PHP MySQL2, Remote Server

System and Web Development Workshop

Last Lecture

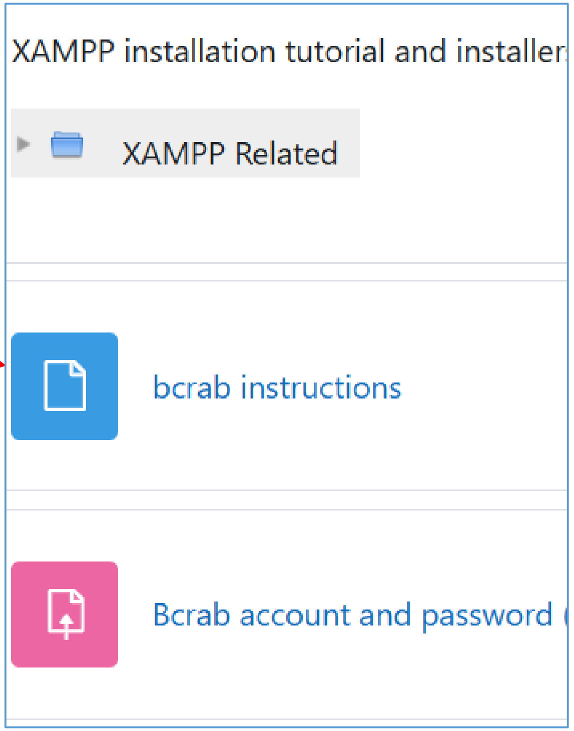
- Put PHP files in the local server XAMPP.
  - You can search for info in database (using MySQL) in your own computer.
  - This is similar to putting HTML, CSS, JS files into your local computer.
    - You can see your web page using your own computer.

This Lecture

- Put PHP files in remote server (bcrab).
  - You can search for info stored in the database of a remote server.
  - Similar to putting HTML, CSS, JS files in remote server (stuweb).
    - So other people can see your web pages with their computers.

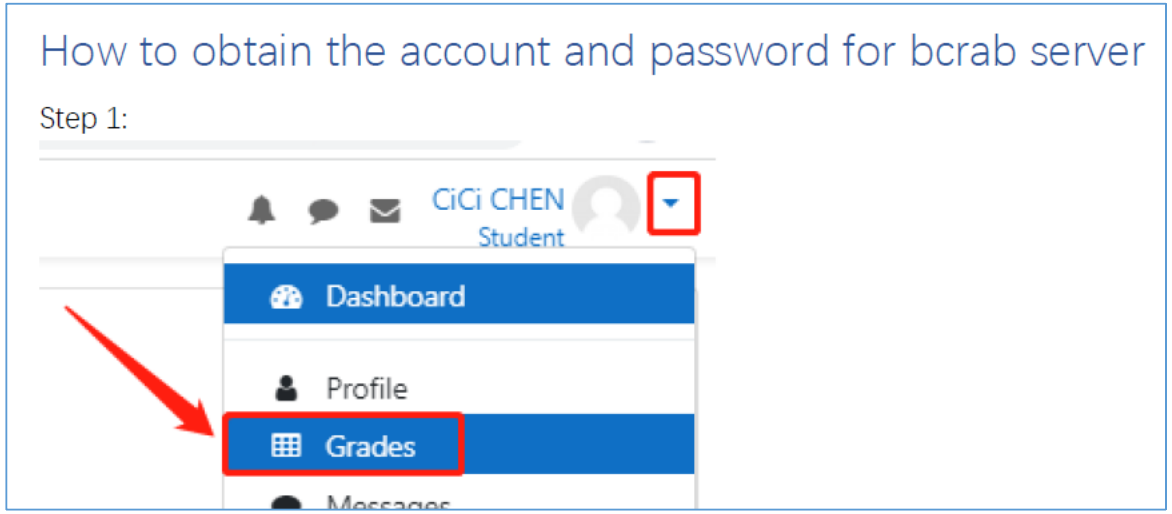
Bcrab Instructions

- In iSpace’s General section:
    - Pdf file bcrab instructions
    - In past years, a pair of students share an account.
    - This year each student has his or her own account?


XAMPP installation tutorial and installer
XAMPP Related
bcrab instructions
Bcrab account and password

(I) Obtaining your account and password

- Follow bcrab instructions, pages 2-3.



How to obtain the account and password for bcrab server

Step 1:

