


MySQL

MySQL and PHP - interacting
with a database

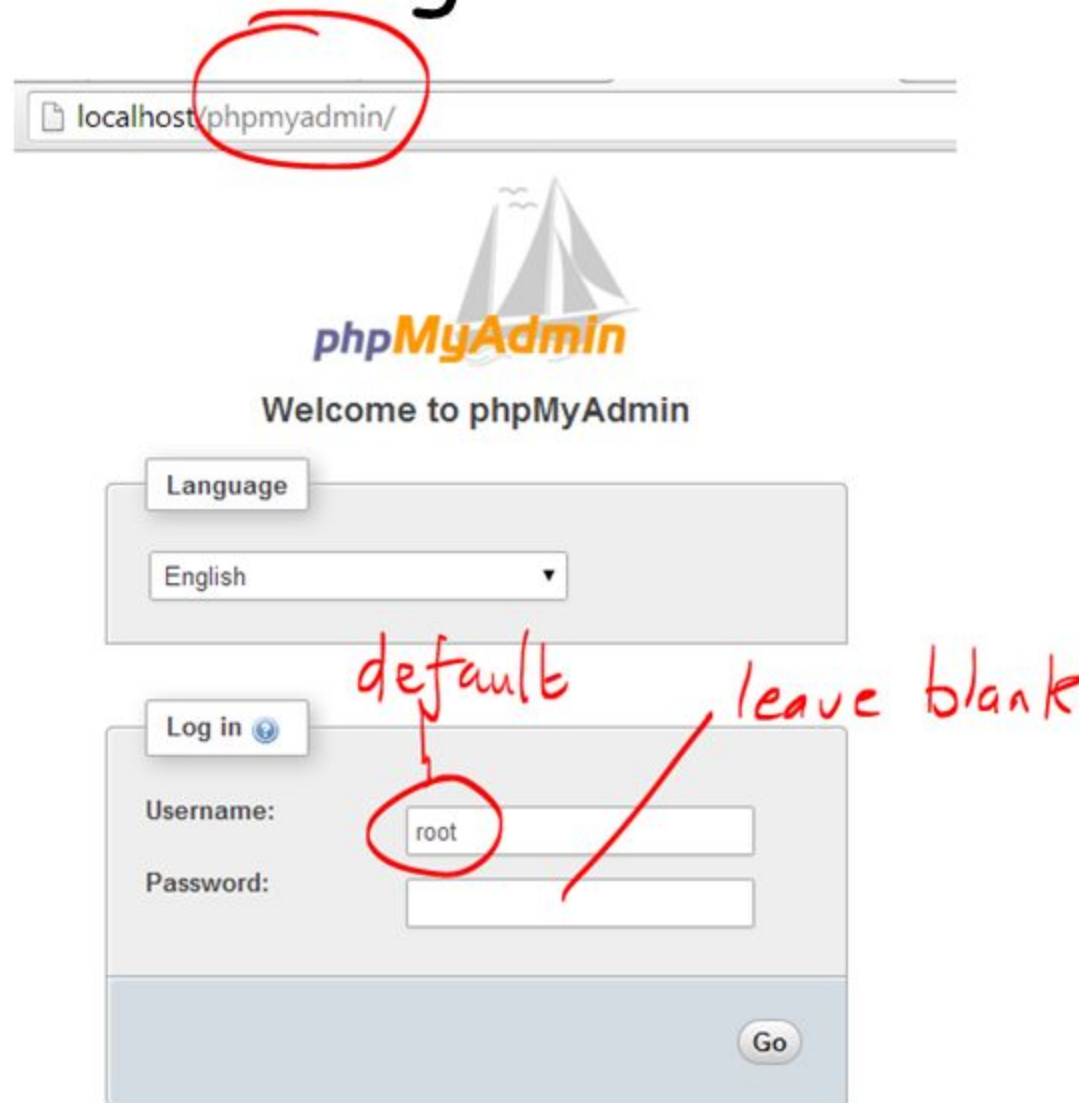
Stack System

- It is assumed a stack system has been created with a testing server running, and a database linked to a web page, e.g.

