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PHP Operators

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PHP Operators

Operators are used to perform operations on variables and values.

PHP divides the operators in the following groups:

* Arithmetic operators
* Assignment operators
* Comparison operators
* Increment/Decrement operators
* Logical operators
* String operators
* Array operators
* Conditional assignment operators

PHP Arithmetic Operators

The PHP arithmetic operators are used with numeric values to perform common arithmetical operations, such as addition, subtraction, multiplication etc.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Operator** | **Name** | **Example** | **Result** | **Try it** |
| + | Addition | $x + $y | Sum of $x and $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_addition) |
| - | Subtraction | $x - $y | Difference of $x and $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_subtraction) |
| \* | Multiplication | $x \* $y | Product of $x and $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_multiplication) |
| / | Division | $x / $y | Quotient of $x and $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_division) |
| % | Modulus | $x % $y | Remainder of $x divided by $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_modulus) |
| \*\* | Exponentiation | $x \*\* $y | Result of raising $x to the $y'th power | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_exponentiation) |

PHP Assignment Operators

The PHP assignment operators are used with numeric values to write a value to a variable.

The basic assignment operator in PHP is "=". It means that the left operand gets set to the value of the assignment expression on the right.

|  |  |  |  |
| --- | --- | --- | --- |
| **Assignment** | **Same as...** | **Description** | **Try it** |
| x = y | x = y | The left operand gets set to the value of the expression on the right | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_set) |
| x += y | x = x + y | Addition | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_addition2) |
| x -= y | x = x - y | Subtraction | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_subtraction2) |
| x \*= y | x = x \* y | Multiplication | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_multiplication2) |
| x /= y | x = x / y | Division | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_division2) |
| x %= y | x = x % y | Modulus | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_modulus2) |

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PHP Comparison Operators

The PHP comparison operators are used to compare two values (number or string):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Operator** | **Name** | **Example** | **Result** | **Try it** |
| == | Equal | $x == $y | Returns true if $x is equal to $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_equal) |
| === | Identical | $x === $y | Returns true if $x is equal to $y, and they are of the same type | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_identical) |
| != | Not equal | $x != $y | Returns true if $x is not equal to $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_not_equal) |
| <> | Not equal | $x <> $y | Returns true if $x is not equal to $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_not_equal2) |
| !== | Not identical | $x !== $y | Returns true if $x is not equal to $y, or they are not of the same type | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_not_identical) |
| > | Greater than | $x > $y | Returns true if $x is greater than $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_greater_than) |
| < | Less than | $x < $y | Returns true if $x is less than $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_less_than) |
| >= | Greater than or equal to | $x >= $y | Returns true if $x is greater than or equal to $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_greater_than2) |
| <= | Less than or equal to | $x <= $y | Returns true if $x is less than or equal to $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_less_than2) |
| <=> | Spaceship | $x <=> $y | Returns an integer less than, equal to, or greater than zero, depending on if $x is less than, equal to, or greater than $y. Introduced in PHP 7. | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_spaceship) |

PHP Increment / Decrement Operators

The PHP increment operators are used to increment a variable's value.

The PHP decrement operators are used to decrement a variable's value.

|  |  |  |  |
| --- | --- | --- | --- |
| **Operator** | **Same as...** | **Description** | **Try it** |
| ++$x | Pre-increment | Increments $x by one, then returns $x | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_pre_incr) |
| $x++ | Post-increment | Returns $x, then increments $x by one | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_post_incr) |
| --$x | Pre-decrement | Decrements $x by one, then returns $x | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_pre_decr) |
| $x-- | Post-decrement | Returns $x, then decrements $x by one | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_post_decr) |

PHP Logical Operators

The PHP logical operators are used to combine conditional statements.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Operator** | **Name** | **Example** | **Result** | **Try it** |
| and | And | $x and $y | True if both $x and $y are true | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_and) |
| or | Or | $x or $y | True if either $x or $y is true | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_or) |
| xor | Xor | $x xor $y | True if either $x or $y is true, but not both | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_xor) |
| && | And | $x && $y | True if both $x and $y are true | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_and2) |
| || | Or | $x || $y | True if either $x or $y is true | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_or2) |
| ! | Not | !$x | True if $x is not true | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_not) |

PHP String Operators

PHP has two operators that are specially designed for strings.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Operator** | **Name** | **Example** | **Result** | **Try it** |
| . | Concatenation | $txt1 . $txt2 | Concatenation of $txt1 and $txt2 | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_string1) |
| .= | Concatenation assignment | $txt1 .= $txt2 | Appends $txt2 to $txt1 | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_string2) |

PHP Array Operators

The PHP array operators are used to compare arrays.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Operator** | **Name** | **Example** | **Result** | **Try it** |
| + | Union | $x + $y | Union of $x and $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_arr_union) |
| == | Equality | $x == $y | Returns true if $x and $y have the same key/value pairs | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_arr_equality) |
| === | Identity | $x === $y | Returns true if $x and $y have the same key/value pairs in the same order and of the same types | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_arr_identity) |
| != | Inequality | $x != $y | Returns true if $x is not equal to $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_arr_inequality) |
| <> | Inequality | $x <> $y | Returns true if $x is not equal to $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_arr_inequality2) |
| !== | Non-identity | $x !== $y | Returns true if $x is not identical to $y | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_arr_non_identity) |

PHP Conditional Assignment Operators

The PHP conditional assignment operators are used to set a value depending on conditions:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Operator** | **Name** | **Example** | **Result** | **Try it** |
| ?: | Ternary | $x = *expr1* ? *expr2* : *expr3* | Returns the value of $x. The value of $x is *expr2* if *expr1* = TRUE. The value of $x is *expr3* if *expr1* = FALSE | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_ternary) |
| ?? | Null coalescing | $x = *expr1* ?? *expr2* | Returns the value of $x. The value of $x is *expr1* if *expr1* exists, and is not NULL. If *expr1* does not exist, or is NULL, the value of $x is *expr2*. Introduced in PHP 7 | [Try it »](https://www.w3schools.com/php/phptryit.asp?filename=tryphp_oper_null_coalescing) |

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Exercise:

Multiply 10 with 5, and output the result.

echo 10  5;

Submit Answer »

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