

Construtores de objetos JavaScript

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Exemplo

```
function Person(first, last, age, eye) {
  this.firstName = first;
  this.lastName = last;
  this.age = age;
  this.eyeColor = eye;
}
```

[Tente você mesmo »](#)

É considerada uma boa prática nomear funções de construtor com uma primeira letra maiúscula.

Tipos de objetos (projetos) (classes)

Os exemplos dos capítulos anteriores são limitados. Eles apenas criam objetos únicos.

Às vezes, precisamos de um "plano" para criar muitos objetos do mesmo "tipo".

The way to create an "object type", is to use an **object constructor function**.

In the example above, `function Person()` is an object constructor function.

Objects of the same type are created by calling the constructor function with the `new` keyword:

```
const myFather = new Person("John", "Doe", 50, "blue");
const myMother = new Person("Sally", "Rally", 48, "green");
```

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The `this` Keyword

In JavaScript, the thing called `this` is the object that "owns" the code.

The value of `this`, when used in an object, is the object itself.

In a constructor function `this` does not have a value. It is a substitute for the new object. The value of `this` will become the new object when a new object is created.

Note that `this` is not a variable. It is a keyword. You cannot change the value of `this`.

Adding a Property to an Object

Adding a new property to an existing object is easy:

Example

```
myFather.nationality = "English";
```

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The property will be added to myFather. Not to myMother. (Not to any other person objects).

Adding a Method to an Object

Adding a new method to an existing object is easy:

Example

```
myFather.name = function () {
  return this.firstName + " " + this.lastName;
};
```

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The method will be added to myFather. Not to myMother. (Not to any other person objects).

Adding a Property to a Constructor

You cannot add a new property to an object constructor the same way you add a new property to an existing object:

Example

```
Person.nationality = "English";
```

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To add a new property to a constructor, you must add it to the constructor function:

Example

```
function Person(first, last, age, eyeColor) {
  this.firstName = first;
  this.lastName = last;
  this.age = age;
  this.eyeColor = eyeColor;
  this.nationality = "English";
}
```

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This way object properties can have default values.

Adding a Method to a Constructor

Your constructor function can also define methods:

Example

```
function Person(first, last, age, eyeColor) {
  this.firstName = first;
  this.lastName = last;
  this.age = age;
  this.eyeColor = eyeColor;
  this.name = function() {
    return this.firstName + " " + this.lastName;
  };
}
```

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You cannot add a new method to an object constructor the same way you add a new method to an existing object.

Adding methods to an object constructor must be done inside the constructor function:

Example

```
function Person(firstName, lastName, age, eyeColor) {
  this.firstName = firstName;
  this.lastName = lastName;
  this.age = age;
  this.eyeColor = eyeColor;
  this.changeName = function (name) {
    this.lastName = name;
  };
}
```

The `changeName()` function assigns the value of `name` to the person's `lastName` property.

Now You Can Try:

```
myMother.changeName("Doe");
```

[Try it Yourself »](#)

JavaScript knows which person you are talking about by "substituting" `this` with `myMother`.

Built-in JavaScript Constructors

JavaScript has built-in constructors for native objects:

```
new String() // A new String object
new Number() // A new Number object
new Boolean() // A new Boolean object
new Object() // A new Object object
new Array() // A new Array object
new RegExp() // A new RegExp object
new Function() // A new Function object
new Date() // A new Date object
```

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The `Math()` object is not in the list. `Math` is a global object. The `new` keyword cannot be used on `Math`.

Did You Know?

As you can see above, JavaScript has object versions of the primitive data types `String`, `Number`, and `Boolean`. But there is no reason to create complex objects. Primitive values are much faster:

Use string literals `" "` instead of `new String()`.

Use number literals `50` instead of `new Number()`.

Use boolean literals `true` / `false` instead of `new Boolean()`.

Use object literals `{}` instead of `new Object()`.

Use array literals `[]` instead of `new Array()`.

Use pattern literals `/()/` instead of `new RegExp()`.

Use function expressions `() {}` instead of `new Function()`.

Example

```
let x1 = ""; // new primitive string
let x2 = 0; // new primitive number
let x3 = false; // new primitive boolean

const x4 = {}; // new Object object
const x5 = []; // new Array object
const x6 = /()/; // new RegExp object
const x7 = function(){}; // new function
```

[Try it Yourself »](#)

String Objects

Normally, strings are created as primitives: `firstName = "John"`

But strings can also be created as objects using the `new` keyword:

```
firstName = new String("John")
```

Aprenda por que strings não devem ser criadas como objetos no capítulo [JS Strings](#).

Objetos de número

Normalmente, os números são criados como primitivos: `x = 30`

Mas os números também podem ser criados como objetos usando a `new` palavra-chave:

```
x = new Number(30)
```

Aprenda por que os números não devem ser criados como objetos no capítulo [Números JS](#).

Objetos Booleanos

Normalmente, os booleanos são criados como primitivos: `x = false`

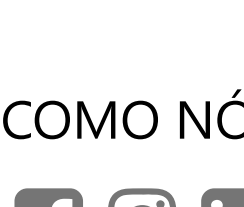
Mas os booleanos também podem ser criados como objetos usando a `new` palavra-chave:

```
x = new Boolean(false)
```

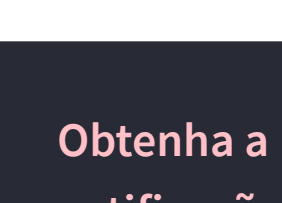
Aprenda por que os booleanos não devem ser criados como objetos no capítulo [JS Booleans](#).

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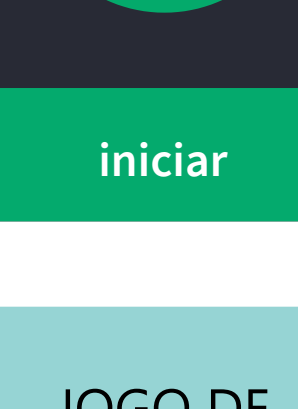
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