PHP	scripting language	 WAMP
MySQL	database	
Apache	web server	
Windows 7	operating system	

Can log on to MySQL with administrator rights

- `http://localhost/phpmyadmin`
- Username is **root**
- If your database is for a live web project use a password and different username for security
- As this is a testing server used locally, there is no password, just the username **admin**



The screenshot shows the phpMyAdmin interface. At the top, the browser address bar displays `localhost/phpmyadmin/`, which is circled in red. Below the address bar is the phpMyAdmin logo, featuring a sailboat icon and the text "phpMyAdmin". Underneath the logo, it says "Welcome to phpMyAdmin". There is a "Language" dropdown menu set to "English". Below that is a "Log in" button with a blue circular icon. The login form has two input fields: "Username:" and "Password:". The "Username:" field contains the text "root" and is circled in red. A red arrow points from the word "default" (written in red) to the "root" text. The "Password:" field is empty. A red arrow points from the phrase "leave blank" (written in red) to the empty password field. At the bottom right of the form is a "Go" button.

Database **simplifiedata** created earlier (example)

Table **feedback** created inside **simplifiedata**

The screenshot shows the phpMyAdmin web interface. The browser address bar displays the URL: `localhost/phpmyadmin/index.php?token=066462fd19842905702f4574139259b6#PMAURL-11:db_structure.php?db`. The left sidebar shows a list of databases: `information_schema`, `mydatabase`, `mysql`, `performance_schema`, `simplifiedata` (highlighted with a red circle), and `test`. The main panel shows the structure of the `feedback` table within the `simplifiedata` database. The table has one column, `Sum`, of type `InnoDB` and collation `latin1_swedish_`. The table is highlighted with a red circle. Below the table list, there are options to 'Check All' and 'With selected:'. At the bottom, there is a 'Create table' button and input fields for 'Name:' and 'Number of columns:'.

localhost/phpmyadmin/index.php?token=066462fd19842905702f4574139259b6#PMAURL-11:db_structure.php?db

phpMyAdmin

(Recent tables) ...

information_schema
mydatabase
mysql
performance_schema
simplifiedata
test

localhost » simplifiedata » **feedback**

Browse Structure SQL Search Insert Export Import Operati

Table	Action	Rows	Type	Collation
<input type="checkbox"/> feedback	Browse Structure Search Insert Empty Drop	~0	InnoDB	latin1_swedish_
1 table	Sum	0	InnoDB	latin1_swedish_

☐ Check All With selected: ▾

Print view Data Dictionary

Create table

Name: Number of columns:

PHPMyAdmin (MySQL) settings

- Name of host: **localhost** (default name for most testing servers)
- Login: MySQL database (PHPMyAdmin)
login name: **root** (default name which you would change if using the website live)
- Password: leave blank
- Database name: **simplifiedata**
- Table name (inside database): **feedback**.

If you experience problems you can go back to the other PowerPoint presentation showing you how to set up a MySQL database in PHPMyAdmin.

Access PHPMyAdmin from a web page in Dreamweaver.



Database linked to web page with PHP

- The following opens the connection to the server and database
simplifiedata.php

```
<?php
```

```
// Create connection
```

```
$con=mysqli_connect("localhost","root","", "simplifiedata");
```

```
// Check connection
```

```
if (mysqli_connect_errno())
```

```
{
```

```
    echo "Failed to connect to MySQL: " .
```

```
    mysqli_connect_error();
```

```
}
```

```
?>
```

