COMP2121 E-Business

Lab 8: MySQL 1

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Outline

Connect and Manipulate MySQL in both localhost and COMP server by

- MySQL shell
  - PowerShell/cmd (window) or Terminal (Mac) to establish the SSH connection to the COMP MySQL server;
- MYSQL Workbench
- PHP

Ex1: Create a PHP project in Apache Netbeans IDE

- Make sure that your Apache service is running.
- File → New Project → Choose PHP Application
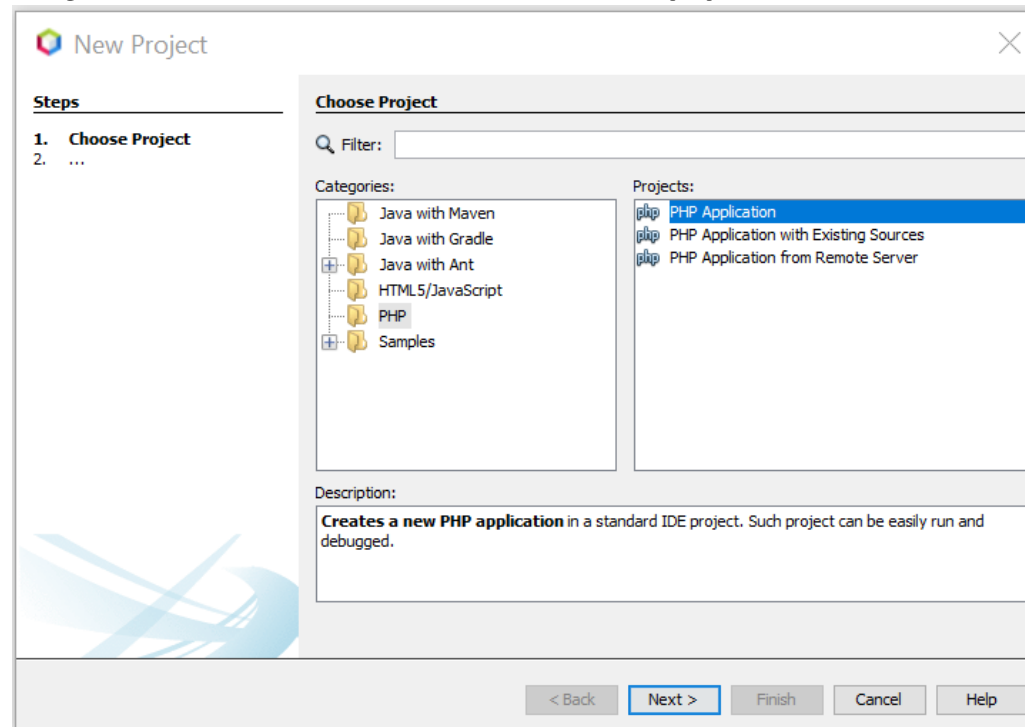
Ex1: Create a PHP project in Apache Netbeans IDE

- Locate the new project under your local Apache's *htdocs* folder, for example,
  - D:\eBusinessKevinYuenLabs\Apache24\htdocs
- Under the *htdocs*, set the Project Name as *Lab08MySQL*

