

**VIETNAM NATIONAL UNIVERSITY
HOCHIMINH CITY UNIVERSITY OF TECHNOLOGY
OFFICE FOR INTERNATIONAL STUDY PROGRAMS
COMPUTER SCIENCE & ENGINEERING**

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**ASSIGNMENT REPORT
WEB PROGRAMMING**

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HO CHI MINH CITY, May 24th 2018

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I. Installation

1. Download QuizMaker's source code from [here](#) and extract it.
2. Download and install *XAMPP*. You can download *XAMPP* from [here](#). Please choose the appropriate installer with your operating system.

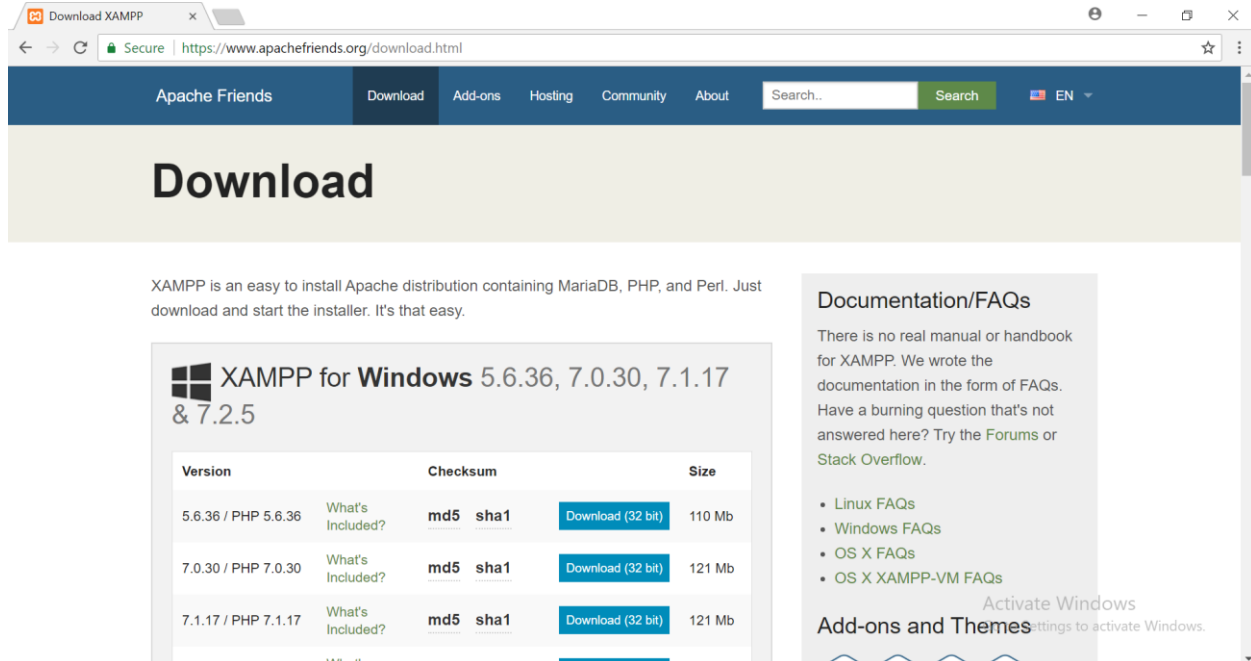


Figure 1: XAMPP's official download page

3. Open XAMPP

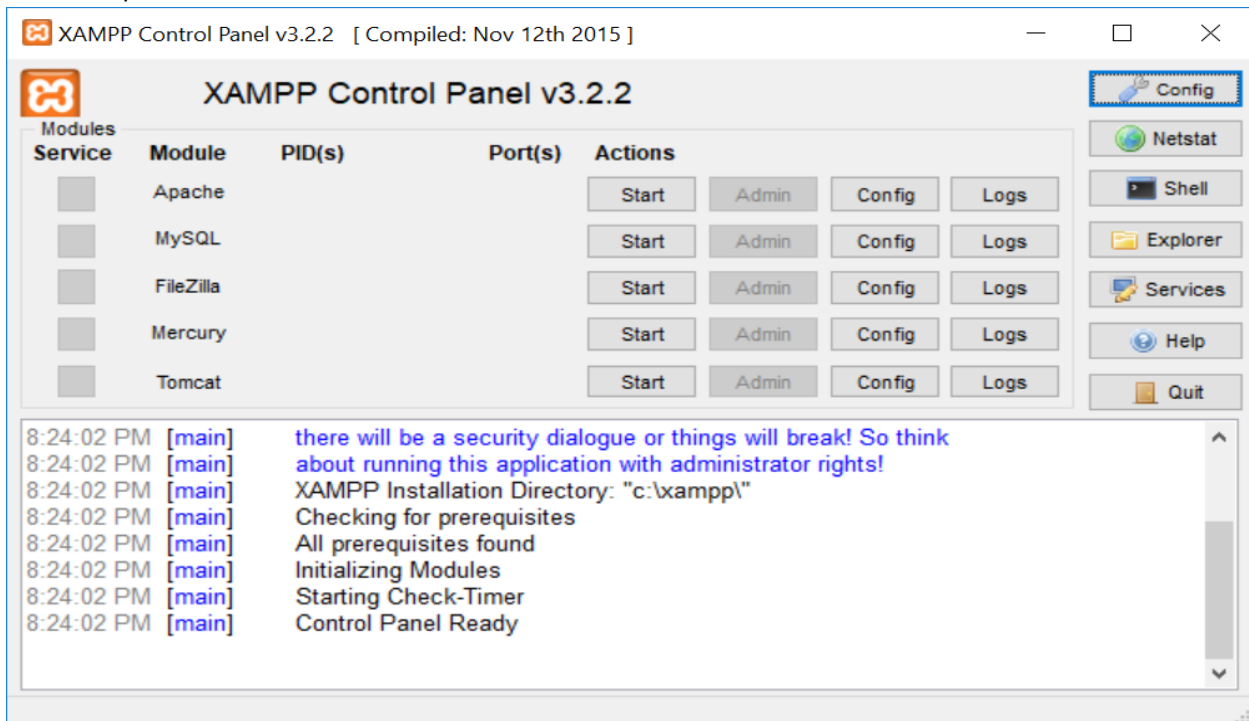


Figure 2: XAMPP's main interface

4. Click on *Config* of Module **Apache** and select *PHP (php.ini)*

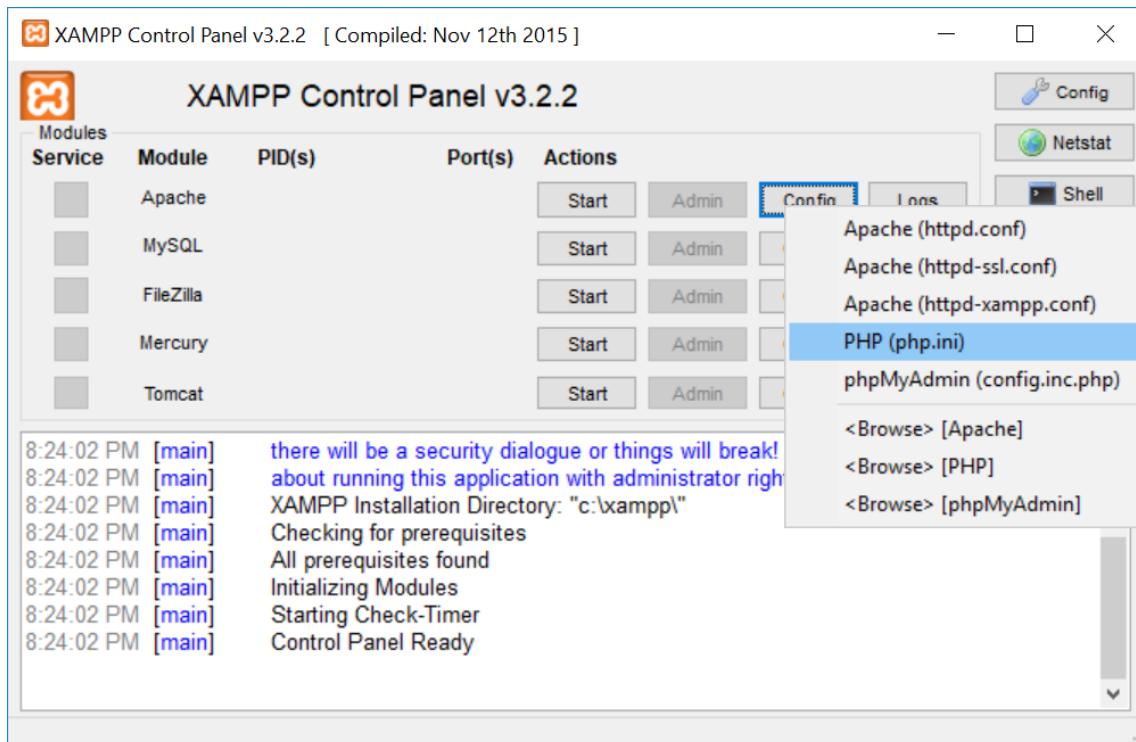


Figure 3: PHP (php.ini) on XAMPP's interface

5. At File Uploads section, set *file_uploads=On* to allow HTTP file uploads, and *upload_max_filesize=30M* (Maximum allowed size for uploaded files is 30MB)



```
php.ini - Notepad
File Edit Format View Help
; (shebang) at the top of the running script. This line might be needed if the
