

HTML Tutorial

HTML is the standard markup language for Web pages.

With HTML you can create your own Website.

HTML is easy to learn - You will enjoy it!

[Study our free HTML Tutorial »](#)

Easy Learning with HTML "Try it Yourself"

With our "Try it Yourself" editor, you can edit the HTML code and view the result:

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>

<h1>This is a Heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

[Try it Yourself »](#)

Click on the "Try it Yourself" button to see how it works.

HTML Examples

In this HTML tutorial, you will find more than 200 examples. With our online "Try it Yourself" editor, you can edit and test each example yourself!

[Go to HTML Examples!](#)

HTML Exercises

This HTML tutorial also contains nearly 100 HTML exercises.

Test Yourself With Exercises

Exercise:

Add a "tooltip" to the paragraph below with the text "About W3Schools".

```
<p ="About W3Schools">W3Schools is a web developer's site.</p>
```

Submit Answer »

[Start the Exercise](#)

HTML Quiz Test

Test your HTML skills with our HTML Quiz!

[Start HTML Quiz!](#)

HTML References

At W3Schools you will find complete references about HTML elements, attributes, events, color names, entities, character-sets, URL encoding, language codes, HTTP messages, browser support, and more:

[HTML Elements](#)

[Browser Support](#)

[Attributes](#)

[Global Attributes](#)

[Event Attributes](#)

[Color Names](#)

[Canvas](#)

[Audio/Video DOM](#)

[Character Sets](#)

[URL Encoding](#)

[Language Codes](#)

[Country Codes](#)

[HTTP Messages](#)

[Px to Em Converter](#)

[Keyboard Shortcuts](#)

HTML Element Reference

HTML Tags Ordered Alphabetically

Tag	Description
<!--...-->	Defines a comment
<!DOCTYPE>	Defines the document type
<a>	Defines a hyperlink
<abbr>	Defines an abbreviation or an acronym
<acronym>	Not supported in HTML5. Use <abbr> instead. Defines an acronym
<address>	Defines contact information for the author/owner of a document
<applet>	Not supported in HTML5. Use <embed> or <object> instead. Defines an embedded applet
<area>	Defines an area inside an image map
<article>	Defines an article

<u><aside></u>	Defines content aside from the page content
<u><audio></u>	Defines embedded sound content
<u></u>	Defines bold text
<u><base></u>	Specifies the base URL/target for all relative URLs in a document
<u><basefont></u>	Not supported in HTML5. Use CSS instead. Specifies a default color, size, and font for all text in a document
<u><bdi></u>	Isolates a part of text that might be formatted in a different direction from other text outside it
<u><bdo></u>	Overrides the current text direction
<u><big></u>	Not supported in HTML5. Use CSS instead. Defines big text
<u><blockquote></u>	Defines a section that is quoted from another source
<u><body></u>	Defines the document's body
<u>
</u>	Defines a single line break

<u><button></u>	Defines a clickable button
<u><canvas></u>	Used to draw graphics, on the fly, via scripting (usually JavaScript)
<u><caption></u>	Defines a table caption
<u><center></u>	Not supported in HTML5. Use CSS instead. Defines centered text
<u><cite></u>	Defines the title of a work
<u><code></u>	Defines a piece of computer code
<u><col></u>	Specifies column properties for each column within a <colgroup> element
<u><colgroup></u>	Specifies a group of one or more columns in a table for formatting
<u><data></u>	Adds a machine-readable translation of a given content
<u><datalist></u>	Specifies a list of pre-defined options for input controls
<u><dd></u>	Defines a description/value of a term in a description list

<u></u>	Defines text that has been deleted from a document
<u><details></u>	Defines additional details that the user can view or hide
<u><dfn></u>	Specifies a term that is going to be defined within the content
<u><dialog></u>	Defines a dialog box or window
<u><dir></u>	Not supported in HTML5. Use <u></u> instead. Defines a directory list
<u><div></u>	Defines a section in a document
<u><dl></u>	Defines a description list
<u><dt></u>	Defines a term/name in a description list
<u></u>	Defines emphasized text
<u><embed></u>	Defines a container for an external application
<u><fieldset></u>	Groups related elements in a form

[<figcaption>](#)

Defines a caption for a <figure> element

[<figure>](#)

Specifies self-contained content

[](#)

Not supported in HTML5. Use CSS instead.
Defines font, color, and size for text

[<footer>](#)

Defines a footer for a document or section

[<form>](#)

Defines an HTML form for user input

[<frame>](#)

Not supported in HTML5.
Defines a window (a frame) in a frameset

[<frameset>](#)