- Accept the default setting
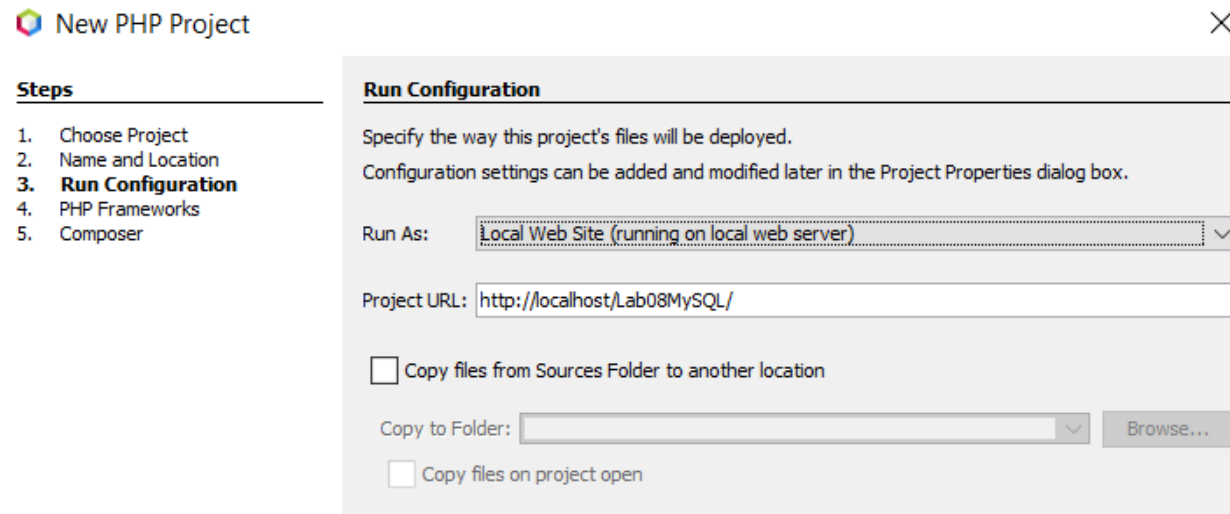
- We do not need these frameworks at this moment. Just click "Next".
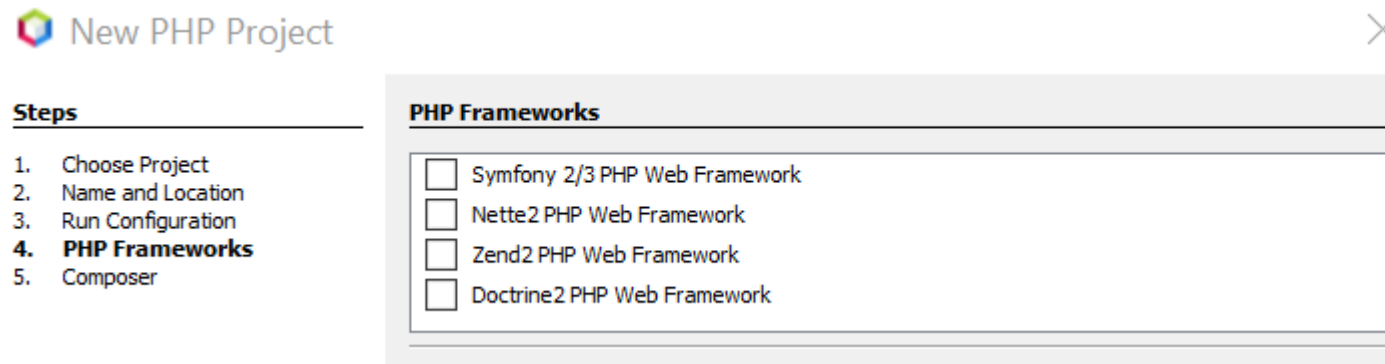
Ex1: Create a PHP project in Apache Netbeans IDE

- No Composer is required. Click finish.

- You will find that a new folder named, <u>Lab08MySQL</u>, has been created under *htdocs*.

Ex2: Configure the COMP remote Web site (FTP, SFTP)