Login name to MySQL

Database name



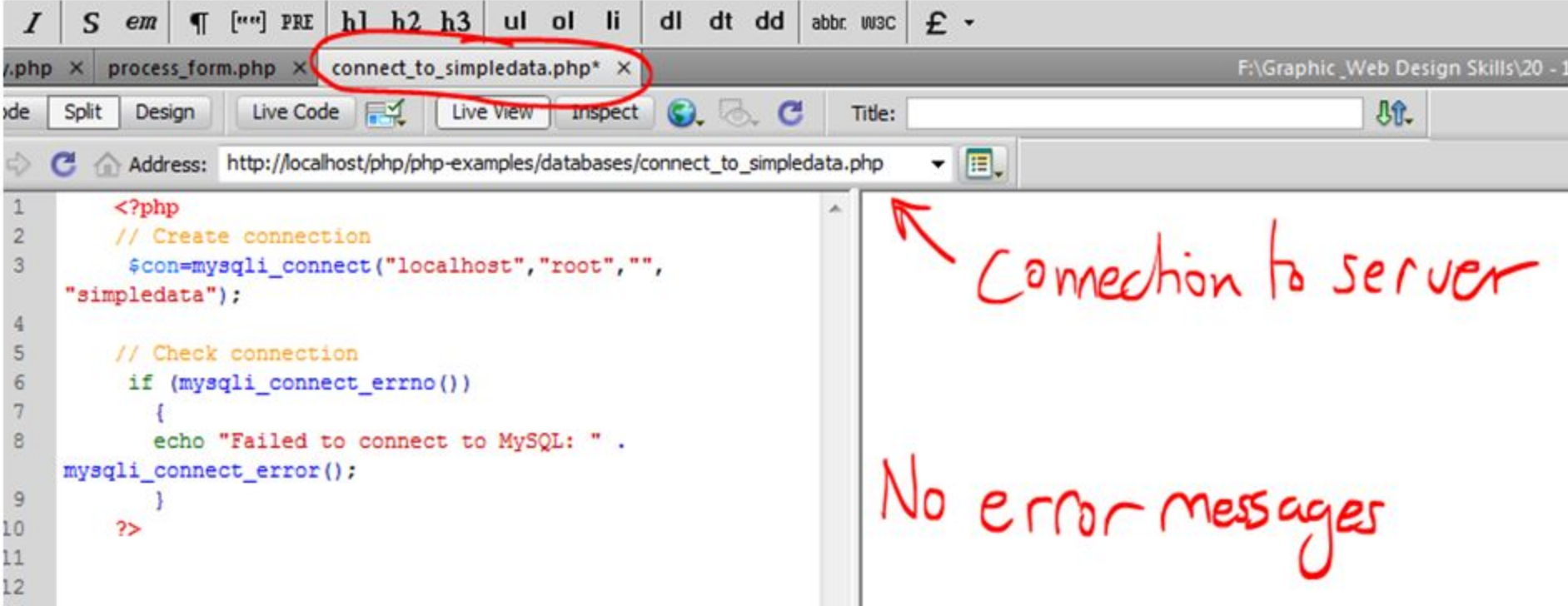
Password (blank)



- An If statement checks for any errors and displays an error message if the connection fails.
- No error messages mean it works!

Accessing the database using PHP

- PHP script created in Dreamweaver.



The screenshot shows the Adobe Dreamweaver interface. The top toolbar includes icons for Insert, Select, Edit, and other functions. The top status bar shows the file path: F:\Graphic_Web Design Skills\20 - 1. The top tab bar shows three open files: /php, process_form.php, and connect_to_simplifiedata.php*. The connect_to_simplifiedata.php* tab is selected and circled in red. The main workspace shows the PHP code for connecting to a MySQL database. The code is as follows:

```
1 <?php
2 // Create connection
3 $con=mysqli_connect("localhost","root","",
4 "simplifiedata");
5
6 // Check connection
7 if (mysqli_connect_errno())
8 {
9     echo "Failed to connect to MySQL: " .
10     mysqli_connect_error();
11 }
12
13 ?>
```

Handwritten red text on the right side of the image reads: "Connection to server" with an arrow pointing to the `mysqli_connect` function in the code. Below it, another handwritten red note says "No error messages".

