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PHP Introduction

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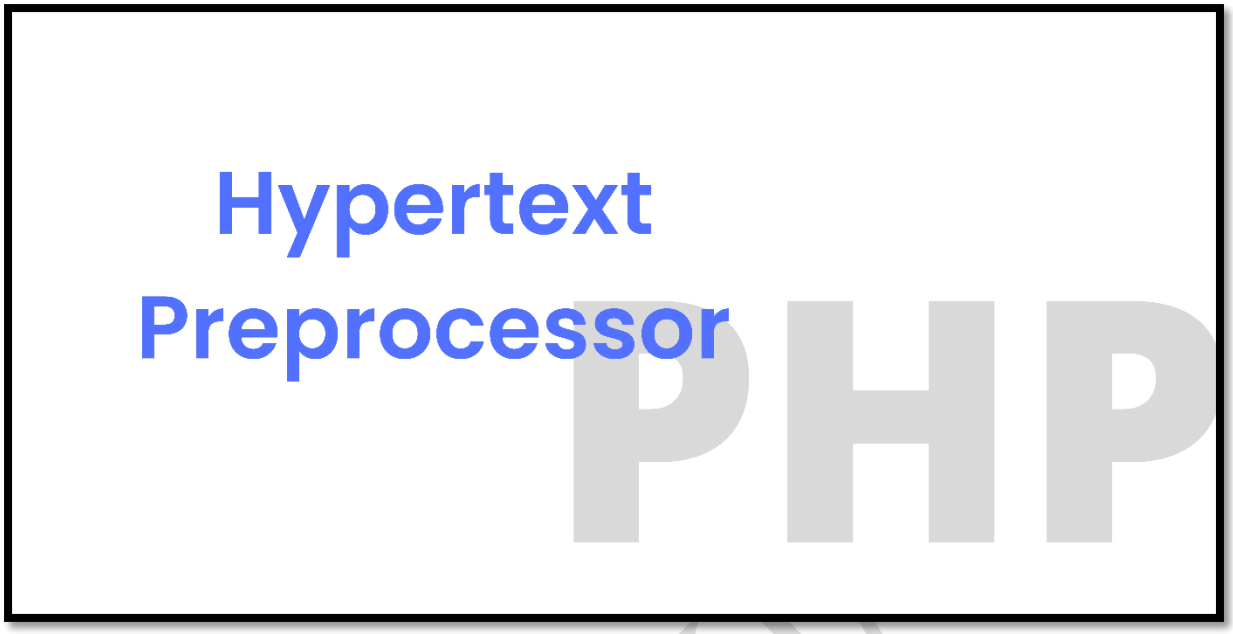
Introduction



What is PHP?

PHP is and Hypertext Preprocessor. PHP is a widely used. They are open source scripting language.

It is used to manage dynamic content database session tracking, even build entire e-commerce sites.

PHP is used to develop web applications. An application that execute on the server and generates the dynamic pages.

- PHP stands for Hypertext Preprocessor.
- PHP is an object-oriented language.
- PHP is an open-source scripting language.
- PHP is simple and easy to learn language.
- PHP is an interpreted language, i.e., there is no need for compilation.
- PHP is a server-side scripting language, which is used to manage the dynamic content of the website.
- PHP can be embedded into HTML.

Why use PHP?

- PHP runs on various platforms.
- PHP support all servers like Apache, IIS, etc.
- PHP supports a wide range of database.
- PHP handles dynamic content, database and session tracking for the website.

