JavaScript Objects

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Real Life Objects, Properties, and Methods

In real life, a car is an **object**.

A car has **properties** like weight and color, and **methods** like start and stop:

Object	Properties	Methods
	car.name = Fiat car.model = 500 car.weight = 850kg car.color = white	car.start() car.drive() car.brake() car.stop()

All cars have the same **properties**, but the property **values** differ from car to car.

All cars have the same **methods**, but the methods are performed **at different times**.

JavaScript Objects

You have already learned that JavaScript variables are containers for data values.

This code assigns a **simple value** (Fiat) to a **variable** named car:

```
var car = "Fiat";
```

Try it Yourself »

Objects are variables too. But objects can contain many values.

This code assigns **many values** (Fiat, 500, white) to a **variable** named car:

```
var car = {type:"Fiat", model:"500", color:"white"};
```

Try it Yourself »

The values are written as **name:value** pairs (name and value separated by a colon).

> JavaScript objects are containers for **named values** called properties or methods.

Object Definition

You define (and create) a JavaScript object with an object literal:

Example

```
var person = {firstName:"John", lastName:"Doe", age:50, eyeColor:"blue"};
```

Try it Yourself »

Spaces and line breaks are not important. An object definition can span multiple lines:

Example

```
var person = {
    firstName:"John",
    lastName:"Doe",
    age:50,
    eyeColor:"blue"
};
```

Try it Yourself »

Object Properties

The **name:values** pairs in JavaScript objects are called **properties**:

Property	Property Value
firstName	John
lastName	Doe
age	50
eyeColor	blue

Accessing Object Properties

You can access object properties in two ways:

```
objectName.propertyName
```

or

```
objectName["propertyName"]
```

Example1

```
person.lastName;
```

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Example2

```
person["lastName"];
```

Try it Yourself »

Object Methods

Objects can also have **methods**.

Methods are **actions** that can be performed on objects.

Methods are stored in properties as **function definitions**.

Property	Property Value
firstName	John
lastName	Doe
age	50

eyeColor	blue
fullName	function() {return this.firstName + " " + this.lastName;}

A method is a function stored as a property.

Example

```
var person = {
    firstName: "John",
    lastName : "Doe",
    id       : 5566,
    fullName : function() {
        return this.firstName + " " + this.lastName;
    }
};
```

The **this** Keyword

In a function definition, **this** refers to the "owner" of the function.

In the example above, **this** is the **person object** that "owns" the **fullName** function.

In other words, **this.firstName** means the **firstName** property of **this object**.

Read more about the **this** keyword at JS this Keyword.

Accessing Object Methods

You access an object method with the following syntax:

```
objectName.methodName()
```

Example

```
name = person.fullName();
```

Try it Yourself »

If you access a method **without** the () parentheses, it will return the **function definition**:

Example

```
name = person.fullName;
```

Try it Yourself »

Do Not Declare Strings, Numbers, and Booleans as Objects!

When a JavaScript variable is declared with the keyword "new", the variable is created as an object:

```
var x = new String();        // Declares x as a String object
var y = new Number();        // Declares y as a Number object
var z = new Boolean();       // Declares z as a Boolean object
```

Avoid String, Number, and Boolean objects. They complicate your code and slow down execution speed.

> You will learn more about objects later in this tutorial.

Test Yourself with Exercises!

Exercise 1 » Exercise 2 » Exercise 3 »

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COLOR PICKER

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