Not supported in HTML5.
Defines a set of frames

[<h1> to <h6>](#)

Defines HTML headings

[<head>](#)

Contains metadata/information for the document

[<header>](#)

Defines a header for a document or section

[<hgroup>](#)

Defines a header and related content

[<hr>](#)

Defines a thematic change in the content

[<html>](#)

Defines the root of an HTML document

[<i>](#)

Defines a part of text in an alternate voice or mood

[<iframe>](#)

Defines an inline frame

[](#)

Defines an image

[<input>](#)

Defines an input control

[<ins>](#)

Defines a text that has been inserted into a document

[<kbd>](#)

Defines keyboard input

[<label>](#)

Defines a label for an `<input>` element

[<legend>](#)

Defines a caption for a `<fieldset>` element

[](#)

Defines a list item

[<link>](#)

Defines the relationship between a document and an external resource (most used to link to style sheets)

<u><main></u>	Specifies the main content of a document
<u><map></u>	Defines an image map
<u><mark></u>	Defines marked/highlighted text
<u><menu></u>	Defines an unordered list
<u><meta></u>	Defines metadata about an HTML document
<u><meter></u>	Defines a scalar measurement within a known range (a gauge)
<u><nav></u>	Defines navigation links
<u><noframes></u>	Not supported in HTML5. Defines an alternate content for users that do not support frames
<u><noscript></u>	Defines an alternate content for users that do not support client-side scripts
<u><object></u>	Defines a container for an external application
<u></u>	Defines an ordered list

<u><optgroup></u>	Defines a group of related options in a drop-down list
<u><option></u>	Defines an option in a drop-down list
<u><output></u>	Defines the result of a calculation
<u><p></u>	Defines a paragraph
<u><param></u>	Defines a parameter for an object
<u><picture></u>	Defines a container for multiple image resources
<u><pre></u>	Defines preformatted text
<u><progress></u>	Represents the progress of a task
<u><q></u>	Defines a short quotation
<u><rp></u>	Defines what to show in browsers that do not support ruby annotations
<u><rt></u>	Defines an explanation/pronunciation of characters (for East Asian typography)

<u><ruby></u>	Defines a ruby annotation (for East Asian typography)
<u><s></u>	Defines text that is no longer correct
<u><samp></u>	Defines sample output from a computer program
<u><script></u>	Defines a client-side script
<u><search></u>	Defines a search section
<u><section></u>	Defines a section in a document
<u><select></u>	Defines a drop-down list
<u><small></u>	Defines smaller text
<u><source></u>	Defines multiple media resources for media elements (<video> and <audio>)
<u></u>	Defines a section in a document
<u><strike></u>	Not supported in HTML5. Use <u></u> or <u><s></u> instead. Defines strikethrough text

[](#)

Defines important text

[<style>](#)

Defines style information for a document

[<sub>](#)

Defines subscripted text

[<summary>](#)

Defines a visible heading for a <details> element

[<sup>](#)

Defines superscripted text

[<svg>](#)

Defines a container for SVG graphics

[<table>](#)

Defines a table

[<tbody>](#)

Groups the body content in a table

[<td>](#)

Defines a cell in a table

[<template>](#)

Defines a container for content that should be hidden when the page loads

[<textarea>](#)

Defines a multiline input control (text area)

[<tfoot>](#)

Groups the footer content in a table

<u><th></u>	Defines a header cell in a table
<u><thead></u>	Groups the header content in a table
<u><time></u>	Defines a specific time (or datetime)
<u><title></u>	Defines a title for the document
<u><tr></u>	Defines a row in a table
<u><track></u>	Defines text tracks for media elements (<video> and <audio>)
<u><tt></u>	Not supported in HTML5. Use CSS instead. Defines teletype text
<u><u></u>	Defines some text that is unarticulated and styled differently from normal text
<u></u>	Defines an unordered list
<u><var></u>	Defines a variable
<u><video></u>	Defines embedded video content

[<wbr>](#)

Defines a possible line-break

HTML Element Reference - By Category

Basic HTML

Tag	Description
<!DOCTYPE>	Defines the document type
<html>	Defines an HTML document
<head>	Contains metadata/information for the document
<title>	Defines a title for the document
<body>	Defines the document's body
<h1> to <h6>	Defines HTML headings
<p>	Defines a paragraph

	Inserts a single line break

[<hr>](#)

Defines a thematic change in the content

[<!--...-->](#)