PHP can develop dynamic website easily. But you have known as basic knowledge of web development: HTML, CSS, JS, JQuery, Ajax, XML and JSON

Features of PHP:

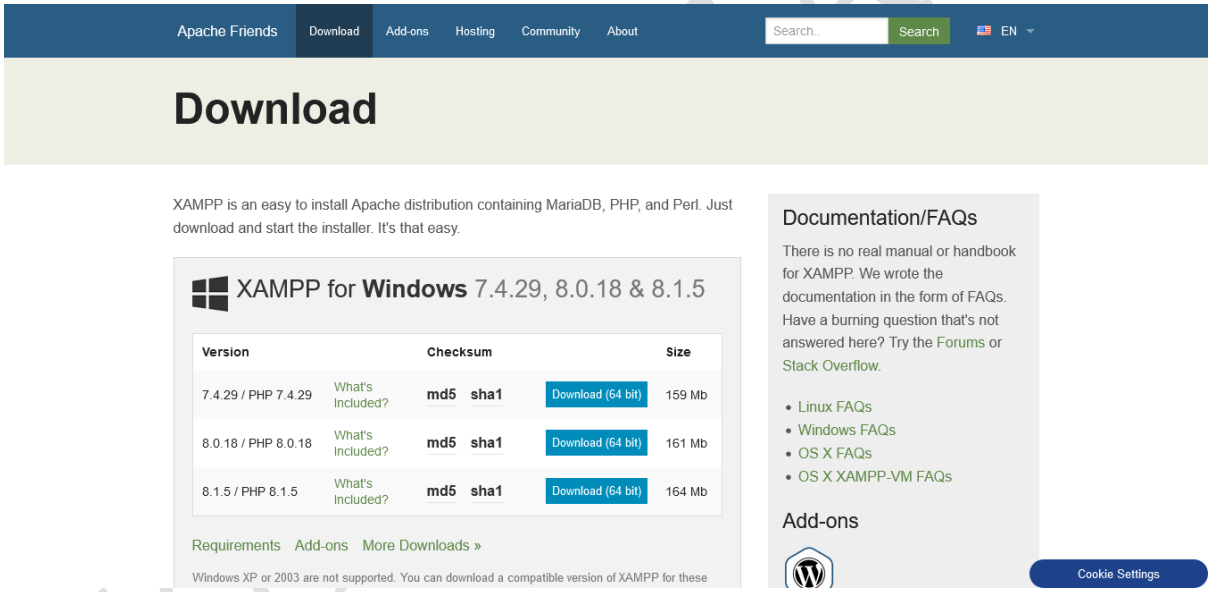
- Platform Independent
- Open Source
- Database Support
- Web server Support
- Embedded
- Performance
- Error Reporting
- Security
- Control

Installing PHP

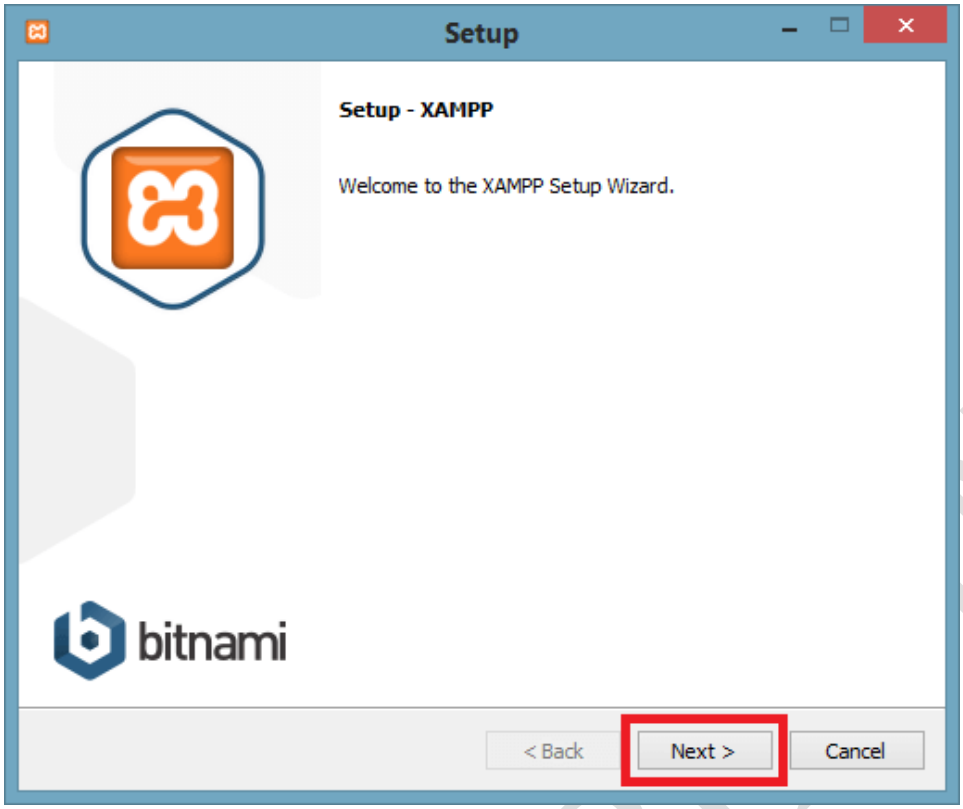
In this tutorial, we will learn how to install XAMPP on Windows. Install the XAMPP server on your system by following these steps.