Bcrab Instructions Summary

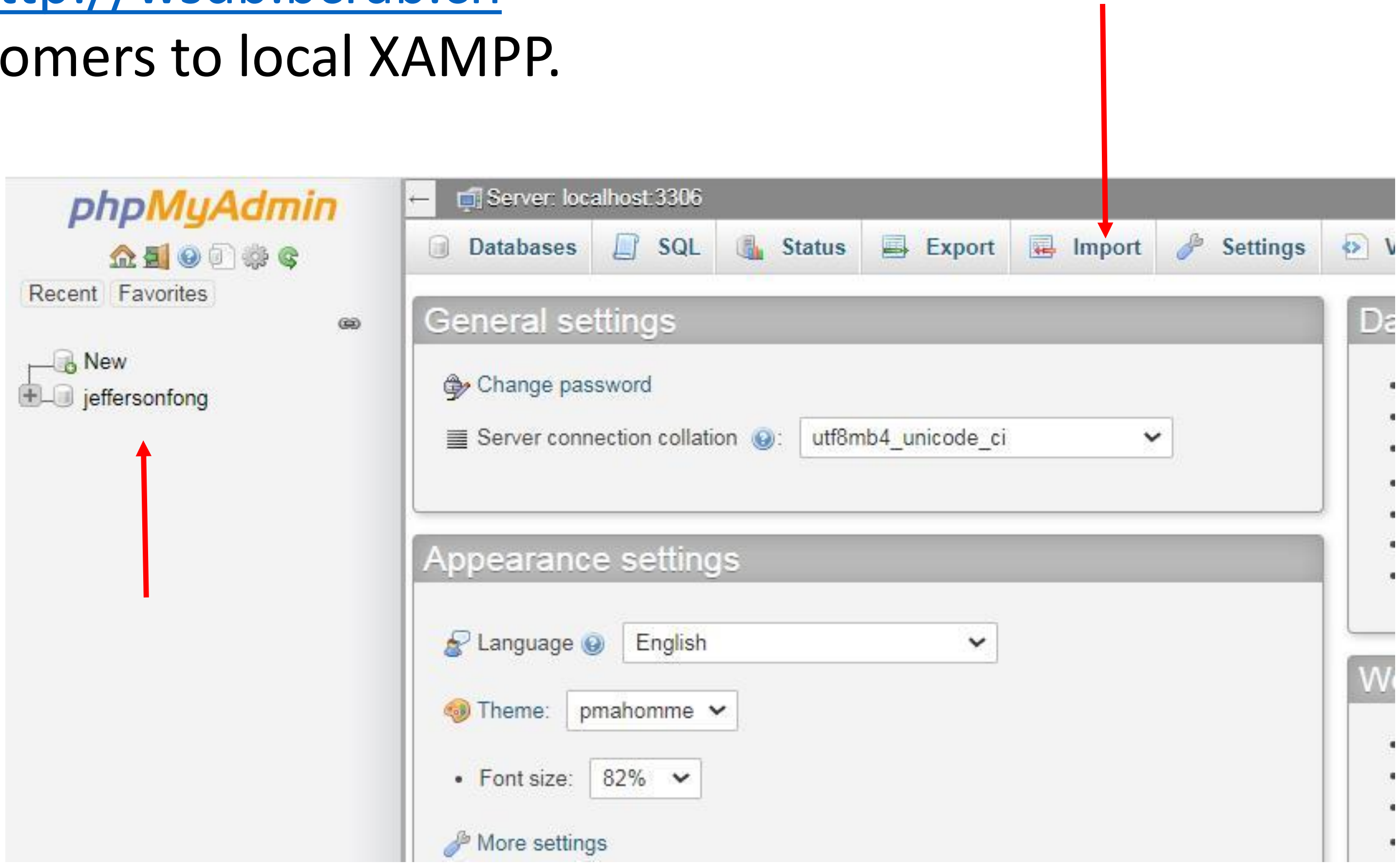
(II) Uploading PHP files into bcrab server.

- For the local XAMPP server, we put the PHP files in c:\xampp\htdocs
- For the **bcrab** server, we use **FileZilla** to move files to bcrab.
  - You've learn FileZilla when using stuweb in 1_HtmlCssForms.
- Follow bcrab instructions, page 1, STUWEB Server
  - E.g. in PhpIntro_samples folder, copy 02_php_variable.php to hello.php.
  - Move hello.php to bcrab using FileZilla
  - Host: stuweb.bcrab.cn; enter your username (instead of dpair36) and password
  - To see the results with a browser inside UIC, enter http://stuweb.bcrab.cn/dpair36/hello.php
  - Use http and not https; change dpair36 to your own account name.
  - For outside UIC (including your dorms), use the UIC VPN.
    - See the bottom of last page of bcrab instructions.

Bcrab Instructions Summary

(III) Create a database and upload a database table to bcrab.

- Follow bcrab instructions, pages 1-2 on WSDB
- With a browser in UIC, enter http://wsdb.bcrab.cn
- Similar steps to importing customers to local XAMPP.
  - See PHP_MySQL1.pptx, part (II) around slides 17-20.
  - Use your own database name (dpairiXX) instead of jeffersonfong.
  - You must choose the DB with your own account name; using someone else's DB won't work.