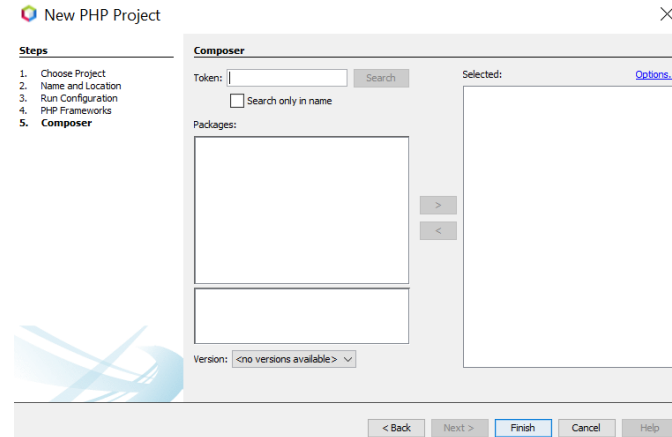- Right click the project, and choose properties-> run configuration->New→type "polyU"→ Romote Web Site(FTP, SFTP).
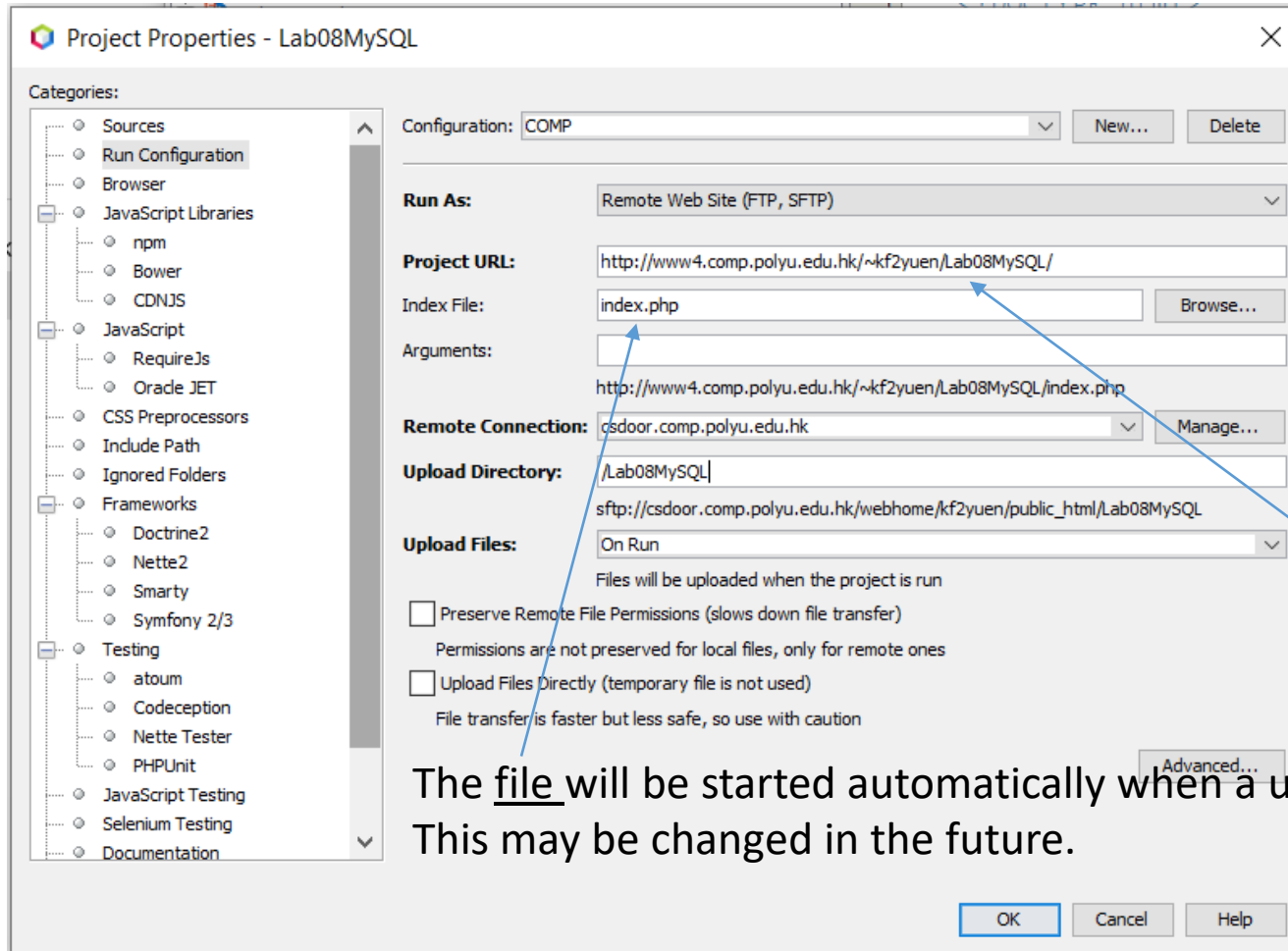
- Right click a file to upload.
- Use a web browser (within the PolyU network physically or virtually) to test

Or you can use WINSCP (window user) or filezilla (Mac user) to upload.