- Visit this website: https://www.apachefriends.org/download.html

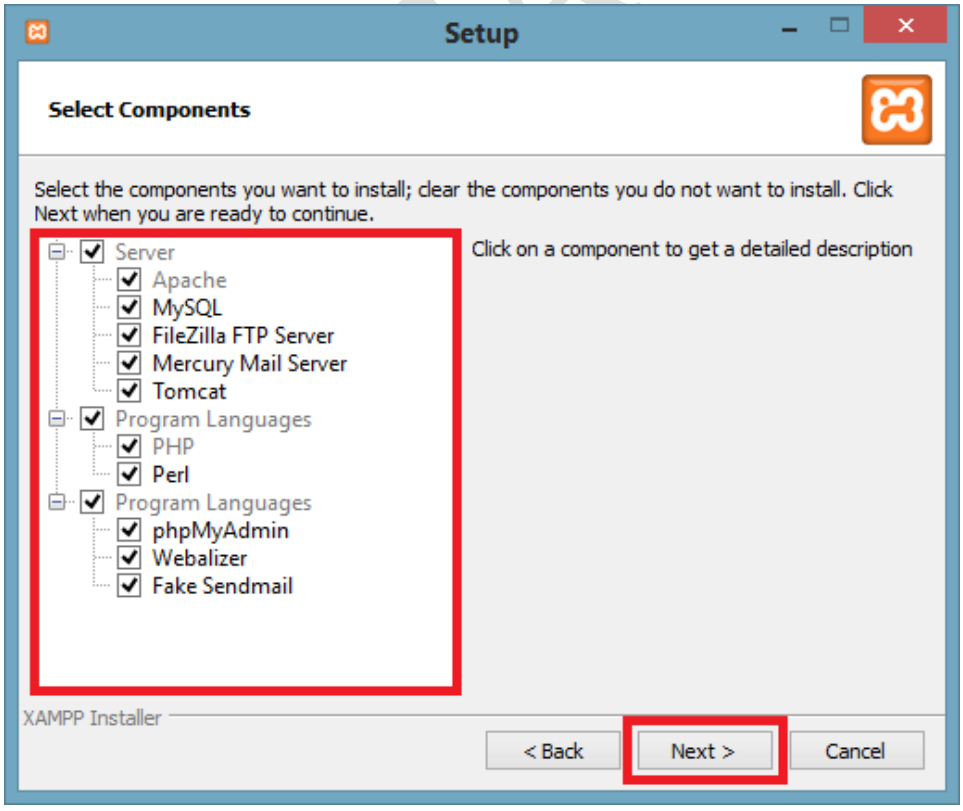
- Download a compatible version of XAMPP according to your system requirement.