Presenting a database using PHP

- The SELECT statement is used to select data from a database:
- Add the following PHP

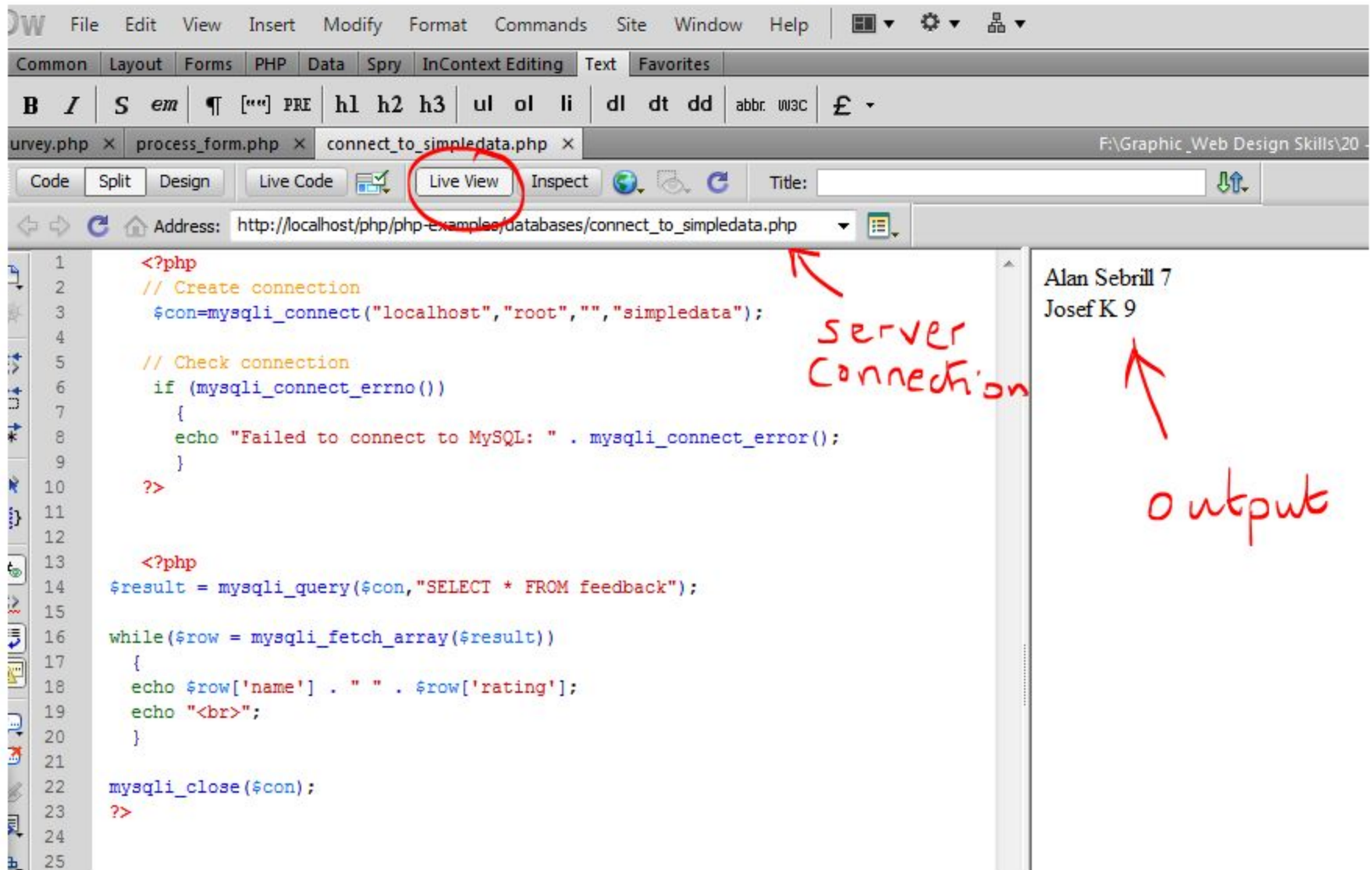
```
<?php
$result = mysqli_query($con, "SELECT * FROM feedback");

while($row = mysqli_fetch_array($result))
{
    echo $row['name'] . " " . $row['rating'];
    echo "<br>";
}
mysqli_close($con);
?>
```

- The data from the table **feedback** is returned by the `mysqli_query()` function and stored in the `$result` variable.
- The `mysqli_fetch_array()` function returns the first row from the table as an **array** variable **&row**.
- The while loop allows `mysqli_fetch_array()` to return the next row in the recordset. The while loop loops through all the rows.
- To **echo** the value of each row, we use the PHP `$row` array variable (`$row['FirstName']` and `$row['LastName']`).

