06

JavaScript Object

WHAT YOU WILL LEARN

- Class And Object
- Constructor Method
- String Object
- Date Object
- Math Object

Class And Object

ECMAScript 2015, also known as ES6, introduced JavaScript Classes.

JavaScript Classes are templates for JavaScript Objects.

The JavaScript class contains various class members within a body including methods or constructor.

```
class Car {
  constructor(name, year) {
    this.name = name;
    this.year = year;
  }
}
```

Constructor Method

The constructor method is a special method:

- It has to have the exact name "constructor"
- It is executed automatically when a new object is created
- It is used to initialize object properties
- If you do not define a constructor method, JavaScript will add an empty constructor method.

Class Methods

- Class methods are created with the same syntax as object methods.
- Use the keyword `class` to create a class.
- Always add a `constructor()` method.

Date Object

The JavaScript date object can be used to get year, month and day. You can display a timer on the webpage by the help of JavaScript date object.

JavaScript Date Methods

Methods	Description
getDate()	It returns the integer value between 1 and 31 that represents the day for the specified date on the basis of local time.
getDay()	It returns the integer value between 0 and 6 that represents the day of the week on the basis of local time.
getFullYears()	It returns the integer value that represents the year on the basis of local time.
getHours()	It returns the integer value between 0 and 23 that represents the hours on the basis of local time.
getMilliseconds()	It returns the integer value between 0 and 999 that represents the milliseconds on the basis of local time.
getMinutes()	It returns the integer value between 0 and 59 that represents the minutes on the basis of local time.
getMonth()	It returns the integer value between 0 and 11 that represents the month on the basis of local time.
getSeconds()	It returns the integer value between 0 and 60 that represents the seconds on the basis of local time.

Math Object

The JavaScript math object provides several constants and methods to perform mathematical operation.

JavaScript Math Methods

Methods	Description
abs()	It returns the absolute value of the given number.
ceil()	It returns a smallest integer value, greater than or equal to the given number.
cos()	It returns the cosine of the given number.
floor()	It returns largest integer value, lower than or equal to the given number.
log()	It returns natural logarithm of a number.
max()	It returns maximum value of the given numbers.
min()	It returns minimum value of the given numbers.
pow()	It returns value of base to the power of exponent.
random()	It returns random number between 0 (inclusive) and 1 (exclusive).
round()	It returns closest integer value of the given number.
sqrt()	It returns the square root of the given number
trunc()	It returns an integer part of the given number.

String Object

The JavaScript string is an object that represents a sequence of characters.

There are 2 ways to create string in JavaScript

1. By string literal

   var stringname="string value";

2. By string object (using new keyword)

   var stringname=new String("string literal");

JavaScript String Methods

Methods	Description
charAt()	It provides the char value present at the specified index.
concat()	It provides a combination of two or more strings.
indexOf()	It provides the position of a char value present in the given string.
lastIndexOf()	It provides the position of a char value present in the given string by searching a character from the last position.
search()	It searches a specified regular expression in a given string and returns its position if a match occurs.
match()	It searches a specified regular expression in a given string and returns that regular expression if a match occurs.
replace()	It replaces a given string with the specified replacement.
substring()	It is used to fetch the part of the given string on the basis of the specified index.

slice()	It is used to fetch the part of the given string. It allows us to assign positive as well negative index.
toLowerCase()	It converts the given string into lowercase letter.
toLocaleLowerCase()	It converts the given string into lowercase letter on the basis of host?s current locale.
toUpperCase()	It converts the given string into uppercase letter.
toLocaleUpperCase()	It converts the given string into uppercase letter on the basis of host?s current locale.
toString()	It provides a string representing the particular object.
valueOf()	It provides the primitive value of string object.
split()	It splits a string into substring array, then returns that newly created array.
trim()	It trims the white space from the left and right side of the string.

JavaScript Array

There are 3 ways to construct array in JavaScript

There are 3 ways to construct array in JavaScript

1. By array literal

```
var arrayname=[value1,value2.....valueN];
```

2. By creating instance of Array directly (using new keyword)

```
var arrayname=new Array();
```

3. By using an Array constructor (using new keyword)

```
var emp=new Array("Jai","Vijay","Smith");
```