

PHP & MySQL

Introduction

WEB APPLICATION DEVELOPMENT ENVIRONMENT



Operating System

SCRIPTING LANGUAGE



PERL



WEB SERVER



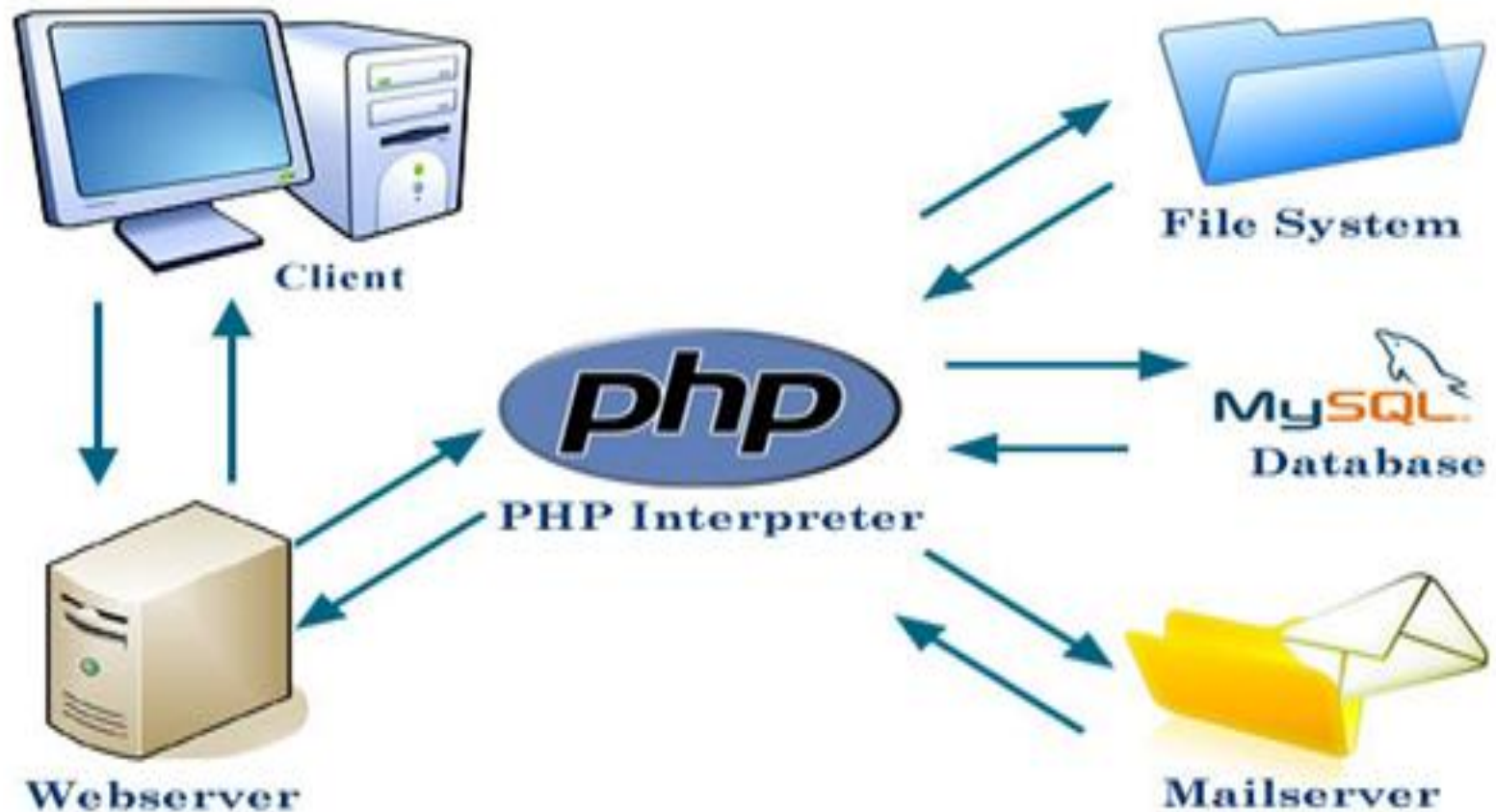
DATABASE



MySQL

- MySQL is a very popular, open source database.
- Released 23 may 1995
- 11+ million webs ervers using MySQL
- Coded in C/C++,Yacc parser, and custom lexical analyser.
- Officially pronounced “my Ess Que Ell” (not my sequel).
- Handles very large databases; very fast performance.
- Why are we using MySQL?
 - Free (much cheaper than Oracle!)
 - Each student can install MySQL locally.
 - Easy to use Shell for creating tables, querying tables, etc.
 - Easy to use with Java JDBC

PHP to Backend



- The *mysql_connect()* function opens a non-persistent MySQL connection.
- This function returns the connection on success, or FALSE and an error on failure.

Syntax

mysql_connect(server, user, pwd, newlink, clientflag)

Parameter	Description
-----------	-------------

Server	Optional. Specifies the server to connect to (can also include a port number, e.g. "hostname:port" or a path to a local socket for the localhost).
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Default value is "localhost:3306"

user	Optional. Specifies the username to log in with. Default value is the name of the user "root"
------	---

pwd	Optional. Specifies the password to log in with. Default is ""
-----	--

- The *mysql_select_db()* function sets the active MySQL database.
- This function returns TRUE on success, or FALSE on failure.

Syntax

mysql_select_db(database, connection)

Parameter	Description
database	Required. Specifies the database to select.
connection	Optional. Specifies the MySQL connection. If not specified, the last connection opened by mysql_connect() or mysql_pconnect() is used.

- The *mysql_query()* function executes a query on a MySQL database.
- This function returns the query handle for SELECT queries,
- TRUE/FALSE for other queries, or FALSE on failure.

Syntax

mysql_query(query, connection)

Parameter	Description
query	Required. Specifies the SQL query to send (should not end with a semicolon).
connection	Optional. Specifies the MySQL connection. If not specified, the last connection opened by mysql_connect() or mysql_pconnect() is used.

