select New Course' containing 'System Development Technology (WBL)'. A blue 'Amend' button is at the bottom.

Successful Amend



Confirmation for Delete Registration

The screenshot shows a web browser window for the 'Course Registration System' at tehrugqiancrs.infinityfreeapp.com/admin/amend_registration.php. A modal dialog box from 'tehrugqiancrs.infinityfreeapp.com' asks, 'Are you sure you want to delete this registration?'. The dialog has 'OK' and 'Cancel' buttons. In the background, a table lists student registrations. Row 9, which corresponds to the dialog, is highlighted with a grey background. The table columns include Student ID, Course ID, Student Name, Course ID, and Course Name. The last row (highlighted) shows S001, SECP2523, Ahmad Faizal bin Ali, Database (WBL). To the right of the table are 'Amend' and 'Delete' buttons for each row.

1	S001	Ahmad Faizal bin Ali		
2	S001	Ahmad Faizal bin Ali	SECR2213	Network Communication
3	S002	Nur Aisyah binti Abu	SECP2523	Database (WBL)
4	S002	Nur Aisyah binti Abu	SECP3204	Software Engineering (WBL)
5	S002	Nur Aisyah binti Abu	SECJ2013	Data Structure and Algorithm
6	S003	Tan Wei Ling	SECJ2013	Data Structure and Algorithm
7	S003	Tan Wei Ling	SECR2213	Network Communication
8	S003	Tan Wei Ling	SECP3723	System Development Technology (WBL)
9	S001	Ahmad Faizal bin Ali	SECP2523	Database (WBL)

Developed by Teh Ru Qian @2025

Successful deleted

The screenshot shows a success message dialog box on the 'Course Registration System' page at tehrugqiancrs.infinityfreeapp.com/admin/amend_process.php. The dialog features a green checkmark icon and the word 'Success!'. Below it, a message says 'Registration deleted successfully.' and contains an 'OK' button. The background shows the main dashboard with navigation links: Add New Course, Modify Course, Delete Course, Amend/Cancel Registration, and Logout.

Add New Course Modify Course Delete Course Amend/Cancel Registration Logout

Success!

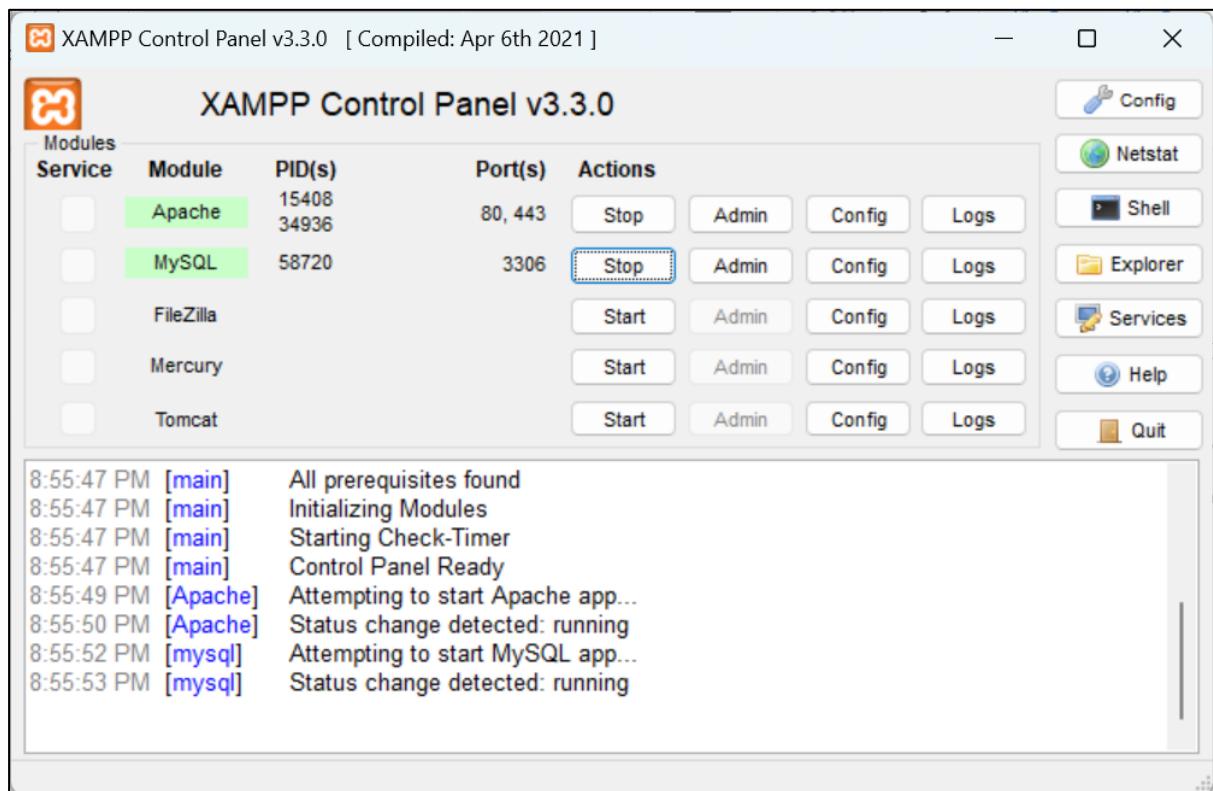
Registration deleted successfully.

