



ଓଡ଼ିଶା ରାଜ୍ୟ ମୁକ୍ତ ବିଶ୍ୱବିଦ୍ୟାଳୟ, ସମ୍ବଲପୁର, ଓଡ଼ିଶା  
Odisha State Open University, Sambalpur, Odisha  
Established by an Act of Government of Odisha.

# **DIPLOMA IN COMPUTER APPLICATION**

## **DCA-06 APPLICATION DEVELOPMENT**

### **BLOCK**

# **3**

## **LABORATORY MANUAL**



ଓଡ଼ିଶା ରାଜ୍ୟ ମୁକ୍ତ ବିଶ୍ୱବିଦ୍ୟାଳୟ, ସମ୍ବଲପୁର, ଓଡ଼ିଶା  
**Odisha State Open University, Sambalpur, Odisha**  
Established by an Act of Government of Odisha.

**EXPERT COMMITTEE**

- Dr. P.K Behera(Chairman)**  
Reader in Computer Science  
Utkal University, Bhubaneswar, Odisha
- Dr.J.R Mohanty(Member)**  
Professor and HOD  
KIIT University. Bhubaneswar, Odisha
- Sri Pabitranda Pattnaik(Member)**  
Scientist-E, NIC  
Bhubaneswar, Odisha
- Sri Malaya Kumar Das (Member)**  
Scientist-E, NIC  
Bhubaneswar, Odisha
- Dr. Bhagirathi Nayak (Member)**  
Professor and Head (IT & System)  
Sri Sri University  
Bhubaneswar, Odisha
- Dr. Manoranjan Pradhan(Member)**  
Professor and Head (IT & System)  
G.I.T.A, Bhubaneswar, Odisha
- Sri Chandrakant Mallick(Convener)**  
Consultant (Academic)  
School of Computer and Information  
Science., Odisha State Open University  
Sambalpur, Odisha

**DIPLOMA IN COMPUTER APPLICATION**

**Course Writer**

***Bijay Kumar Paikaray***  
**Centurion University of Technology and Management,**  
**Odisha**

# DCA-06 APPLICATION DEVELOPMENT

## LABORATORY MANUAL

*Objective: The main objective of this course material is to introduce the learners about the Application Development Techniques and enable the learners to be familiar with the PHP technology for Application Development.*

### LIST OF EXPERIMENTS

Sr.	Experiments
1	<p>Algorithms and Flowcharts for Application Development.</p> <p>Example 1: Write an algorithm and draw a flow chart to calculate <math>2^4</math>.</p> <p>Example 2: Write an algorithm and draw a flow chart to calculate <math>2^4</math> using a loop approach?</p> <p>Example 3: Write down an algorithm and draw a flow chart to count and print from 1 to 10.</p> <p>Example 4: Write an algorithm and draw a flow chart to calculate the factorial of a number (N). Verify your result by a trace table by assuming <math>N = 5</math>.</p>
2	Write down the steps of installing PHP on Windows and Linux.
3	How to Write PHP Scripts and Simple Hello World program.
4	<p>Some PHP Programs for Application Development.</p> <p>Example 1: Write a program to enter TWO numbers and print the Swap Numbers using PHP.</p> <p>Example 2: Write a program to do PHP Functions - Adding parameters.</p> <p>Example 3: Write a program to do Array Operation in PHP.</p> <p>Example 4: Write a program to do Multidimensional array in PHP.</p>
5	Create a HTML form, add the data into it and submit it to the database by connecting it to MySQL database using PHP.
6	Create a HTML Form and Insert Data Into The Database Using PHP

---

## **EXPERIMENT-1**

---

**Aim: Algorithms and Flowcharts for Application Development.**

### **1.0 Learning Objective**

At the end of the session you will be able to

- Write algorithm for a specific problem for developing a program
- Become familiar with different types of flow chart tools for creating flow chart.
- Draw flowchart for a given problem.

### **1.1 Introduction to Algorithm**

An algorithm is a set of instructions designed to perform a specific task. This can be a simple process, such as multiplying two numbers, or a complex operation, such as playing a compressed video file. Search engines use proprietary algorithms to display the most relevant results from their search index for specific queries.

In computer programming, algorithms are often created as functions. These functions serve as small programs that can be referenced by a larger program. For example, an image viewing application may include a library of functions that each uses a custom algorithm to render different image file formats. An image editing program may contain algorithms designed to process image data. Examples of image processing algorithms include cropping, resizing, sharpening, blurring, red-eye reduction, and color enhancement.

### **1.2 Introduction to Flowchart**

A flowchart is a formalized graphic representation of a logic sequence, work or manufacturing process, organization chart, or similar formalized structure. The purpose of a flow chart is to provide people with a common language or reference point when dealing with a project or process.

Flowcharts use simple geometric symbols and arrows to define relationships. In programming, for instance, the beginning or end of a program is represented by an oval. A process is represented by a rectangle, a decision is represented by a diamond and an I/O process is represented by a parallelogram. The Internet is represented by a cloud.

**Example 1: Write an algorithm and draw a flow chart to calculate  $2^4$ .**

**Algorithm:**

Step 1: Input Base (2), Power (4)

Step 2: Product = Base

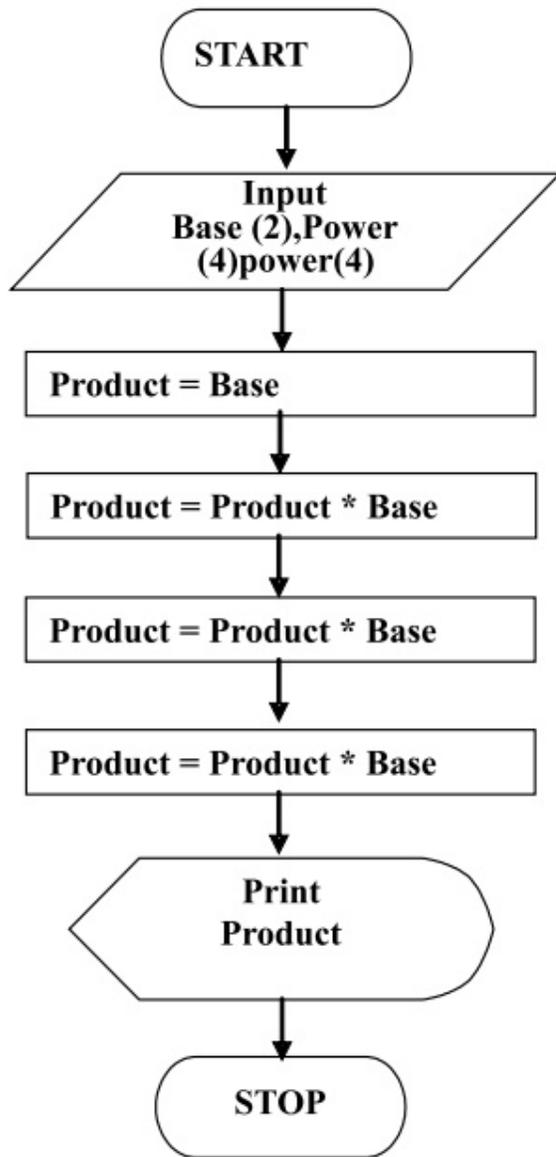
Step 3: Product = Product \* Base

Step 4: Product = Product \* Base

Step 5: Product = Product \* Base

Step 6: Print Product

Flow chart:



**Example 2: Write an algorithm and draw a flow chart to calculate  $2^4$  using a loop approach.**

**Algorithm:**

Step 1: Input Base (2), Power (4)

Step 2: Product = Base

Step 3: Counter = 1

Step 4: While (Counter < Power)

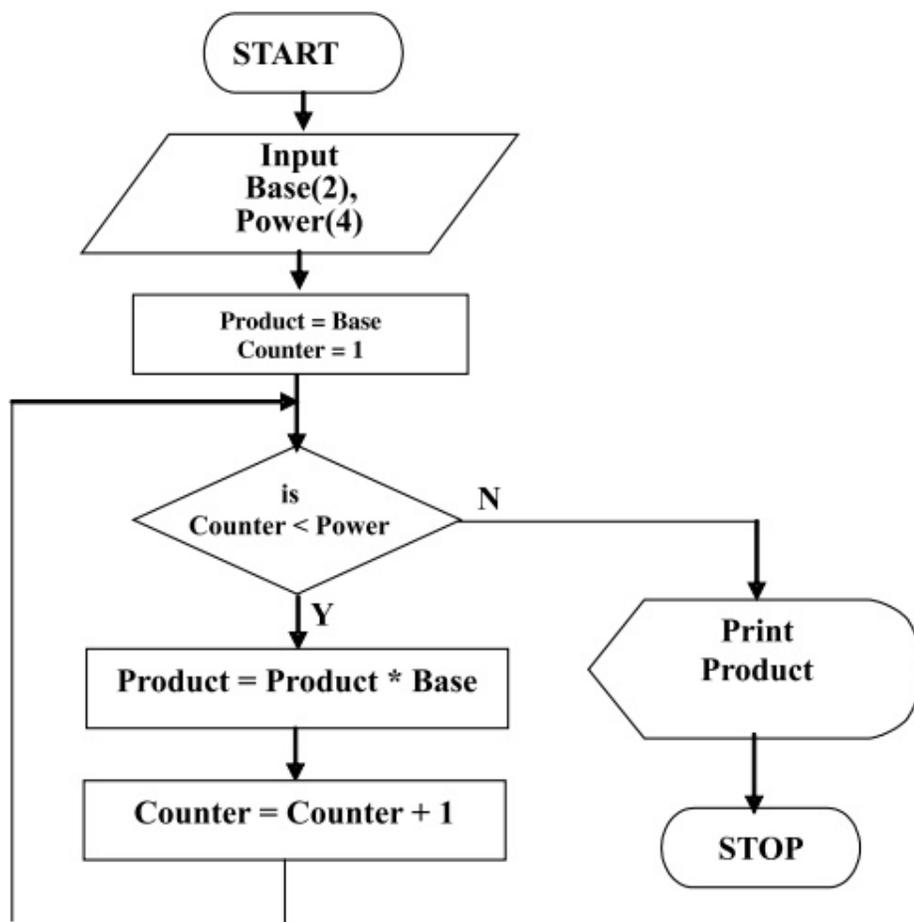
Repeat steps 4 through 6

Step 5: Product = Product \* Base

Step 6: Counter = Counter + 1

Step 7: Print Product

**Flow chart:**



**Example 3: Write down an algorithm and draw a flow chart to count and print from 1 to 10.**

**Algorithm:**

Step 1: Input Low (1), High (10)

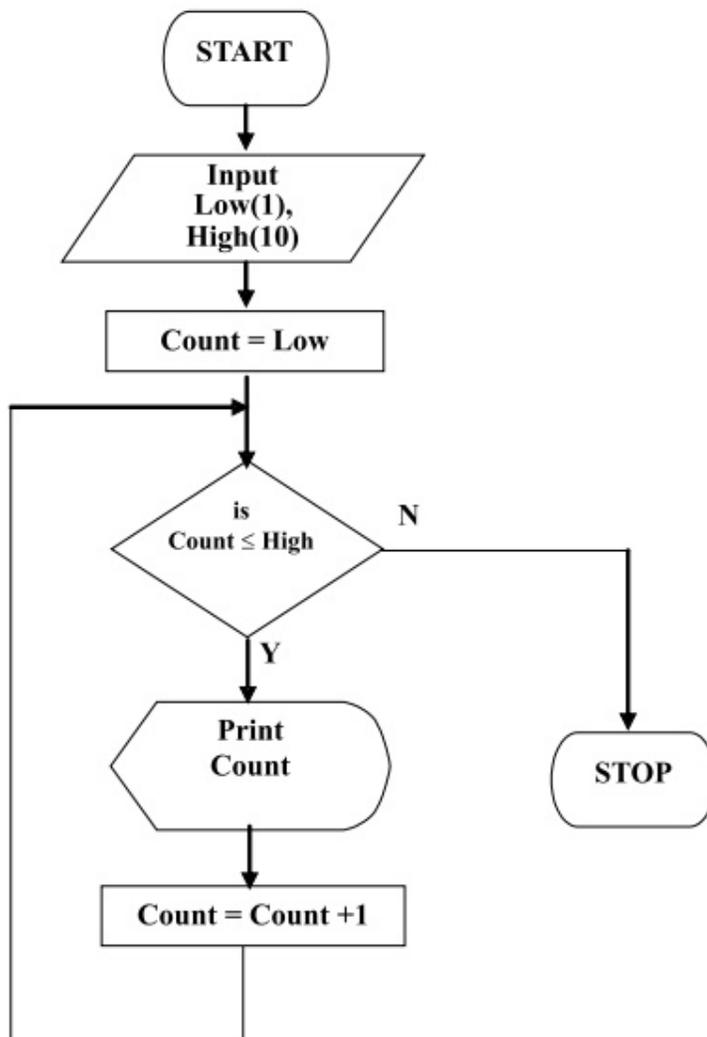
Step 2: Count = 1

Step 3: While (Count ≤ High) Repeat steps 4 through 6

Step 4: Print Count

Step 5: Count = Count + 1

**Flow chart:**



**Example 4: Write an algorithm and draw a flow chart to calculate the factorial of a number (N). Verify your result by a trace table by assuming N = 5.**

Hint: The factorial of N is the product of numbers from 1 to N.

