

PHP - Logical Operators Examples

In PHP, logical operators are used to combine conditional statements. These operators allow you to create more complex conditions by combining multiple conditions together.

Logical operators are generally used in conditional statements such as **if**, **while**, and **for** loops to control the flow of program execution based on specific conditions.

The following table highlights the logical operators that are supported by PHP.

Assume variable \$a holds 10 and variable \$b holds 20, then –

Operator	Description	Example
and	Called Logical AND operator. If both the operands are true then condition becomes true.	(A and B) is true
or	Called Logical OR Operator. If any of the two operands are non zero then condition becomes true.	(A or B) is true
&&	Called Logical AND operator. The AND operator returns true if both the left and right operands are true.	(A && B) is true
	Called Logical OR Operator. If any of the two operands are non zero then condition becomes true.	(A B) is true
!	Called Logical NOT Operator. Use to reverses the logical state of its operand. If a condition is true then Logical NOT operator will make false.	!(A && B) is false

Example

The following example shows how you can use these logical operators in PHP –

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```
<?php
```

```
$a = 42;
```

```
$b = 0;
```

```
if ($a && $b) {
    echo "TEST1 : Both a and b are true \n";
} else {
    echo "TEST1 : Either a or b is false \n";
}

if ($a and $b) {
    echo "TEST2 : Both a and b are true \n";
} else {
    echo "TEST2 : Either a or b is false \n";
}

if ($a || $b) {
    echo "TEST3 : Either a or b is true \n";
} else {
    echo "TEST3 : Both a and b are false \n";
}

if ($a or $b) {
    echo "TEST4 : Either a or b is true \n";
} else {
    echo "TEST4 : Both a and b are false \n";
}

$a = 10;
$b = 20;

if ($a) {
    echo "TEST5 : a is true \n";
} else {
    echo "TEST5 : a is false \n";
}

if ($b) {
    echo "TEST6 : b is true \n";
} else {
    echo "TEST6 : b is false \n";
}

if (!$a) {
    echo "TEST7 : a is true \n";
}
```

```
} else {  
    echo "TEST7 : a is false \n";  
}  
  
if (!$b) {  
    echo "TEST8 : b is true \n";  
} else {  
    echo "TEST8 : b is false";  
}  
  
?>
```

It will produce the following **output** –

```
TEST1 : Either a or b is false  
TEST2 : Either a or b is false  
TEST3 : Either a or b is true  
TEST4 : Either a or b is true  
TEST5 : a is true  
TEST6 : b is true  
TEST7 : a is false  
TEST8 : b is false
```