- The *mysql_fetch_array()* function returns a row from a recordset as an associative array and/or a numeric array. This function gets a row from the *mysql_query()* function and returns an array on success, or FALSE on failure or when there are no more rows.

Syntax

mysql_fetch_array(data, array, type)

Parameter	Description
-----------	-------------

data	Required. Specifies which data pointer to use. The data pointer is the result from the <i>mysql_query()</i> function
------	--

array_type	Optional. Specifies what kind of array to return.
------------	---

Possible values:

MYSQL_ASSOC - Associative array

MYSQL_NUM - Numeric array

MYSQL_BOTH - Default. Both associative and numeric array

- The *mysql_fetch_object()* function returns a row from a recordset as an object. This function gets a row from the `mysql_query()` function and returns an object on success, or FALSE on failure or when there are no more rows.

Syntax

mysql_fetch_object(data)

Parameter	Description
-----------	-------------

data	Required. Specifies which data pointer to use. The data pointer is the result from the <code>mysql_query()</code> function
------	--

Tips and Notes

Note: Each subsequent call to `mysql_fetch_object()` returns the next row in the recordset.

- The *mysql_num_rows()* function returns the number of rows in a recordset. This function returns FALSE on failure.

Syntax

mysql_num_rows(data)

Parameter	Description
-----------	-------------

data	Required. Specifies which data pointer to use. The data pointer is the result from the mysql_query() function
------	---

- The *mysql_result()* function returns the value of a field in a recordset.
- This function returns the field value on success, or FALSE on failure.

Syntax

mysql_result(data, row, field)

Parameter	Description
-----------	-------------

data	Required. Specifies which result handle to use. The data pointer is the return from the mysql_query() function
row	Required. Specifies which row number to get. Row numbers start at 0
field	Optional. Specifies which field to get. Can be field offset, field name or table. fieldname. If this parameter is not defined mysql_result() gets the first field from the specified row.