; script support running both as stand-alone script and via PHP CGI<. PHP in CGI
; mode skips this line and ignores its content if this directive is turned on.
; http://php.net/cgi.check-shebang-line
;cgi.check_shebang_line=1

;;;;;;;;;;;;;;;;;;;;;;;;;
; File Uploads ;
;;;;;;;;;;;;;;;;;;;;;;;;;

; Whether to allow HTTP file uploads.
; http://php.net/file-uploads
file_uploads=On

; Temporary directory for HTTP uploaded files (will use system default if not
; specified).
; http://php.net/upload-tmp-dir
upload_tmp_dir="C:\xampp\tmp"

; Maximum allowed size for uploaded files.
; http://php.net/upload-max-filesize
upload_max_filesize=30M

; Maximum number of files that can be uploaded via a single request
max_file_uploads=20

;;;;;;;;;;;;;;;;;;;;;;;;;
; Fopen wrappers ;
;;;;;;;;;;;;;;;;;;;;;;;;;

; Whether to allow the treatment of URLs (like http:// or ftp://) as files.
; http://php.net/allow-url-fopen
allow_url_fopen=On

; Whether to allow include/require to open URLs (like http:// or ftp://) as files.
```

Figure 4: Our PHP.ini config

- Click on *Config* of Module **Apache** and select *Apache (httpd.conf)*

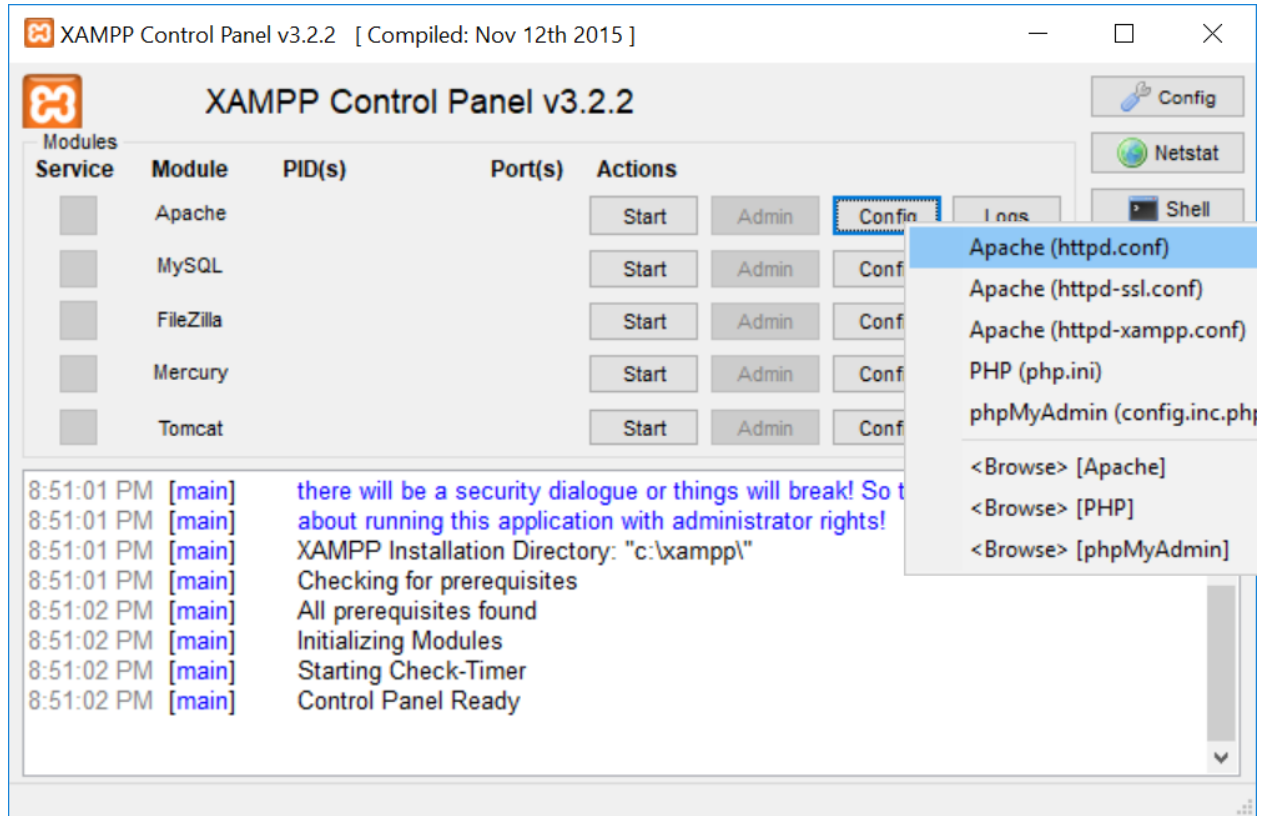
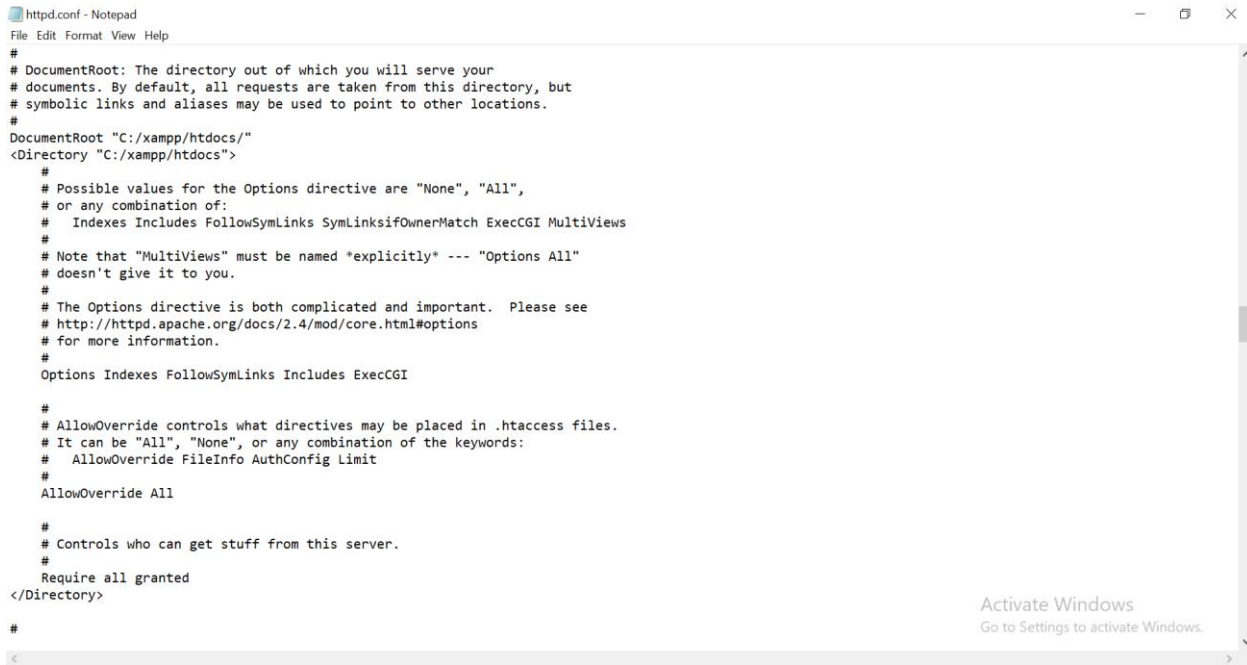