The file will be started automatically when a user request the URL.
This may be changed in the future.

Ex3: Invoke MySQL command line tool from Internet or our Unix/Linux machines

(This part is <u>optional</u> and for your further learning interests only)

1. Use putty (or other ssh client program) to connect to **apollo** or **apollo2** (if from internet, ssh to csdoor.comp.polyu.edu.hk first and then connect to **apollo** or **apollo2**)
2. Login with your **COMP account** (the one you login our Lab PC / Intranet)
3. In shell prompt, enter
mysql -h mysql.comp.polyu.edu.hk -D <Your MySQL a/c name> -u <Your MySQL a/c name> -p
4. Enter your **MySQL password** when prompted
5. You will enter mysql> prompt and you can enter your SQL command.

https://intranet.comp.polyu.edu.hk/TechServices/TechnicalTips/400

Invoke MySQL command line tool from Internet or our Unix/Linux machines

Step 1:

```
C:\>ssh kf2yuen@csdoor.comp.polyu.edu.hk
kf2yuen@csdoor.comp.polyu.edu.hk's password:
```

(This part is optional and for your further learning interests only)

Step 2:

```
Please enter the hostname,command or 'exit':
<<Enter 'yes' for any authentication message prompt>>
apollo
kf2yuen@apollo's password:
```

Step 4:

Step 3:

```
kf2yuen-apollo:/home/kf2yuen$ mysql -h mysql.comp.polyu.edu.hk -D kf2yuen -u kf2yuen -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 1641886
Server version: 10.0.26-MariaDB MariaDB Server

Copyright (c) 2000, 2017, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [kf2yuen]>
```

```
MariaDB [kf2yuen]> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| kf2yuen            |
| test_db            |
+--------------------+
3 rows in set (0.03 sec)

MariaDB [kf2yuen]>
```
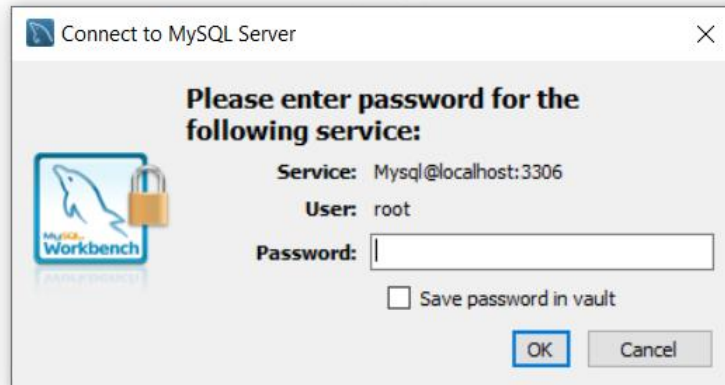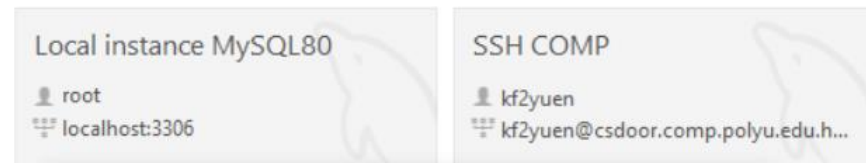
Development (MariaDB) is led by some of the original developers of MySQL, who forked it due to concerns over its acquisition by Oracle Corporation in 2009.