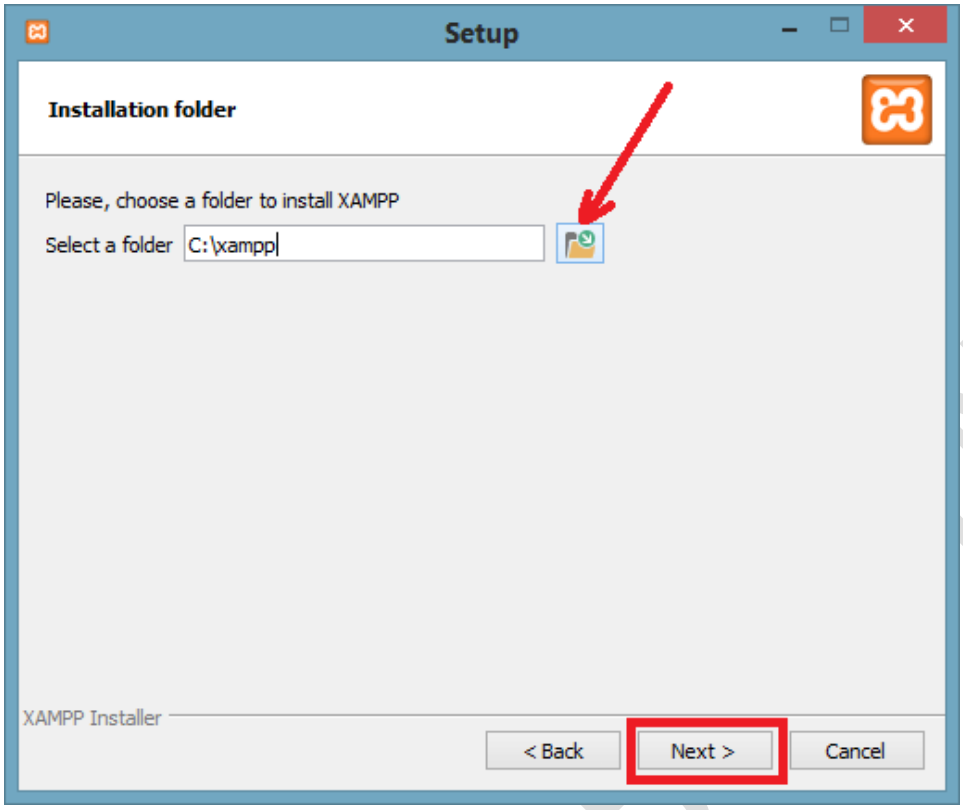
- After downloading, click on file and allow XAMPP to make changes in your system. A window will pop-up, where you have to click on the Next button.



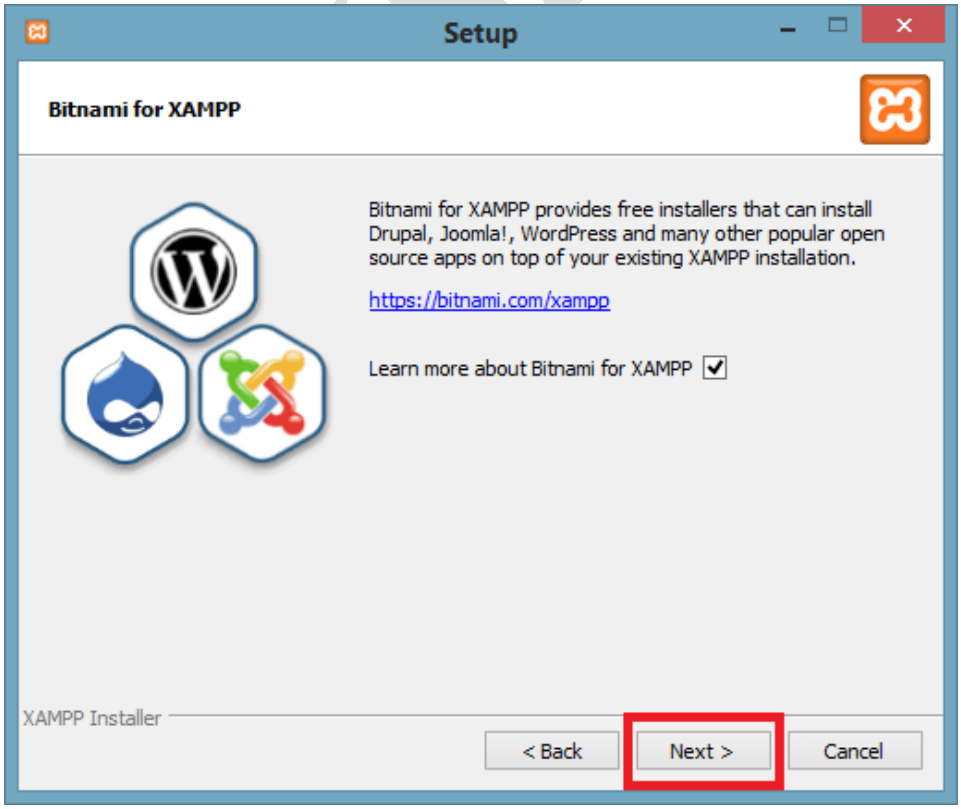
- Choose the components you want to install and click Next.