Tips and Notes

- This function is slower than mysql_fetch_row(),
- mysql_fetch_array(), mysql_fetch_assoc() and
- mysql_fetch_object().

- The *mysql_error()* function returns the error description of the last
- This function returns an empty string ("") if no error occurs.

Syntax

mysql_error(connection)

Parameter	Description
-----------	-------------

connection	Optional. Specifies the MySQL connection. If not specified, the last connection opened by mysql_connect() or mysql_pconnect() is used.
------------	--

- The *mysql_close()* function closes a non-persistent MySQL connection.
- This function returns TRUE on success, or FALSE on failure.

Syntax

mysql_close(connection)

Parameter	Description
-----------	-------------

connection	Optional. Specifies the MySQL connection to close. If not specified, the last connection opened by <code>mysql_connect()</code> is used.
------------	---

Type *http://10.1.67.156:8787/* in the URL bar



Laragon

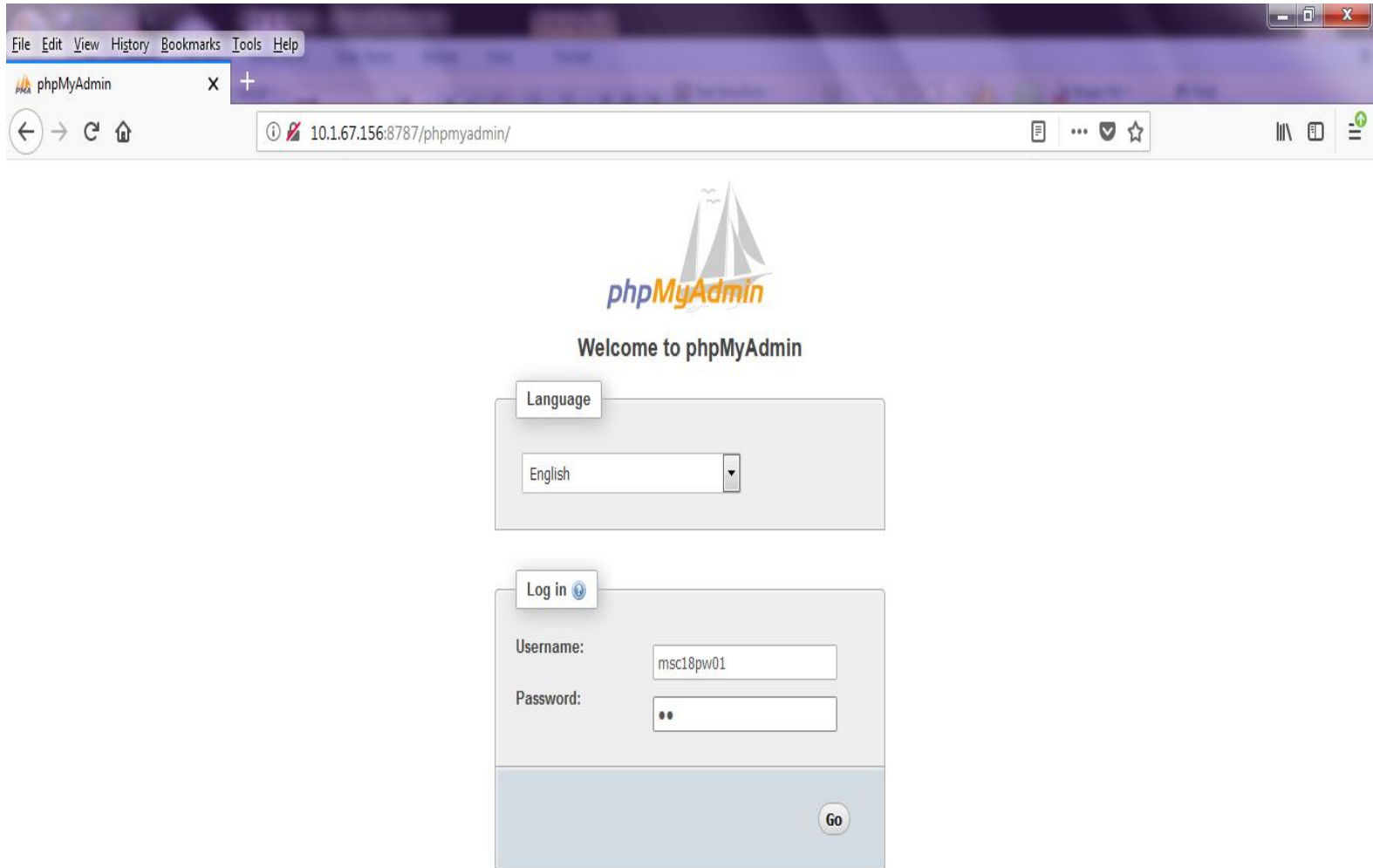
Apache/2.4.27 (Win64) OpenSSL/1.0.2l PHP/7.1.7