Server connection collation: utf8mb4_unicode_ci

Language: English

Theme: pmahomme

Font size: 82%

Bcrab Instructions, from Samples A - Customers

- Samples A codes for Customers DB are in folder PhpMySql2_samples\samplesA_customers_bcrab\

- In last lecture part (IIA), you've ran 3 files in your local XAMPP.
- Now let's run these 3 files in bcrab.
- Use FileZilla, create a folder call PhpMySql2 and upload these 3 sample files there:
  - 01_connection_bcrab.php
  - 02_select_bcrab.php
  - 03_select_where_bcrab.php

PHP Connect to a server

- Open a Connection to MySQL

01_connection_bcrab.php

Local server info commented out

Connecting to server bcrab.

```
<?php
// Comment and uncomment the following for using DB in XAMPP
or stuweb.bcrab.cn.

// (1) Using DB in local XAMPP server
// $servername = "localhost";
// $username = "root";     // for local host
// $password = "";         // for local host
// $db = “jeffersonfong"; // change to your own db name

// (2) Using DB in bcrab
$servername = “stuweb.bcrab.cn";
$username = "XXXXX";  // change XXXXX to your bcrab username
$password = "XXXXX";  // change XXXXX to your bcrab password
$db = “jeffersonfong"; // change to your own db name
```

Note from last year

- Use

```
$servername = “stuweb.bcrab.cn";
```

- If that doesn’t work, try

```
$servername = “wsdb.bcrab.cn";
```

PHP Connect to MySQL

- The rest of the code is same as the localhost version.

01_connection_bcrab.php

```
// Create connection
$conn = new mysqli($servername, $username, $password);

// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
echo "Connected successfully";
?>
```

- See the result with a browser
- http://stuweb.bcrab.cn/dpair36/ PhpMySql2 /01_connection_bcrab.php
  - Change dpair36 to your bcrab account name.
  - Or try http://wsdb.bcrab.cn/...

Run a Query on remote database

In 02_select_bcrab.php,

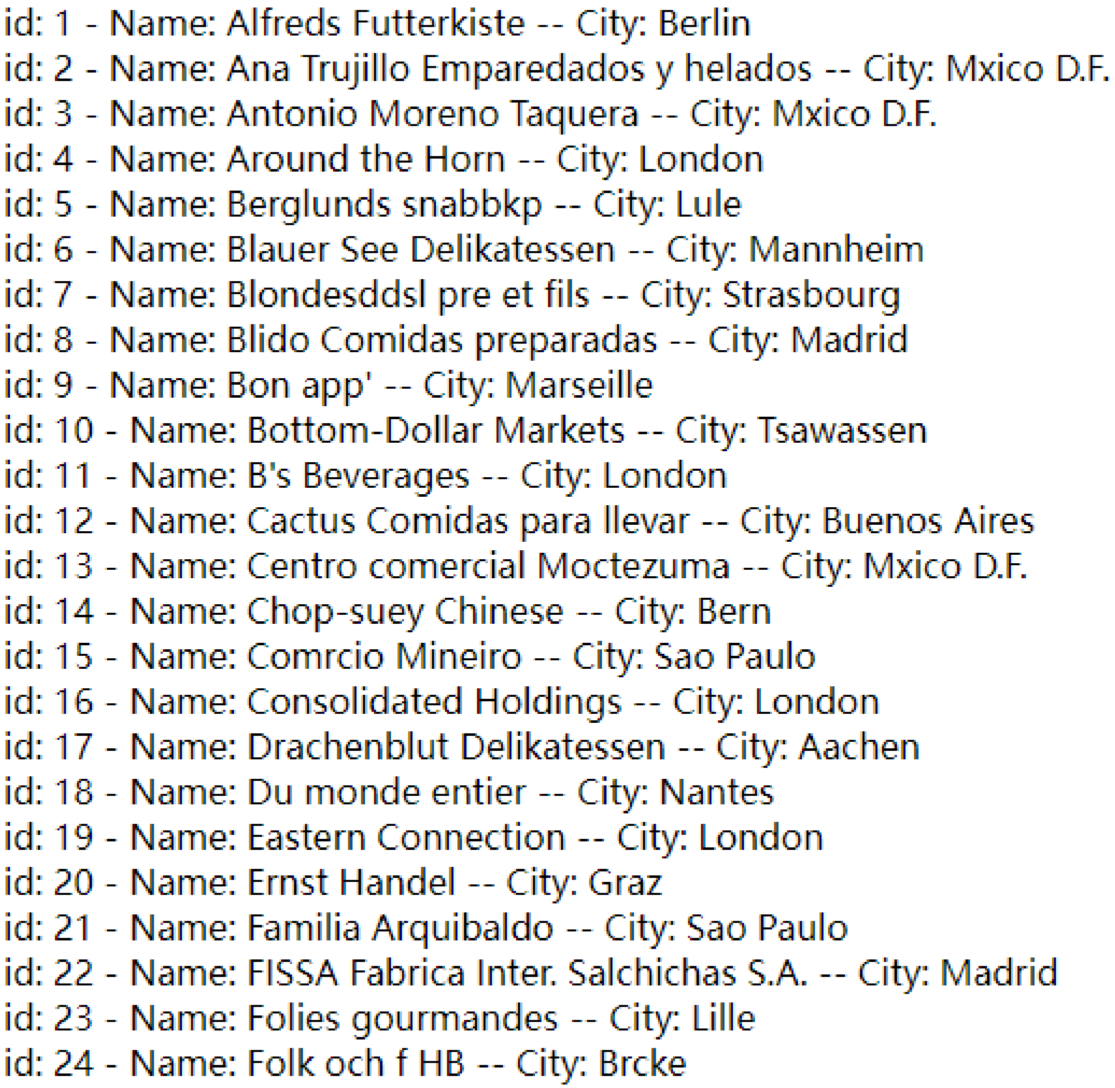
- Make the connection settings for bcrab, similar to 01_connect_bcrab.php
- The rest of the code is same as the localhost version.
  - Run a SQL commend, and display the result.