**Algorithm:**

Step 1: Input N

Step 2: Factor = 1

Step 3: Counter = 1

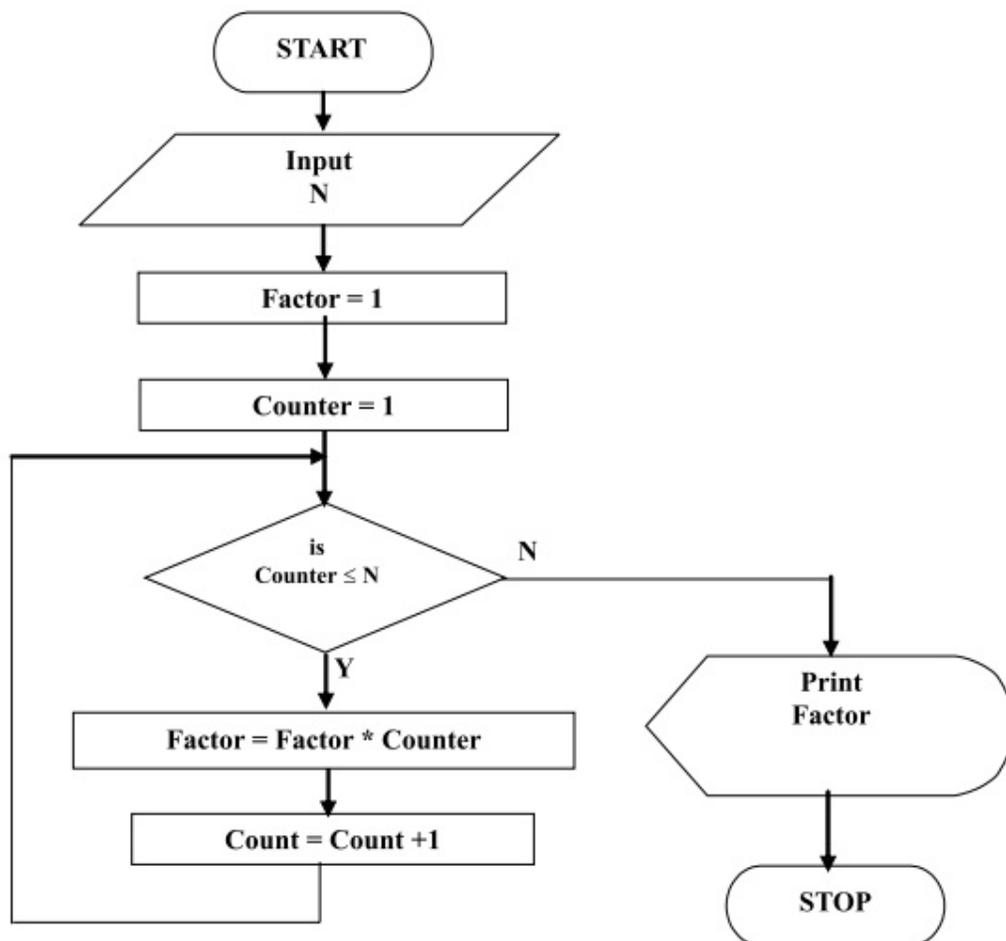
Step 4: While (Counter  $\leq$  N) Repeat steps 4 through 6

Step 5: Factor = Factor \* Counter

Step 6: Counter = Counter + 1

Step 7: Print (N, Factor)

**Flow chart:**



---

## EXPERIMENT-2

---

**AIM: Write down the steps of installing PHP on Windows and Linux.**

### 2.0 Learning Objective

At the end of the session you will be able to

- Familiar with how to install PHP on windows operating system.
- Familiar with how to install PHP on Linux operating system.

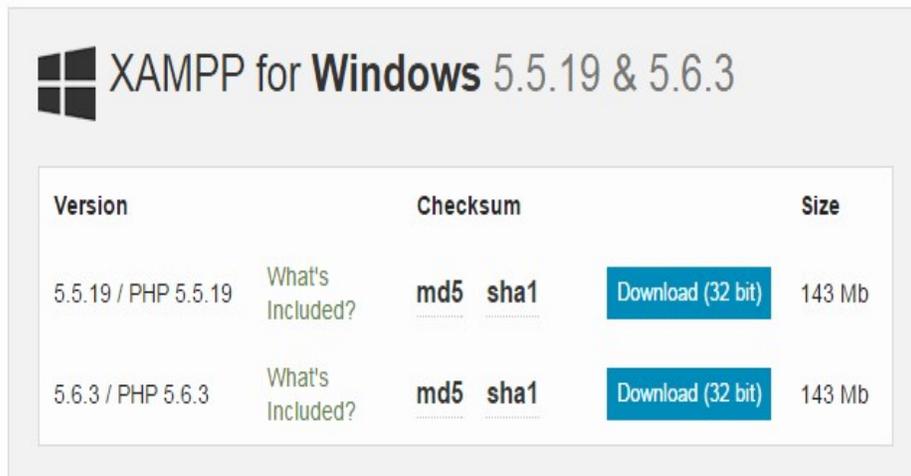
### 2.1 Installation Steps on Windows

1) To install XAMPP in windows 7, first you need to download the XAMPP installer for windows. To download the XAMPP installer for windows, visit the URL <https://www.apachefriends.org/download.html>.

This page shows the latest version of XAMPP for windows. It also shows the versions of Apache, PHP, MySQL, and other softwares included in this version of XAMPP.

2) Now, go to the "Download" section in the page. Here, you will see XAMPP for Windows, Linux, and Mac OS X. We can easily download the XAMPP installer for Windows.

3) Click on the Download link to download XAMPP as shown below.



The screenshot shows the XAMPP for Windows download page. It features a table with two rows of download options. Each row includes a version number, a link to 'What's Included?', checksum options for md5 and sha1, a blue 'Download (32 bit)' button, and the file size (143 Mb).

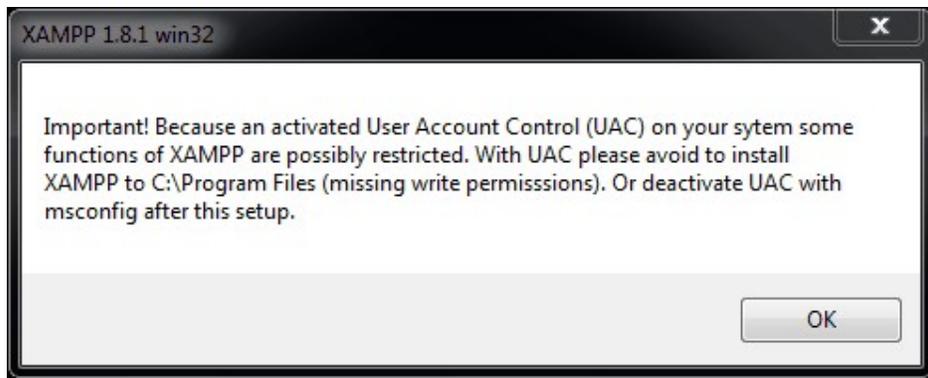
Version	Checksum	Size
5.5.19 / PHP 5.5.19	md5 sha1	143 Mb
5.6.3 / PHP 5.6.3	md5 sha1	143 Mb

4) After downloading the installer, double click on the executable(.exe) file to start the XAMPP installation process. Click Yes, if User Account Control dialog box appears.

Select your language in the dialog box then click OK.



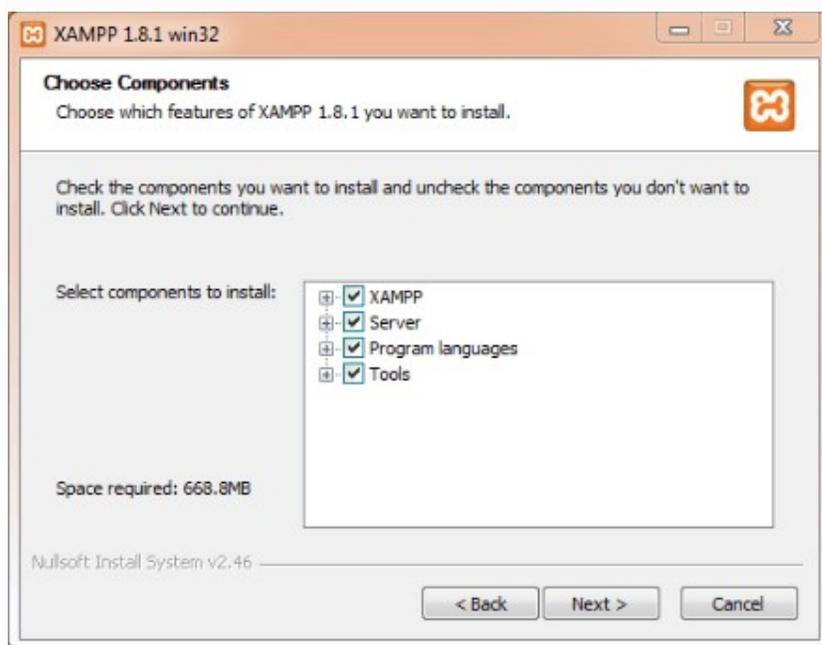
5) This dialog box below shows that you should avoid installing XAMPP to C:\Program Files. Click OK.



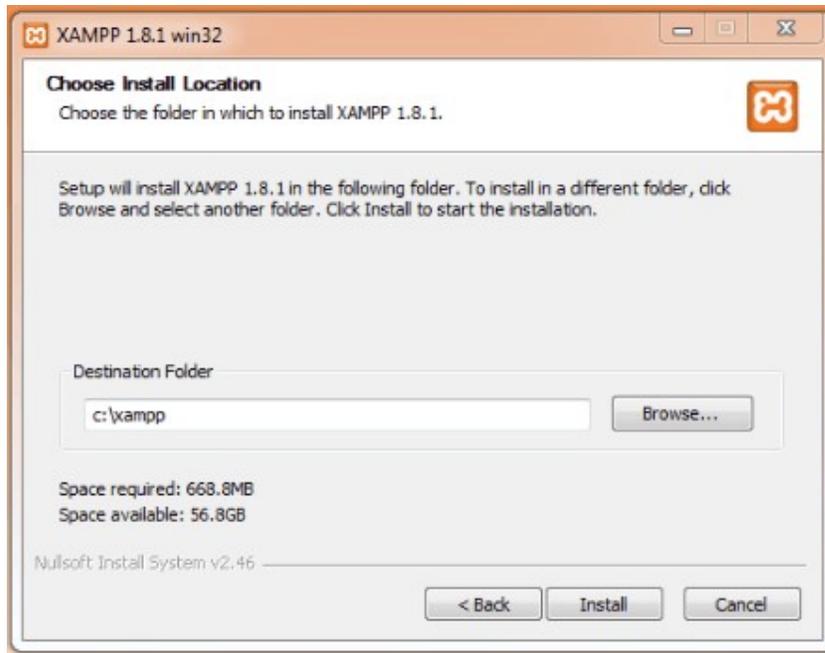
Click Next.



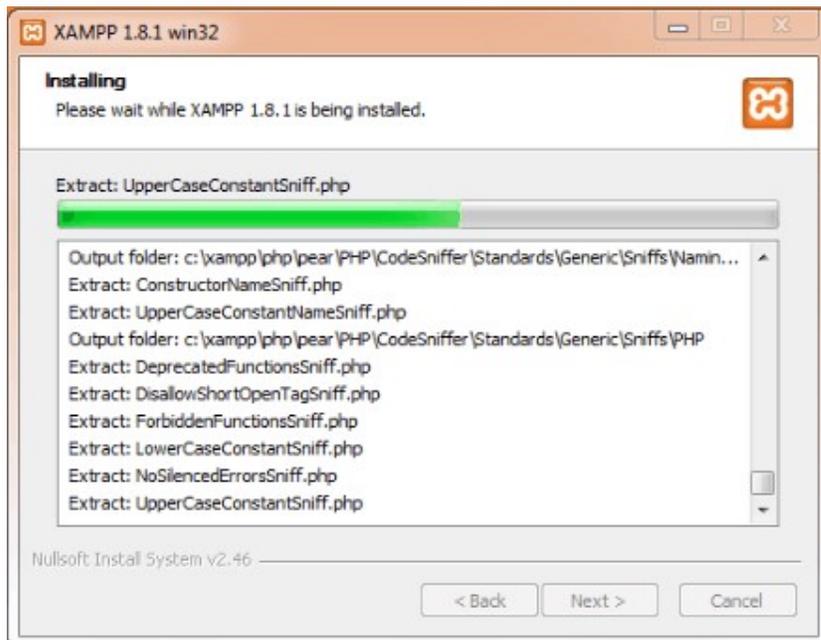
6) Verify that all the checkboxes are checked, then click Next.



Verify that the Destination Folder is set to C:\xampp, then click Install.



7) You will see the installation progresses. Wait for the process to complete.

