**The JavaScript language**

Here we learn JavaScript, starting from scratch and go on to advanced concepts like OOP.

We concentrate on the language itself here, with the minimum of environment-specific notes.

[**An introduction**](https://javascript.info/getting-started)

* [An Introduction to JavaScript](https://javascript.info/intro)
* [Manuals and specifications](https://javascript.info/manuals-specifications)
* [Code editors](https://javascript.info/code-editors)
* [Developer console](https://javascript.info/devtools)

[**JavaScript Fundamentals**](https://javascript.info/first-steps)

* [Hello, world!](https://javascript.info/hello-world)
* [Code structure](https://javascript.info/structure)
* [The modern mode, "use strict"](https://javascript.info/strict-mode)
* [Variables](https://javascript.info/variables)
* [Data types](https://javascript.info/types)
* [Interaction: alert, prompt, confirm](https://javascript.info/alert-prompt-confirm)
* [Type Conversions](https://javascript.info/type-conversions)
* [Basic operators, maths](https://javascript.info/operators)
* [Comparisons](https://javascript.info/comparison)
* [Conditional branching: if, '?'](https://javascript.info/ifelse)
* [Logical operators](https://javascript.info/logical-operators)
* [Nullish coalescing operator '??'](https://javascript.info/nullish-coalescing-operator)
* [Loops: while and for](https://javascript.info/while-for)
* [The "switch" statement](https://javascript.info/switch)
* [Functions](https://javascript.info/function-basics)
* [Function expressions](https://javascript.info/function-expressions)
* [Arrow functions, the basics](https://javascript.info/arrow-functions-basics)
* [JavaScript specials](https://javascript.info/javascript-specials)

[**Code quality**](https://javascript.info/code-quality)

* [Debugging in the browser](https://javascript.info/debugging-chrome)
* [Coding Style](https://javascript.info/coding-style)
* [Comments](https://javascript.info/comments)
* [Ninja code](https://javascript.info/ninja-code)
* [Automated testing with Mocha](https://javascript.info/testing-mocha)
* [Polyfills and transpilers](https://javascript.info/polyfills)

[**Objects: the basics**](https://javascript.info/object-basics)

* [Objects](https://javascript.info/object)
* [Object references and copying](https://javascript.info/object-copy)
* [Garbage collection](https://javascript.info/garbage-collection)
* [Object methods, "this"](https://javascript.info/object-methods)
* [Constructor, operator "new"](https://javascript.info/constructor-new)
* [Optional chaining '?.'](https://javascript.info/optional-chaining)
* [Symbol type](https://javascript.info/symbol)
* [Object to primitive conversion](https://javascript.info/object-toprimitive)

[**Data types**](https://javascript.info/data-types)

* [Methods of primitives](https://javascript.info/primitives-methods)
* [Numbers](https://javascript.info/number)
* [Strings](https://javascript.info/string)
* [Arrays](https://javascript.info/array)
* [Array methods](https://javascript.info/array-methods)
* [Iterables](https://javascript.info/iterable)
* [Map and Set](https://javascript.info/map-set)
* [WeakMap and WeakSet](https://javascript.info/weakmap-weakset)
* [Object.keys, values, entries](https://javascript.info/keys-values-entries)
* [Destructuring assignment](https://javascript.info/destructuring-assignment)
* [Date and time](https://javascript.info/date)
* [JSON methods, toJSON](https://javascript.info/json)

[**Advanced working with functions**](https://javascript.info/advanced-functions)

* [Recursion and stack](https://javascript.info/recursion)
* [Rest parameters and spread syntax](https://javascript.info/rest-parameters-spread)
* [Variable scope, closure](https://javascript.info/closure)
* [The old "var"](https://javascript.info/var)
* [Global object](https://javascript.info/global-object)
* [Function object, NFE](https://javascript.info/function-object)
* [The "new Function" syntax](https://javascript.info/new-function)
* [Scheduling: setTimeout and setInterval](https://javascript.info/settimeout-setinterval)
* [Decorators and forwarding, call/apply](https://javascript.info/call-apply-decorators)
* [Function binding](https://javascript.info/bind)
* [Arrow functions revisited](https://javascript.info/arrow-functions)

[**Object properties configuration**](https://javascript.info/object-properties)

* [Property flags and descriptors](https://javascript.info/property-descriptors)
* [Property getters and setters](https://javascript.info/property-accessors)

[**Prototypes, inheritance**](https://javascript.info/prototypes)

* [Prototypal inheritance](https://javascript.info/prototype-inheritance)
* [F.prototype](https://javascript.info/function-prototype)
* [Native prototypes](https://javascript.info/native-prototypes)
* [Prototype methods, objects without \_\_proto\_\_](https://javascript.info/prototype-methods)