PHP version: 7.1.7 [info](#)

Document Root: D:/laragon/www

Getting Started


Type <http://10.1.67.156:8787/phpmyadmin/> in the URL bar, type Username and Password



File Edit View History Bookmarks Tools Help

phpMyAdmin x +

10.1.67.156:8787/phpmyadmin/



Welcome to phpMyAdmin

Language

English

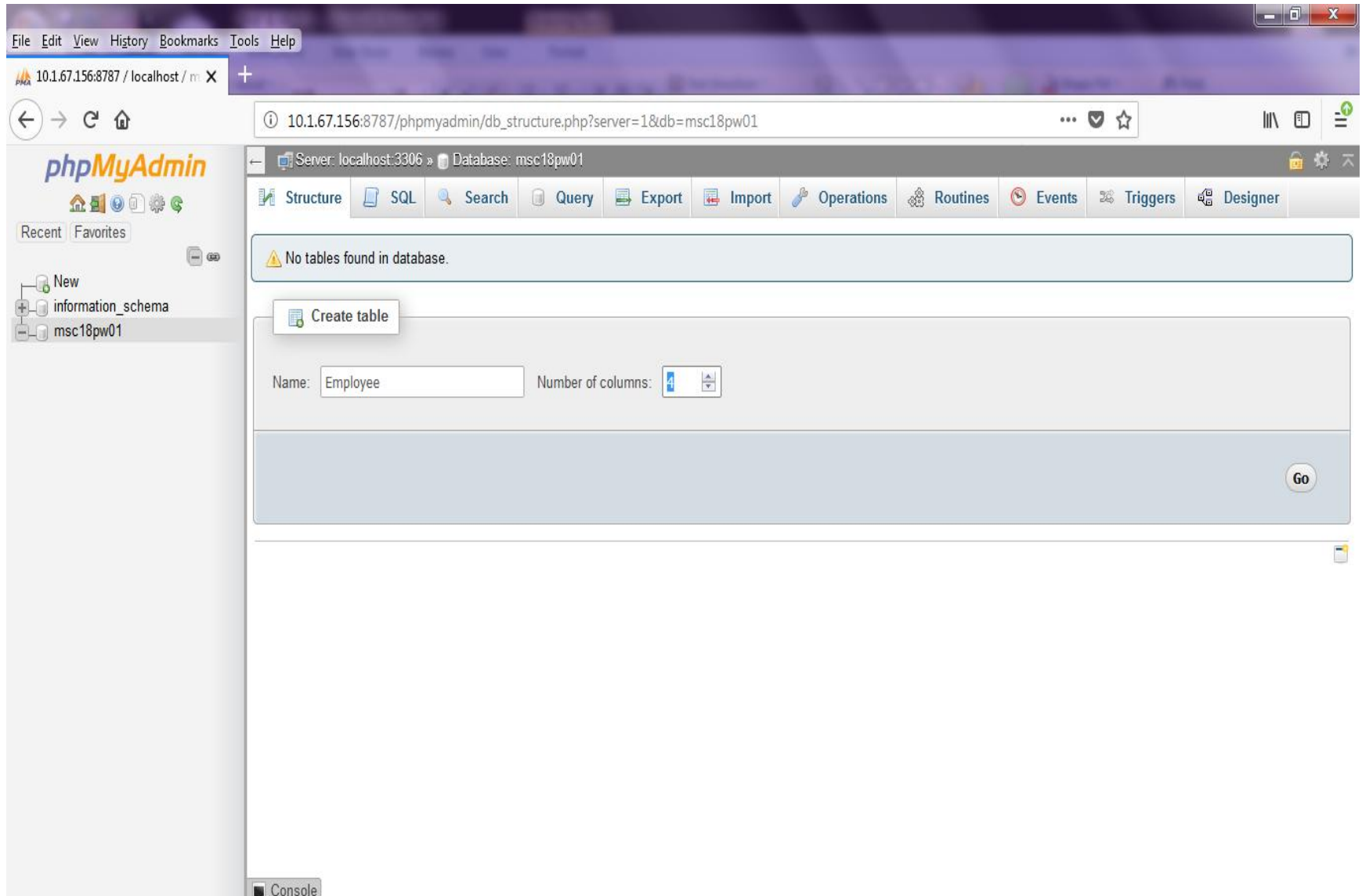
Log in

Username: msc18pw01

Password: ..

Go

Click the database shown in left side, type the table name as “*Employee*” in the textbox, select number of columns to generate in the table and click “*Go*” button.



Type the required column name and type. Click the “*Save*” button.

The screenshot shows the phpMyAdmin web interface. The browser address bar displays the URL: 10.1.67.156:8787/phpmyadmin/db_structure.php?server=1&db=msc18pw01. The interface includes a sidebar with navigation options like 'Recent' and 'Favorites', and a main content area for editing the 'Employee' table structure.

Server: localhost:3306 » Database: msc18pw01 » Table: Employee

Table name: Employee Add 1 column(s) Go

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	A	I	Co
ID	VARCHAR	10	None			<input type="checkbox"/>	PRIMARY	<input type="checkbox"/>		
Name	VARCHAR	30	None			<input type="checkbox"/>	---	<input type="checkbox"/>		
Department	VARCHAR	30	None			<input type="checkbox"/>	---	<input type="checkbox"/>		