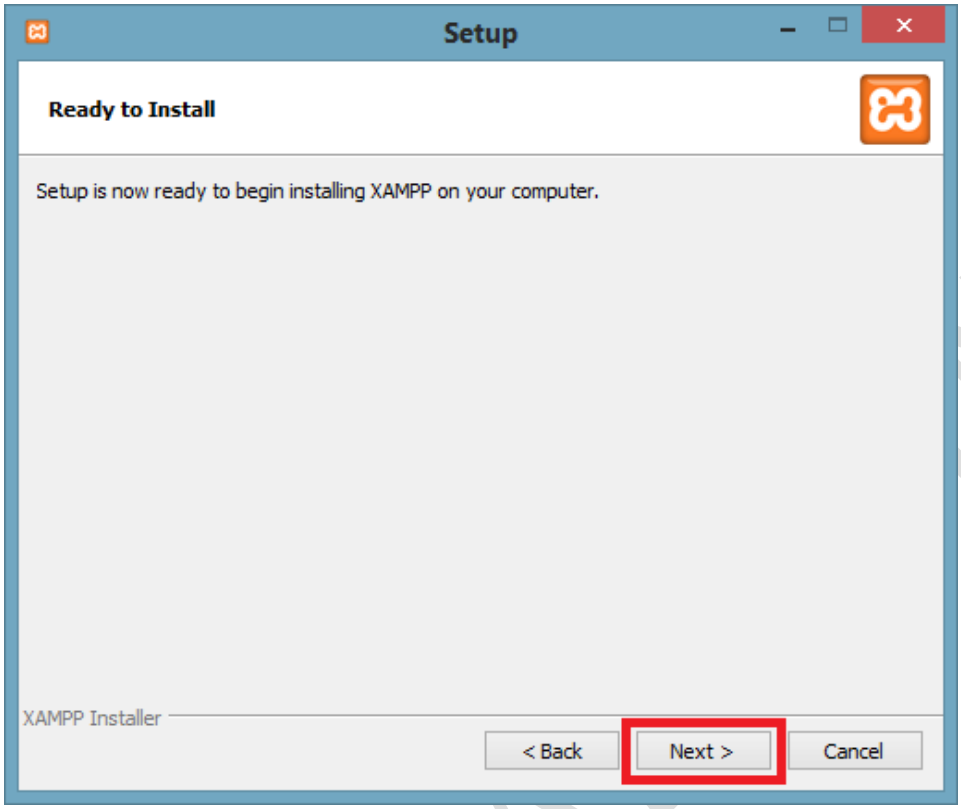
- Select the location where you want XAMPP to be installed and click Next.