02_select_bcrab.php

```
$sql = "SELECT CustomerID, CustomerName, City FROM customers";
$result = mysqli_query($conn, $sql);

// The display the result
```

PHP Select Data From MySQL



```
id: 1 - Name: Alfreds Futterkiste -- City: Berlin
id: 2 - Name: Ana Trujillo Emparedados y helados -- City: Mxico D.F.
id: 3 - Name: Antonio Moreno Taquera -- City: Mxico D.F.
id: 4 - Name: Around the Horn -- City: London
id: 5 - Name: Berglunds snabbkp -- City: Lule
id: 6 - Name: Blauer See Delikatessen -- City: Mannheim
id: 7 - Name: Blondesddsl pre et fils -- City: Strasbourg
id: 8 - Name: Blido Comidas preparadas -- City: Madrid
id: 9 - Name: Bon app' -- City: Marseille
id: 10 - Name: Bottom-Dollar Markets -- City: Tsawassen
id: 11 - Name: B's Beverages -- City: London
id: 12 - Name: Cactus Comidas para llevar -- City: Buenos Aires
id: 13 - Name: Centro comercial Moctezuma -- City: Mxico D.F.
id: 14 - Name: Chop-suey Chinese -- City: Bern
id: 15 - Name: Comrcio Mineiro -- City: Sao Paulo
id: 16 - Name: Consolidated Holdings -- City: London
id: 17 - Name: Drachenblut Delikatessen -- City: Aachen
id: 18 - Name: Du monde entier -- City: Nantes
id: 19 - Name: Eastern Connection -- City: London
id: 20 - Name: Ernst Handel -- City: Graz
id: 21 - Name: Familia Arquibaldo -- City: Sao Paulo
id: 22 - Name: FISSA Fabrica Inter. Salchichas S.A. -- City: Madrid
id: 23 - Name: Folies gourmandes -- City: Lille
id: 24 - Name: Folk och f HB -- City: Brcke
```

Output from **02_select_bcrab.php**

Same as localhost version.

Exercise A

- Run 02_select_bcrab.php and 03_select_where_bcrab.php, in the bcrab server.
- In 03_select_where_bcrab.php, change the SQL to
  - List all Contact names and cities in London

Announcement

- Assignment 3 will be released this Wed or Thu (Apr 23 or 24)
  - Will be due near the end of Labor Day.
- Test 2 will be held on the Week 13, right after Labor Day during Lab.
  - Section 1 – Fri May 9
  - Section 2 – Tue May 6

Samples B – Local and Remote Server

- Download PhpMySql2_samples\samplesB_membership.
  - Note the database file membership.sql in that folder.

- Copy the files 01_login.php, 02_checkPasswordHardwired.php , 03_connectDB.php files into the local XAMPP php folder.
  - E.g. copy to C:\XAMPP\htdocs\php\PhpMySQL2

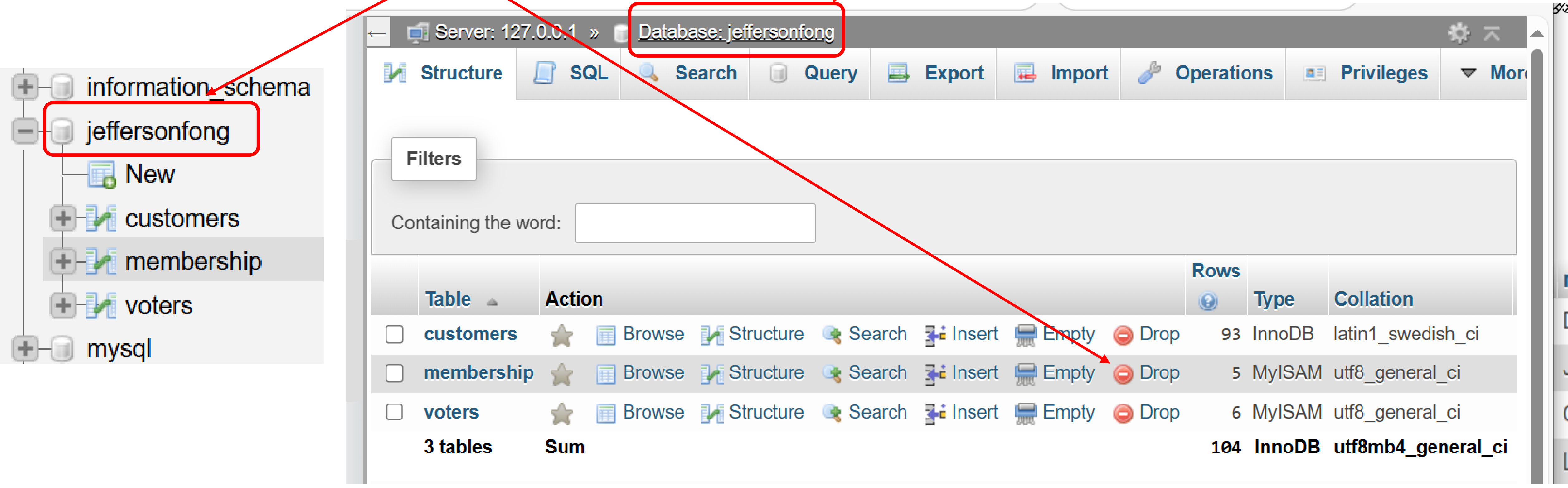
- The file membership.sql has been updated on Apr 19.
  - If you imported the old membership.sql into your XAMPP, you need to drop (remove) the old membership table and re-import the new one.
  - See next slide on dropping a table.

