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Function

The **Function constructor** creates a new Function **object**. Calling the constructor directly can create functions dynamically, but suffers from security and similar (but far less significant) performance issues to eval. However, unlike eval, the Function constructor creates functions which execute in the global scope only.

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Every JavaScript function is actually a Function object. This can be seen with the code (function(){}).constructor === Function which returns true.

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Parameters &

Names to be used by the function as formal argument names. Each must be a string that corresponds to a valid JavaScript identifier or a list of such strings separated with a comma; for example "x", "theValue", or "a,b".

functionBody

A string containing the JavaScript statements comprising the function definition.

Description §

Function objects created with the Function constructor are parsed when the function is created. This is less efficient than declaring a function with a function expression or function statement and calling it within your code because such functions are parsed with the rest of the code.

All arguments passed to the function are treated as the names of the identifiers of the

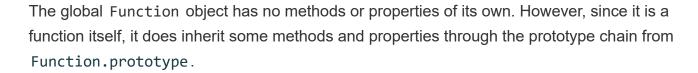
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Properties and Methods of Function \mathscr{O}







Function.prototype.arguments

An array corresponding to the arguments passed to a function. This is deprecated as property of Function. Use the arguments object available within the function instead.

Function.arity

Used to specify the number of arguments expected by the function, but has been removed. Use the length property instead.

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The name of the function.



Function.displayName

The display name of the function.

Function.prototype.constructor

Specifies the function that creates an object's prototype. See Object.prototype.constructor for more details.





Function.prototype.apply()

Calls a function and sets its this to the provided value, arguments can be passed as an Array object.

Function.prototype.bind()

Creates a new function which, when called, has its this set to the provided value, with a given sequence of arguments preceding any provided when the new function was called.

Function.prototype.call()

Calls (executes) a function and sets its this to the provided value, arguments can be passed as they are.

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Function.prototype.toString()



Returns a string representing the source code of the function. Overrides the Object.prototype.toString method.

Function instances &



Function instances inherit methods and properties from Function.prototype. As with all constructors, you can change the constructor's prototype object to make changes to all Function instances.

Examples &

Specifying arguments with the Function constructor ${\cal O}$



The following code creates a Function object that takes two arguments.

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```
adder(2, 6);
// > 8
```



The arguments "a" and "b" are formal argument names that are used in the function body, "return a + b".

Difference between Function constructor and function declaration



Functions created with the Function constructor do not create closures to their creation contexts; they always are created in the global scope. When running them, they will only be able to access their own local variables and global ones, not the ones from the scope in which the Function constructor was created. This is different from using eval with code for a function expression.

```
var x = 10;
1
2
   function createFunction1() {
3
        var x = 20;
4
        return new Function('return x;'); // this |x| refers global |x|
5
6
   }
7
    function chartefunction?() S
```

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```
var f1 = createFunction1();
console.log(f1());  // 10
var f2 = createFunction2();
console.log(f2());  // 20
```

While this code works in web browsers, f1() will produce a ReferenceError in Node.js, as x will not be found. This is because the top-level scope in Node is not the global scope, and x will be local to the module.

Specifications \mathcal{S}

Specification	Status	Comment
ECMAScript 1st Edition (ECMA-262)	ST Standard	Initial definition. Implemented in JavaScript 1.0.
ECMAScript 5.1 (ECMA-262) The definition of 'Function' in that specification.	ST Standard	
ECMAScript 2015 (6th Edition, ECMA-262)	ST Standard	

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Browser compatibility §

Update compatibility data on GitHub

Function	
Chrome	Yes
Edge	12
Firefox	1
IE	Yes
Opera	Yes
Safari	Yes
WebView Android	Yes
Chrome Android	Yes
Firefox Android	4
Opera Android	Yes
Safari i∩S	Yes

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Edge	12
Firefox	1
IE	Yes
Opera	Yes
Safari	Yes
WebView Android	Yes
Chrome Android	Yes
Firefox Android	4
Opera Android	Yes
Safari iOS	Yes
Samsung Internet Android	Yes
nodejs	Yes
arity	
Chrome	No
Edge	No

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Safari

WebView Android

Chrome Android

8/14/2019	Function - JavaScript MDN	
Chrome Android	No .	
Firefox Android	No	
Opera Android	No	
Safari iOS	No	
Samsung Internet Android	No	
nodejs	No	
caller		
Chrome	Yes	
Edge	12	
Firefox	1	
IE	8	
Opera	Yes	

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Yes

Yes

Yes

length

displayName	
Chrome	?
Edge	No
Firefox	13
IE	?
Opera	?
Safari	?
WebView Android	?
Chrome Android	?
Firefox Android	14
Opera Android	?
Safari iOS	?
Samsung Internet Android	?
nodejs	?

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Safari	Yes
WebView Android	Yes
Chrome Android	Yes
Firefox Android	4
Opera Android	Yes
Safari iOS	Yes
Samsung Internet Android	Yes
nodejs	Yes
name	
Chrome	15
Edge	14
Firefox	1
IE	No
Opera	Yes
Safari	Yes

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Samsung Internet Android	Yes
nodejs	Yes
prototype	
Chrome	Yes
Edge	12
Firefox	1
IE	Yes
Opera	Yes
Safari	Yes
WebView Android	Yes
Chrome Android	Yes
Firefox Android	4
Opera Android	Yes
Safari iOS	Yes
Samsung Internet Android	Yes

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IE	Yes
Opera	Yes
Safari	Yes
WebView Android	Yes
Chrome Android	Yes
Firefox Android	4
Opera Android	Yes
Safari iOS	Yes
Samsung Internet Android	Yes
nodejs	Yes
bind	
Chrome	7
Edge	12
Firefox	4
IE	9

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Opera Android	12
Safari iOS	6
Samsung Internet Android	Yes
nodejs	Yes
call	
Chrome	Yes
Edge	12
Firefox	1
IE	Yes
Opera	Yes
Safari	Yes
WebView Android	Yes
Chrome Android	Yes
Firefox Android	4
Opera Android	Yes

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	No.
Edge	No No
Firefox	5 - 58
IE	No
Opera	No
Safari	No
WebView Android	No
Chrome Android	No
Firefox Android	5 — 58
Opera Android	No
Safari iOS	No
Samsung Internet Android	No
nodejs	No
toSource	
Chrome	No
Edae	No

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0/14/2019		Tulicion - Javascript MDN
Chrome Android	No	
Firefox Android	4	
Opera Android	No	
Safari iOS	No	
Samsung Internet Android	No	
nodejs	No	
toString		
Chrome	Yes	
Edge	12	
Firefox	1	
IE	5	
Opera	Yes	
Safari	Yes	
WebView Android	Yes	
Chrome Android	Yes	

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Flag as incorrect

- Full support
- ... No support
- Compatibility unknown

Non-standard. Expect poor cross-browser support.

Deprecated. Not for use in new websites.

See also \mathcal{O}

- Functions and function scope
- function statement
- function expression

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