Salary	INT	6	None			<input type="checkbox"/>	---	<input type="checkbox"/>		

Table comments: Collation: Storage Engine: InnoDB

PARTITION definition: Partition by: (Expression or column list) Partitions:

Preview SQL Save

Click the **“Insert”** tab and enter the records. Click the **“Go”** button. Repeat this operation to insert few more records...

The screenshot shows the phpMyAdmin web interface. The browser address bar displays the URL: 10.1.67.156:8787/phpmyadmin/tbl_change.php?db=msc18pw01&table=employee. The interface includes a sidebar with a tree view showing the database structure: information_schema, msc18pw01, and employee. The main area is titled "Server: localhost:3306 » Database: msc18pw01 » Table: employee" and contains tabs for Browse, Structure, SQL, Search, Insert, Export, Import, Operations, and Triggers. The "Insert" tab is active, showing a form with columns: ID (varchar(10)), Name (varchar(30)), Department (varchar(30)), and Salary (int(6)). The "Value" column for ID is pre-filled with "E001". The "Go" button is visible. Below the form, there is a checkbox for "Ignore" and a console area showing the SQL query: `> CREATE TABLE `msc18pw01`.`Employee` (`ID` VARCHAR(10) NOT NULL , `Name` VARCHAR(30) NOT NULL , `Department` VARCHAR(30) NOT NULL , `Salary` INT(6) NOT N...`

Click the ***Browse*** tab to view inserted record.