Drop (remove) the old membership table.

(1) Click on the database name (jeffersonfong in my XAMPP).

(2) Click Drop on the membership table.

(3) Import the new membership table.



Containing the word:

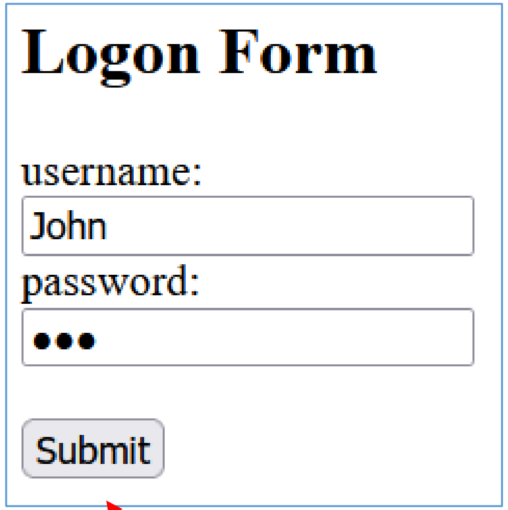
	Table	Action							Rows	Type	Collation
□	customers	★	Browse	Structure	Search	Insert	Empty	Drop	93	InnoDB	latin1_swedish_ci
□	membership	★	Browse	Structure	Search	Insert	Empty	Drop	5	MyISAM	utf8_general_ci
□	voters	★	Browse	Structure	Search	Insert	Empty	Drop	6	MyISAM	utf8_general_ci
	3 tables	Sum							104	InnoDB	utf8mb4_general_ci

Samples B: 01_Login, 02_hardwired password

- Code 01_Login.php contains an input form.

01_login.php

```
<h2>Logon Form</h2>
<form action="02_checkPasswordHardwired.php" method="POST">
   <label for="usr">username:</label><br>
   <input type="text" id="usr" name="usr" value="John"><br>
   <label for="pwd">password:</label><br>
   <input type="password" id="pwd" name="pwd" value="Doe"><br><br>
   <input type="submit" value="Submit">
</form>
```



Logon Form

username:

John

password:

●●●

When Submit is clicked, usr and pwd values are sent to 02_checkPasswordHardwired.php

Samples B: 01_Login, 02_checkPasswordHardwired

02_checkPasswordHardwired.php

```
<?php
$db_pwd = "666666";                    // Hardwired value for password
$user      = $_POST["usr"];            // username from login form
$pwd       = $_POST["pwd"];            // password from login form

if ($db_pwd == $pwd){
        echo "Your Username is: $user, and your Password matches the one in the database.";
} else {
        echo "Your Username is: $user <br> The Password you typed <b>$pwd</b> is incorrect";
}
?>
```

- Code 02 compares the $pwd with the hardwired value (“666666”).
- In a browser, run 01_login.php.
  - http://localhost/php , then browser to 01_login.php.
  - Enter a password different than the hardwired value. What happens?
  - Enter the hardwired value as the password. What happens?

Include or Require

- Include or require statements

  (1) Insert the content of one PHP file into another PHP file, before the server executes it.

  - Similar to C’s #include <stdio.h>

  (2) Are identical, except upon failure.

  - require 'filename';
    - produces a fatal error (E_COMPILE_ERROR) and stop the script.
  - include 'filename';
    - produces a warning (E_WARNING) and continue with the script.

Include or Require

MainFile.php

```
<?php
include ‘ConnectionInfo.php';
$uname   = $_POST["usr"];
$rname   = $_POST["realName"];
$pwd     = $_POST["pwd"];
 …
?>
```

ConnectionInfo.php

```
<?php
$servername="localhost";
$username=“username";
$password=“password";
$db=“dbName";
 …
?>
```

- The **connection info** can be stored in separate file.
  - Easier to maintain and protect the password.
  - Have one connection info file for local server, and another for remote server (with password).
  - To change from local to remote server, just change the **include statement** in the main file.
- Other than that, the main file is the same in the local and remote server.
  - So can write and debug the main file in the local server for convenience.
  - When main file works correctly, move it to remote server for other people to use.

Samples B – Membership, Exercise B1

- 03_connectDB.php contains the connection information for local server.
  - Similar to last week’s 01_connection_localhost.php.

Class Exercise B1

- Create 03_connectDB_bcrab.php to have the connection information for your account in bcrab. Also make the connection to bcrab server.