[**Classes**](https://javascript.info/classes)

* [Class basic syntax](https://javascript.info/class)
* [Class inheritance](https://javascript.info/class-inheritance)
* [Static properties and methods](https://javascript.info/static-properties-methods)
* [Private and protected properties and methods](https://javascript.info/private-protected-properties-methods)
* [Extending built-in classes](https://javascript.info/extend-natives)
* [Class checking: "instanceof"](https://javascript.info/instanceof)
* [Mixins](https://javascript.info/mixins)

[**Error handling**](https://javascript.info/error-handling)

* [Error handling, "try...catch"](https://javascript.info/try-catch)
* [Custom errors, extending Error](https://javascript.info/custom-errors)

[**Promises, async/await**](https://javascript.info/async)

* [Introduction: callbacks](https://javascript.info/callbacks)
* [Promise](https://javascript.info/promise-basics)
* [Promises chaining](https://javascript.info/promise-chaining)
* [Error handling with promises](https://javascript.info/promise-error-handling)
* [Promise API](https://javascript.info/promise-api)
* [Promisification](https://javascript.info/promisify)
* [Microtasks](https://javascript.info/microtask-queue)
* [Async/await](https://javascript.info/async-await)

[**Generators, advanced iteration**](https://javascript.info/generators-iterators)

* [Generators](https://javascript.info/generators)
* [Async iteration and generators](https://javascript.info/async-iterators-generators)

[**Modules**](https://javascript.info/modules)

* [Modules, introduction](https://javascript.info/modules-intro)
* [Export and Import](https://javascript.info/import-export)
* [Dynamic imports](https://javascript.info/modules-dynamic-imports)

[**Miscellaneous**](https://javascript.info/js-misc)

* [Proxy and Reflect](https://javascript.info/proxy)
* [Eval: run a code string](https://javascript.info/eval)
* [Currying](https://javascript.info/currying-partials)
* [Reference Type](https://javascript.info/reference-type)
* [BigInt](https://javascript.info/bigint)
* [Unicode, String internals](https://javascript.info/unicode)
* [WeakRef and FinalizationRegistry](https://javascript.info/weakref-finalizationregistry)

**Browser: Document, Events, Interfaces**

Learning how to manage the browser page: add elements, manipulate their size and position, dynamically create interfaces and interact with the visitor.

[**Document**](https://javascript.info/document)

* [Browser environment, specs](https://javascript.info/browser-environment)
* [DOM tree](https://javascript.info/dom-nodes)
* [Walking the DOM](https://javascript.info/dom-navigation)
* [Searching: getElement\*, querySelector\*](https://javascript.info/searching-elements-dom)
* [Node properties: type, tag and contents](https://javascript.info/basic-dom-node-properties)
* [Attributes and properties](https://javascript.info/dom-attributes-and-properties)
* [Modifying the document](https://javascript.info/modifying-document)
* [Styles and classes](https://javascript.info/styles-and-classes)
* [Element size and scrolling](https://javascript.info/size-and-scroll)
* [Window sizes and scrolling](https://javascript.info/size-and-scroll-window)
* [Coordinates](https://javascript.info/coordinates)

[**Introduction to Events**](https://javascript.info/events)

* [Introduction to browser events](https://javascript.info/introduction-browser-events)
* [Bubbling and capturing](https://javascript.info/bubbling-and-capturing)
* [Event delegation](https://javascript.info/event-delegation)
* [Browser default actions](https://javascript.info/default-browser-action)
* [Dispatching custom events](https://javascript.info/dispatch-events)

[**UI Events**](https://javascript.info/event-details)

* [Mouse events](https://javascript.info/mouse-events-basics)
* [Moving the mouse: mouseover/out, mouseenter/leave](https://javascript.info/mousemove-mouseover-mouseout-mouseenter-mouseleave)
* [Drag'n'Drop with mouse events](https://javascript.info/mouse-drag-and-drop)
* [Pointer events](https://javascript.info/pointer-events)
* [Keyboard: keydown and keyup](https://javascript.info/keyboard-events)
* [Scrolling](https://javascript.info/onscroll)

[**Forms, controls**](https://javascript.info/forms-controls)

* [Form properties and methods](https://javascript.info/form-elements)
* [Focusing: focus/blur](https://javascript.info/focus-blur)
* [Events: change, input, cut, copy, paste](https://javascript.info/events-change-input)
* [Forms: event and method submit](https://javascript.info/forms-submit)