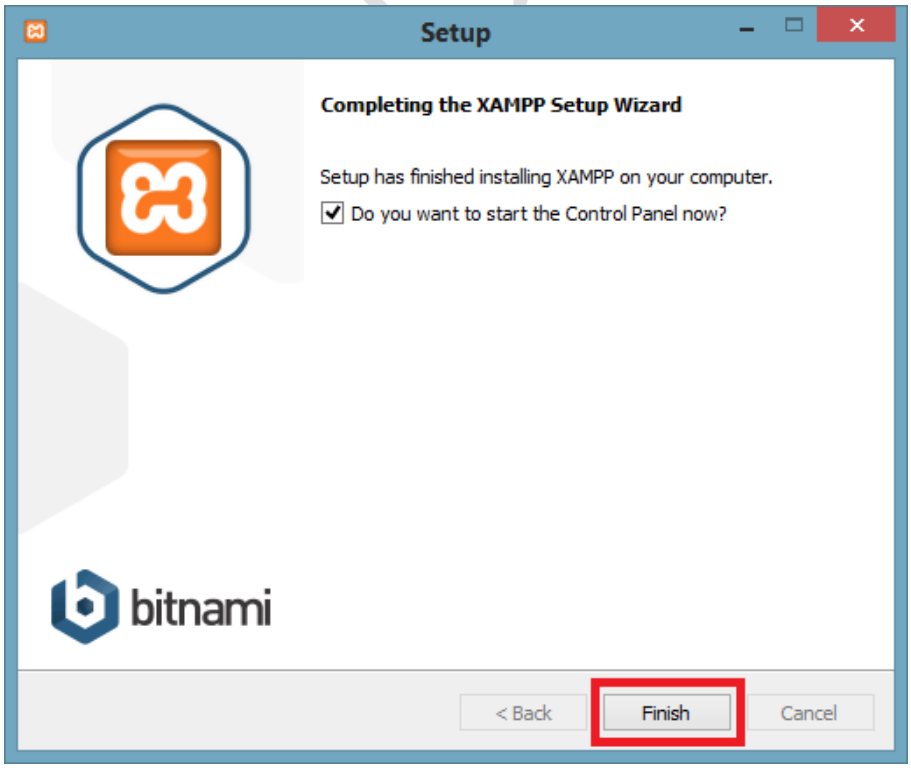
- Click Next and move ahead.



- XAMPP is ready to install, so click on the Next button and install the XAMPP.

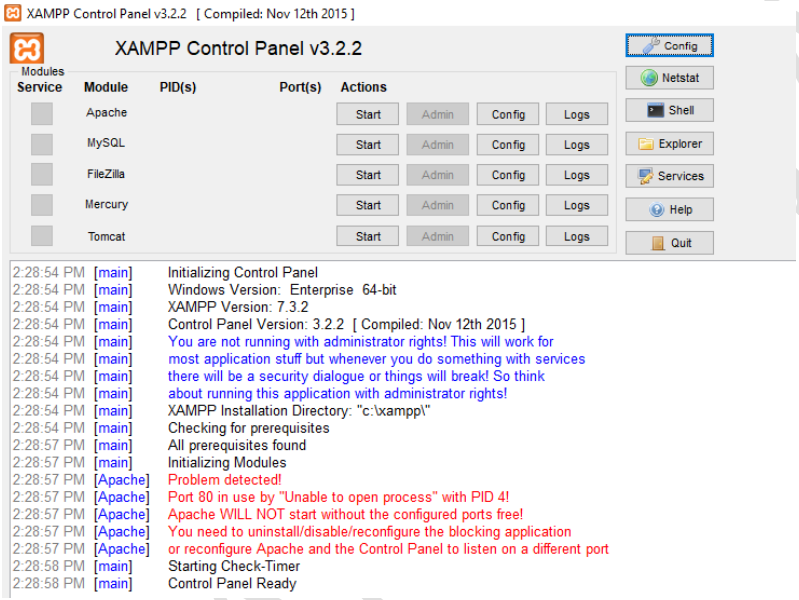


- When the installation is complete, a completion window will appear. click on the finish button.