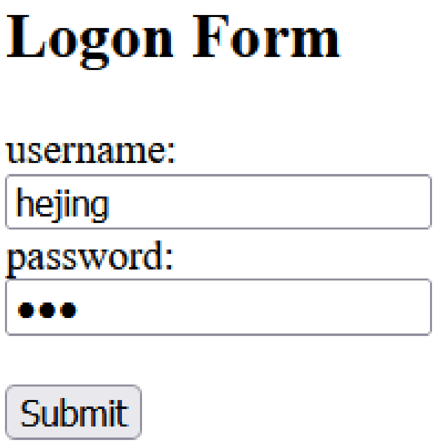
- First develop our code in the local server with
  include ’03_connectDB.php';
- After our code works properly in local server, move it to bcrab with
  include ’03_connectDB_bcrab.php';

04 Check Password by Database

- Rather than comparing the password with a hardwired value (as in 02_checkPasswordHardwired.php), let's compare the username and password with the values in the database.
- If you haven't done so, downloaded membership.sql from iSpace and import it into your local XAMPP.
  - Use the same database in XAMPP you've used last week.
  - Your database can have two tables: customers and membership.
  - Recall this lecture's slide 6 and last lecture's slide 17-20 on importing tables.

04 Check Password by Database, demo

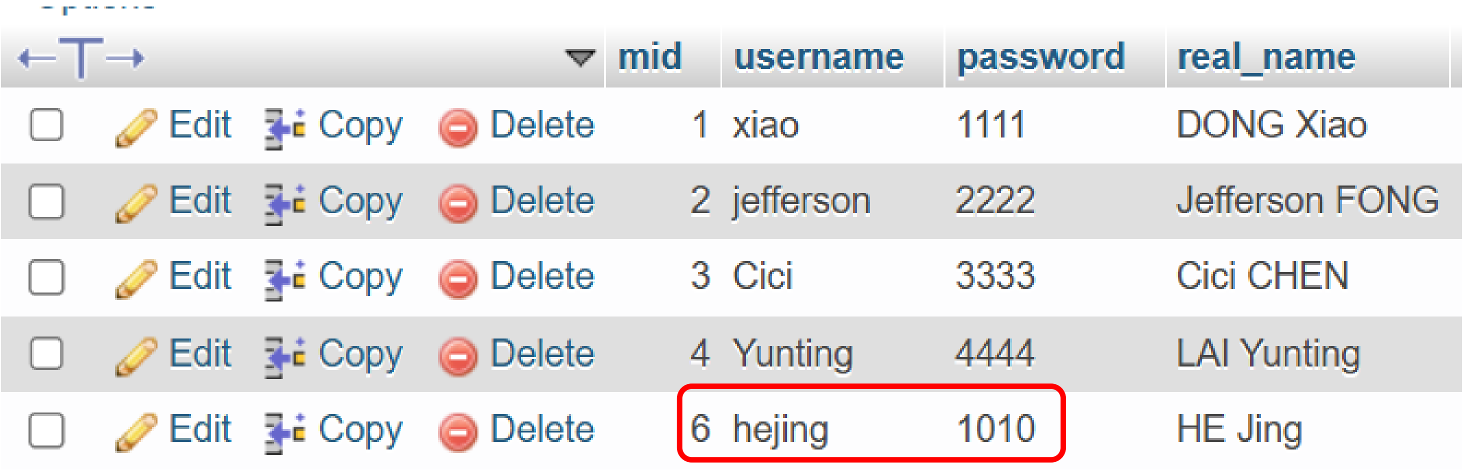
- See the video ExerciseB2_php_login.mp4.
  - The video is next to the lecture slides in iSpace.
- Compare the username and password (left) with values in the database (right).