[**Document and resource loading**](https://javascript.info/loading)

* [Page: DOMContentLoaded, load, beforeunload, unload](https://javascript.info/onload-ondomcontentloaded)
* [Scripts: async, defer](https://javascript.info/script-async-defer)
* [Resource loading: onload and onerror](https://javascript.info/onload-onerror)

[**Miscellaneous**](https://javascript.info/ui-misc)

* [Mutation observer](https://javascript.info/mutation-observer)
* [Selection and Range](https://javascript.info/selection-range)
* [Event loop: microtasks and macrotasks](https://javascript.info/event-loop)

**Additional articles**

List of extra topics that assume you've covered the first two parts of tutorial. There is no clear hierarchy here, you can read articles in the order you want.

[**Frames and windows**](https://javascript.info/frames-and-windows)

* [Popups and window methods](https://javascript.info/popup-windows)
* [Cross-window communication](https://javascript.info/cross-window-communication)
* [The clickjacking attack](https://javascript.info/clickjacking)

[**Binary data, files**](https://javascript.info/binary)

* [ArrayBuffer, binary arrays](https://javascript.info/arraybuffer-binary-arrays)
* [TextDecoder and TextEncoder](https://javascript.info/text-decoder)
* [Blob](https://javascript.info/blob)
* [File and FileReader](https://javascript.info/file)

[**Network requests**](https://javascript.info/network)

* [Fetch](https://javascript.info/fetch)
* [FormData](https://javascript.info/formdata)
* [Fetch: Download progress](https://javascript.info/fetch-progress)
* [Fetch: Abort](https://javascript.info/fetch-abort)
* [Fetch: Cross-Origin Requests](https://javascript.info/fetch-crossorigin)
* [Fetch API](https://javascript.info/fetch-api)
* [URL objects](https://javascript.info/url)
* [XMLHttpRequest](https://javascript.info/xmlhttprequest)
* [Resumable file upload](https://javascript.info/resume-upload)
* [Long polling](https://javascript.info/long-polling)
* [WebSocket](https://javascript.info/websocket)
* [Server Sent Events](https://javascript.info/server-sent-events)

[**Storing data in the browser**](https://javascript.info/data-storage)

* [Cookies, document.cookie](https://javascript.info/cookie)
* [LocalStorage, sessionStorage](https://javascript.info/localstorage)
* [IndexedDB](https://javascript.info/indexeddb)

[**Animation**](https://javascript.info/animation)

* [Bezier curve](https://javascript.info/bezier-curve)
* [CSS-animations](https://javascript.info/css-animations)
* [JavaScript animations](https://javascript.info/js-animation)

[**Web components**](https://javascript.info/web-components)

* [From the orbital height](https://javascript.info/webcomponents-intro)
* [Custom elements](https://javascript.info/custom-elements)
* [Shadow DOM](https://javascript.info/shadow-dom)
* [Template element](https://javascript.info/template-element)
* [Shadow DOM slots, composition](https://javascript.info/slots-composition)
* [Shadow DOM styling](https://javascript.info/shadow-dom-style)
* [Shadow DOM and events](https://javascript.info/shadow-dom-events)

[**Regular expressions**](https://javascript.info/regular-expressions)

* [Patterns and flags](https://javascript.info/regexp-introduction)
* [Character classes](https://javascript.info/regexp-character-classes)
* [Unicode: flag "u" and class \p{...}](https://javascript.info/regexp-unicode)
* [Anchors: string start ^ and end $](https://javascript.info/regexp-anchors)
* [Multiline mode of anchors ^ $, flag "m"](https://javascript.info/regexp-multiline-mode)
* [Word boundary: \b](https://javascript.info/regexp-boundary)
* [Escaping, special characters](https://javascript.info/regexp-escaping)
* [Sets and ranges [...]](https://javascript.info/regexp-character-sets-and-ranges)
* [Quantifiers +, \*, ? and {n}](https://javascript.info/regexp-quantifiers)
* [Greedy and lazy quantifiers](https://javascript.info/regexp-greedy-and-lazy)
* [Capturing groups](https://javascript.info/regexp-groups)
* [Backreferences in pattern: \N and \k<name>](https://javascript.info/regexp-backreferences)
* [Alternation (OR) |](https://javascript.info/regexp-alternation)
* [Lookahead and lookbehind](https://javascript.info/regexp-lookahead-lookbehind)
* [Catastrophic backtracking](https://javascript.info/regexp-catastrophic-backtracking)
* [Sticky flag "y", searching at position](https://javascript.info/regexp-sticky)
* [Methods of RegExp and String](https://javascript.info/regexp-methods)