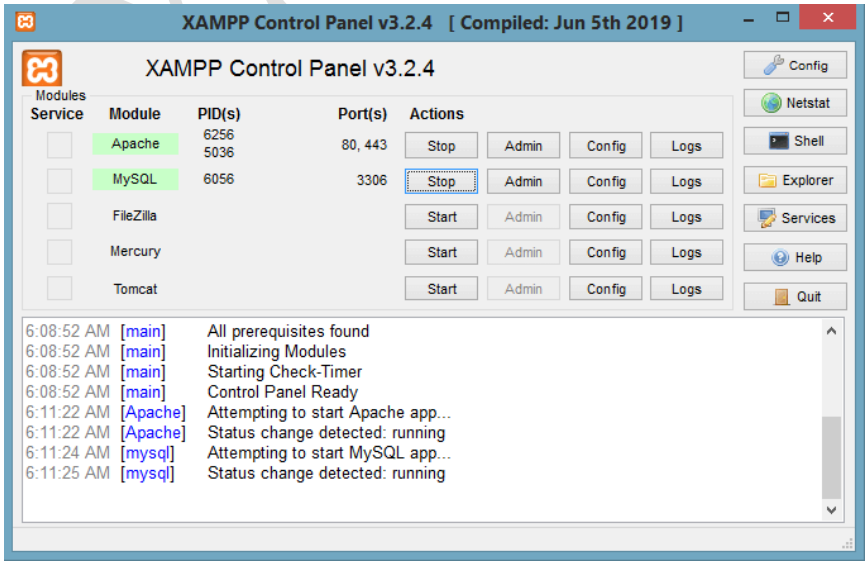


- Choose the language.

- XAMPP is ready to use. Start the Apache server and MySQL and run the php program on the localhost.



- If no errors are displayed, then XAMPP is running properly.



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Building Blocks

Every programming language is having indivisible building blocks, we called them as tokens. PHP is also having following building blocks.

1. **Variable:**
    - All variable in php are denoted with a leading dollar ($) sign.
    - Variable are assigned with the operator with the variable an the left hand side and the expression to be evaluated on the right.
    - Variable can but do not need to be declared.

2. **Resource:**

    A resource is a special variable holding a reference to an external resource variable. Typically, hold special handlers to opened file and database connection.

3. **Function with parameter:**

    You can specify parameter when you define your function to accept input value at run time. This parameter work like placeholder variable within a function they are replaced at run time by the values provided to the function at the time of location.

4. **Returning values from a function:**

    A function can return a value back to the script that called the function using the return statement. The value may be of any type including array and object.

Data Type

PHP data type are used to hold different types of data or value. They are 3 main types.

1. Pre-defined
2. User-defined
3. Special Type

Pre-defined:

There is only one value in it. There are 4 scalar data types.

A. **Boolean:** A boolean represents two possible state- TRUE or FALSE. Boolean are used to conditional testing.

Example:

$a = true;

$b = false;

B. **Integer:** Integer data type is numeric data with a positive and negative sign. The non-decimal number between -2,147,483,648 and 2,147,483,647.

Rule of Integer:

- An integer can be either positive or negative.
- An integer must have at least one digit.
- An integer must not have a decimal number.

- Integer can be decimal (base 10), octal (base 8), or hexadecimal (base 16).

Example:

```
<?php
$x = 1234;
var_dump($x);
?>
```

Output:

```
int(1234)
```

C. **Float:** A floating-point number is a number with a decimal point. Numbers with a decimal point, a fractional point, and a negative or positive sign can be stored here.

Example:

```
<?php
$x = 12.34;
var_dump($x);
?>
```

Output:

```
float(12.34)
```

D. **String:** A string is a non-numeric data type. It can hold letters of any alphabet, numbers, and even special characters.

A string can be any text inside quotes. Both quotes are use (Single and double).

Example:

```
<?php
$a = "Gyansabha";
$b = 'For Better Future';

echo $a;
echo "<br>";
echo $b;
?>
```

Output:

Gyansabha
For Better Future

User-defined

There is multiple value stored it. There are 2 compound data types.