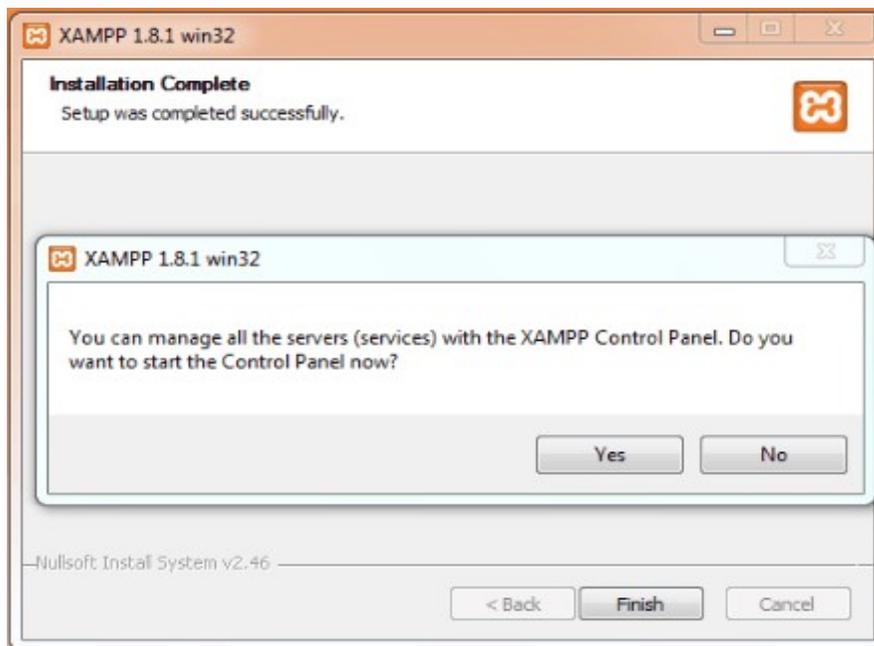


8) Click Finish to finish the installation process.



9) The dialog box asks: Do you want to start the Control Panel now?

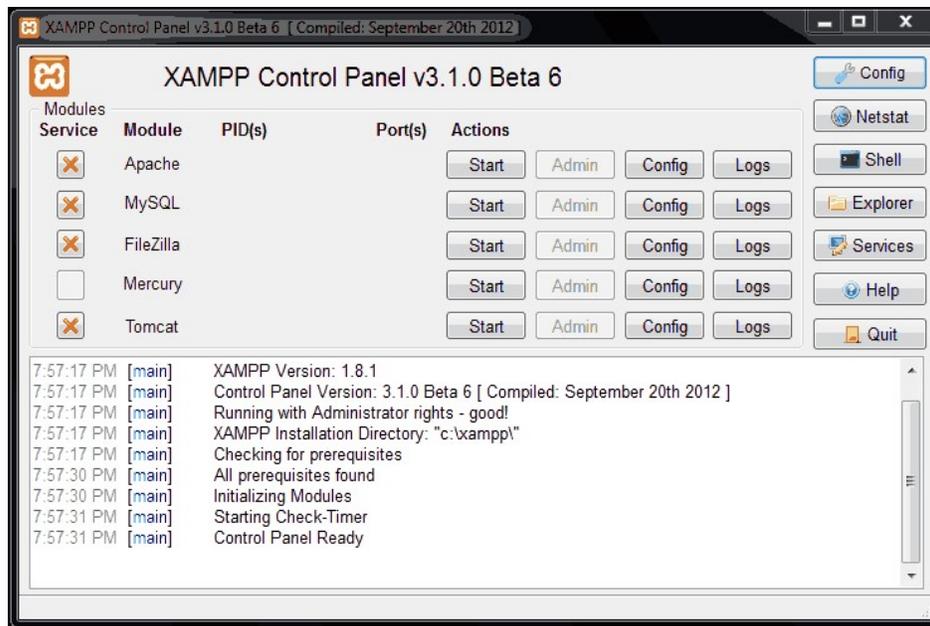
You can choose to start the Control Panel now. Clicking Yes will directly open the XAMPP control panel. Please see the Note below to know how to start XAMPP Control Panel.



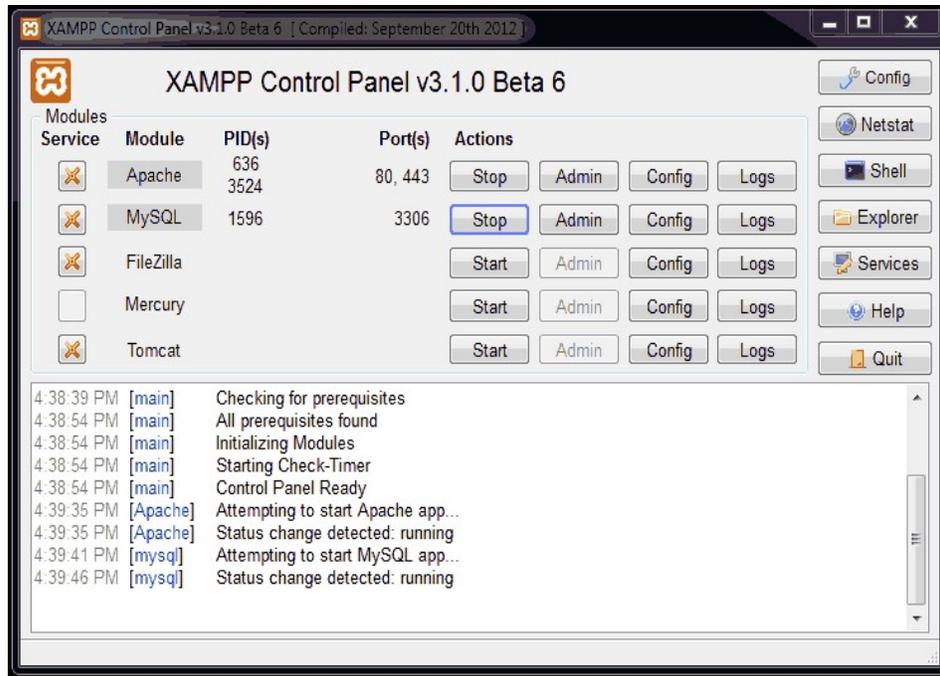
The installation is complete.

**Note:** If you want to start XAMPP Control Panel next time, right-click on the XAMPP icon found in the desktop or in the start menu, then select “Run as administrator”. Click "Yes" on the "User Account Control" popup.

**10)** If the XAMPP control panel is not already started, find the XAMPP control panel in the start menu or the its desktop icon, right click on it and select "Run as administrator". Click "Yes" on the "User Account Control" popup, and wait for the XAMPP control panel to start. You will see the XAMPP control panel running.



**11)** Click on the Start button next to Apache, and wait for apache to start. After the Apache has started, click on the Start button next to MySQL. Wait for MySQL to start. Both Apache and MySQL are running now.



12) Now, open your web browser like Mozilla Firefox or Chrome.

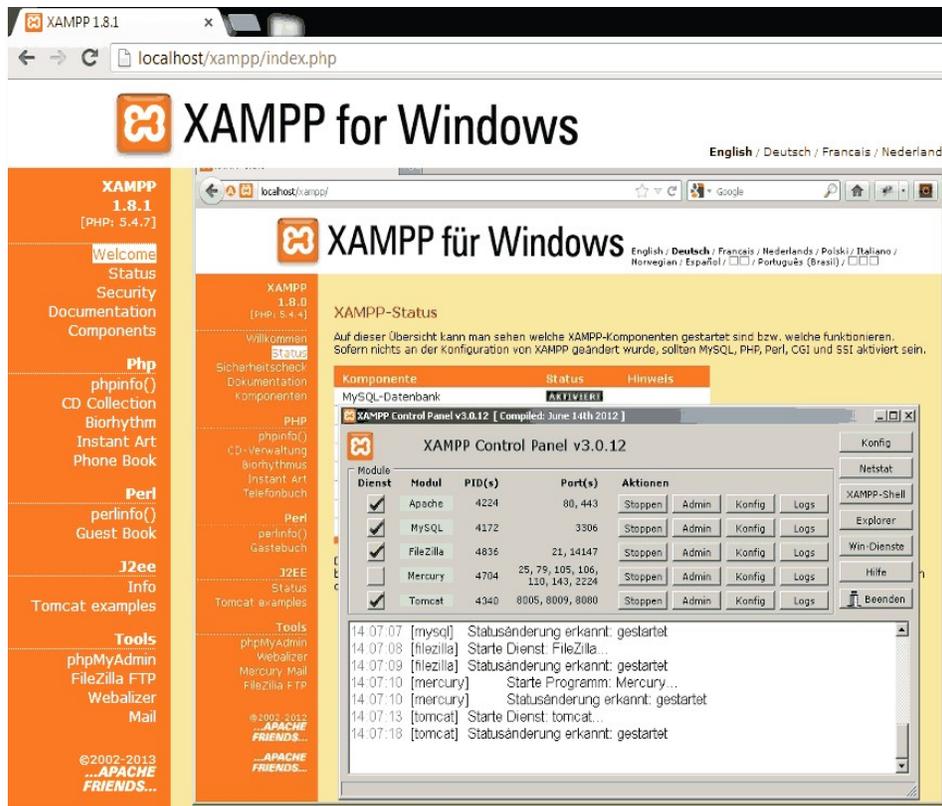
Type “localhost” in the address bar and click enter. The browser will be redirected to “localhost/xampp/splash.php”. The browser should display the page shown below.



[English](#) / [Deutsch](#) / [Français](#) / [Nederlands](#) / [Polski](#) / [Italiano](#) / [Norwegian](#) / [Español](#) / [中文](#) / [Português \(Brasil\)](#) / [日本語](#)

If your browser displays the above page, XAMPP is installed successfully and working properly.

Click on the language you want to use in the displayed page. You will see the page as shown below.



XAMPP is ready to run your blog or website locally on your computer.

## 2.2 Installation of PHP on Ubuntu 14.4.

PHP is the component of our setup that will process code to display dynamic content. It can run scripts, connect to our MySQL databases to get information, and hand the processed content over to our web server to display.

We can once again leverage the apt system to install our components. We're going to include some helper packages as well:

**sudo apt-get install php5 libapache2-mod-PHP5 php5-mcrypt**

This should install PHP without any problems. We'll test this in a moment.

In most cases, we'll want to modify the way that Apache serves files when a directory is requested. Currently, if a user requests a directory from the server, Apache will first look for a file called index.html. We want to tell our web server to prefer PHP files, so we'll make Apache look for an index.PHP file first.

To do this, type this command to open the dir.conf file in a text editor with root privileges:

```
sudo nano /etc/apache2/mods-enabled/dir.conf
```

It will look like this:

```
<IfModule mod_dir.c>  
  
    DirectoryIndex index.html index.cgi index.pl index.php index.xhtml  
    index.htm  
  
</IfModule>
```

We want to move the PHP index file highlighted above to the first position after the DirectoryIndex specification, like this:

```
<IfModule mod_dir.c>  
  
    DirectoryIndex index.php index.html index.cgi index.pl index.xhtml  
    index.htm  
  
</IfModule>
```

When you are finished, save and close the file by pressing "CTRL-X". You'll have to confirm the save by typing "Y" and then hit "ENTER" to confirm the file save location.

After this, we need to restart the Apache web server in order for our changes to be recognized. You can do this by typing this:

```
sudo service apache2 restart
```

### 2.2.1 Install PHP Modules

To enhance the functionality of PHP, we can optionally install some additional modules.

To see the available options for PHP modules and libraries, you can type this into your system:

#### **apt-cache search php5-**

The results are all optional components that you can install. It will give you a short description for each:

php5-cgi - server-side, HTML-embedded scripting language (CGI binary)

php5-cli - command-line interpreter for the php5 scripting language

php5-common - Common files for packages built from the php5 source

php5-curl - CURL module for php5

php5-dbg - Debug symbols for PHP5

php5-dev - Files for PHP5 module development

php5-gd - GD module for php5

...

To get more information about what each module does, you can either search the internet, or you can look at the long description in the package by typing:

**apt-cache show package\_name**

There will be a lot of output, with one field called Description-en which will have a longer explanation of the functionality that the module provides.

For example, to find out what the php5-cli module does, we could type this:

**apt-cache show php5-cli**

Along with a large amount of other information, you'll find something that looks like this:

...

SHA256:

91cfd8da65df65c9a4a5bd3478d6e7d3e92c53efcddf3436bbe9bbe27eca409d

Description-en: command-line interpreter for the php5 scripting language

This package provides the /usr/bin/php5 command interpreter, useful for testing PHP scripts from a shell or performing general shell scripting tasks.

.

The following extensions are built in: bcmath bz2 calendar Core ctype date

dba dom ereg exif fileinfo filter ftp gettext hash iconv libxml mbstring

mhash openssl pcntl pcre Phar posix Reflection session shmop SimpleXML soap

sockets SPL standard sysvmsg sysvsem sysvshm tokenizer wddx xml xmlreader

xmlwriter zip zlib.

.

PHP (recursive acronym for PHP: Hypertext Preprocessor) is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML.

Description-md5: f8450d3b28653dcf1a4615f3b1d4e347

Homepage: <http://www.php.net/>

...

If, after researching, you decide you would like to install a package, you can do so by using the apt-get install command like we have been doing for our other software.

If we decided that php5-cli is something that we need, we could type:

```
sudo apt-get install php5-cli
```

If you want to install more than one module, you can do that by listing each one, separated by a space, following the apt-get install command, like this:

```
sudo apt-get install package1 package2 ...
```

At this point, your LAMP stack is installed and configured. We should still test out our PHP though.