Figure 5: Apache (httpd.conf) on XAMPP's interface

7. Change *DocumentRoot* from the default value to the path of *QuizMaker* on your computer



```
httpd.conf - Notepad
File Edit Format View Help

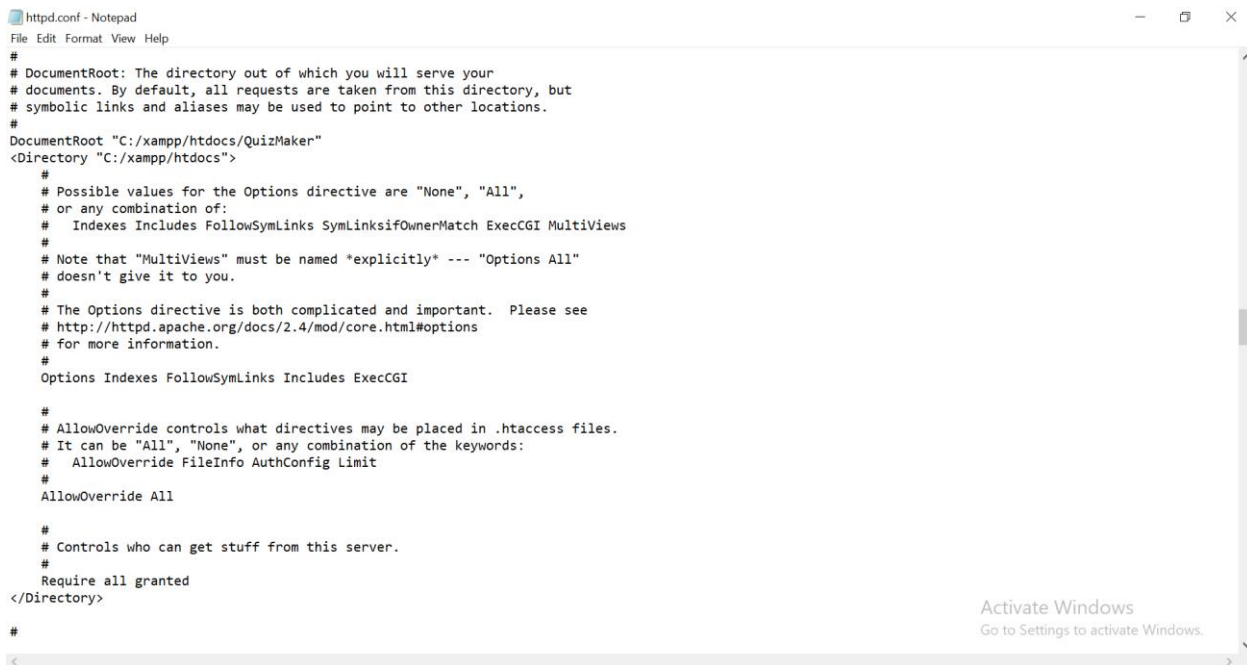
#
# DocumentRoot: The directory out of which you will serve your
# documents. By default, all requests are taken from this directory, but
# symbolic links and aliases may be used to point to other locations.
#
DocumentRoot "C:/xampp/htdocs/"
<Directory "C:/xampp/htdocs">
#
# Possible values for the Options directive are "None", "All",
# or any combination of:
#   Indexes Includes FollowSymLinks SymLinksifOwnerMatch ExecCGI MultiViews
#
# Note that "MultiViews" must be named *explicitly* --- "Options All"
# doesn't give it to you.
#
# The Options directive is both complicated and important. Please see
# http://httpd.apache.org/docs/2.4/mod/core.html#options
# for more information.
#
Options Indexes FollowSymLinks Includes ExecCGI

#
# AllowOverride controls what directives may be placed in .htaccess files.
# It can be "All", "None", or any combination of the keywords:
#   AllowOverride FileInfo AuthConfig Limit
#
AllowOverride All

#
# Controls who can get stuff from this server.
#
Require all granted
</Directory>

#
```

Figure 6: Default *DocumentRoot* of *httpd.conf*



```
httpd.conf - Notepad
File Edit Format View Help

#
# DocumentRoot: The directory out of which you will serve your
# documents. By default, all requests are taken from this directory, but
# symbolic links and aliases may be used to point to other locations.
#
DocumentRoot "C:/xampp/htdocs/QuizMaker"
<Directory "C:/xampp/htdocs">
#
# Possible values for the Options directive are "None", "All",
# or any combination of:
#   Indexes Includes FollowSymLinks SymLinksifOwnerMatch ExecCGI MultiViews
#
# Note that "MultiViews" must be named *explicitly* --- "Options All"
# doesn't give it to you.
#
# The Options directive is both complicated and important. Please see
# http://httpd.apache.org/docs/2.4/mod/core.html#options
# for more information.
#
Options Indexes FollowSymLinks Includes ExecCGI

#
# AllowOverride controls what directives may be placed in .htaccess files.
# It can be "All", "None", or any combination of the keywords:
#   AllowOverride FileInfo AuthConfig Limit
#
AllowOverride All

#
# Controls who can get stuff from this server.
#
Require all granted
</Directory>

#
```