A. **Array:** An array stores multiple values in a single variable.

Example:

```
<?php
  $web = array ("Gyansabha", "Technical Course", "Management Course");
  var_dump($web);
```

```
    echo "</br><br>";
    echo "Element 1: $web[0]";
    echo "<br>";
    echo "Element 2: $web[1]";
    echo "<br>";
    echo "Element 3: $web[2] </br>";
?>
```

Output:

array(3) { [0]=> string(9) "Gyansabha" [1]=> string(16) "Technical Course" [2]=> string(17) "Management Course" }

Element 1: Gyansabha
Element 2: Technical Course
Element 3: Management Course

B. **Object:** Objects are instances of classes that can be used to store values and functions. They must be explicitly declared.

Example:

```
<?php
  class web {
     function website() {
        $websitename = "Gyansabha";
        echo "Website Name: " .$websitename;
       }
  }
  $obj = new web();
```

```
    $obj -> website();
?>
```

Output:

Website Name: Gyansabha

Special Type

A. **Resource:** Resources are not the exact data type in PHP. References to external functions and resources are stored here. For example: database call.

   It is an advanced topic of PHP.

B. **NULL:** Null is a special data type which can have only one value NULL. The NULL data type is a variable that has no value assigned to it.

Example:

```
<?php
   $nl = NULL;
   echo $nl;
?>
```

Output:

Operator

An operator is a symbol that is used to perform the operations. They are different types of operations:

1. Arithmetic Operator
2. Increment and Decrement Operator
3. Assignment Operator
4. Relational Operator
5. Logical Operator
6. Bitwise Operator
7. String Operator
8. Array Operator

1. Arithmetic Operator:

It is perform the mathematical operations (like addition, subtraction, multiplication, division, etc.).

Operators	Meaning of Operator	Example
+	Addition	$a + $b
-	Subtraction	$a - $b
*	Multiplication	$a * $b
/	Division	$a / $b
%	Remainder after division (modulo division)	$a % $b

2. Increment and Decrement Operator

This two operators increment and decrement to change the value of an operand by 1.

prefix: The value of var(++var) is incremented by 1 then it returns the value.

postfix: The value of var(var++) is incremented by 1.

3. Assignment Operator:

An operator is used for assigning a value to a variable.

Operator	Meaning of Operator	Example
=	Assign	$a = $b
+=	Add then Assign	$a += $b
-=	Subtract then Assign	$a -= $b
*=	Multiply then Assign	$a *= $b
/=	Divide then Assign	$a /= $b
%=	Divide (remainder) then Assign	$a %= $b

4. Relational Operator:

This operator checks the relationship between two operands.

Relation true then return 1 and Relation false return 0.

Operator	Meaning of Operator	Example
==	Equal to	$a == $b
>	Greater than	$a > $b

<	Less than	$a -< $b
!=	Not equal to	$a != $b
>=	Greater than or equal to	$a >= $b
<=	Less than or equal to	$a <= $b

5. Logical Operator

Logical operator returns either 0 or 1 depending upon whether expression results true or false.

Operator	Meaning of Operator	Example
and	And	$a and $b
or	Or	$a or $b
xor	Xor	$a xor $b
&&	And	$a && $b
||	Or	$a || $b
!	Not	!$a

6. Bitwise Operator

Arithmetic operation are converted to bit-level operation. Integer bits can be evaluated and manipulated using these operators.

Operator	Meaning of Operator	Example
&	Bitwise AND	$a & $b
|	Bitwise OR	$a | $b
^	Bitwise exclusive OR	$a ^ $b
~	Bitwise complement	~$a

<<	Shift left	$a << $b
>>	Shift right	$a >> $b

7. String Operator

Operation on strings is performed with string operators.

Operator	Meaning of Operator	Example
.	Concatenation	$a . $b
.=	Concatenation and Assignment	$a .= $b

8. Array Operator

The array operators are used in case of array. The main purpose of these operators is to compare array values.

Operator	Meaning of Operator	Example
+	Union	$a + $b
==	Equality	$a == $b
!=	Inequality	$a != $b
===	Identity	$a === $b
!==	Non-Identity	$a !== $b
<>	Inequality	$a <> $b