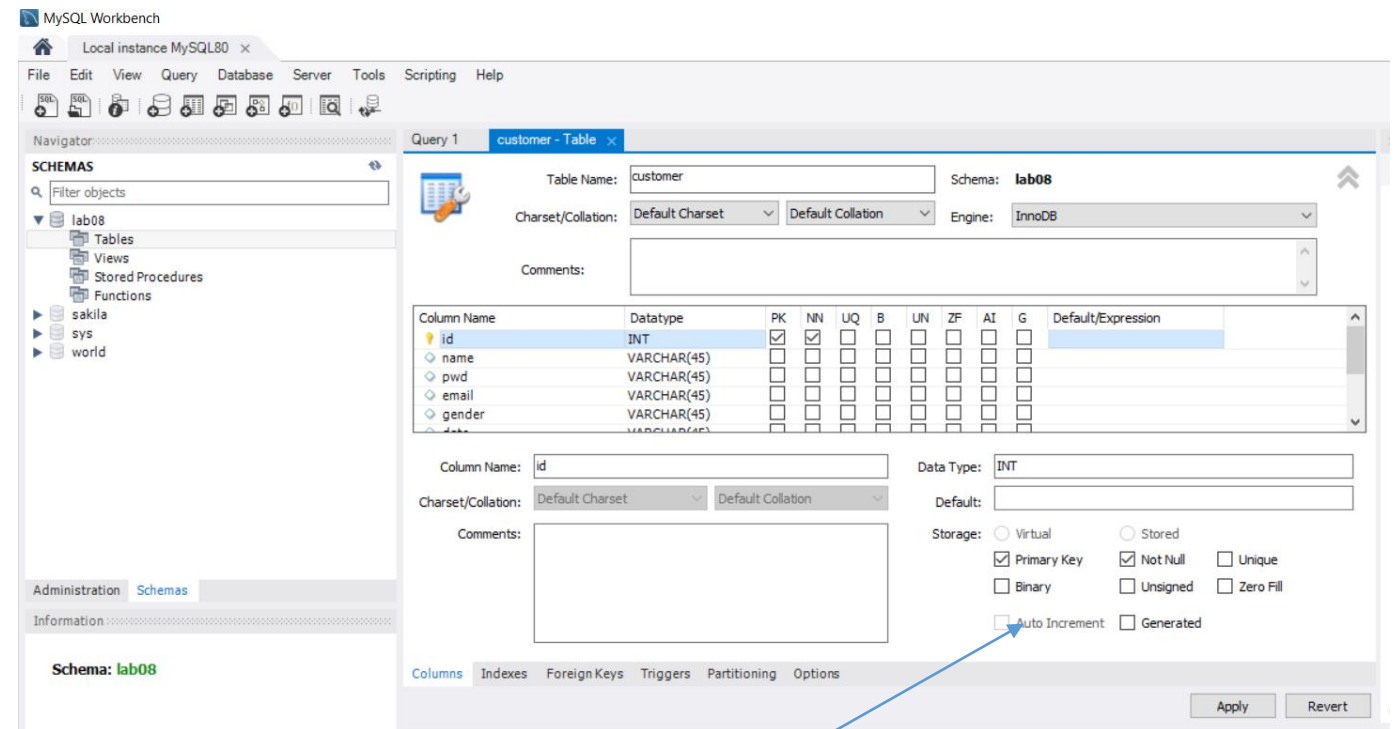# Ex 4: Create a database in MySQL(Localhost) by Workbench

Login the local instance MySQL80

Create a table named lab08;
Create columns under the table;
For simplicity, all non key attributes
 use varchar(45); you may improve in
the future by yourself.

```
$name = modifyInput($_POST["name"]);
$pwd = modifyInput($_POST["pwd"]);
$pwd2 = modifyInput($_POST["pwd2"]);
$email = modifyInput($_POST["email"]);
$email2 = modifyInput($_POST["email2"]);
$gender = modifyInput($_POST["gender"]);
$date = modifyInput($_POST["date"]);
$phone = modifyInput($_POST["phone"]);
$check =modifyInput($_POST["check"]);
```