OK

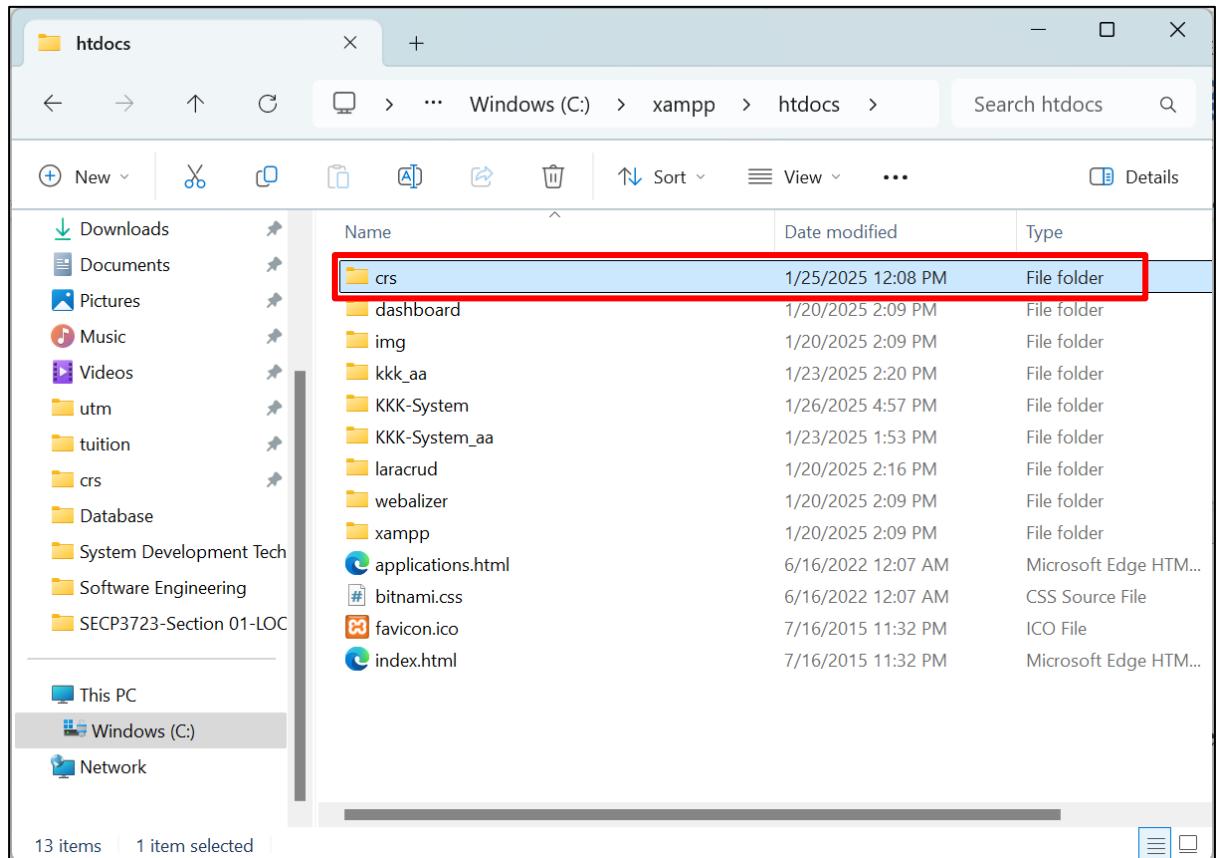
Developed by Teh Ru Qian @2025

7.0 Localhost Setup

1. Download and install XAMPP Control Panel from <https://www.apachefriends.org/index.html>
2. Open the XAMPP Control Panel and start the Apache and MySQL services.