Figure 7: Our *httpd.conf* config

8. Start Module **Apache** and **MySQL** by press on *Start* button

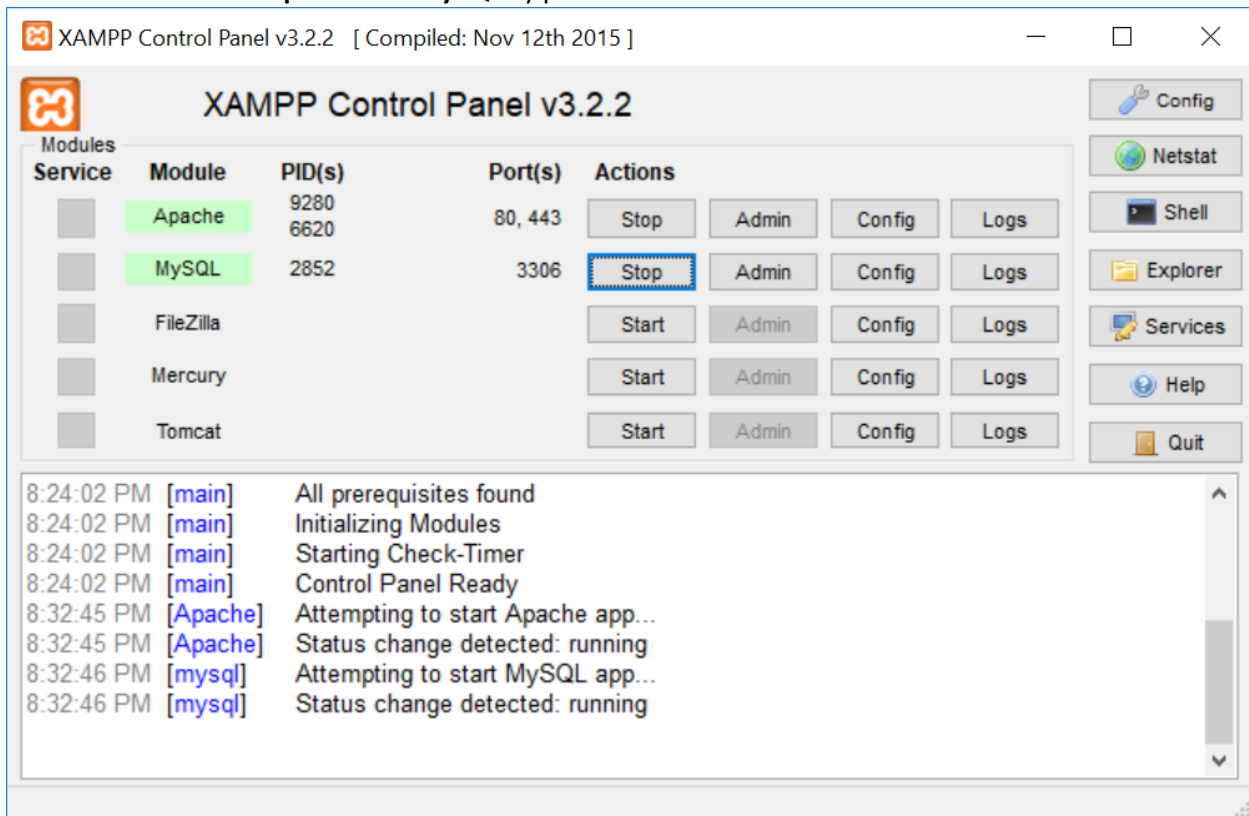


Figure 8: Apache and MySQL modules started

9. By default, QuizMaker are running on localhost, with port 80. Open a web browser, and type localhost to the URL

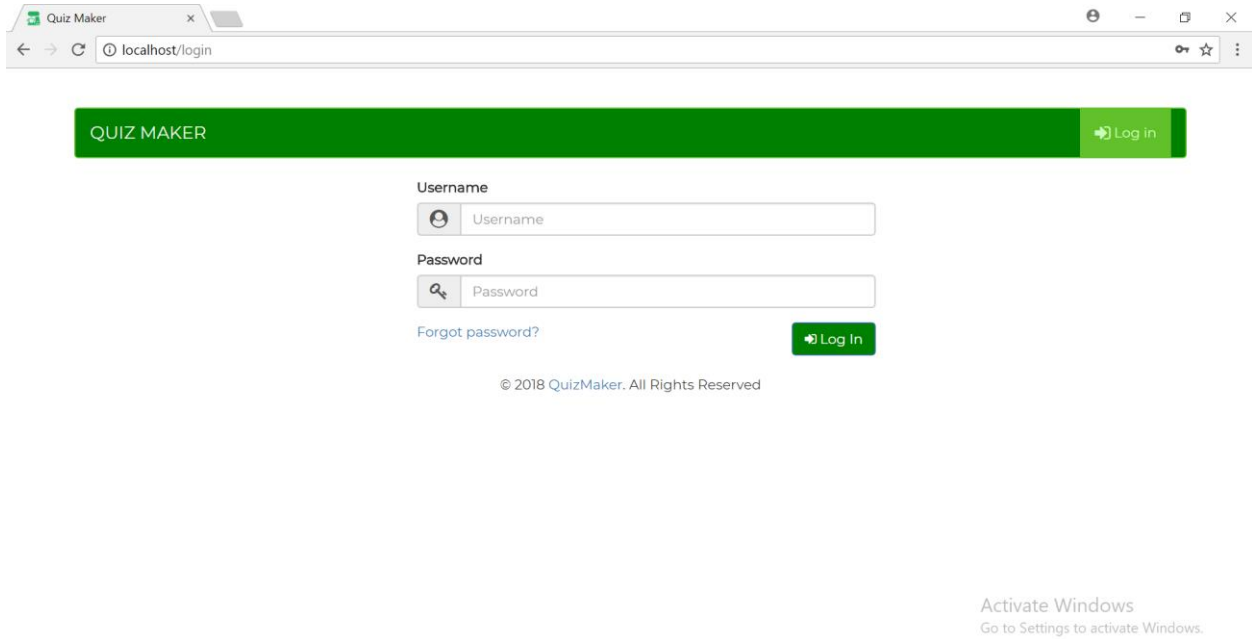


Figure 9: QuizMaker's login page

10. You need to create a database for QuizMaker. For quick start, we provide initDatabase.php to initial the database (which named assignment). To run this script, on URL, type localhost/initDatabase.php and press Enter.



Figure 10: Finished initial database

11. To check the database was successfully initial, on XAMPP's interface, press on *Admin* of **MySQL** module

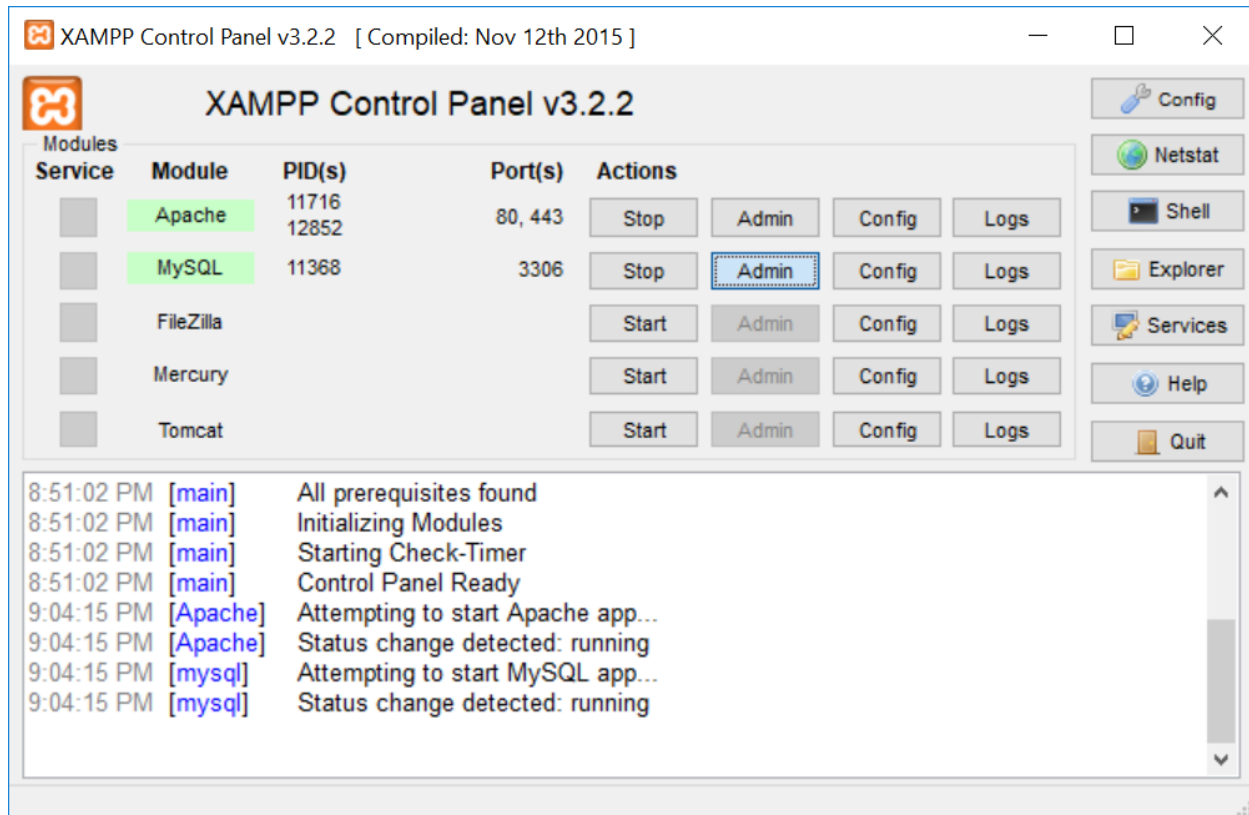


Figure 11: Admin button of MySQL module

12. Database (which named *assignment*) has successfully initialized with 3 tables: *courses*, *questions*, *users* and some stored procedures.