You may add AUTO_INCREMENT later

Insert AUTO_INCREMENT manually

Reset if you do something wrong in previous step

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Step 1

```
Limit to 1000 rows

44    INSERT INTO `lab08`.`customer`
45    (
46     `name`,
47     `pwd`,
48     `email`,
49     `gender`,
50     `date`,
51     `phone`,
52     `check`)
53    VALUES
54    (
55     "name",
56     "123",
57     "abc@abc.com",
58     "male",
59     "2010",
60     "777",
61     "yes");
```

Step 2

```
63    Select * from customer;
64
```

Result Grid | Filter Rows: | Edit: | Expo

	id	name	pwd	email	gender	date	phone	check
▶	1	name	123	abc@abc.com	male	2010	777	yes
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Output

Action Output

#	Time	Action	Message
✓ 1	02:16:03	DROP TABLE `lab08`.`customer`	0 row(s) affected
✓ 2	02:16:03	CREATE TABLE `lab08`.`customer` (`id` int NOT NULL AUTO_INCREMENT, `name` varchar(45) DE...	0 row(s) affected
✓ 3	02:18:07	INSERT INTO `lab08`.`customer` (`name`, `pwd`, `email`, `gender`, `date`, `phone`, `check`) VALUES ("...	1 row(s) affected

Ex5: Test Connection in localhost

Change the php.ini as below

```
892  ;
893  ; When the extension library to load is not located in the default extension
894  ; directory, You may specify an absolute path to the library file:
895  ;
896  ;    extension=/path/to/extension/mysqli.so
897       extension=php_mysqli.dll
898       extension_dir = "D:\eBusinessKevinYuenLabs\php7410\ext"
```

> This PC > DATA (D:) > eBusinessKevinYuenLabs > php7410 > ext

Name	Date modified	Type	Size
php_mysqli.dll	9/2/2020 2:05 AM	Application extens...	108 KB

```php
1   <!DOCTYPE html>
2   <!--
3   COMP2121
4   Lab 08
5   -->
6   <html>
7       <head>
8           <meta charset="UTF-8">
9           <title>Lab08</title>
10      </head>
11      <body>
12
13          <?php
14          include "pwd.php"; // to hide my MySQL passwords;
15
16          $serverName = "localhost";
17          $userName = "root";
18          $password = $yuenLocalPWD; //you may write your password directly
19          $dbname = "lab08";
20
21          $connection = new mysqli($serverName, $userName, $password,$dbname);
22
23          // Test connection
24          //var_dump($connection->connect_error);  // no error return NULL
25          //var_dump(!$connection->connect_error); // not NULL returns true
26          // -> is an object operator to access methods or attributes, similar to "." in Java
27          if (!$connection->connect_error) {
28              echo "Connected successfully";
29          } else {
30              die("Connection failed: " . $connection->connect_error);
31          }
32          ?>
33
34      </body>
35  </html>
```

Ex6: SQL Query

```php
34    $sqlStatement = "SELECT * FROM customer";
35    $result = $connection->query($sqlStatement);
36    // var_dump($result->num_rows);
37
38    if ($result->num_rows > 0) {
39        // output data of each row
40        while($row = $result->fetch_assoc()) {
41
42            print_r($row);
43            echo "<br>";
44            echo "ID:",$row['id'] .", pwd:" . $row['pwd'] .
45                    ", phone:" . $row['phone'] ."<br>";
46        }
47    } else {
48        echo "No result!";
49    }
50
51    $connection ->close();
```

Lab08 ×

http://localhost/Lab08MySQL/ex6.php   100%

Connected successfully
Array ([id] => 1 [name] => name [pwd] => 123 [email] => abc@abc.com
[gender] => male [date] => 2010 [phone] => 777 [check] => yes)
ID:1, pwd:123, phone:777

Ex7: Complete the registration page

Step 1:

Copy the completed file in the previous lab.

Rename it as ex8.