Presenting a database using PHP

- The source code and live view will look similar to this



The screenshot shows a web development IDE with the following components:

- Menu Bar:** File, Edit, View, Insert, Modify, Format, Commands, Site, Window, Help.
- Toolbars:** Common, Layout, Forms, PHP, Data, Spry, InContext Editing, Text, Favorites.
- Code Editor:** Contains PHP code for connecting to a MySQL database and querying a table named 'feedback'. The code is as follows:

```
1 <?php
2 // Create connection
3 $con=mysqli_connect("localhost","root","","simplifiedata");
4
5 // Check connection
6 if (mysqli_connect_errno())
7 {
8     echo "Failed to connect to MySQL: " . mysqli_connect_error();
9 }
10 ?>
11
12
13 <?php
14 $result = mysqli_query($con,"SELECT * FROM feedback");
15
16 while($row = mysqli_fetch_array($result))
17 {
18     echo $row['name'] . " " . $row['rating'];
19     echo "<br>";
20 }
21
22 mysqli_close($con);
23 ?>
24
25
```
- Live View:** Displays the output of the PHP code, showing the names and ratings of users: Alan Sebrill 7 and Josef K 9. Red handwritten arrows point from the 'server connection' text to the database connection code and from the 'output' text to the displayed results.

Selecting and changing a database

PHPMyAdmin MySQL and
Dreamweaver

Accessing using MySQL/PHP

- Specify a range of MySQL commands to interact with a database **simplifiedata** from PHP (in Dreamweaver)
- Add new records to the table **feedback**
- Delete a record from the table **feedback**
- List records from the database **feedback**
- Amend data from the database **feedback** and list
- Select a range of data using **comparitors** (e.g. < less than)


International Cheese (new database)

- Create a new **database** called **cheese**, using PHP
- Create a new table **international_cheese.php**
- Add records to the table
(e.g. name, country, strength, image, in_stock)
- Output data from table using PHP.
- Save the web page as **cheese.php**



Create a new database

- If the database **cheese** does not exist you can create it as shown below.



The screenshot shows a web browser window with the address bar displaying `http://localhost/php/php-examples/databases/MySQL/create_cheese_databases`. Below the address bar, a status bar indicates "No syntax errors." The main content area displays the output of a PHP script, which is "Database cheese created successfully". To the right of the script output, there is a vertical scrollbar. The PHP script itself is visible in the background, showing the connection to the MySQL database and the successful execution of the `CREATE DATABASE` statement.

```
<?php
/*Connection name*/
$con=mysqli_connect("localhost","root","");
$db="cheese";
/*Check connection/mysqli = mysql(improved)*/
if (mysqli_connect_errno())
{
    echo "Failed to connect to MySQL: " . mysqli_connect_error();
}

// Create database
$sql="CREATE DATABASE $db";
if (mysqli_query($con,$sql))
{
    echo "Database ".$db." created successfully";
}
else
{
    echo "Error creating database: " . mysqli_error($con);
}
?>
```

Editing MySQL

- You can change the PHP and edit the MySQL code to be more selective in the process.
- For more info on MySQL, check http://www.w3schools.com/php/php_mysql_intro.asp