## 2.3 Conclusion

Now that you have a XAMPP for window and LAMP for Ubuntu stack installed, you have many choices for what to do next. Basically, you've installed a platform that will allow you to install most kinds of websites and web software on your server.

Some popular options are:

- Install Wordpress the most popular content management system on the internet
- Set Up PHPMyAdmin to help manage your MySQL databases from web browser.
- Learn more about MySQL to manage your databases.
- Learn how to create an SSL Certificate to secure traffic to your web server.
- Learn how to use SFTP to transfer files to and from your server.

---

## **EXPERIMENT-3**

---

**AIM: How to Write PHP Scripts and Simple Hello World program.**

### **3.0 Learning Objective**

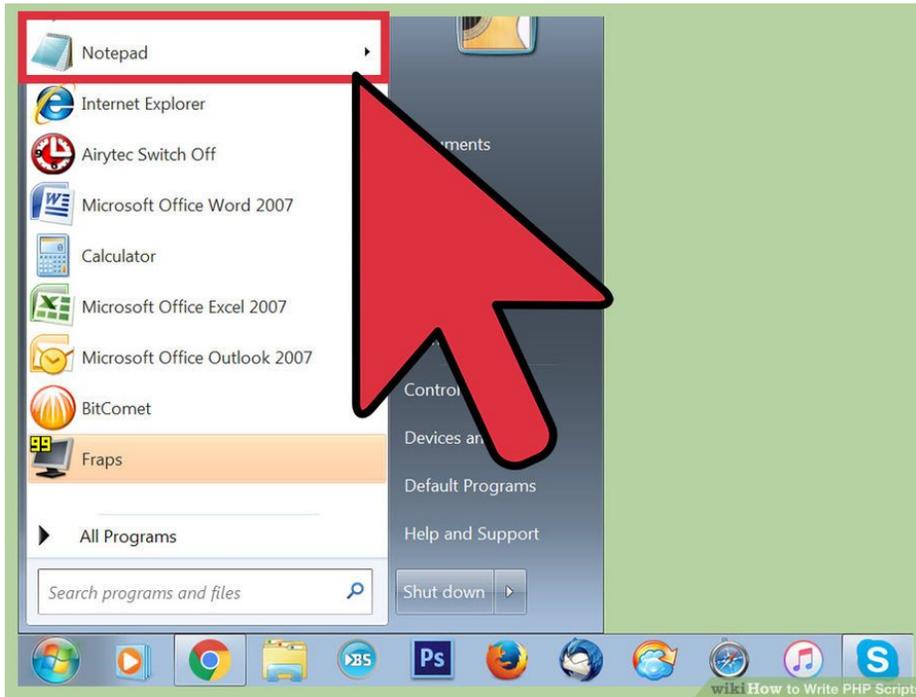
At the end of the session you will be able to be familiar with

- To understand the steps of writing a PHP program and use data manipulation language to query, update and manage a database
- To understand different issues involved in the design and implementation of an Application development.

### **3.1 Introduction To PHP and HTML**

Four Parts: Getting Started with Echo Statements Utilizing PHP and HTML  
Getting to Know Variables Sample PHP Scripts Community Q&A PHP is a server scripting language used to make web pages interactive. It became widely popular due to its ease of use, interactivity within web pages, and integration with HTML. Think of what happens when a page is edited on this website. Behind this process are many, perhaps hundreds, of PHP scripts controlling how web pages change based on a variety of circumstances. This article will teach you how to write a few very simple PHP scripts so that you can get a basic understanding of how PHP works?

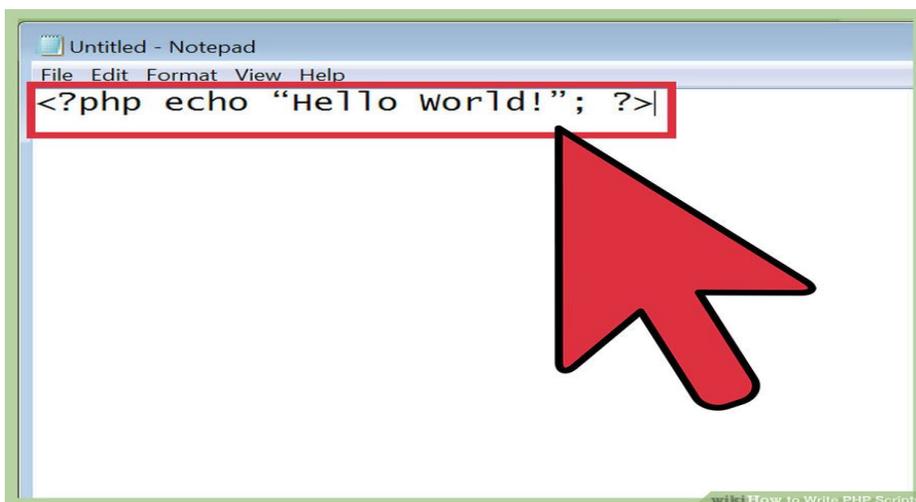
## Step-1 Getting Started with Echo Statements



### 1 Open a text editor.

This is the program you will be using write and edit your code.

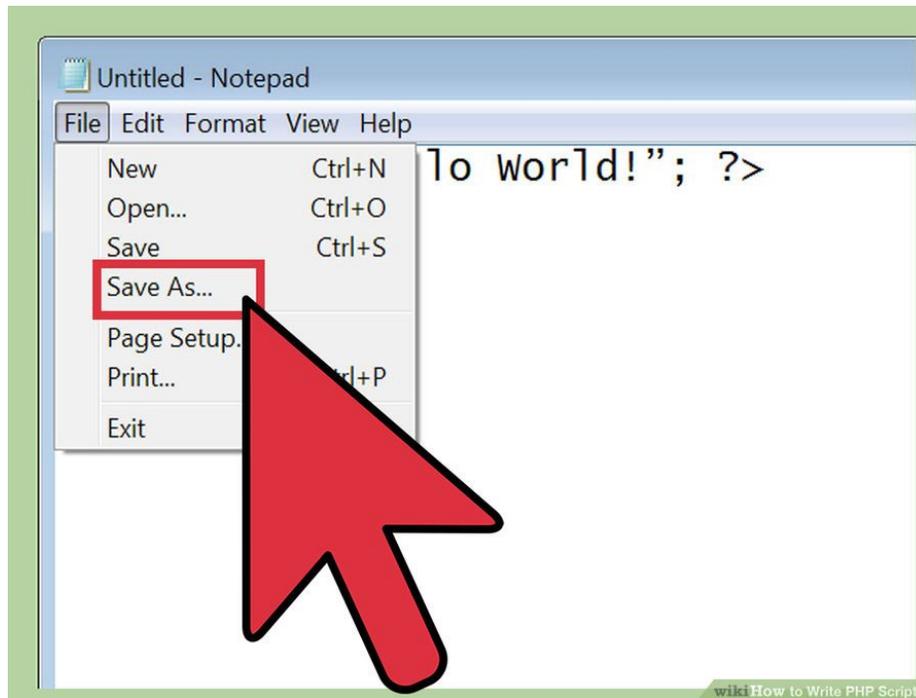
- Note Pad can be accessed on any version of windows using  $\text{Win} + \text{R} > \text{Notepad}$ .
- Text Edit can be accessed on Mac by going to Applications > Text Edit.



## 2 Type a simple statement into Notepad.

A section of PHP code begins and ends with bracketed PHP tags (“<?php” “>”). “Echo” is a very basic statement (an instruction to the computer) in the PHP language that will output text to the screen. The text you want to echo must be enclosed in quotation marks and end in a semi-colon.

- The code should look something like <?php echo “Hello World!”; ?>.

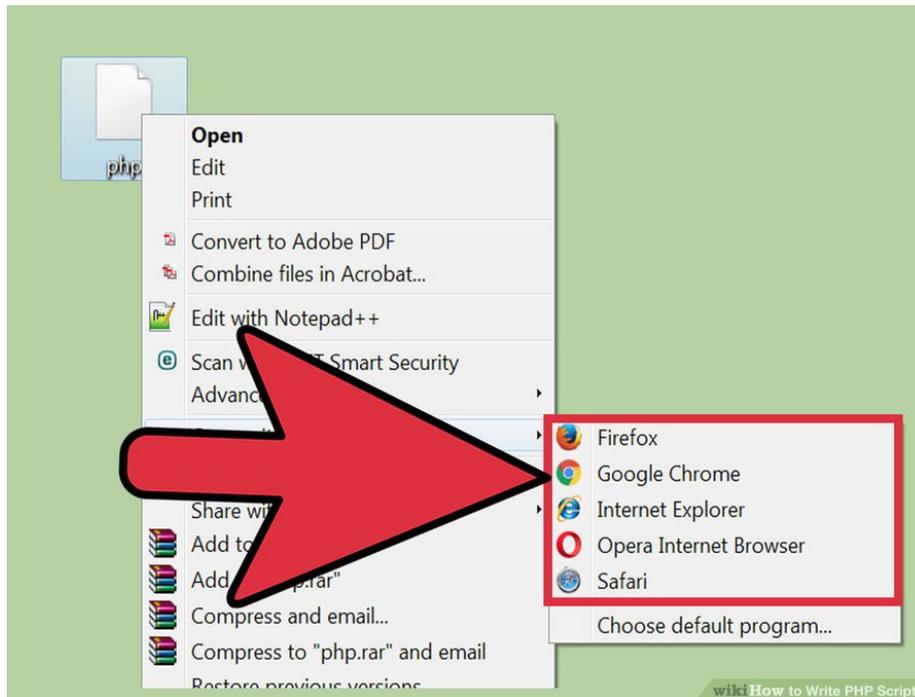


## 3 Save the file with name “hello world” and the extension .php

This is done by navigating to File > Save As...

- In Notepad, add .php to the end of the filename and enclose in double quotations. This ensures the file will not be converted into a basic text file by Notepad. Without the quotation marks, the file will become hello world.php.txt. Alternatively, you can select the drop down menu under Save as type and change it to "All Files (\*.\*)" which will leave the name exactly how you type it and the quotes will not be needed.
- In TextEdit, no quotation marks are necessary, but a popup will appear asking you to verify that you want the file saved as .php.
- Make sure you save the file to your “server’s” document root directory. Typically this is the folder named “htdocs” in your Apache

folder on Windows, or /Library/Webserver/Documents on Mac, but can be set by the user manually.



#### 4 Access the PHP file with a web browser.

Open your preferred web browser and type this address in the address bar using the name of your php file: `http://localhost/hello world.php`. Your browser window should display the echo statement.

- If you receive an error message, make sure you typed the code correctly as shown above, including the colon.
- Also make sure that your file is saved into the correct directory.

---

## EXPERIMENT-4

---

**AIM: Some PHP Programs for Application Development.**

### 4.0 Learning Objective

At the end of the session you will be able to

- Become familiar with how to write PHP programs and know about the fundamental concepts of some programs.

### 4.1 Introduction to Application Development

Application development, also referred to as software process, software lifecycle and software development, is the development of a software product in a planned and structured process.

Application development involves creating a computer program, or set of programs to perform tasks, from keeping track of inventory and billing customers to maintaining accounts, speeding up business process and, in fact, even improving application effectiveness. Unlike vanilla programming, application development involves higher levels of responsibility (particularly for requirement capturing and testing).

The Application Development industry has seen a lot of changes in a relative short period of time. From both sides of the fence – customers looking for software solutions, and the resource pool of application development talent – there has been considerable upheaval over the last few years.

**Example 1: Write a program to enter TWO numbers and print the Swap Numbers using PHP Example.**

```
<html>
  <body>
```

```
<?php
    $num1=10;
    $num2=20;
    echo "Numbers before swapping:<br/>";
    echo "Num1=".$num1;
    echo "<br/>Num2=".$num2;
    // Function call
    swap($num1,$num2);
    // Function definition
    function swap($n1,$n2)
    {
        $temp=$n1;
        $n1=$n2;
        $n2=$temp;
        echo "<br/><br/>Numbers after
        swapping:<br/>";
        echo "Num1=".$n1;
        echo "<br/>Num2=".$n2;
    }
?>
</body>
</html>
```

**OUTPUT of the above given Example is as follows:**

Numbers before swapping:

Num1=10

Num2=20

Numbers after swapping:

Num1=20

Num2=10

**Example 2: Write a program to do PHP Functions - Adding parameters.**

```
<html>
  <body>
    <?php
      // Function definition
      function writeName($fname)
      {
          echo $fname . " Paikaray.<br />";
      }
      echo "My name is ";
      writeName("Bijay "); //Function call
      echo "My sister's name is ";
      writeName("Susma "); // Function call
      echo "My brother's name is ";
      writeName("Sanjay "); // Function call
    ?>
  </body>
</html>
```

**OUTPUT of the above given Example is as follows:**

My name is Bijay Paikaray.

My sister's name is Susma Paikaray.

My brother's name is Sanjay Paikaray.