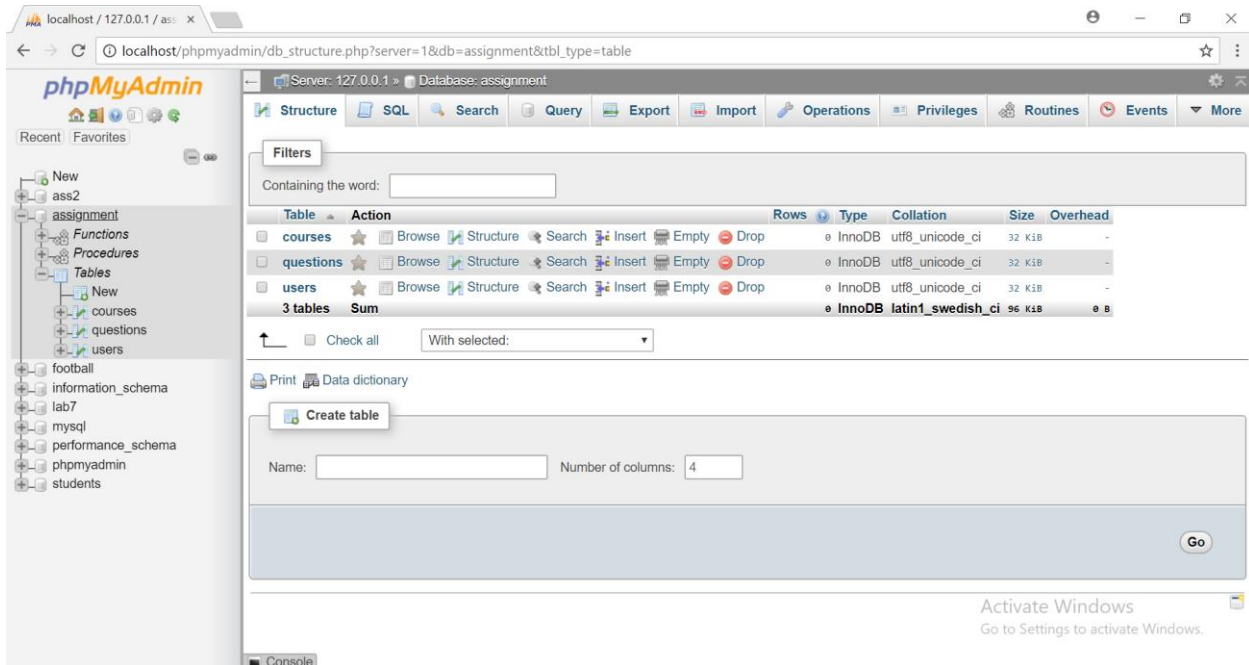


Figure 12: phpMyAdmin's interface

13. Because QuizMaker doesn't allow to sign up, you need to create at least one account, for QuizMaker's Admin. We provide *create-admin.php* to create an Admin account with *username:password* is *admin:admin*. Make sure to change the password after successfully logged in.

14. [Optional] We also provide a script to import some course data. To run it, go to *localhost/import-courses.php*. It will import some courses in our programs.



Activate Windows
Go to Settings to activate Windows.

Figure 13: Import course data successfully

15. [Optional] Another way to import data is using Import feature of *phpMyAdmin*. We provide *questions.csv* which store some sample questions. To import it, open *phpMyAdmin*, select your database (*assignment* in our cases), select *questions* table and press on *Import*.

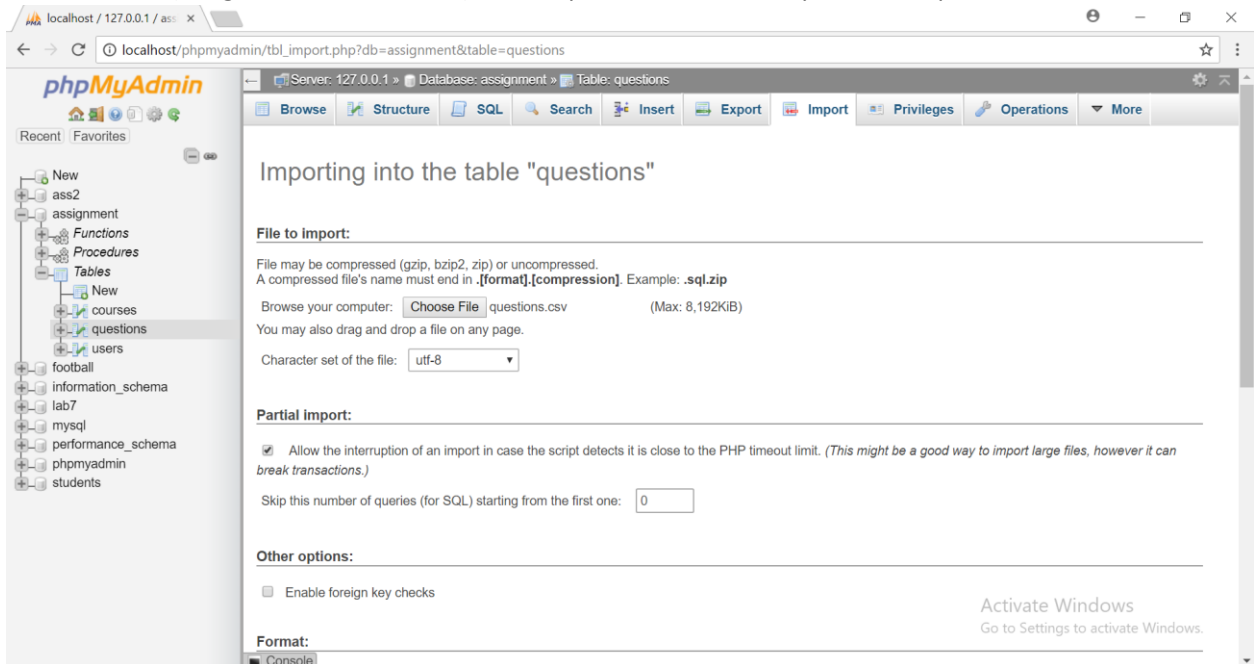


Figure 14: *phpMyAdmin*'s Import interface

16. Click on choose file and select *questions.csv* which is located inside *data* folder. Before press *Go*, uncheck *Enable foreign key checks* option to skip foreign key checks.