Logon Form

username:
hejing

password:
●●●

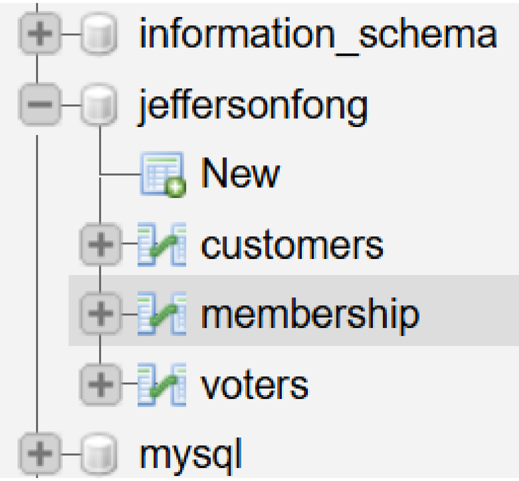


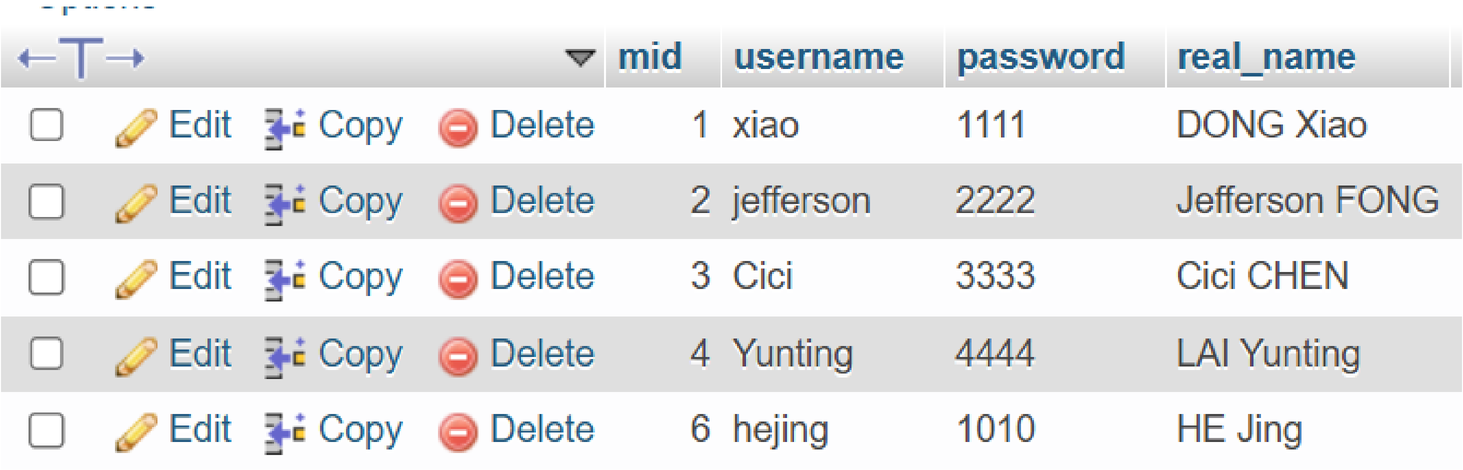
←T→				mid	username	password	real_name
□	Edit	Copy	Delete	1	xiao	1111	DONG Xiao
□	Edit	Copy	Delete	2	jefferson	2222	Jefferson FONG
□	Edit	Copy	Delete	3	Cici	3333	Cici CHEN
□	Edit	Copy	Delete	4	Yunting	4444	LAI Yunting
□	Edit	Copy	Delete	6	hejing	1010	HE Jing

- First enter a username or password not in the database, and Submit.
- Then enter a username and password in the database, and Submit.
  - E.g. username hejing, password 1010.

04 Check Password by Database, Exercise B2

- See the content of the database table membership.sql.





←T→			▼	mid	username	password	real_name
□	Edit	Copy	Delete	1	xiao	1111	DONG Xiao
□	Edit	Copy	Delete	2	jefferson	2222	Jefferson FONG
□	Edit	Copy	Delete	3	Cici	3333	Cici CHEN
□	Edit	Copy	Delete	4	Yunting	4444	LAI Yunting
□	Edit	Copy	Delete	6	hejing	1010	HE Jing

- Click the table membership, and the content should appear.

Login a User, check database, Exercise B2

- Move 04_checkPasswordByDB.php from PhpMySql2_ClassEx to the local server htdocs; fill in the missing codes labelled FIXME.
  - See last week's sample codes 02_select_localhost.php and 03_select_where_localhost.php to figure out the missing code.
- In 01_login.php, comment and uncomment the statements to call 04_checkPasswordByDB.php.
- Use a browser to run 01_login.php
- **Submit** your completed 04_checkPasswordByDB.php

Login a User, check database, Exercise B2

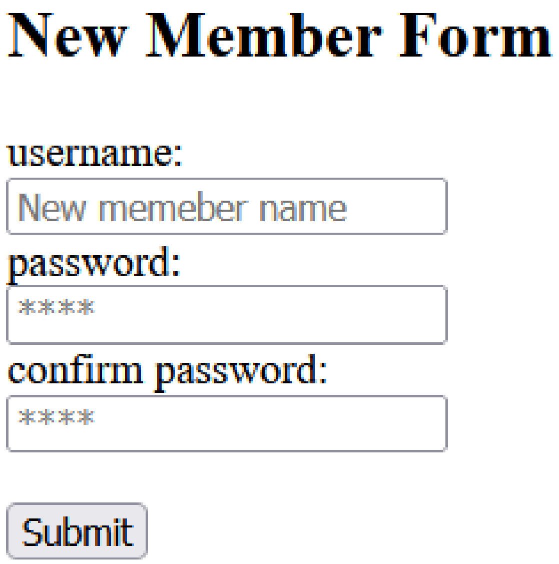
- Copy the intermediate solution 04_checkPasswordByDB_start.php to 04_checkPasswordByDB.php.
- Move it to your local server's htdocs
- Fill in the missing codes labelled FIXME.
  - See PhpMySQL1's sample codes 02_select_localhost.php and 03_select_where_localhost.php to figure out the missing code.
- In 01_login.php, comment and uncomment the statements to call 04_checkPasswordByDB.php.
- Use a browser to run 01_login.php.
- **Submit** your completed 04_checkPasswordByDB.php

New Membership, demo

Run **05_new_member_form.php** in localhost.

Add a new member:

- First, enter different password and confirm password, then Submit.
  - You should get an error.