**Example 3: Write a program to do Array Operation in PHP.**

```
<html>
  <body>
    <?php
      $flower_shop=array("rose"=>"5.00",
          "daisy"=>"4.00","orchid"=>"2.00");
```

```

        /* for each loop works only on arrays, and is used
        to loop through each key/value pair in an array */
        foreach($flower_shop as $x=>$x_value)
        {
            echo "Flower=" . $x .
                ", Value=" . $x_value;
            echo "<br>";
        }
    ?>
</body>
</html>

```

**OUTPUT of the above given Example is as follows:**

```

Flower=rose, Value=5.00
Flower=daisy, Value=4.00
Flower=orchid, Value=2.00

```

**Example 4: Write a program to do Multidimensional array in PHP.**

```

<html>
    <body>
        <?php
            /* Here $flower_shop is an array, where rose, daisy
            and orchid are the ID key which indicates rows and
            points to array which have column values. */
            $flower_shop = array(
                "rose" => array( "5.00", "7 items", "red" ),
                "daisy" => array( "4.00", "3 items", "blue" ),
                "orchid" => array( "2.00", "1 item", "white" ),
            );
            /* in the array $flower_shop['rose'][0], 'rose'
            indicates row
            and '0' indicates column */
            echo "rose costs ".$flower_shop['rose'][0].

```

```

        ", and you get ".$flower_shop['rose'][1].".<br>";
        echo "daisy costs ".$flower_shop['daisy'][0].
        ", and you get ".$flower_shop['daisy'][1].".<br>";
        echo "orchid costs ".$flower_shop['orchid'][0].
        ", and you get ".$flower_shop['orchid'][1].".<br>";
    ?>
</body>
</html>

```

**OUTPUT of the above given Example is as follows:**

rose costs 5.00, and you get 7 items.  
daisy costs 4.00, and you get 3 items.  
orchid costs 2.00, and you get 1 item.

---

## EXPERIMENT-5

---

**Aim-: Create a html form, add the data into it and submit it to the database by connecting it to MySQL database using PHP.**

### 5.0 Learning Objective

After going through this session you will be able to

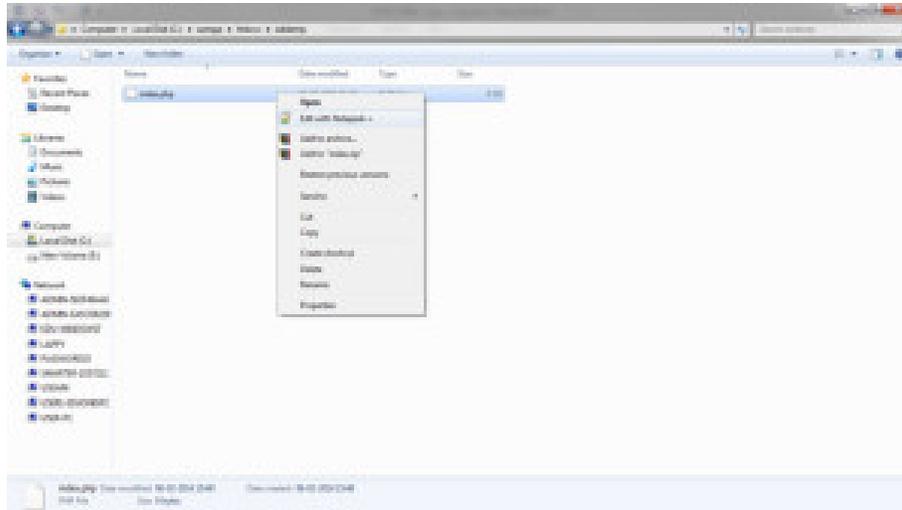
- Design a HTML form for given data

### 5.1 To design the HTML form follows the steps given below:

Install the Xampp server in your machine and if it already installed just go to **xampp -> htdocs** folder .

Create a new folder say **addemp** in the **htdocs** folder.

In this **addemp** folder create a new file say **index.php** and open it with Notepad++ or any other text editor.

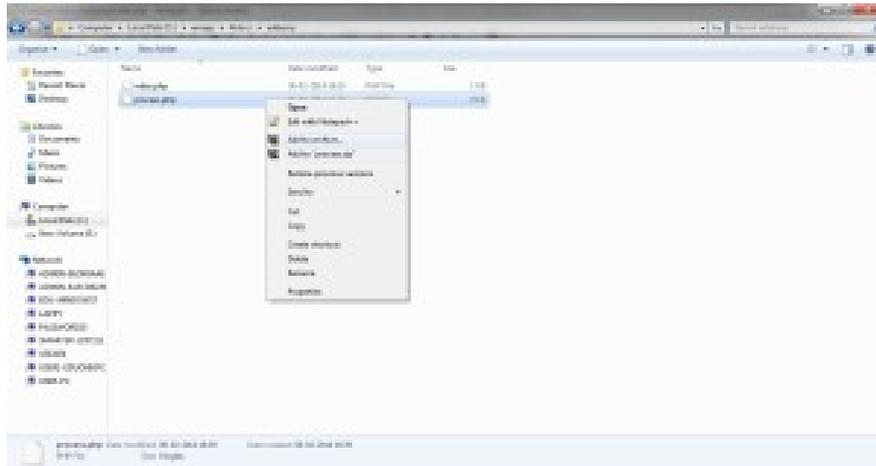


Now for designing a form write the given code in **index.php** file

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <style>
5 label{display:inline-block;width:100px;margin-bottom:10px;}
6 </style>
7 <title>Add Employee</title>
8 </head>
9 <body>
10 <form method="post" action="">
11 <label>First Name</label>
12 <input type="text" name="first_name" />
13 <br />
14 <label>Last Name</label>
15 <input type="text" name="last_name" />
16 <br />
17 <label>Department</label>
18 <input type="text" name="department" />
19 <br />
20 <label>Email</label>
```



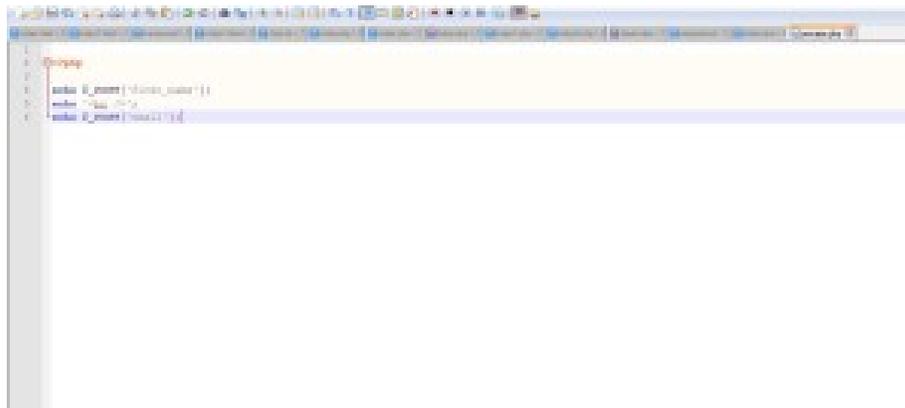
Now to have a view of the inserted data just create a **new file** called as **process.php** in the same **addemp** folder .



1. Write the code in **process.php** file

```
1 <?php
2 echo $_POST['first_name'];
3 echo '<br />';
4 echo $_POST['email'];
```

So you will have the following view of your Notepad++ window :



Now when you run the **process.php** file , the data that you had inserted in the html form will get displayed .



**Note:** It will display only **FirstName** and **Email**(As we have mentioned only the first name and email in the code) .

Now to show all the **data fields** present in the html FORM, **replace** the code of **process.php** file with the given code :

```
1
2 <?php
   print_r($_POST);
```

Here is the screen shot of Notepad++ window :



Now run the index.php file and insert data in to the html form :



After inserting the data click on the **add button** which will pass this data to the **process.php** file and when you **run** the process.php file you will get the following output :



In our example, we need to get connected with the MySQL database, so let's modify the **process.php** file.

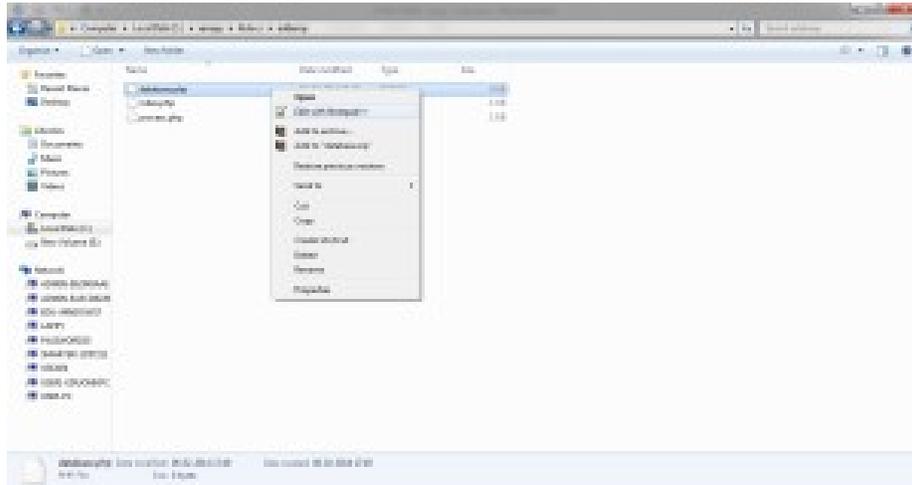
Now write the given code in the **process.php** file.

```
1. <?php include 'database.php';>
2. <?php
3     // create a variable
4     $first_name=$_POST['first_name'];
5     $last_name=$_POST['last_name'];
6     $department=$_POST['department'];
7     $email=$_POST['email'];
8     //Execute the query
9     mysqli_query($connect"INSERT INTO
10    employees1(first_name,last_name,department,email)
11    VALUES('$first_name','$last_name','$department','$email')");
```

**Note:-**Here we had included the **database.php** file at the beginning in the code to get connected with the database. In the **process.php** file we have to add the insert query to add the record in our database.

To create a database connection we have to create new file say **database.php** in the same **addemp** folder.

You will have the following view :



Now open the **database.php** file in Notepad++ or any other text editor and write the given code :

```
1 <?php
2 $connect=mysqli_connect('localhost','root','123','mydatabase');

3 if(mysqli_connect_errno($connect))
4 {
5     echo 'Failed to connect';
6 }
7
8 ?>
```

You will have the following view of your Notepad++ window :

```
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788
789
790
791
792
793
794
795
796
797
798
799
800
801
802
803
804
805
806
807
808
809
810
811
812
813
814
815
816
817
818
819
820
821
822
823
824
825
826
827
828
829
830
831
832
833
834
835
836
837
838
839
840
841
842
843
844
845
846
847
848
849
850
851
852
853
854
855
856
857
858
859
860
861
862
863
864
865
866
867
868
869
870
871
872
873
874
875
876
877
878
879
880
881
882
883
884
885
886
887
888
889
890
891
892
893
894
895
896
897
898
899
900
901
902
903
904
905
906
907
908
909
910
911
912
913
914
915
916
917
918
919
920
921
922
923
924
925
926
927
928
929
930
931
932
933
934
935
936
937
938
939
940
941
942
943
944
945
946
947
948
949
950
951
952
953
954
955
956
957
958
959
960
961
962
963
964
965
966
967
968
969
970
971
972
973
974
975
976
977
978
979
980
981
982
983
984
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000
```

After creating the database connection , run the **index.php** file insert the data into it , this data will get added into your database which is present in the **phpmyadmin** of the **Xampp**.

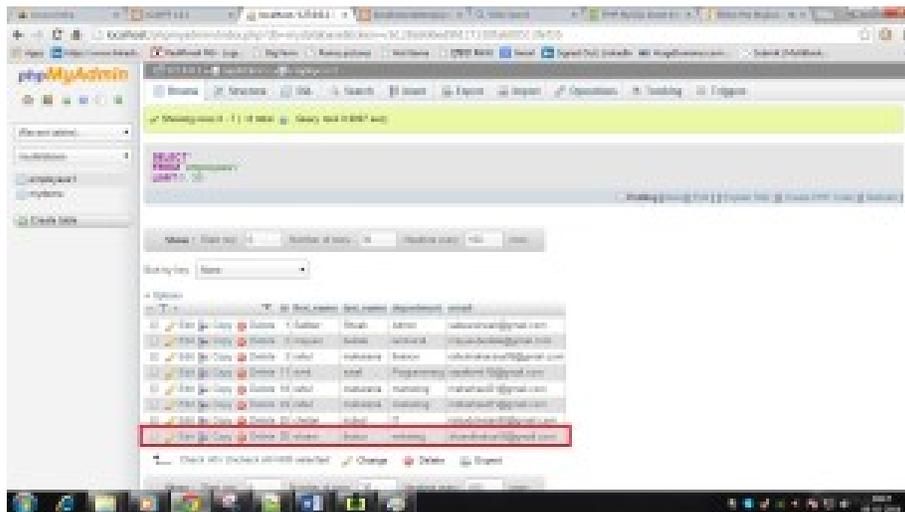
So add the data and click the **Add Employee** button :

First Name:   
Last Name:   
Department:   
Email:

If you run the **process.php** file it will display the blank window which means your data has been inserted into the database.



Now check your created employee table in the database in the **phpmyadmin** panel :



Now to display the content in the browser , we have to add code that will check the **if added** condition :

So add the given code in the **process.php** file .

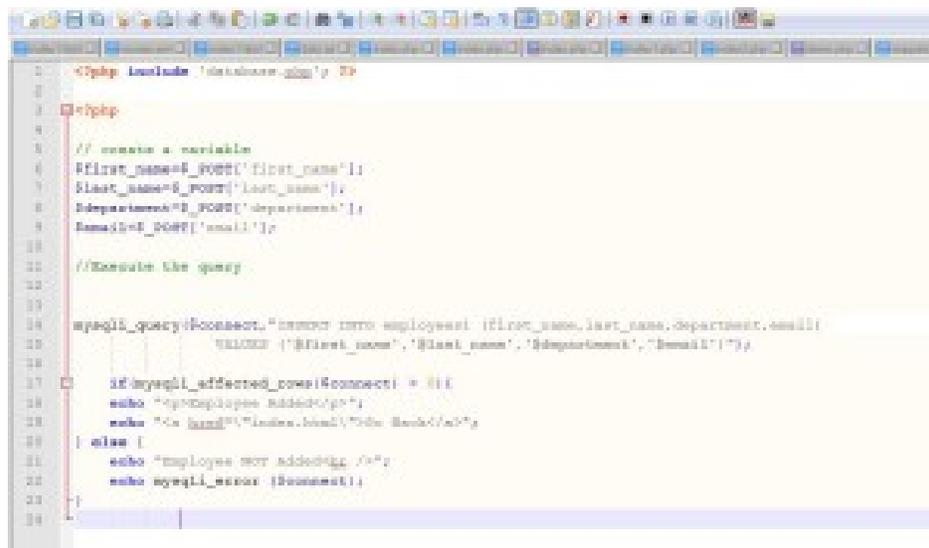
```
1 <?php include 'database.php'; ?>
2 <?php
3
4 // create a variable
5 $first_name=$_POST['first_name'];
6 $last_name=$_POST['last_name'];
7 $department=$_POST['department'];
```