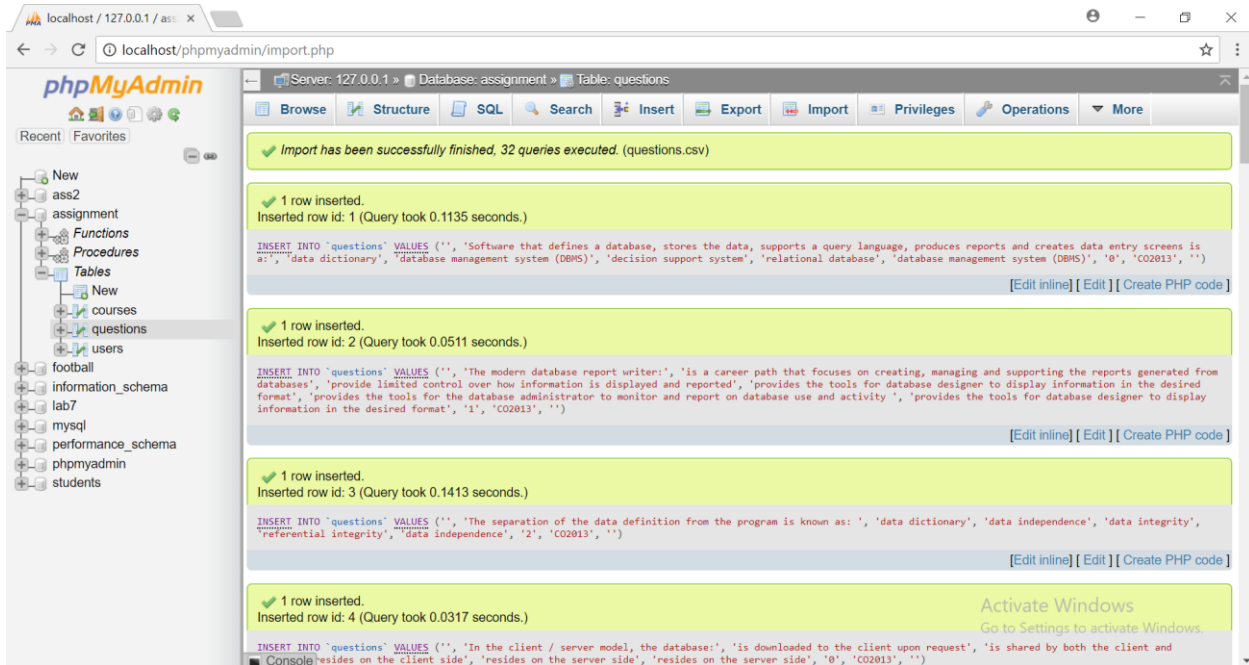


Figure 15: Questions successfully imported

II. DATA STRUCTURE

1. Tables

Users

Name	Datatype	PK	Constraint / Note
id	INT(10)	x	Auto increment
username	VARCHAR(50)		Unique
password	VARCHAR(50)		
role	ENUM('0', '1', '2')		'0' -> Admin; '1' -> User; '2' -> Staff
firstname	VARCHAR(16)		
lastname	VARCHAR(16)		
middlename	VARCHAR(20)		
dateofbirth	DATE		
address	VARCHAR(64)		
phone	VARCHAR(16)		
email	VARCHAR(64)		

Courses

Name	Datatype	PK	Constraint / Note
id	INT(10)	x	Auto increment
name	VARCHAR(50)		
code	VARCHAR(6)		Unique

Questions

Name	Datatype	PK	Constraint / Note
id	INT(10)	x	Auto increment
question	VARCHAR(1000)		
option1	VARCHAR(1000)		
option2	VARCHAR(1000)		
option3	VARCHAR(1000)		
option4	VARCHAR(1000)		
answer	ENUM('1', '2', '3', '4')		
difficult	ENUM('0', '1', '2')		'0' -> Easy; '1' -> Medium; '2' -> Hard
code	VARCHAR(6)		Foreign key to Courses.code
image	VARCHAR(1000)		Image URL

2. Stored procedure and Stored function

a. *sp_get_paper_question*

The procedure uses to get random question based on number of easy, medium, and hard questions

```
CREATE PROCEDURE `sp_get_paper_question`(IN `i_code` VARCHAR(6), IN `i_easy_number` INT(32) UNSIGNED, IN `i_medium_number` INT(32) UNSIGNED, IN `i_hard_number` INT(32) UNSIGNED)
```

```
BEGIN
```

```
    SET @sql_text= concat("SELECT * FROM ("
        , " (SELECT * FROM `questions`"
        , " WHERE code= '", i_code, "' AND difficult= '0'"
        , " ORDER BY RAND() LIMIT ", i_easy_number, ")"
        , " UNION ALL"
        , " (SELECT * FROM `questions`"
        , " WHERE code= '", i_code, "' AND difficult= '1'"
        , " ORDER BY RAND() LIMIT ", i_medium_number, ")"
        , " UNION ALL"
        , " (SELECT * FROM `questions`"
        , " WHERE code= '", i_code, "' AND difficult= '2'"
        , " ORDER BY RAND() LIMIT ", i_hard_number, ") AS T ORDER BY
RAND()");
```

```
PREPARE stmt FROM @sql_text;
EXECUTE stmt;
DEALLOCATE PREPARE stmt;
END
```

b. *sp_set_account_info*

The procedure uses to insert information of an account when admin create a new account. Then return username (auto generated), and password

```
CREATE PROCEDURE `sp_set_account_info`(IN `i_role` VARCHAR(1), IN `i_fname` VARCHAR(16), IN `i_lname` VARCHAR(16), IN `i_mname` VARCHAR(20), IN `i_date_of_birth` VARCHAR(16), IN `i_address` VARCHAR(64), IN `i_phone` VARCHAR(16), IN `i_email` VARCHAR(64), OUT `o_username` VARCHAR(20), OUT `o_password` VARCHAR(8))
```

```
BEGIN
```

```
    SET @d_date_of_birth := STR_TO_DATE(i_date_of_birth, "%d/%m/%Y");
    SET @username= concat(substr(i_lname, 1, 1), substr(i_mname, 1, 1), i_fname);
    SET @username= sf_get_username(@username);
    SET @password= UNIX_TIMESTAMP()% 9000+ 1000;
```

```

SET @sql_text= concat("INSERT INTO users (username, password, role, firstname, lastname,
middlename, dateofbirth, address, phone, email) VALUES (\", @username, "\", \", @password
, "\", \", i_role, "\", \", i_fname
, "\", \", i_lname, "\", \", i_mname
, "\", \", @d_date_of_birth, "\", \", i_address
, "\", \", i_phone, "\", \", i_email
, "\");");

```

```

PREPARE stmt FROM @sql_text;
EXECUTE stmt;
DEALLOCATE PREPARE stmt;

```

```

SET o_username= @username;
SET o_password= @password;

```

END

c. sf_get_get_username

The function uses to generate username of an account based on first name, lastname, and middle name

```

CREATE FUNCTION `sf_get_username`(`i_username` VARCHAR(32)) RETURNS varchar(32)

BEGIN
    SET @username= i_username;
    SET @index= 1;

    getunameloop: LOOP
        SELECT COUNT(username) FROM `users` WHERE username= @username INTO
        @check_exist;
        IF @check_exist <> 0
            THEN
                SET @username= concat(i_username, @index);
                SET @index= @index+ 1;
                ITERATE getunameloop;
            END IF;
        LEAVE getunameloop;
    END LOOP getunameloop;

    RETURN @username;
END

```

III. ADMIN DASHBOARD

1. Overview

Admin Dashboard supports admin in managing courses and accounts. In detail, admin can create new courses or accounts, modify information of any course or account, as well as delete those.

Admin Dashboard is made to simplify admin's work, help them increase their performance and accuracy.

2. Guide

The screenshot displays the QuizMaker Admin Dashboard. At the top, a green header bar contains the text "QUIZ MAKER" on the left and a "Log out" button on the right. Below the header, the main content area is titled "Admin Dashboard". It features two tabs: "Course Management" (selected) and "Account Management". Under the "Course Management" tab, there is a green "Add Course" button and a search bar with a magnifying glass icon and the text "Search". Below the search bar is a table listing courses:

Code	Course name
CO1005	Introduction to Computing
CO1007	Discrete structures for Computing
CO2007	Computer Architecture
CO2005	Object-Oriented Programming
CO2003	Data Structures and Algorithms
CO2017	Operating Systems

To the right of the table, the "Course code:" field is set to "CO1005". Below it, the "Course name:" field is set to "Introduction to Computing". There are two buttons: a red "Delete" button with a trash icon and a green "Save" button with a checkmark icon. At the bottom of the dashboard, a small copyright notice reads: "© 2018 QuizMaker. All Rights Reserved".

- The picture above is the main window of admin dashboard
- There are two main tabs in the dashboard: **Course Management** tab and **Account Management** tab
- Firstly, in **Course Management** tab:
 - o The default window is the information of the first course in the left navigation bar

QUIZ MAKER

Log out

Admin Dashboard

Course Management

Account Management

Add Course

Q Search

Code	Course name
CO1005	Introduction to Computing
CO1007	Discrete structures for Computing
CO2007	Computer Architecture
CO2005	Object-Oriented Programming
CO2003	Data Structures and Algorithms
CO2017	Operating Systems

Course code:

CO1005

Course name:

Introduction to Computing

Delete

Save

- If we need to create a new course, press Add Course button, create window will appear

QUIZ MAKER

Log out

Admin Dashboard

Course Management

Account Management

Add Course

Q Search

Code	Course name
CO1005	Introduction to Computing
CO1007	Discrete structures for Computing
CO2007	Computer Architecture
CO2005	Object-Oriented Programming
CO2003	Data Structures and Algorithms

Course code:

CO1005

Course name:

Introduction to Computing

Delete

Save

- Fill course code and course name in the form, then press Add Course button to create a new course (Course code is in the format of CO[0-9]{4}. Example: CO1234)

