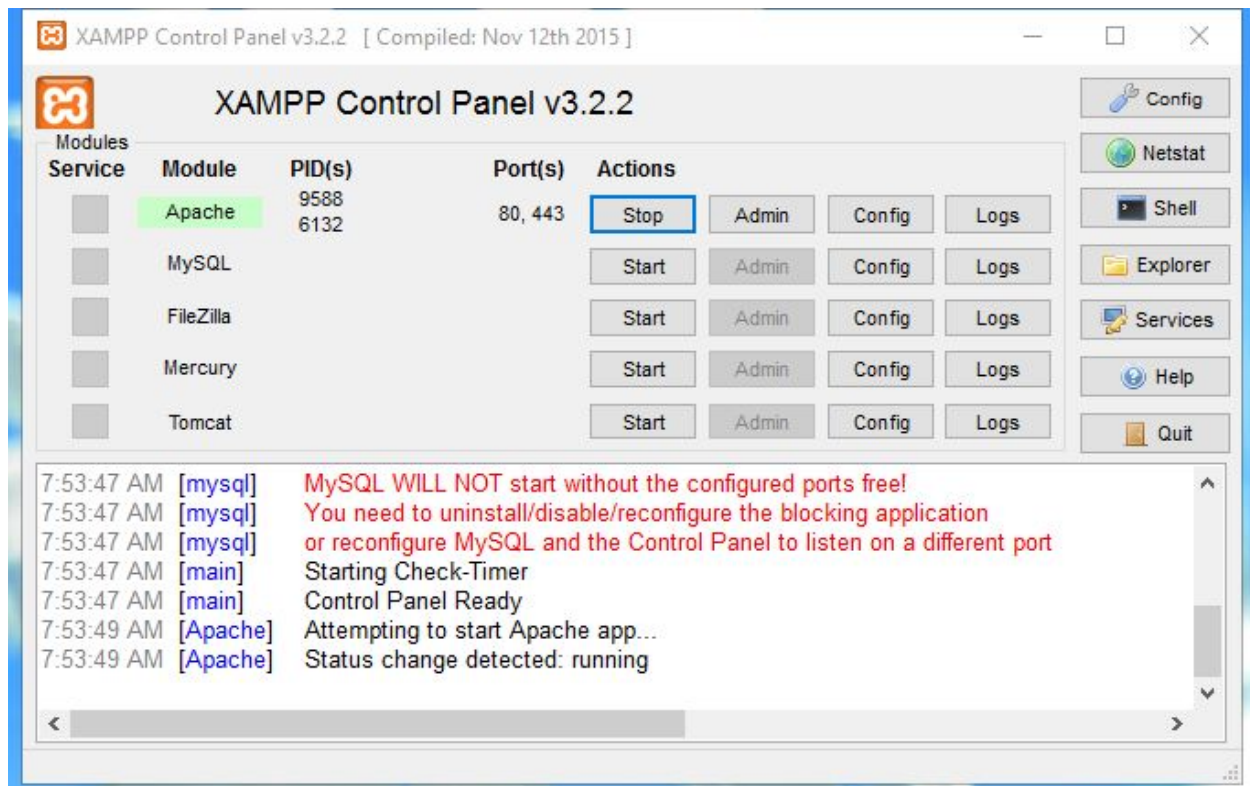


2 Tier Client-Server PHP MySQL Connector

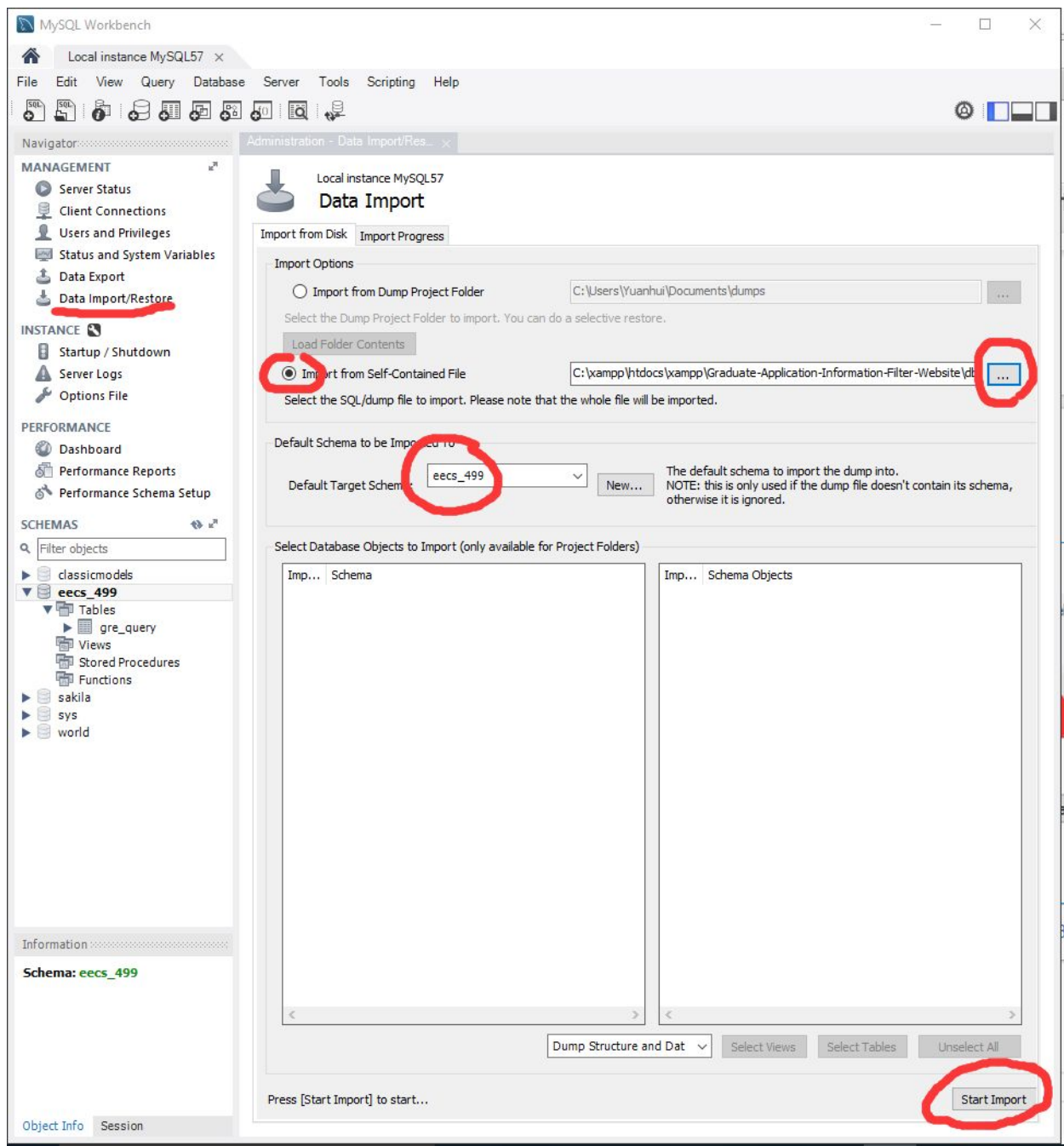
Yuanhui Yang

1 Build Environment

* From [here](#) to download XAMPP PHP development environment. Install it in Windows 10 OS, then move the entire dictionary, 'Graduate-Application-Information-Filter-Website', in 'C:\xampp\htdocs\xampp'. Run it and launch its Apache Module.







* Create 'eecs_499' schema in MySQL Workbench and import eeecs_499.sql into eeecs_499 schema.








* Keep MySQL and Apache alive.

