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What are magic me
them in PHP ?

Difficulty Level : Basic   ●   Last Updated : 15 Mar, 2022

PHP magic methods are special methods that are called automatically
when certain conditions are met. There are several magic methods in PHP. Every
magic method follows certain rules –

- Every magic method starts with a double underscore (__).
- They are predefined and neither can be created nor removed.
- Magic methods have reserved names and their name should not be used for other
  purposes.
- Magic methods are automatically called when certain criteria are met.

Method Names	Return types	Condition of calling
__construct()	NaN	This method gets called automatically every time the object of a particular class is created. The function of this magic method is the same as the constructor in any OOP language.
__destruct()	NaN	As the name suggests this method is called when the object is destroyed and no longer in use.

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__toString()	String	This method is called when we need to convert the object into a string. For example: echo $obj;

		The $obj->__toString(); will be called magically.
__get($name)	NaN	This method is called when an inaccessible variable or non-existing variable is used.
__set($name , $value)	NaN	This method is called when an inaccessible variable or non-existing variable is written.
__debugInfo()	array	This magic method is executed when an object is used inside var_dump() for debugging purposes.

The following are code snippets and examples to understand magic methods better.

construct() Method: In the below example, the MagicMethod class has a magic

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```php
class MagicMethod {
    function __construct() {
        echo "This is the construct magic method";
    }
}

// Creating object of Magic method class
$obj = new MagicMethod();

?>
```

Output

```
This is the construct magic method
```

__destruct() Method: In the below example, the MagicMethod class has a magic method **__destruct()** that gets called automatically when the object of MagicMethod destroys.

PHP

```php
<?php

class MagicMethod {
    function __destruct() {
        echo "This destruct magic method "
        + "gets called when object destroys";
    }
}

$obj = new MagicMethod();

?>
```

Output

```
This destruct magic method gets called
```

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- **$name:** This contains the name of the method which was called.
- **$parameters:** This is an array of parameters that were given to that method.

PHP

```php
<?php

class MagicMethod {
    function __call($name , $parameters){
        echo "Name of method =>" . $name."\n";
        echo "Parameters provided\n";
        print_r($parameters);
    }
}

// Instantiating MagicMethod
$obj = new MagicMethod();

$obj->hello("Magic" , "Method");

?>
```

Output

```
Name of method =>hello
Parameters provided
Array
(
    [0] => Magic
    [1] => Method
)
```

__toString() Method: This method gets called when an object is treated as a string. This method is also useful to represent an object as a String.

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```php
$obj = new MagicMethod();

echo $obj;

?>
```

Output

```
You are using MagicMethod object as a String
```

__get($name) Method: This method gets called when an inaccessible (private or protected) variable or non-existing variables are used.

PHP

```php
<?php

class MagicMethod {
    function __get($name){
        echo "You are trying to get '" . $name .
        "' which is either inaccessible
         or non existing member";
    }
}

$obj = new MagicMethod();
$obj->value;

?>
```

Output

```
You are trying to get 'value' which is either
inaccessible or non existing member
```

__set($name, $value) Method: This method is called when an inaccessible variable

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```php
function __set($name , $value) {
        echo "You are trying to modify '"
            . $name . "' with '" . $value .
```

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```php
    }
}
$obj = new MagicMethod();
$obj->value = "Hello";

?>
```

Output

```
You are trying to modify 'value' with 'Hello' which is either
inaccessible
          or non-existing member
```

__debugInfo() Method: This method is used when the **var_dump()** function is called with object as a parameter. This method should return an array containing all the variables which may be useful in debugging.

PHP

```php
<?php

class MagicMethod {
    function __debugInfo(){
        return array("variable"=> "value");
    }
}

$obj = new MagicMethod();
var_dump($obj);

?>
```

Output

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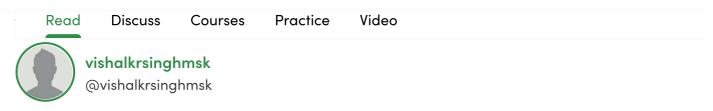Read   Discuss   Courses   Practice   Video

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