The screenshot shows the phpMyAdmin web interface. The left sidebar displays the database structure with 'information_schema', 'msc18pw01', and 'employee' (with columns: ID, Name, Department, Salary). The main panel is on the 'Browse' tab for the 'employee' table. A warning message states: 'Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.' Below this, a green status bar indicates 'Showing rows 0 - 1 (2 total, Query took 0.0003 seconds.)'. The SQL query shown is 'SELECT * FROM `employee`'. Below the query, there are options for 'Show all', 'Number of rows' (set to 25), and a 'Filter rows' search box. The table data is displayed as follows:

ID	Name	Department	Salary
E001	John Hunt	Finance	12000
E001	Robert Lafore	Software	13000

Below the table, there are again options for 'Show all', 'Number of rows' (set to 25), and a 'Filter rows' search box. At the bottom, the 'Console' tab is active, showing the following SQL commands:

```
Press Ctrl+Enter to execute query
>CREATE TABLE `msc18pw01`.`Employee` ( `ID` VARCHAR(10) NOT NULL , `Name` VARCHAR(30) NOT NULL , `Department` VARCHAR(30) NOT NULL , `Salary` INT(6) NO...
>INSERT INTO `employee` (`ID`,`Name`,`Department`,`Salary`) VALUES ('E001','John Hunt','Finance','12000');
>SELECT * FROM `employee`
>SELECT * FROM `employee`
```

Insert Record using HTML form: "insertemp.html"

<html>

<body>

<form action="insert.php" method="post">

Enter ID:<input type="text" name="id"/>

Enter Name:<input type="text" name="ename"/>

Enter Department:<input type="text" name="dept"/>

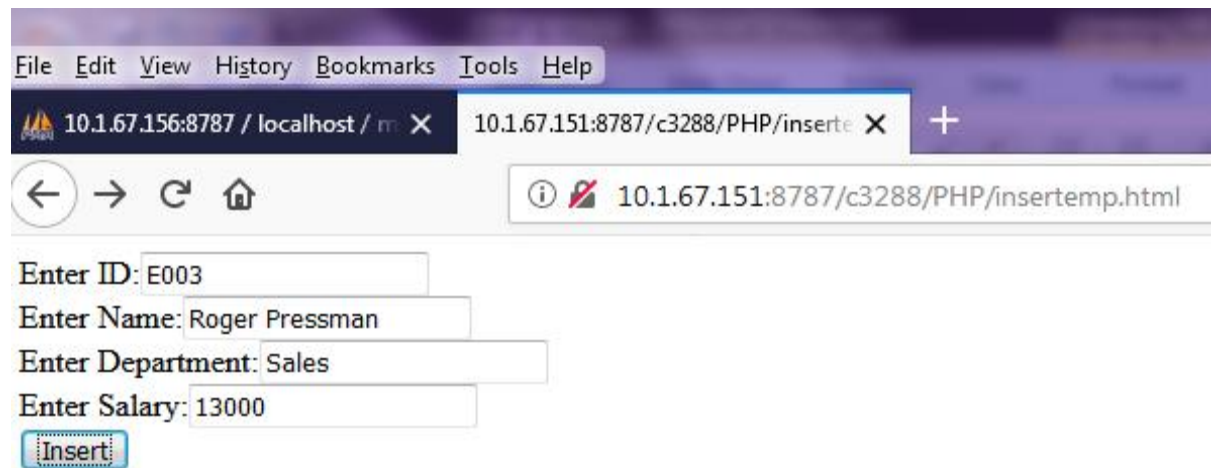
Enter Salary:<input type="text" name="sal"/>