```

8 $email=$_POST['email'];
9 //Execute the query
10 mysqli_query($connect,"INSERT INTO employees1
11 (first_name,last_name,department,email)
12 VALUES
13 ('$first_name','$last_name','$department','$email')");
14 if(mysqli_affected_rows($connect) > 0){
15 echo "<p>Employee Added</p>";
16 echo "<a href='index.html'>Go Back</a>";
17 } else {
18 echo "Employee NOT Added<br />";
19 echo mysqli_error ($connect);
20 }

```

ScreenShot of Notepad++ window is shown below :



```

1 <?php: localhost - php7.0
2
3 <?php:
4
5 // receive a variable
6 $first_name=$_POST['first_name'];
7 $last_name=$_POST['last_name'];
8 $department=$_POST['department'];
9 $email=$_POST['email'];
10
11 //Execute the query
12
13
14 mysqli_query($connect,"INSERT INTO employees1 (first_name,last_name,department,email)
15 VALUES ('$first_name','$last_name','$department','$email')");
16
17 if(mysqli_affected_rows($connect) > 0)
18 echo "<p>Employee Added</p>";
19 echo "<a href='index.html'>Go Back</a>";
20 } else {
21 echo "Employee NOT added<br />";
22 echo mysqli_error ($connect);
23 }
24

```

After inserting the data in the **index.php** file click the **AddEmployees** button we will be navigated to the **process.php** file.

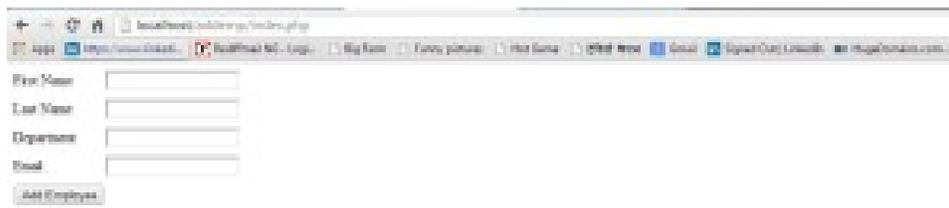
So if the data is inserted into the the database you will have the following window otherwise it will display an error message:-



In the code section of the **process.php** file we have added the link from where we can go back to the **index.php** file to add the record of the employee in the database.

When we click on the **GoBack** link it will link to the **index.php** file.

Thus you will be navigated to the index.php file .



Thus we have learnt to insert the data into the MySQL database by designing an HTML form and connecting the database using php.

---

## **EXPERIMENT-6**

---

**AIM: Some PHP Programs for Application Development.**

### **6.0 Learning Objective**

At the end of the session you will be able to

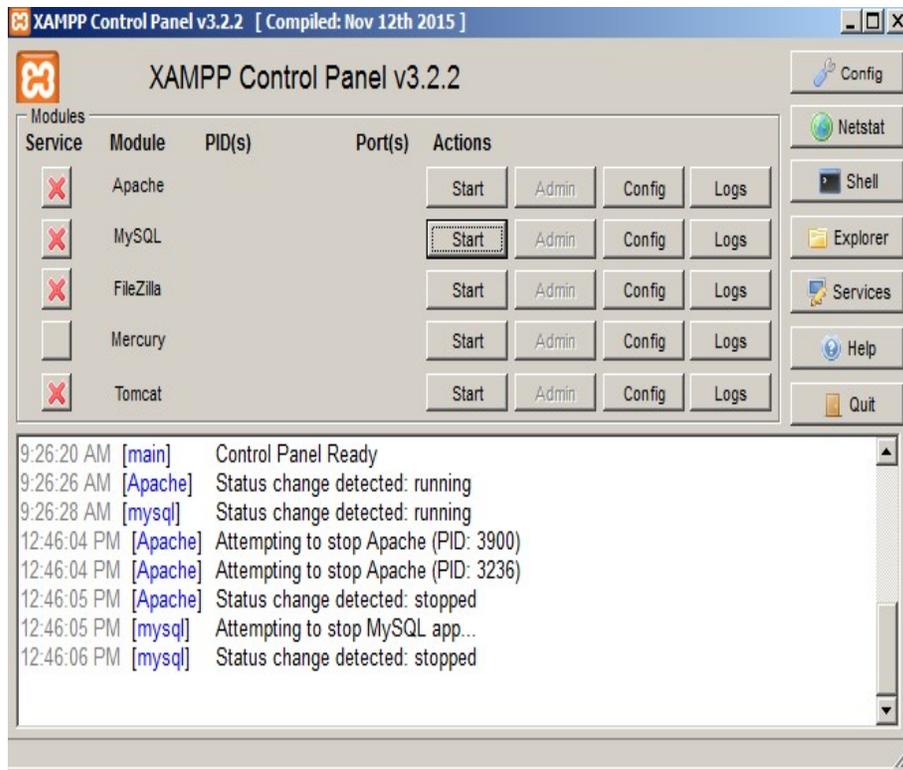
- Become familiar with how to write PHP programs and know about the fundamental concepts of some programs for developing web pages.

### **6.1 Create an HTML Form and Insert Data into the Database Using PHP**

The following steps are required to **design a registration form** (Sign Up Form):

**Step 1:** Firstly, install a virtual server in your computer (eg Xampp, Wamp).

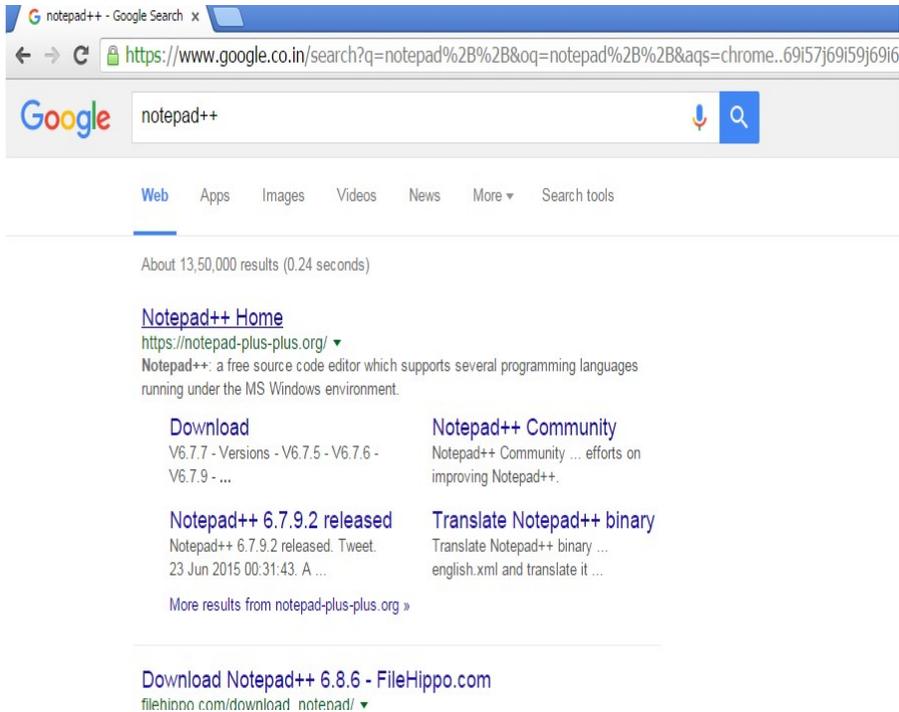
Xampp is a free and open source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MySQL database, and interpreters for scripts written in the PHP and Perl programming languages. **XAMPP** stands for **Cross-Platform (X), Apache (A), MySQL (M), PHP (P) and Perl (P)**.



**Figure:** Xampp Server

**Step 2:** Next we will require an editor where the html code has to be written. You can use any editor (such as Notepad++, Adobe Dreamweaver, NetBeans, etc). Here we will use **Notepad ++**.

**Step 3:** Install Notepad++. Here are the steps:

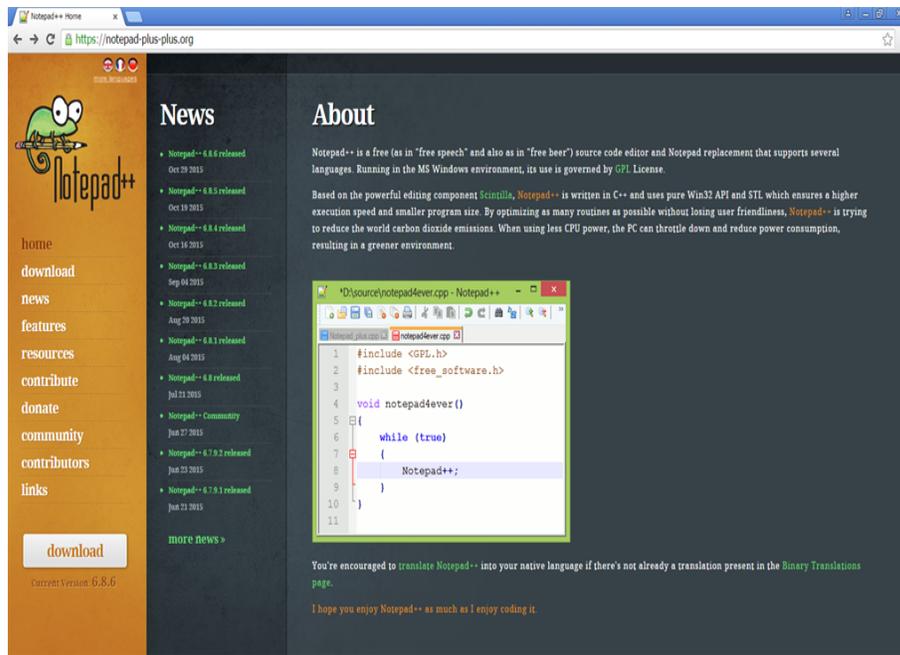


**Figure:** Notepad ++

Notepad++ is a source code editor used with Microsoft Windows. It supports editing in tabular form, which allow us to work with multiple open files in a single window.

Notepad++ is distributed as free software.

Click on the first link in the browser window. After clicking the first link the following window will appear.



**Figure:** Download Notepad ++

Download the software by clicking the download button.

**Step 4:** Open the Notepad++ text editor and write the html code for designing the HTML Sign Up page.

We will use various html tags to design the page.

You can include the fields according to your convenience (i.e whichever fields you require for the form).

Here i have included the fields according to my convenience.

**Have a view of the code written in notepad++,**

```

1. <html>
2. <head>
3. <title>Registration Form</title>
4. </head>
5. <body>
6. <link href = "registration.css" type = "text/css" rel = "stylesheet
  " />
7. <h2>Sign Up</h2>
8. <form name = "form1" action="modified.php" method = "post"
  enctype = "multipart/form-data" >
9. <div class = "container">
10. <div class = "form_group">
  
```

```

11.      <label>First Name:</label>
12.      <input type = "text" name = "fname" value = "" required
    />
13.      </div>
14.      <div class = "form_group">
15.          <label>Middle Name:</label>
16.          <input type = "text" name = "mname" value = "" require
    d />
17.      </div>
18.      <div class = "form_group">
19.          <label>Last Name:</label>
20.          <input type = "text" name = "lname" value = "" required
    />
21.      </div>
22.      <div class = "form_group">
23.          <label>Password:</label>
24.          <input type = "password" name = "pwd" value = "" requ
    ired/>
25.      </div>
26.      </div>
27.      </form>
28.      </body>
29. </html>

```

Here, I have included the **LINK** tag to link the **CSS** file for this **HTML** page.

HTML or Hypertext Markup Language is the standard and most basic language in use to create web pages.

### **CSS stands for Cascading Style Sheets**

This is used for styling purpose. HTML coding is just a structure and CSS is applied to dictate your website's look and feel. Font size, font color, font style styling of images, page layout, mouse-over effects and more are determined by CSS. The CSS applied over the above HTML coding is given below.

