

## INTRODUCTION TO A SERVER

A **server** is a system (software and suitable computer hardware) that responds to requests across a computer network to provide, or help to provide, a network service. Servers can be run on a dedicated computer, which is also often referred to as "the server", but many networked computers are capable of hosting servers. In many cases, a computer can provide several services and have several servers running.



- The term *server* is used quite broadly in [information technology](#). Despite the many server-branded products available (such as server versions of hardware, software or operating systems), in theory any computerized process that shares a resource to one or more client processes is a server. To illustrate this, take the common example of [file sharing](#). While the existence of files on a machine does not classify it as a server, the mechanism which shares these files to clients by the operating system is the server.
- Similarly, consider a web server application (such as the [multiplatform "Apache HTTP Server"](#)). This web server software can be *run* on any capable [computer](#). For example, while a [laptop](#) or personal computer is not typically known as a server, they can in these situations fulfill the role of one, and hence be labeled as one. It is, in this case, the machine's role that places it in the category of server.

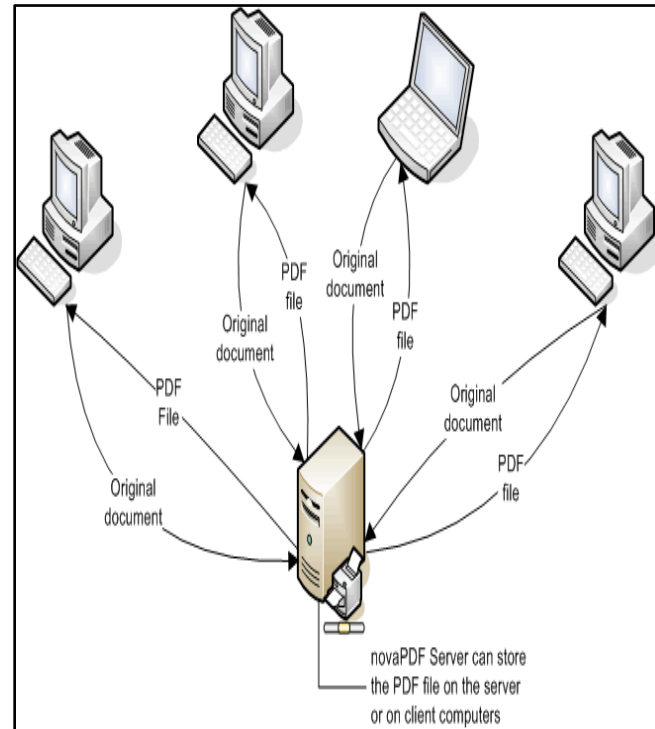
- In the hardware sense, the word *server* typically designates computer models intended for hosting [software applications](#) under the heavy demand of a [network](#) environment. In this server configuration one or more machines, either a computer or a [computer appliance](#), share information with each other with one acting as a [host](#) for the other.

## **SERVER HRDWARE**

Hardware requirement for servers vary, depending on the server application. Absolute CPU speed is not quite as critical to a server as it is to a desktop machine. Servers' duties to provide service to many users over a network lead to different requirements such as fast network connections and high I/O throughput. Since servers are usually accessed over a network, they may run in headless mode without a monitor or input device. Processes that are not needed for the server's function are not used. Many servers do not have a graphical user interface (GUI) as it is unnecessary and consumes resources that could be allocated elsewhere. Similarly, audio and USB interfaces may be omitted.



- In the client/server programming model, a server is a program that awaits and fulfills requests from client programs in the same or other computers. A given application in a computer may function as a client with requests for services from other programs and also as a *server* of requests from other programs.
- Specific to the Web, a web server is the computer program (housed in a computer) that serves requested html pages or files. A Web *client* is the requesting program associated with the user. The Web **Browser** in your computer is a client that requests HTML files from Web servers.



## TYPES OF SERVER

1. [Application server](#) a server dedicated to running certain software applications.
2. [Catalog server](#) a central search point for information across a distributed network.
3. [Communications server](#) carrier-grade computing platform for communications networks.
4. [Compute server](#), a server intended for intensive (esp. scientific) computations.
5. [Database server](#) provides database services to other computer programs or computers.
6. [Fax server](#) provides fax services for clients.
7. [File server](#) provides remote access to files.

8. [Game server](#) a server that video game clients connect to in order to play online together.
9. [Home server](#) a server for the home.
10. [Mail server](#) handles transport of and access to email.
11. [Mobile Server](#) or Server on the Go is an Intel Xeon processor based server class laptop form factor computer.
12. [Name server](#) or DNS.
13. [Print server](#)  
Uprovides printer services.
14. [Proxy server](#) acts as an intermediary for requests from clients seeking resources from other servers.
15. [Sound server](#) provides multimedia broadcasting, streaming.
16. [Stand-alone server](#) a server on a Windows network that neither belongs to nor governs a Windows domain
17. [Web server](#) a server that HTTP clients connect to in order to send commands and receive responses along with data contents

## **SERVER OPERATING SYSTEM**

Server-oriented operating systems tend to have certain features that make them more suitable for the server environment, such as:

1. [GUI](#) not available or optional
2. Ability to [reconfigure](#) and update both hardware and software to some extent without restart
3. Advanced [backup](#) facilities to permit regular and frequent online backups of critical [data](#)
4. [Transparent](#) data transfer between different [volumes](#) or devices
5. Flexible and advanced networking capabilities
6. Automation capabilities such as [daemons](#) in UNIX and [services](#) in Windows
7. Tight system security, with advanced user, resource, data, and memory protection.

Server-oriented operating systems can, in many cases, interact with hardware sensors to detect conditions such as overheating, processor and disk failure, and consequently alert an operator or take remedial measures themselves.