<input type="submit" value="Insert">

</form>

</body>

</html>

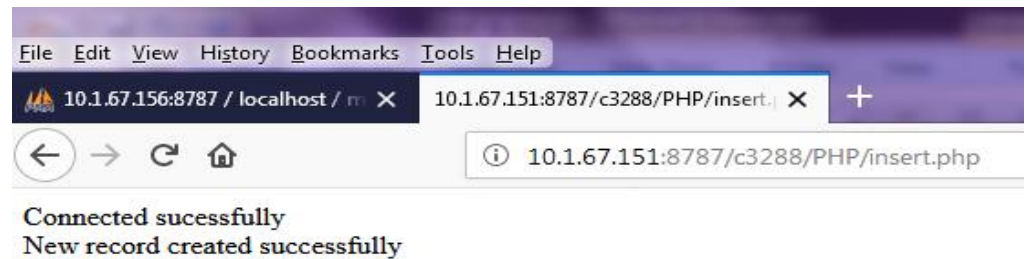


The screenshot shows a web browser window with the address bar displaying "10.1.67.151:8787/c3288/PHP/insertemp.html". The form contains the following fields and values:

- Enter ID: E003
- Enter Name: Roger Pressman
- Enter Department: Sales
- Enter Salary: 13000
- Insert button

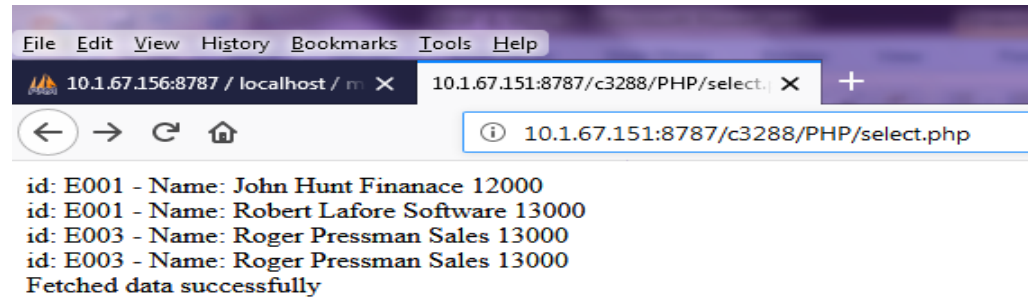
PHP code to insert data in MySQL Database: "insert.php"

```
<?php
$servername = "10.1.67.156";
$username = "msc18pw01";
$password = "aa";
$dbname = "msc18pw01";
// Create connection
$conn = mysqli_connect($servername, $username, $password, $dbname);
// Check connection
if (!$conn){
    die("Connection failed: " . mysqli_connect_error());
}
echo " Connected sucessfully <br> ";
$sql = "INSERT INTO employee (ID, Name, Department, Salary) VALUES
('$_POST[id]', '$_POST[ename]', '$_POST[dept]', '$_POST[sal])";
if (mysqli_query($conn, $sql)) {
    echo "New record created successfully";
}
else
{
    echo "Error: " . $sql . "<br>" . mysqli_error($conn);
}
mysqli_close($conn);
?>
```



PHP code to select data from MySQL Database: "select.php"

```
<?php
$servername = "10.1.67.156";
$username = "msc18pw01";
$password = "aa";
$dbname = "msc18pw01";
// Create connection
$conn = mysqli_connect($servername, $username, $password, $dbname);
if(!$conn)
{
    die('Could not connect: ' . mysqli_connect_error());
}
$sql="Select ID, Name, Department, Salary from employee";
$retval=mysqli_query($conn,$sql);
if (mysqli_num_rows($retval) > 0) {
    // output data of each row
    while($row = mysqli_fetch_assoc($retval)) {
        echo "id: " . $row["ID"]. " - Name: " . $row["Name"]. " " . $row["Department"]. " " . $row["Salary"]. "<br>";
    }
} else {
    echo "0 results\n <br>";
}
echo "Fetched data successfully\n";
mysqli_close($conn);
?>
```



References

- ***https://www.w3schools.com/php/php_mysql_intro.asp***
- ***<http://www.mysqltutorial.org/php-mysql/>***
- ***<https://www.siteground.com/tutorials/php-mysql/>***