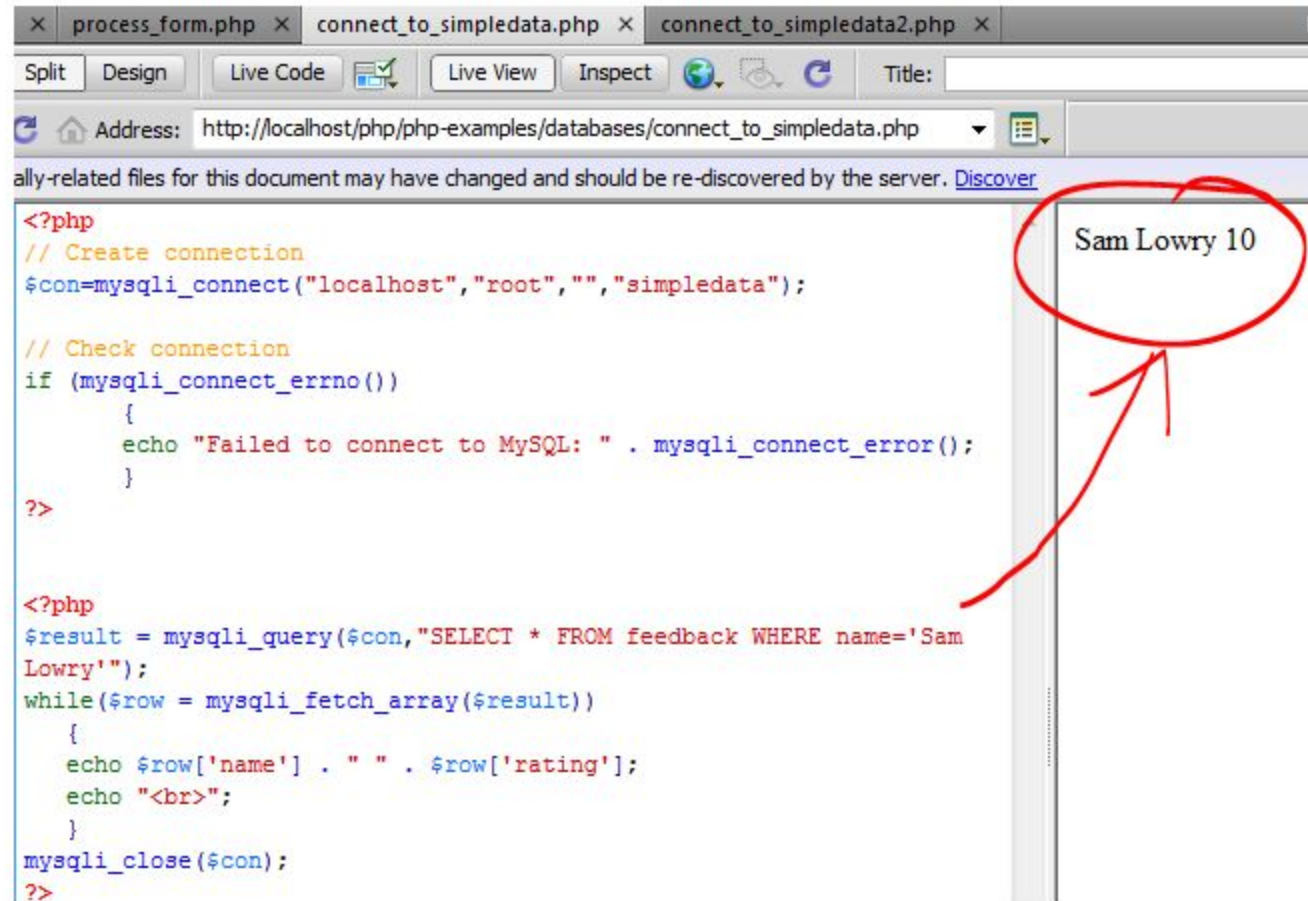
E.g. to select from database only records where the name is "Sam Lowry" change the line

```
$result = mysqli_query($con,"SELECT* FROM feedback");
```

To

```
$result = mysqli_query($con,"SELECT* FROM feedback WHERE  
name='Sam Lowry'");
```


Editing MySQL



The screenshot shows a web browser window with the address `http://localhost/php/php-examples/databases/connect_to_simplifiedata.php`. The page displays the output of a PHP script. The script connects to a MySQL database named 'simplifiedata' and queries the 'feedback' table for records where the name is 'Sam Lowry'. The output shows 'Sam Lowry 10', which is circled in red. A red arrow points from the PHP code to this output.

```
<?php
// Create connection
$con=mysqli_connect("localhost","root","","simplifiedata");

// Check connection
if (mysqli_connect_errno())
{
    echo "Failed to connect to MySQL: " . mysqli_connect_error();
}

?>

<?php
$result = mysqli_query($con,"SELECT * FROM feedback WHERE name='Sam
Lowry'");
while($row = mysqli_fetch_array($result))
{
    echo $row['name'] . " " . $row['rating'];
    echo "<br>";
}
mysqli_close($con);
?>
```