3. Extract the 'crs.zip' file into the xampp>htdocs directory.

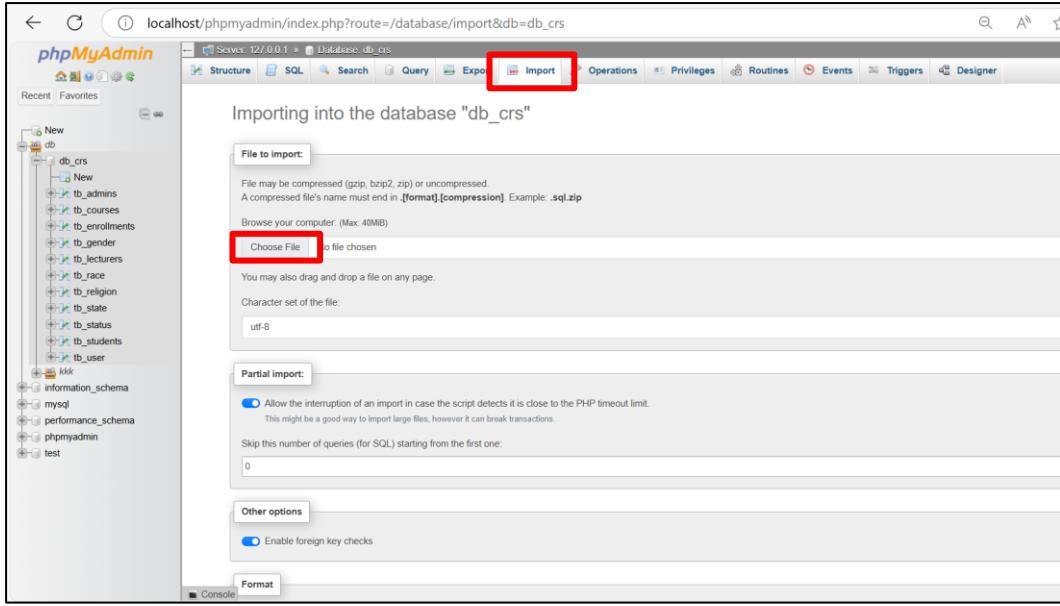


- Click the ‘Admin’ button in the MySQL module of the XAMPP Control Panel to open phpMyAdmin.
- In phpMyAdmin, create a new database with the name db_crs.
- Clicking on the “Databases” tab and entering the database name, then clicking “Create.”

A screenshot of the phpMyAdmin interface. The left sidebar shows databases: db, db_crs, kkk, information_schema, mysql, performance_schema, phpmyadmin, and test. The main pane shows the 'Databases' table. A red box highlights the 'db_crs' input field and the 'Create' button. The table lists existing databases: db_crs, db_kkk, db_kkk_aa, information_schema, mysql, performance_schema, phpmyadmin, and test. A note at the bottom says: "Note: Enabling the database statistics here might cause heavy traffic between the web server and the MySQL server. Enable statistics".

Database	Collation	Action
db_crs	utf8mb4_general_ci	<input type="button" value="Check privileges"/>
db_kkk	utf8mb4_general_ci	<input type="button" value="Check privileges"/>
db_kkk_aa	utf8mb4_general_ci	<input type="button" value="Check privileges"/>
information_schema	utf8_general_ci	<input type="button" value="Check privileges"/>
mysql	utf8mb4_general_ci	<input type="button" value="Check privileges"/>
performance_schema	utf8_general_ci	<input type="button" value="Check privileges"/>
phpmyadmin	utf8_bin	<input type="button" value="Check privileges"/>
test	latin1_swedish_ci	<input type="button" value="Check privileges"/>

- Clicking on the “Import” tab, upload the database in “db” file.



Set Up MailHog for Email Testing

1. Download MailHog from MailHog GitHub Releases. <https://github.com/mailhog/MailHog/releases/v1.0.0>

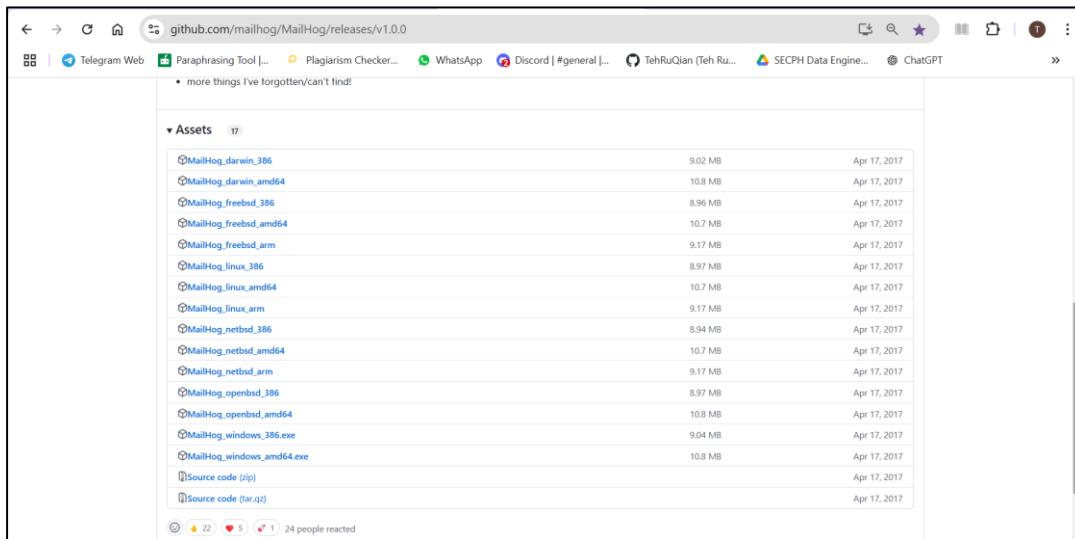
MailHog v1.0.0

ian-kent released this Apr 17, 2017 · 45 commits to master since this release · v1.0.0 · cf19697

There's still outstanding PRs and issues which haven't been addressed in this release.