New Member Form

username:

New memeber name

password:

****

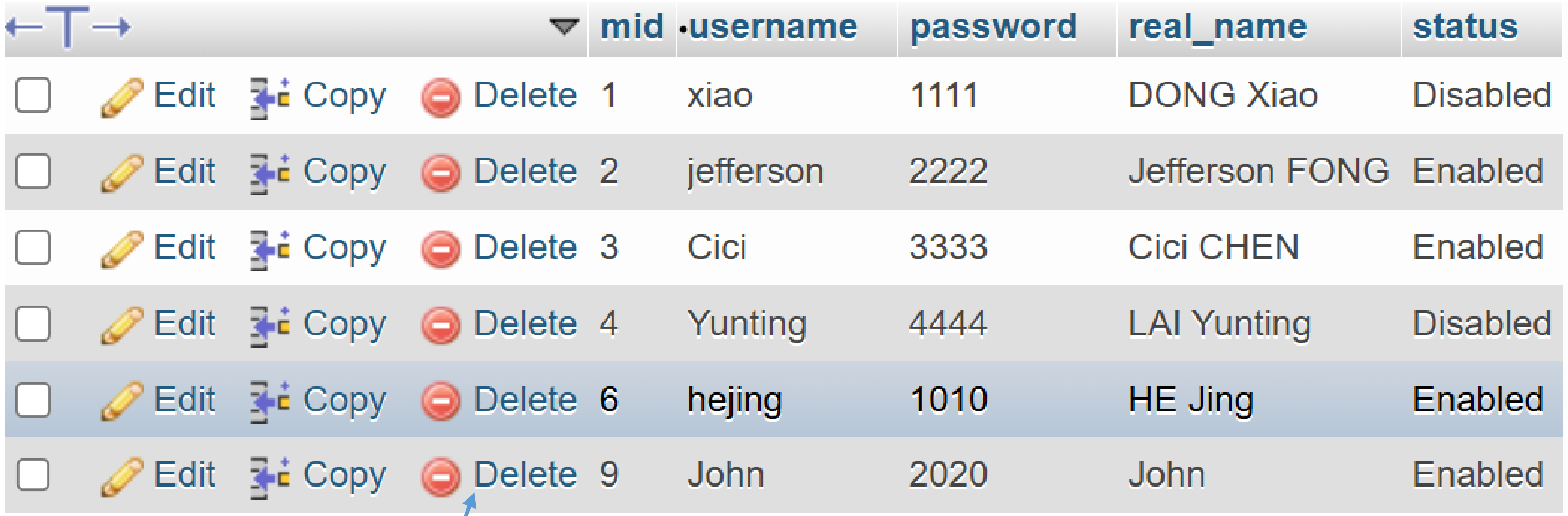
confirm password:

****

- Next, enter the same password and confirm password, then Submit.
  - Notice new username and password are added to database table.
- Watch the video ExerciseB3_php_new_member.mp4.
  - The videos section is next to the lecture section in iSpace.
  - The demo inserts Bruce with password 1234 into the database.
  - The DB table’s values in the video are different than those here.

New Membership, Exercise B3

- Write **05_new_member.php**
  - So you can add a new member into the database using 05_new_member_form.php, as shown in the demo.
  - Start from the intermediate solution 05_new_member_start.php.



←T→			▼	mid	username	password	real_name	status
□	Edit	Copy	Delete	1	xiao	1111	DONG Xiao	Disabled
□	Edit	Copy	Delete	2	jefferson	2222	Jefferson FONG	Enabled
□	Edit	Copy	Delete	3	Cici	3333	Cici CHEN	Enabled
□	Edit	Copy	Delete	4	Yunting	4444	LAI Yunting	Disabled
□	Edit	Copy	Delete	6	hejing	1010	HE Jing	Enabled
□	Edit	Copy	Delete	9	John	2020	John	Enabled

- Note you can delete a row directly in XAMPP, in case you made a mistake or want a fresh start.

New Membership, Exercise B3 and B4

- In **05_newMember.php**
  - Correct the code labelled FIXME.
  - Check that the password and the confirm password match
    - If they match, insert the new member
    - If they don’t match, output a warning message
  - Echo messages for success or failure after submitted the query.
- **Submit** your 05_newMember.php

Exercise B4

- Make all the previous B exercise run in bcrab.

Class Exercises Summary

Last Week: Exercise A

- Make 03_select_where_bcrab.php to run in the bcrab server.
  - In iSpace, submit the link to your code in bcrab.

This Week:

- Exercise B1 – create 03_connectDB_bcrab.php.
- Exercise B2 – fix 04_checkPasswordByDB.php.
- Exercise B3 – fix 05_newMember.php.
- Exercise B4 – make B1 to B3 to run in bcrab.
  - In iSpace’s Online Text, submit the link to your code in bcrab

Class Exercises Summary

- Zip your files in one folder and submit it in iSpace.
- Use FileZilla to move your files to bcrab.
- In the Online Text of the iSpace submission, enter the proper URL address for 01_login.php and 05_new_member_form.php, e.g.

  http://stuweb.bcrab.cn/dpair36/PhpMySQL2/01_login.php

  http://stuweb.bcrab.cn/dpair36/PhpMySQL2/05_new_member_form.php

  - Change the account name and folder to the correct values.
  - The TA should be able to copy your links and run them on her browser.