

W3 schools

Tutorials ▾ References ▾ Exercises ▾ Certificates ▾ Search... Sign In

HTML CSS JS JAVASCRIPT SQL PYTHON JAVA PHP HOW TO W3.CSS C C++ C# BOOTSTRAP REACT MYSQL JQUERY EXCEL

JS Conventions JS References JS Versions JS Advanced JS Functions JS Objects Object Definitions Object Constructors Object this Object Destructuring Object Prototypes Object Iterations Object Management Object Get / Set Object Protection Object Reference JS Classes JS Asynchronous JS Modules JS Meta & Proxy JS Typed Arrays JS HTML DOM JS Windows JS Web APIs

## JavaScript Object Iterations

◀ Previous Next ▶

### General Methods

```
// Copies properties from a source object to a target object
Object.assign(target, source)

// Creates an object from an existing object
Object.create(object)

// Returns an array of the key/value pairs of an object
Object.entries(object)

// Creates an object from a list of keys/values
Object.fromEntries()

// Returns an array of the keys of an object
Object.keys(object)

// Returns an array of the property values of an object
Object.values(object)

// Groups object elements according to a function
Object.groupBy(object, callback)
```

### JavaScript Object.assign()

The `Object.assign()` method copies properties from one or more source objects to a target object.

#### Example

```
// Create Target Object
const person1 = {
  firstName: "John",
  lastName: "Doe",
  age: 50,
  eyeColor: "blue"
};

// Create Source Object
const person2 = {firstName: "Anne", lastName: "Smith"};

// Assign Source to Target
Object.assign(person1, person2);
```

Try it Yourself »

### JavaScript Object.entries()

ECMAScript 2017 added the `Object.entries()` method to objects.

`Object.entries()` returns an array of the key/value pairs in an object:

#### Example

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

let text = Object.entries(person);
```

Try it Yourself »

`Object.entries()` makes it simple to use objects in loops:

#### Example

```
const fruits = {Bananas:300, Oranges:200, Apples:500};

let text = "";
for (let [fruit, value] of Object.entries(fruits)) {
  text += fruit + ": " + value + "<br>";
}
```

Try it Yourself »

`Object.entries()` also makes it simple to convert objects to maps:

#### Example

```
const fruits = {Bananas:300, Oranges:200, Apples:500};

const myMap = new Map(Object.entries(fruits));
```

Try it Yourself »

`Object.entries()` is supported in all modern browsers since March 2017:

### JavaScript Object.fromEntries()

The `fromEntries()` method creates an object from a list of key/value pairs.

#### Example

```
const fruits = [
  ["apples", 300],
  ["pears", 900],
  ["bananas", 500]
];

const myObj = Object.fromEntries(fruits);
```

Try it Yourself »

ADVERTISEMENT

REMOVE ADS

### JavaScript Object.values()

`Object.values()` is similar to `Object.entries()`, but returns a single dimension array of the object values:

#### Example

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

let text = Object.values(person);
```

Try it Yourself »

`Object.values()` is supported in all modern browsers since March 2017:

### JavaScript Object.groupby()

ES2024 added the `Object.groupby()` method to JavaScript.

The `Object.groupby()` method groups elements of an object according to string values returned from a callback function.

The `Object.groupby()` method does not change the original object.

#### Example

```
// Create an Array
const fruits = [
  {name:"apples", quantity:300},
  {name:"bananas", quantity:500},
  {name:"oranges", quantity:200},
  {name:"kiwi", quantity:150}
];

// Call back function to Group Elements
function myCallback({ quantity }) {
  return quantity > 200 ? "low" : "high";
}

// Group by Quantity
const result = Object.groupby(fruits, myCallback);
```

Try it Yourself »

### Browser Support

`Object.groupby()` is an ES2024 feature.

JavaScript 2024 is supported in new browsers since March 2024:

Chrome 117	Edge 117	Firefox 119	Safari 17.4	Opera 103
Sep 2023	Sep 2023	Oct 2023	Okt 2024	May 2023

### Warning

ES2024 features are relatively new.  
Older browsers may need an alternative code (Polyfill)

### Object.groupby() vs Map.groupby()

The difference between `Object.groupby()` and `Map.groupby()` is:

`Object.groupby()` groups elements into a JavaScript object.  
`Map.groupby()` groups elements into a Map object.

### JavaScript Object.keys()

The `Object.keys()` method returns an array with the keys of an object.

#### Example

```
// Create an Object
const person = {
  firstName: "John",
  lastName: "Doe",
  age: 50,
  eyeColor: "blue"
};

// Get the Keys
const keys = Object.keys(person);
```

Try it Yourself »

### JavaScript for...in Loop

The JavaScript `for...in` statement loops through the properties of an object.

#### Syntax

```
for (let variable in object) {
  // code to be executed
}
```

The block of code inside of the `for...in` loop will be executed once for each property.  
Looping through the properties of an object:

#### Example

```
const person = {
  fname: "John",
  lname: "Doe",
  age: 25
};

for (let x in person) {
  txt += person[x];
}
```

Try it Yourself »

### Learn More:

[JavaScript Object Definitions](#)  
[JavaScript Object Constructors](#)  
[JavaScript Object this](#)  
[JavaScript Object Destructuring](#)  
[JavaScript Object Iterations](#)  
[JavaScript Object Management](#)  
[JavaScript Object Getters & Setters](#)  
[JavaScript Object Protection](#)  
[JavaScript Object Reference](#)

◀ Previous Sign in to track progress Next ▶

### PLUS SPACES GET CERTIFIED FOR TEACHERS FOR BUSINESS

CONTACT US

Top Tutorials Top References Top Examples

HTML Tutorial CSS Tutorial JavaScript Tutorial How to Publish SQL Tutorial Python Tutorial W3.CSS Tutorial Bootstrap Tutorial PHP Tutorial Java Tutorial C++ Tutorial jQuery Tutorial	HTML Reference CSS Reference JavaScript Reference SQL Reference Python Reference W3.CSS Examples Bootstrap Examples PHP Examples Java Examples XML Examples jQuery Examples	HTML Examples CSS Examples JavaScript Examples How to Publish SQL Examples Python Examples W3.CSS Examples Bootstrap Examples PHP Examples Java Examples XML Examples jQuery Examples
--	---	--

Get Certified

HTML Certificate  
CSS Certificate  
JavaScript Certificate

Top Examples

HTML Examples  
CSS Examples  
JavaScript Examples  
How to Publish  
SQL Examples  
Python Examples  
W3.CSS Examples  
Bootstrap Examples  
PHP Examples  
Java Examples  
XML Examples  
jQuery Examples

W3 schools