This is to get the updated release out with the latest code, since 0.2.1 is getting very stale!

- Bump release to 1.0.0
- updated mgo dependency
- temporarily remove vendor directory, because of some build issues
- Fix #117 - add info about proxies
- Fix #146 - keep tags on docker hub
- Fix #148 and mailhog/storage#7 - leading \\n in maildir storage
- #113 - better support RFC support for headers



- After downloading, run MailHog by executing the following command in command prompt:

- For Windows: Run MailHog_windows_amd64.exe file.
- For macOS/Linux: Run the MailHog binary.

```
Microsoft Windows [Version 10.0.22631.4751]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Teh>cd C:\mailHog

C:\mailHog>MailHog_windows_amd64
2025/01/27 16:26:35 Using in-memory storage
2025/01/27 16:26:35 [SMTP] Binding to address: 0.0.0.0:1025
[HTTP] Binding to address: 0.0.0.0:8025
2025/01/27 16:26:35 Serving under http://0.0.0.0:8025/
Creating API v1 with WebPath:
Creating API v2 with WebPath:
```

- Modify php.ini file to route emails through MailHog's SMTP server. Update the SMTP settings:

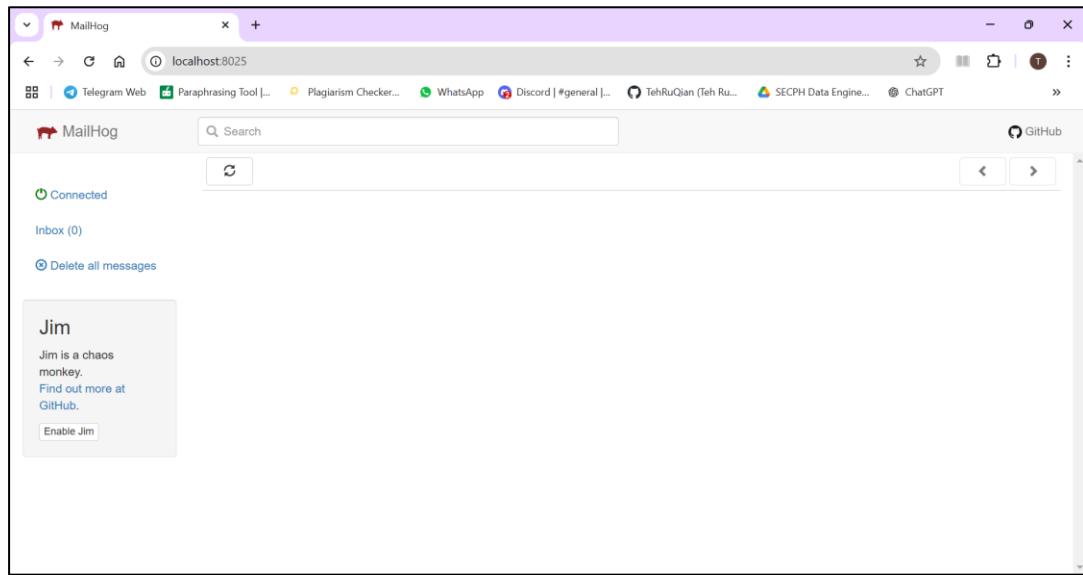
- Open the php.ini file in XAMPP installation directory (e.g., xampp/php/php.ini).
- Find the SMTP section and set the following:

```
;phar.readonly = On
; https://php.net ^ smtp
;phar.require_ha

;phar.cache_list =

[mail function]
; For Win32 only.
; https://php.net/smtp
SMTP=1025
; https://php.net/smtp-port
smtp_port=1025
```

- Access MailHog's web interface by <http://localhost:8025>, where can view the captured emails that are sent through the system.



8.0 Hosting URL

Links: <https://tehruqiancrs.infinityfreeapp.com/>

Localhost link: <http://localhost/crs/>

9.0 User credentials

Students:

ID: S001

Password: 123456

ID: S002

Password: 123456

ID: S003

Password: 123456

Lecturers:

ID: L001

Password: 123456

ID: L002

Password: 123456

Admins:

ID: A001

Password: 123456

ID: A002

Password: 123456