2 Dictionary Structure:



C:\xampp\htdocs\xampp

PC > Local Disk (C:) > xampp > htdocs > xampp			⌵	🔄
Name		Date modified	Type	
 Graduate-Application-Information-Filter-Website		6/12/2016 3:47 PM	File folder	
 .modell		2/18/2016 12:05 PM	MODELL File	
 .modell-usb		2/18/2016 12:05 PM	MODELL-USB I	
 .version		5/12/2016 7:18 AM	VERSION File	



C:\xampp\htdocs\xampp\Graduate-Application-Information-Filter-Website

xampp > htdocs > xampp > Graduate-Application-Information-Filter-Website					⌵
Name		Date modified	Type	Size	
 connector		6/12/2016 7:54 PM	File folder		
 css		6/12/2016 3:47 PM	File folder		
 db		6/12/2016 3:47 PM	File folder		
 js		6/12/2016 7:53 PM	File folder		
 index		6/13/2016 6:57 AM	Chrome HTML Do...		




C:\xampp\htdocs\xampp\Graduate-Application-Information-Filter-Website\connector

htdocs > xampp > Graduate-Application-Information-Filter-Website > connector					⌵
Name		Date modified	Type	Size	
 mysql-connector-to-schema-eecs_499		6/13/2016 5:27 AM	PHP File		
 README		6/10/2016 4:33 PM	MD File		



C:\xampp\htdocs\xampp\Graduate-Application-Information-Filter-Website\css

xampp > htdocs > xampp > Graduate-Application-Information-Filter-Website > css					⌵
Name		Date modified	Type	Size	
 myCss		6/10/2016 4:33 PM	Cascading Style S...		
 README		6/10/2016 4:33 PM	MD File		

C:\xampp\htdocs\xampp\Graduate-Application-Information-Filter-Website\db

mpps > htdocs > xampp > Graduate-Application-Information-Filter-Website > db			
Name	Date modified	Type	Size
 eecs_499	6/12/2016 4:26 PM	SQL Text File	169 KB
 README	6/10/2016 4:33 PM	MD File	1 KB
 test	6/12/2016 2:35 PM	SQL Text File	1 KB

C:\xampp\htdocs\xampp\Graduate-Application-Information-Filter-Website\js

xampp > htdocs > xampp > Graduate-Application-Information-Filter-Website > js			
Name	Date modified	Type	Size
 myJs	6/13/2016 6:49 AM	JS File	7 KB
 README	6/10/2016 4:33 PM	MD File	1 KB

3 JavaScript AJAX call PHP Connector by [XMLHttpRequest API](#)

`xmlhttp.open("GET", "connector/mysql-connector-to-schema-eecs_499.php?ping=" + ping + "&method=" + method, true);` is the key line that call asynchronously connector/mysql-connector-to-schema-eecs_499.php with parameters of 'ping' and 'method'.

/js/myJs.js

```

ping = "SELECT" + attrRes + " FROM " + table + " WHERE " + res;
console.log(res);
$("#Search").html(ping);

tableHead = "";
for ($idx = 0; $idx < checkAttr.length; $idx++) {
    tableHead = tableHead + "<th>";
    tableHead = tableHead + checkAttr[$idx];
    tableHead = tableHead + "</th>";
}
$("##title").html(tableHead);

if (ping == "") {
    document.getElementById("body").innerHTML = "";
}

```

```

    return;
} else {
    if (window.XMLHttpRequest) {
        // code for IE7+, Firefox, Chrome, Opera, Safari
        xmlhttp = new XMLHttpRequest();
    } else {
        // code for IE6, IE5
        xmlhttp = new ActiveXObject("Microsoft.XMLHTTP");
    }
    xmlhttp.onreadystatechange = function() {
        if (xmlhttp.readyState == 4 && xmlhttp.status == 200) {
            document.getElementById("body").innerHTML = xmlhttp.responseText;
        }
    };
    xmlhttp.open("GET", "connector/mysql-connector-to-schema-eecs_499.php?ping=" + ping +
"&method=" + method, true);
    xmlhttp.send();
}

```

4 PHP Connector by [MySQL Improved Extension](#)

Received the 2 parameters from /js/myJs.js, PHP Connector connect MySQL's 'eecs_499' database where user is 'root' and password='root' then print the selected table to webpage by echo function.