Admin Dashboard

Course Management
Account Management

Add Course

Q Search

Code	Course name
CO1005	Introduction to Computing
CO1007	Discrete structures for Computing
CO2007	Computer Architecture
CO2005	Object-Oriented Programming
CO2003	Data Structures and Algorithms

Course code:

Course name:

+Add Course

- Next, if we want to modify information of a course, choose the course in the navigation bar. We also can search for a course in the search bar by fill some letters corresponding to the course in order to quick searching
- Modify course name, then click Save to confirm.
- We can also delete that course by clicking Delete button

Admin Dashboard

Course Management
Account Management

Add Course

Q computer

Code	Course name
CO2007	Computer Architecture
CO3003	Computer Networks
CO3059	Computer Graphics
CO3047	Advanced Computer Networks
CO3057	Image processing and computer vision

Course code:

Course name:

Delete

Save

- Secondly, we can do the same things with **Account Management** tab (Create, Search, Modify, Delete)

QUIZ MAKER

Log out

Admin Dashboard

Course Management

Account Management

Add Account

Q Search

Username	Role
admin	Admin
user	User
staff	Staff
test	Admin
test1	Admin
test2	Admin
test3	Admin
test4	Admin

First name

test

Last name

Last name

Middle name

Middle name

Role

Admin

Date of birth

05-01-2018

Address

Address

Email

dasda@asdad.asd

Phone number

Phone number

Delete

Save

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QUIZ MAKER

Log out

Admin Dashboard

Course Management

Account Management

Add Account

Q Search

Username	Role
admin	Admin
user	User
staff	Staff
test	Admin
test1	Admin
test2	Admin
test3	Admin
test4	Admin

First name

First name

Last name

Last name

Middle name

Middle name

Role

Admin

Date of birth

Address

Address

Email

Email

Phone number

Phone number

Add Account

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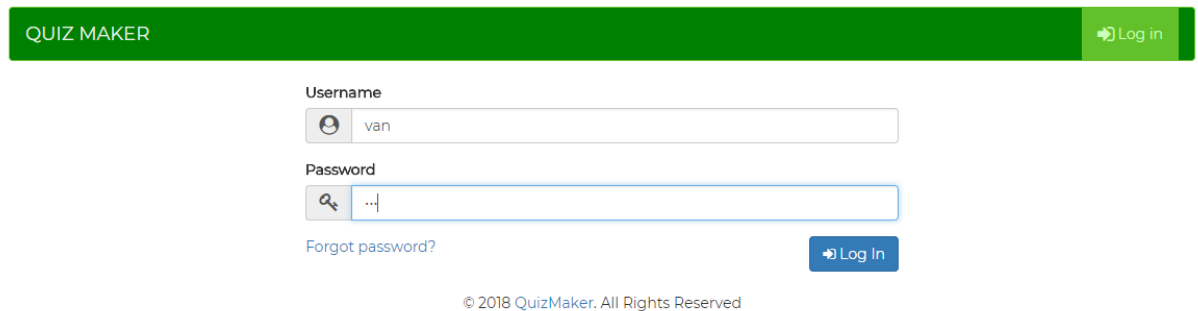
IV. USER

1. Overview

User accounts are created for users, who can create questions, options, answers, and difficulty easily. In addition, **user accounts** support users can modify or delete those things.

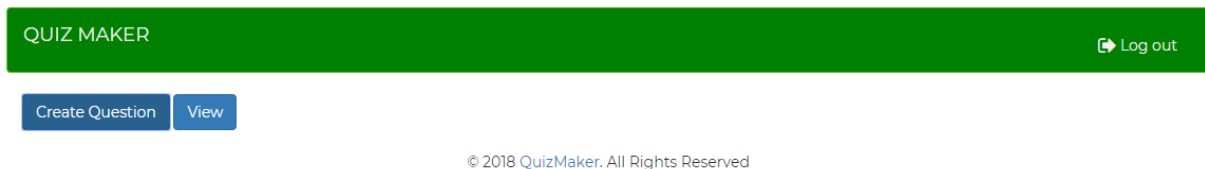
2. Guide

1. User sign in with account “van” and password.



The image shows the QuizMaker login interface. At the top is a green header bar with "QUIZ MAKER" on the left and a "Log in" button on the right. Below the header, there are two input fields: "Username" with a user icon and the text "van", and "Password" with a key icon and masked characters "...". Below the password field is a "Forgot password?" link and a "Log In" button. At the bottom, there is a copyright notice: "© 2018 QuizMaker. All Rights Reserved".

2. Now the dashboard will appear.



The image shows the QuizMaker dashboard interface. At the top is a green header bar with "QUIZ MAKER" on the left and a "Log out" button on the right. Below the header, there are two buttons: "Create Question" and "View". At the bottom, there is a copyright notice: "© 2018 QuizMaker. All Rights Reserved".

3. Click the tab “Create Question” to create a question.

Create Question

Course:

Introduction to Computing (CO1005) ▼

Question:

Question

Options:

Option 1

Option 2

Option 3

Option 4

Answer:

Answer

Difficulty:

☒ Easy ☐ Normal ☐ Hard

Upload

- Course: the users can choose the correct courses in the list. (click the arrow, the list will appear)
- Question: the users write down the question that they want to make.
- Options: the users can make 4 different options.
- Answer: the users support the answer of that question.
- Difficulty: have 3 levels to select.
- After finishing, the users click the **Upload** button to store all of those into the database.

4. Click the tab “View” to view all of those.

Question	Action
ewqewqdsadsadsadsadsadsad sad sad sad sads adsa dsads ads ad sad sads ads ads ad sad sads adsa ds	<div>Edit</div> <div>Delete</div>
ewqewq	<div>Edit</div> <div>Delete</div>
dsa	<div>Edit</div> <div>Delete</div>
ueq	<div>Edit</div> <div>Delete</div>
ueq	<div>Edit</div> <div>Delete</div>

V. STAFF

1. Overview

Staff is the creator of the test. When the staff needs to create a new test, enter the following information:

- Total number of multiple choice questions
- How many sentences, how many sentences and how many sentences?

Then the site will randomly ask the number of questions in each difficult level to form a multiple-choice test.

To create a test, the staff needs to follow the steps below:

1. Staff will be entering the system with the account and password.
2. Select a subject to create a test
3. Choose the number of questions at easy, medium and difficult levels
4. Exam day will be the current time

5. Choose the number of patch. Questions will be mixed to create different types of test
6. Select the duration of the test
7. Write notes for the test
8. Click on the “Make exam paper” button.