```

1. .container {
2.   max-width: 1350px;
3.   width: 100%;
4.   margin: 50px;
5.   height: auto;
6.   display: block;
7. }
8.
9. body {

```

```

10. color: #8A2BE2;
11. font-size: 20px;
12. font-family: Verdana, Arial, Helvetica, monospace;
13. background-color: #F0E8A0;
14. }
15.
16. h2 {
17. text-align: center;
18. }
19.
20. .form_group {
21. padding: 10px;
22. ;
23. display: block;
24. }
25.
26. label {
27. float: left;
28. padding-right: 50px;
29. line-height: 10%;
30. display: block;
31. width: 208px;
32. }

```

Here you would be wondering why I have used `<div>` in html. Let me explain you the importance of using `<div>`.

The `<div>` element is often used as a layout tool.

We need to see how to use them later on in the body section of the page. To use your class, all you need to do is add the `class=""` attribute to the tag you wish to have the style of your class. So, if you wanted a line of text to be red, you could add the class attribute to a `<DIV>` tag, like this: `<div class="form_group">`. Here we have used this class because we can directly apply CSS on this class. The tags which has been opened should be closed also.

Now let us move further.

**Step 5:** Apply CSS on the HTML code. General rules for applying css are:

We use **dot(.)** beside any class to apply effects into it and **#** tag before any ID. **E.g.**

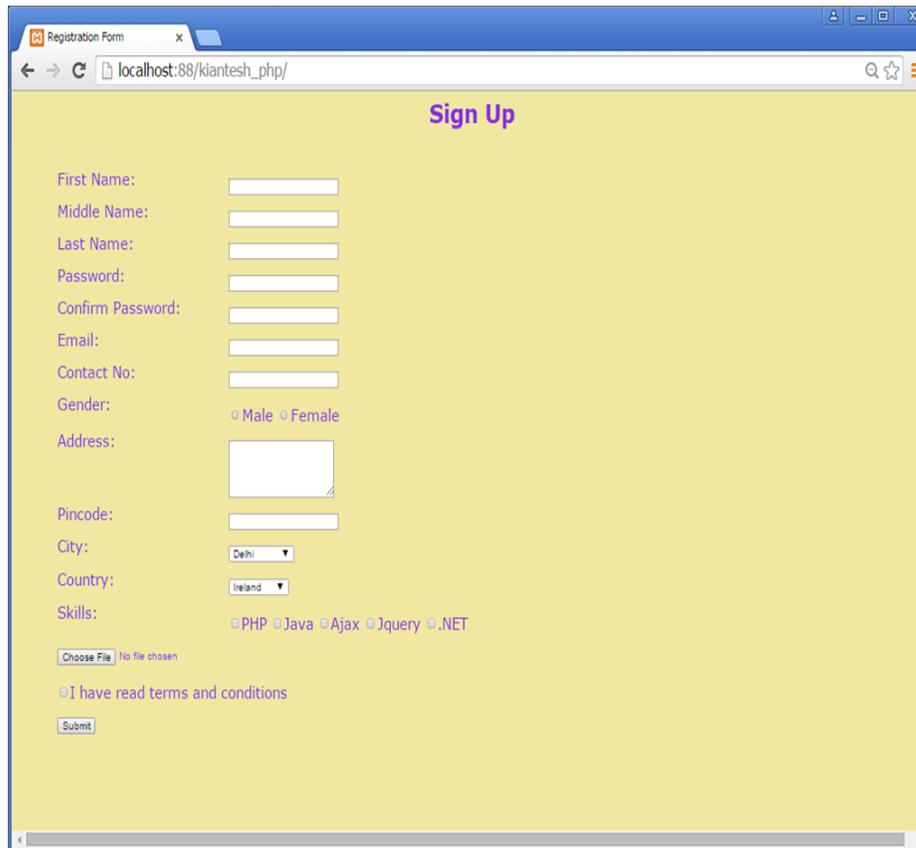
```

.container {
  // css attributes will be written here
}

```

Here I have taken container as a class. Class is user-defined.

**Note:** Save the **Sign\_Up** page in the **xampp folder->htdocs->create a new folder( user-defined)**. Inside this new folder you have to keep all the data related to your project. It may be any kind of images used in webpage, HTML coding or CSS coding. I mean to say all the things that are used in creating a web page must be under one roof (i.e under one folder).

A screenshot of a web browser window displaying a registration form titled "Sign Up". The browser's address bar shows "localhost:88/kiantesh\_php/". The form is set against a light yellow background and contains the following elements: "First Name:", "Middle Name:", "Last Name:", "Password:", "Confirm Password:", "Email:", "Contact No:", "Gender:" with radio buttons for "Male" and "Female", "Address:" with a text area, "Pincode:", "City:" with a dropdown menu showing "Dehi", "Country:" with a dropdown menu showing "Ireland", "Skills:" with checkboxes for "PHP", "Java", "Ajax", "Jquery", and ".NET", a "Choose File" button with "No file chosen" text, a checkbox for "I have read terms and conditions", and a "Submit" button.

**Figure: Sign\_Up**

After writing the HTML code and applying the above CSS, the registration page would look like above.

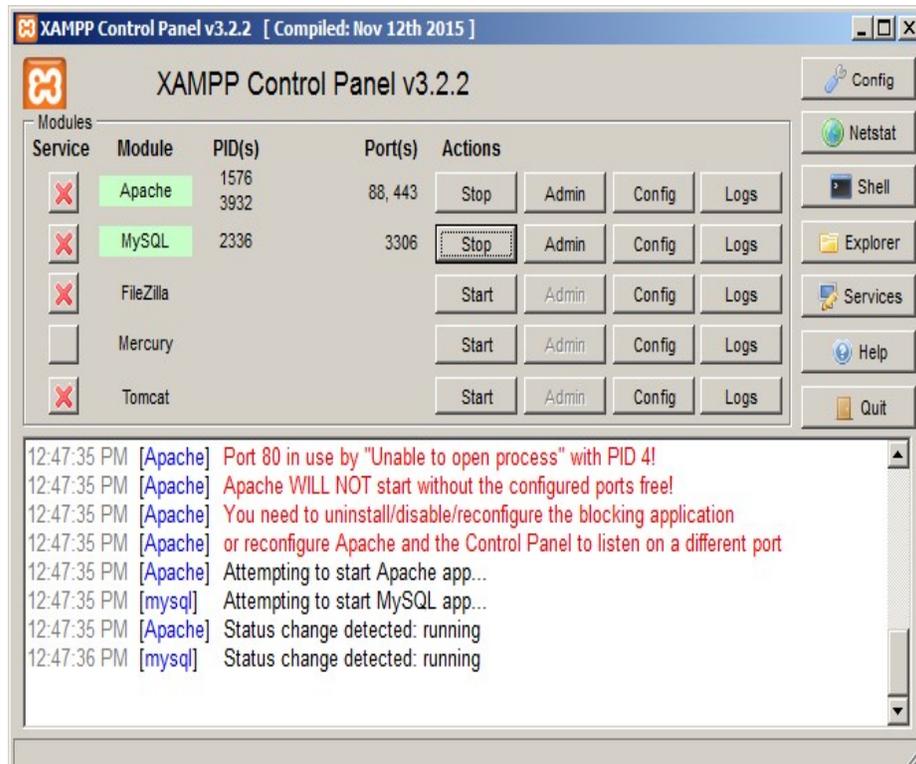
Next we will insert data into the fields of the sign\_up page and store the information in MySQL.

For that we have to start the xampp controller. Start Apache and MYSQL in the **XAMPP controller**.

Now we will go to next level where we will make use of PHP syntax.

## **PHP**

PHP is a server-side scripting language designed for web development but also used as a general-purpose programming language. PHP is an acronym for "**PHP: Hypertext Preprocessor**".



**Figure: Xampp Start**

PHP is a widely-used, open source scripting language. PHP scripts are executed on the server. PHP is free to download and use. PHP code are executed on the server, and the result is returned to the browser as plain HTML. PHP files have extension ".php". PHP can collect form data.

PHP can add, delete, modify data in your database. It runs on various platforms (Windows, Linux, Unix, Mac OS X, etc.) and supports a wide range of databases. PHP is easy to learn and runs efficiently on the server side.

### PHP Variables (Rules)

- A **variable** starts with the \$ sign, followed by the name of the variable.
- A variable name must start with a letter or the underscore character.
- A variable name cannot start with a number.
- Variable names are case-sensitive (\$age and \$AGE are two different variables).

### Output Variable

The PHP 'echo' statement is often used to output data to the screen.

## PHP FORMS

Write HTML coding for sign\_up page and save it as **index.php**. Again create a php page named **connection.php** where we will write the code for creating connection with database.

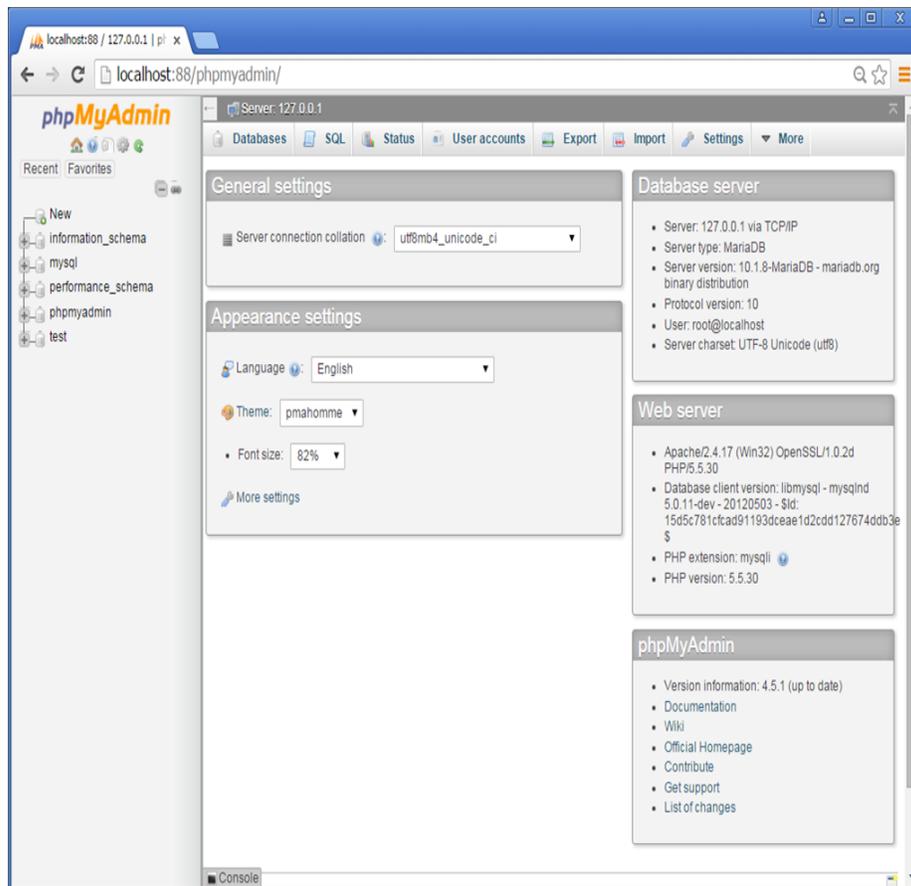
```
1. <?php
2.     $servername = "localhost";
3.     $username = "root";
4.     $password = "";
5.     $conn = mysql_connect ($servername , $username , $password)
        or die("unable to connect to host");
6.     $sql = mysql_select_db ('test',$conn) or die("unable to connect t
        o database");
7. ?>
```

The PHP script are always written between (*<?php (opening) and ?> closing*).

Here as you are seeing that I have used user-defined variables to assign something. This makes me easy to write code effectively and in a clean way.

Here I have assigned localhost to **\$servername**, 'root' to \$username and password has been left blank. Again I have written **mysql\_connect()**—this is mainly used to open a connection to mysql server. Again we have used **mysql\_select\_db()**—this is used to select the database created in **localhost/phpmyadmin**.

Now let us create a database in MySQL. The phpmyadmin window will look like the following screenshot:



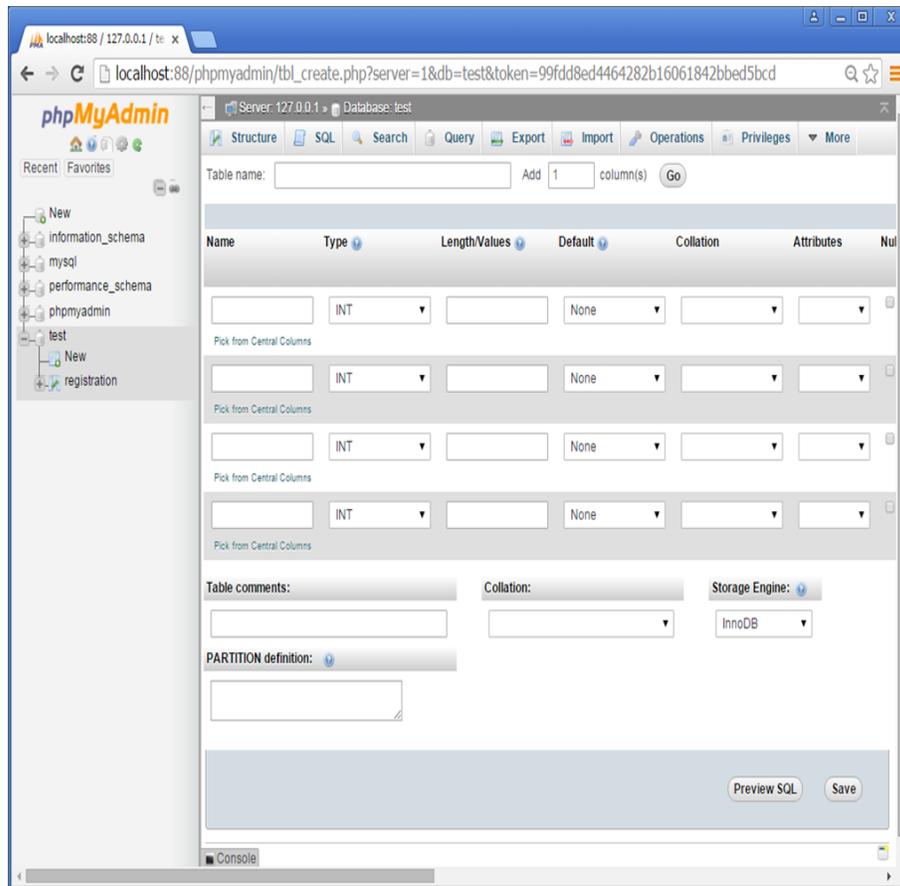
**Figure:** PHP myadmin

Here you can create your own database and as many tables inside that.

Suppose here I have created a database named 'test', inside that I have created a table named 'registration'. In this table we will create fields that are used in our registration form such as fname, mname, lname, pwd, cnf, mail, number, sex, address, code, city, country, skills, attach\_file.

**Note:** Here we can write any name for the concerned fields, just keep in mind the names you have given for the relative fields.

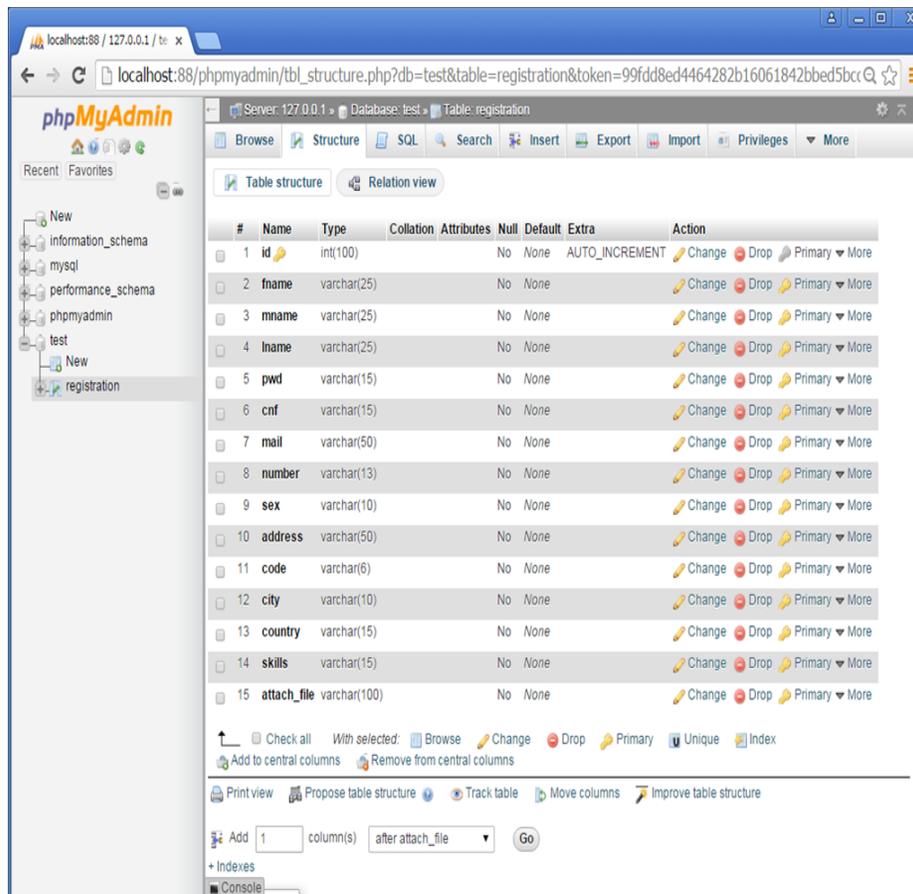
You can create table manually or by writing queries. Here, I have created it manually.



**Figure:** Insert fields

Here write data type (most of the times we use varchar), length in numbers. After filling the fields name click Go to continue. After inserting you can view the inserted fields where the data will be fetched from the form.

The structure is as in the following screenshot:



**Figure: Structure**

Now create another php page and name it **modified.php**.

In this page we will write code to see how we can fetch data from the fields.

For this we will make use of form methods through which we will retrieve the data entered into the fields and store it into our mysql database. The method attribute specifies how to send form-data (the form-data is sent to the page specified in the action attribute). The form-data can be sent as URL variables (with *method="get"*) or as HTTP post transaction (with *method="post"*).

Basically we use any of the following two **methods to fetch data from the fields**.

- **GET Method:** The GET method produces a long string that appears in the browser's Location. It has a restriction of sending upto 1024 characters only. We should never use GET method if we have password or other sensitive information to be sent to the server. The PHP provides `$_GET` associative array to access all the information sent using GET method.

- **POST Method:** In this method parameters are not saved in browsers history. Data is not shown in the browser's URL. POST is safer than GET. The PHP provides `$_POST` associative array to access all the information sent using POST method.

Here I have included **listing.php** file because in this php file I have written the code for listing all the inserted data.