connector/mysql-connector-to-schema-eecs_499.php

```

<?php
$ping = $_GET["ping"];
$method = $_GET["method"];
// Hostname: localhost, username: root, password: root, db: eeecs_499
$mysqli = new mysqli('localhost', 'root', 'root', 'eecs_499');
    if ($mysqli->connect_errno) {
        echo "Sorry, this website is experiencing problems.";
        echo "Error: Failed to make a MySQL connection, here is why: \n";
        echo "Errno: " . $mysqli->connect_errno . "\n";
        echo "Error: " . $mysqli->connect_error . "\n";
        exit;
    }
    if (!$pong = $mysqli->query($ping)) {
        echo "Sorry, the website is experiencing problems.";
        echo "Error: Our query failed to execute and here is why: \n";
        echo "Query: " . $ping . "\n";
    }

```

```

        echo "Errno: " . $mysqli->errno . "\n";
        echo "Error: " . $mysqli->error . "\n";
        exit;
    }
    if ($pong->num_rows === 0) {
        echo "We could not find a match, sorry about that. Please try again.";
        exit;
    }
    if ($method === "Search") {
        while ($row = $pong->fetch_array(MYSQLI_NUM)) {
            echo "<tr>";
            for ($column = 0; $column < $pong->field_count; $column++) {
                echo "<td>";
                echo $row[$column];
                echo "</td>";
            }
            echo "</tr>";
        }
    }
    $pong->free();
    $mysqli->close();
?>

```

5 Test

Front-end webpage generates MySQL query words,

'SELECT EmployID, Program, Gender, Country FROM GRE_Query WHERE ((Gre_verbal > 150)) AND ((Gre_quan < (SELECT avg(Gre_quan) FROM GRE_Query)))'

PHP connector forwards it to Back-end server and print the server's reply on webpage.

Select

☒ Employee ID ☒ Program ☒ Gender ☐ Ethnicity ☒ Country of Citizenship

Filter

Gre_verbal

>

value

150

+ OR

AND

Gre_quan

<

avg

+ OR

+ AND

Clear

Search

```
SELECT EmployID, Program, Gender, Country FROM GRE_Query WHERE ( ( Gre_verbal > 150 ) ) AND ( ( Gre_quan < (SELECT avg(Gre_quan) FROM GRE_Query) ) )
```

Result

EmployID	Program	Gender	Country
2417008	Computer Science: PhD (C45PH)	Female	UNITED STATES
2496110	Computer Science: MS (C45MS)	Male	UNITED STATES

🔍 Search

```
SELECT EmployID, Program, Gender, Country FROM GRE_Query WHERE ( ( Gre_verbal > 150 ) ) AND ( ( Gre_quan < (SELECT avg(Gre_quan) FROM GRE_Query) ) )
```

Result

EmployID	Program	Gender	Country
2417008	Computer Science: PhD (C45PH)	Female	UNITED STATES
2496110	Computer Science: MS (C45MS)	Male	UNITED STATES
2553805	Electrical Engineering: PhD (E16PH)	Male	UNITED STATES
2562807	Computer Science: PhD (C45PH)	Male	UNITED STATES
2622290	Computer Science: PhD (C45PH)	Male	CHINA
2710580	Computer Science: PhD (C45PH)	Male	UNITED STATES
2711882	Computer Science: MS (C45MS)	Male	UNITED STATES
2716837	Electrical Engineering: MS (E16MS)	Male	UNITED STATES
2719977	Computer Science: MS (C45MS)	Male	UNITED STATES
2722202	Computer Science: PhD (C45PH)	Male	UNITED STATES
2723519	Computer Science: PhD (C45PH)	Female	CHINA
2742526	Computer Science: MS (C45MS)	Male	CHINA
2745682	Computer Science: PhD (C45PH)	Female	UNITED STATES
2777926	Electrical Engineering: PhD (E16PH)	Male	CHINA
2789318	Computer Science: MS (C45MS)	Male	CHINA