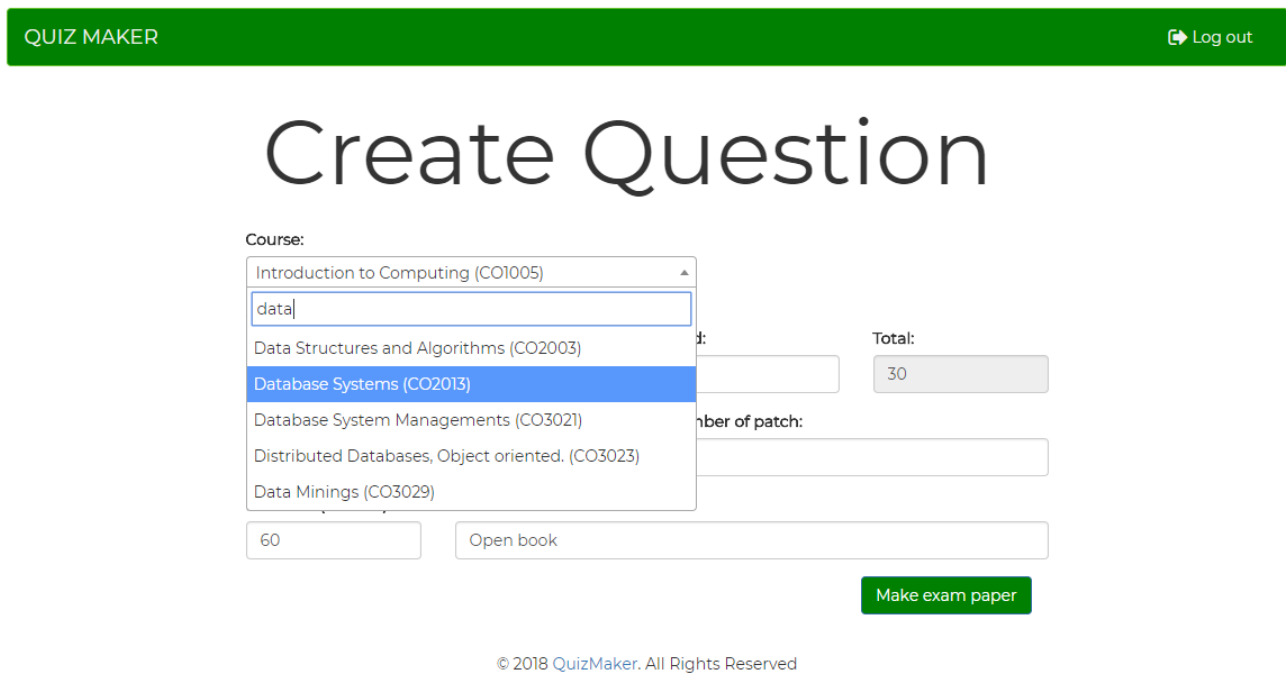
2. Guide

1. Staff will be entering the system with the account is “hello” and password.



The login interface features a green header bar with "QUIZ MAKER" on the left and a "Log out" button on the right. Below the header, there are two input fields: "Username" with a user icon and the text "hello", and "Password" with a key icon and masked characters "*****". A "Forgot password?" link is positioned below the password field. A green "Log In" button is located at the bottom right. The footer contains the copyright notice "© 2018 QuizMaker. All Rights Reserved".

2. Staff want to create a test for Database Systems. He/she can search the course by name (Database Systems) or by code (CO2013).



The "Create Question" interface has a green header bar with "QUIZ MAKER" and a "Log out" button. The main heading "Create Question" is centered. Below it, the "Course:" dropdown menu is open, showing a list of courses: "Introduction to Computing (CO1005)", "data" (the current selection), "Data Structures and Algorithms (CO2003)", "Database Systems (CO2013)" (highlighted in blue), "Database System Managements (CO3021)", "Distributed Databases, Object oriented. (CO3023)", and "Data Minings (CO3029)". To the right of the dropdown, there are input fields for "Number of patch:" (containing "60") and "Total:" (containing "30"). Below these is an "Open book" checkbox. A green "Make exam paper" button is at the bottom right. The footer shows "© 2018 QuizMaker. All Rights Reserved".

3. He/she want to create a test with 30 multiple choice questions including 15 easy questions, 10 medium questions and 5 difficult questions .

Create Question

Course:
Database Systems (CO2013)

Question number:

Easy:	Medium:	Hard:	Total:
15	10	5	30

Exam Date:
17/05/2018

Number of patch:
1

Duration (minute):
60

Note:
Open book

Make exam paper

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4. Exam day will be the current time. He/she can customize another day.

Create Question

Course:
Database Systems (CO2013)

Question number:

Easy:	Medium:	Hard:	Total:
15	10	5	30

Exam Date:
17/05/2018

Number of patch:
1

Duration (minute):
60

Note:
Open book

Make exam paper

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5. He/she wants to create two patch.

QUIZ MAKER Log out

Create Question

Course:
Database Systems (CO2013)

Question number:

Easy:	Medium:	Hard:	Total:
15	10	5	30

Exam Date:
17/05/2018

Number of patch:
2

Duration (minute):
60

Note:
Open book

Make exam paper

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6. He/she wants the test time to be 60 minutes. This 60 minutes will be printed on the header of the test.

QUIZ MAKER Log out

Create Question

Course:
Database Systems (CO2013)

Question number:

Easy:	Medium:	Hard:	Total:
15	10	5	30

Exam Date:
17/05/2018

Number of patch:
2

Duration (minute):
60

Note:
Open book

Make exam paper

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7. He/she wanted to take notes on the exam paper as "open book".

Create Question

Course:
Database Systems (CO2013)

Question number:
Easy: 15 Medium: 10 Hard: 5 Total: 30

Exam Date:
17/05/2018

Number of patch:
2

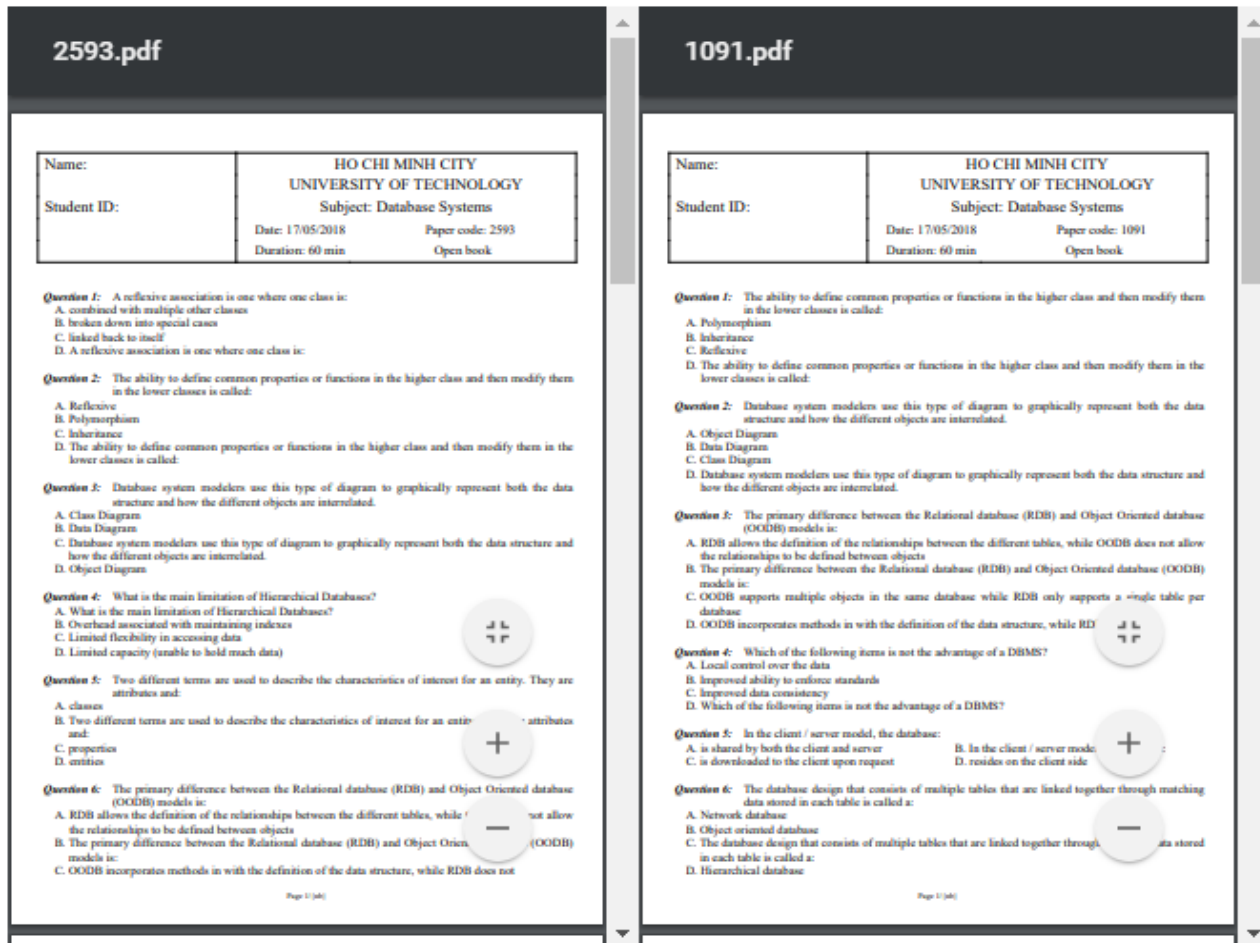
Duration (minute):
60

Note:
Open book

Make exam paper

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8. After he/she click on the "Make exam paper" button. The test will be created like the image below.



VI. REFERENCES

Reference

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