```

1. <?php
2.
3. include "connection.php";
4.
5. if(isset($_GET['id'])) {
6.     $sql = "delete from registration where id = '".$_GET['id']."'";
7.     $result = mysql_query($sql);
8. }
9.
10. $sql = "select * from registration";
11. $result = mysql_query($sql);
12. ?>
13. <html>
14.     <body>
15.         <table width = "100%" border = "1" cellspacing = "1" cellpadding = "1">
16.             <tr>
17.                 <td>Id</td>
18.                 <td>First Name</td>
19.                 <td>Middle Name</td>
20.                 <td>Last Name</td>
21.                 <td>Password</td>
22.                 <td>Confirm Password</td>
23.                 <td>Email</td>
24.                 <td>Contact No.</td>
25.                 <td>Gender</td>
26.                 <td>Address</td>
27.                 <td>Pincode</td>
28.                 <td>City</td>
29.                 <td>Country</td>
30.                 <td>Skills</td>
31.                 <td>Files</td>
32.                 <td colspan = "2">Action</td>
33.             </tr>
34.         </table>
35.     </body>
36. </html>

```

Now write a php code in this page only.

**Note:** We have to include **connection.php** file in all the pages because the connection code has been written in **connection.php** file only. Until and

unless the connection is established, the data can't be sent to the database. Here I have written an IF-ELSE condition to check whether any id is coming or not.

The **isset ()** function is used to check whether a variable is set or not.

Then I have written a query for delete and saved in a local variable named **\$sql**.

After that **mysql\_query()** is used to execute the query written above. Again we have written a query to select all the elements of the table created.

```
1. <?php
2.
3. while($row = mysql_fetch_object($result)){
4.
5.
6. ?>
7. <tr>
8. <td>
9. <?php echo $row->id;?>
10. </td>
11. <td>
12. <?php echo $row->fname;?>
13. </td>
14. <td>
15. <?php echo $row->mname;?>
16. </td>
17. <td>
18. <?php echo $row->lname;?>
19. </td>
20. <td>
21. <?php echo $row->pwd;?>
22. </td>
23. <td>
24. <?php echo $row->cnf;?>
25. </td>
26. <td>
27. <?php echo $row->mail;?>
28. </td>
29. <td>
30. <?php echo $row->number;?>
31. </td>
32. <td>G
33. <?php echo $row->sex;?>
34. </td>
35. <td>
36. <?php echo $row->address;?>
37. </td>
38. <td>
```

```

39.     <?php echo $row->code;?>
40.     </td>
41.     <td>
42.         <?php echo $row->city;?>
43.     </td>
44.     <td>
45.         <?php echo $row->country;?>
46.     </td>
47.     <td>
48.         <?php echo $row->skills;?>
49.     </td>
50.     <td>
51.         <?php echo $row->attach_file;?>
52.     </td>
53.     <td> <a href="listing.php?id =
54.         <?php echo $row-
55.         >id;?>" onclick="return confirm('Are You Sure')">Delete
56.     </a> | <a href="index.php?id =
57.         <?php echo $row-
58.         >id;?>" onclick="return confirm('Are You Sure')">Edit
59.     </a> </td>
60. </tr>
61. <? php } ?>

```

In the same page that is *modified.php*, now we will write another group of code for displaying the data into the table created.

For that we will write a while condition where we will fetch the data from the database until and unless the data is coming.

Here I have saved the query `mysql_fetch_object()` into a local variable '**\$row**'.

Then I have echoed the relative fields data into the corresponding table entry.

Now this tutorial of insertion of data into the database and showing it in the form of lists has been successfully completed.

Have a look on the final result.

localhost:88/kantesh\_php/modified.php

connection successful

Id	First Name	Middle Name	Last Name	Password	Confirm Password	Email	Contact No.	Gender	Address	Pincode	City	Country	Skills	Files	Action
1	sdf	sdf	sdf	sdf	sdf	sdf	9958466900	Female	xcvdf	823001	Delhi	Ireland			<a href="#">Delete</a> <a href="#">Edit</a>
2	kantesh	kumar	sinha	kantesh7#	kantesh7#	kanteshgaya200@gmail.com	9958466900	Female	fdgdgd	823001	Varnansi	India			<a href="#">Delete</a> <a href="#">Edit</a>
3	kantesh	kumar	singh	kantesh7#	kantesh7#	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	110092	Kolkata	America			<a href="#">Delete</a> <a href="#">Edit</a>
4	kantesh	kumar	singh	kantesh7#	kantesh7#	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	110092	Kolkata	America	Kantesh sinha docx		<a href="#">Delete</a> <a href="#">Edit</a>
5	kantesh	kumar	singh	kantesh7#	kantesh7#	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	110092	Kolkata	America			<a href="#">Delete</a> <a href="#">Edit</a>
6	kantesh	kumar	singh	kantesh7#	kantesh7#	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	110092	Kolkata	America	Kantesh sinha docx		<a href="#">Delete</a> <a href="#">Edit</a>
7	kantesh	kumar	singh	kantesh7#	kantesh7#	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	110092	Kolkata	America	Kantesh sinha docx		<a href="#">Delete</a> <a href="#">Edit</a>
8	kantesh	kumar	singh	kantesh7#	kantesh7#	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	110092	Kolkata	America	Kantesh sinha docx		<a href="#">Delete</a> <a href="#">Edit</a>
9	kantesh	kumar	singh	kantesh7#	kantesh7#	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	110092	Kolkata	America	Kantesh sinha docx		<a href="#">Delete</a> <a href="#">Edit</a>
10	kantesh	kumar	singh	kantesh7#	kantesh7#	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	110092	Kolkata	America	Kantesh sinha docx		<a href="#">Delete</a> <a href="#">Edit</a>
11	kantesh	kumar	singh	kantesh7#	kantesh7#	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	110092	Kolkata	America	Kantesh sinha docx		<a href="#">Delete</a> <a href="#">Edit</a>
12	kantesh	kumar	singh	kantesh7#	kantesh7#	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	110092	Kolkata	America	Kantesh sinha docx		<a href="#">Delete</a> <a href="#">Edit</a>
13	kantesh	kumar	singh	kantesh7#	kantesh7#	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	110092	Kolkata	America	Kantesh sinha docx		<a href="#">Delete</a> <a href="#">Edit</a>
14	kantesh	kumar	singh	kantesh7#	kantesh7#	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	110092	Kolkata	America	Kantesh sinha docx		<a href="#">Delete</a> <a href="#">Edit</a>
15	kantesh	kumar	singh	kantesh7#	kantesh7#	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	110092	Kolkata	America	Kantesh sinha docx		<a href="#">Delete</a> <a href="#">Edit</a>
16	kantesh	kumar	singh	mani	matal	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	444555	Bangalore	Japan	Kantesh sinha docx		<a href="#">Delete</a> <a href="#">Edit</a>
17	kantesh	kumar	singh	gg	gg	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	444555	Bangalore	Japan	Kantesh sinha docx		<a href="#">Delete</a> <a href="#">Edit</a>
18	kantesh	kumar	singh	gg	gg	kanteshgaya200@gmail.com	77576845565	Female	fdfdf	444555	Bangalore	Japan	Kantesh sinha docx		<a href="#">Delete</a> <a href="#">Edit</a>

Figure: Final View