Step 2: We need to do something here..

```
70        if($isName && $isPWD && $isEmail1 && $isEmail2 && $isEmailMatched && $isPhone)
71        {
72
73            echo "Registration is successful! <br>";
74        }
```

Step 3:

```php
if($isName && $isPWD && $isEmail1 && $isEmail2 && $isEmailMatched && $isPhone)
{
    include "pwd.php"; // to hide my MySQL passwords;

    $serverName = "localhost";
    $userName = "root";
    $password = $yuenLocalPWD; //you may write your password directly
    $dbname = "lab08";

    $connection = new mysqli($serverName, $userName, $password,$dbname);

    // Test connection
    //var_dump($connection->connect_error);  // no error return NULL
    //var_dump(!$connection->connect_error); // not NULL returns true
    // -> is an object operator to access methods or attributes, similar to "." in Java
    if (!$connection->connect_error) {
        echo "<br> Connected successfully <br>";
    } else {
      die("Connection failed: " . $connection->connect_error);
    }

    $sqlStatement = "INSERT INTO customer("
            . "`name`,`pwd`,`email`,`gender`,`date`,`phone`,`check`) "
            . "VALUES('$name','$pwd','$email','$gender','$date','$phone','$check');";

    if ($connection->query($sqlStatement) === TRUE) {
      echo "<br>Registration is successful! <br>";
    } else {
      echo "Error updating record: " . $connection->error;
    }
    $connection ->close();

}
```
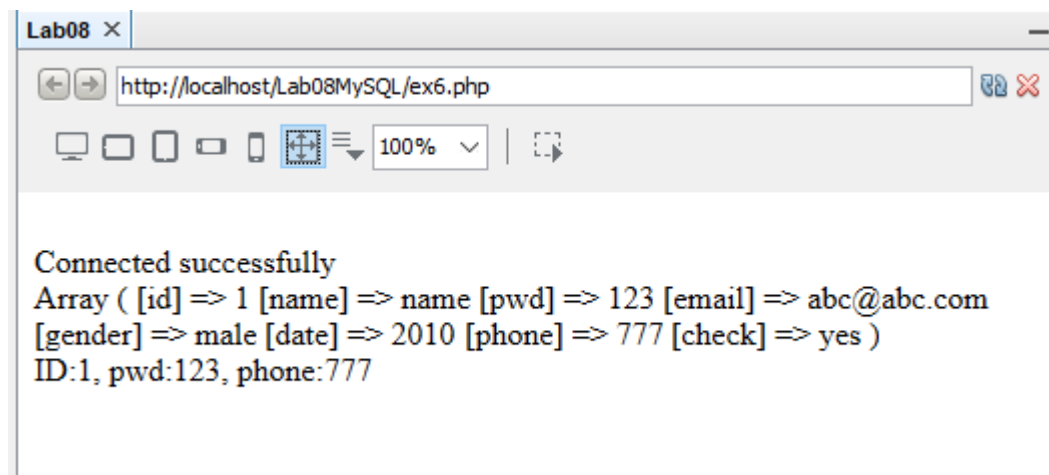
Step 4:

Registration ×

http://localhost/Lab08MySQL/ex7.php

100%

Connected successfully

Registration is successful!

Membership Registration

Name: kevin yuen
Password: •••
Retype Password:
Email: kf@kevin.yuen.hk
Retype email:
Gender: ○Female ○Male ○Others
Date of Birth (optional):
Phone number: 333
Agree with the terms and services: ☐
Submit

Cookie name = kevin yuen
Cookie pwd = 123
Cookie email = kf@kevin.yuen.hk
Cookie gender = Male
Cookie date =
Cookie phone = 333
Cookie check = yes

name = kevin yuen
pwd = 123
pwd2 = 123
email = kf@kevin.yuen.hk
gender = Male
date =
phone = 333
check = yes

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If a user try multiple times, we found the error of duplicate data.


```
63 •    Select * from customer;
64
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

id	name	pwd	email	gender	date	phone	check
1	name	123	abc@abc.com	male	2010	777	yes
2	kevin yuen	123	kf@kevin.yuen.hk	Male		333	yes
3	kevin yuen	123	kf@kevin.yuen.hk	Male		333	yes
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Further development: one email for one registration;
• Use an email to attempt to verify the uniqueness of a user before execute the insert statement.
• Of course user can use multiple emails to register multiple time.

Q&A
Thank you