## **DIFFERENT SIZE OF SERVER**

- Rack server
- Tower server
- Miniature (home) servers
- Mini Rack server
- Blade server
- Mobile server

## **PHP: Server-Side Programming Languages in Web Development**

### **Dynamic and Static Webpages:**

When we want to design a website so there are two types of website pages or web pages, which is static and dynamic web pages. The static web pages take data which don't change or may change but not using any database and we can also say that static web pages don't interface with online database. But the dynamic web pages interface online database, it's all data store in database and use MySQL to retrieve all data from database on the web pages. As we can make login pages, and registration pages and many other kind of web pages.

### **Techniques being used in Website developing:**

We use **HTML, CSS, JavaScript, AJAX, PHP, MySQL, JQuery** and many other techniques for developing web pages, to make web pages more attractive and more useful. As there are CMS (Content Management System), which are **JOOMLA, WORDPRESS, DRUPAL**. These three CMS are being commonly used in the market of website developing.

Because these three CMS made the designing of web pages more easy. And these CMS help us to design dynamic web pages.

For dynamic web pages we use CMS if we want to design web pages easily and attractive, we can also design web pages by our own thoughts using PHP and MySQL. In which age we are living it is the time to create dynamic web pages. Of course, without using HTML, CSS, JavaScript, AJAX we can't use just PHP and MySQL but the main thing is that make secure web pages which should secure data and be useful, which is done by PHP and MySQL.

### **Server Side Programming Language:**

PHP is a language which is used as server side programming language. Programming with PHP is not a difficult job or task. Because if you learnt C/C++ programming so it will be not change for you but at some places you will feel lot of changes using of keywords as there is no any kind of data type or primitive type in PHP programming. PHP is an easy programming language for those people who learnt by heart the JavaScript client side web programming language, and fully experience on C/C++.

The first programming language which is understood by Human that is C/C++, that's why other all programming languages else they are website programming or Desktop application programming languages have same features and using methods like C/C++. We can say the PHP programming is an Object Oriented programming, because it has also inheritance, polymorphism etc. techniques.

PHP is a server scripting language, and a powerful tool for making dynamic and interactive Web pages.

PHP is a widely-used, free, and efficient alternative to competitors such as Microsoft's ASP.

## Easy Learning with "Show PHP"

Our "Show PHP" tool makes it easy to learn PHP, it shows both the PHP source code and the HTML output of the code.

### **Example**

```
<!DOCTYPE html>
<html>
<body>

<?php
echo "My first PHP script!";
?>

</body>
</html>
```

### **What is PHP?**

- PHP is an acronym for "PHP: Hypertext Preprocessor"
- PHP is a widely-used, open source scripting language
- PHP scripts are

- executed on the server
- PHP is free to download and use

### **PHP is an amazing and popular language!**

It is powerful enough to be at the core of the biggest blogging system on the web (WordPress)!

It is deep enough to run the largest social network (Facebook)!

It is also easy enough to be a beginner's first server side language!

### **What is a PHP File?**

- PHP files can contain text, HTML, CSS, JavaScript, and PHP code
- PHP code are executed on the server, and the result is returned to the browser as plain HTML
- PHP files have extension ". php"

## What Can PHP Do?

- PHP can generate dynamic page content
- PHP can create, open, read, write, delete, and close files on the server
- PHP can collect form data
- PHP can send and receive cookies
- PHP can add, delete, modify data in your database
- PHP can be used to control user-access
- PHP can encrypt data

With PHP you are not limited to output HTML. You can output images, PDF files, and even Flash movies. You can also output any text, such as XHTML and XML.

## Why PHP?

- PHP runs on various platforms (Windows, Linux, Unix, Mac OS X, etc.)
- PHP is compatible with almost all servers used today (Apache, IIS, etc.)
- PHP supports a wide range of databases
- PHP is free. Download it from the official PHP resource:  
[www.php.net](http://www.php.net)
- PHP is easy to learn and runs efficiently on the server side

## What Do I Need?

To start using PHP, you can:

- Find a web host with PHP and MySQL support
- Install a web server on your own PC, and then install PHP and MySQL



## Use a Web Host With PHP Support

If your server has activated support for PHP you do not need to do anything. Just create some .php files, place them in your web directory, and the server will automatically parse them for you.

You do not need to compile anything or install any extra tools. Because PHP is free, most web hosts offer PHP support.

## Set Up PHP on Your Own PC

However, if your server does not support PHP, you must:

- install a web server
- install PHP
- install a database, such as MySQL

The official PHP website (PHP.net) has installation instructions for PHP:  
<http://php.net/manual/en/install.php>

### Basic PHP Syntax

A PHP script can be placed anywhere in the document.  
A PHP script starts with `<?php` and ends with `?>`:

```
<?php  
// PHP code goes here  
?>
```

The default file extension for PHP files is ".php".  
A PHP file normally contains HTML tags, and some PHP scripting code.  
Below, we have an example of a simple PHP file, with a PHP script that uses a built-in PHP function "echo" to output the text "Hello World!" on a web page:

### Example

```
<!DOCTYPE html>
<html>
<body>
<h1>My first PHP page</h1>
<?php
echo "Hello World!";
?>
</body>
</html>
```

**Output; hello word**

### Creating (Declaring) PHP Variables

In PHP, a variable starts with the \$ sign, followed by the name of the variable:

### Example

```
<?php
$txt = "Hello world!";
$x = 5;
$y = 10.5;
?>
```

After the execution of the statements above, the variable **\$txt** will hold the value **Hello world!**, the variable **\$x** will hold the value **5**, and the variable **\$y** will hold the value **10.5**.

**Note:** When you assign a text value to a variable, put quotes around the value.

**Note:** Unlike other programming languages, PHP has no command for declaring a variable. It is created the moment you first assign a value to it.