Defines a comment

Formatting

Tag	Description
<u><acronym></u>	Not supported in HTML5. Use <abbr> instead. Defines an acronym
<u><abbr></u>	Defines an abbreviation or an acronym
<u><address></u>	Defines contact information for the author/owner of a document/article
<u></u>	Defines bold text
<u><bdi></u>	Isolates a part of text that might be formatted in a different direction from other text outside it
<u><bdo></u>	Overrides the current text direction
<u><big></u>	Not supported in HTML5. Use CSS instead. Defines big text

[<blockquote>](#) Defines a section that is quoted from another source

[<center>](#) **Not supported in HTML5. Use CSS instead.**
Defines centered text

[<cite>](#) Defines the title of a work

[<code>](#) Defines a piece of computer code

[](#) Defines text that has been deleted from a document

[<dfn>](#) Specifies a term that is going to be defined within the content

[](#) Defines emphasized text

[](#) **Not supported in HTML5. Use CSS instead.**
Defines font, color, and size for text

[<i>](#) Defines a part of text in an alternate voice or mood

[<ins>](#) Defines a text that has been inserted into a document

[<kbd>](#) Defines keyboard input

<u><mark></u>	Defines marked/highlighted text
<u><meter></u>	Defines a scalar measurement within a known range (a gauge)
<u><pre></u>	Defines preformatted text
<u><progress></u>	Represents the progress of a task
<u><q></u>	Defines a short quotation
<u><rp></u>	Defines what to show in browsers that do not support ruby annotations
<u><rt></u>	Defines an explanation/pronunciation of characters (for East Asian typography)
<u><ruby></u>	Defines a ruby annotation (for East Asian typography)
<u><s></u>	Defines text that is no longer correct
<u><samp></u>	Defines sample output from a computer program
<u><small></u>	Defines smaller text

<strike>

Not supported in HTML5. Use or <s> instead.
Defines strikethrough text

Defines important text

<sub>

Defines subscripted text

<sup>

Defines superscripted text

<template>

Defines a container for content that should be hidden when the page loads

<time>

Defines a specific time (or datetime)

<tt>

Not supported in HTML5. Use CSS instead.
Defines teletype text

<u>

Defines some text that is unarticulated and styled differently from normal text

<var>

Defines a variable

<wbr>

Defines a possible line-break

Forms and Input

Tag	Description
<u><form></u>	Defines an HTML form for user input
<u><input></u>	Defines an input control
<u><textarea></u>	Defines a multiline input control (text area)
<u><button></u>	Defines a clickable button
<u><select></u>	Defines a drop-down list
<u><optgroup></u>	Defines a group of related options in a drop-down list
<u><option></u>	Defines an option in a drop-down list
<u><label></u>	Defines a label for an <input> element
<u><fieldset></u>	Groups related elements in a form
<u><legend></u>	Defines a caption for a <fieldset> element

[<datalist>](#)

Specifies a list of pre-defined options for input controls

[<output>](#)

Defines the result of a calculation

Frames

Tag	Description
<u><frame></u>	Not supported in HTML5. Defines a window (a frame) in a frameset
<u><frameset></u>	Not supported in HTML5. Defines a set of frames
<u><noframes></u>	Not supported in HTML5. Defines an alternate content for users that do not support frames
<u><iframe></u>	Defines an inline frame

Images

Tag	Description
<u></u>	Defines an image

<u><map></u>	Defines a client-side image map
<u><area></u>	Defines an area inside an image map
<u><canvas></u>	Used to draw graphics, on the fly, via scripting (usually JavaScript)
<u><figcaption></u>	Defines a caption for a <figure> element
<u><figure></u>	Specifies self-contained content
<u><picture></u>	Defines a container for multiple image resources
<u><svg></u>	Defines a container for SVG graphics

Audio / Video

Tag	Description
<u><audio></u>	Defines sound content
<u><source></u>	Defines multiple media resources for media elements (<video>, <audio> and <picture>)

<track>	Defines text tracks for media elements (<video> and <audio>)
<video>	Defines a video or movie

Links

Tag	Description
<a>	Defines a hyperlink
<link>	Defines the relationship between a document and an external resource (most used to link to style sheets)
<nav>	Defines navigation links

Lists

Tag	Description
<menu>	Defines an alternative unordered list
	Defines an unordered list
	Defines an ordered list

<u></u>	Defines a list item
<u><dir></u>	Not supported in HTML5. Use <u></u> instead. Defines a directory list
<u><dl></u>	Defines a description list
<u><dt></u>	Defines a term/name in a description list
<u><dd></u>	Defines a description of a term/name in a description list

Tables

Tag	Description
<u><table></u>	Defines a table
<u><caption></u>	Defines a table caption
<u><th></u>	Defines a header cell in a table
<u><tr></u>	Defines a row in a table
<u><td></u>	Defines a cell in a table

<thead>	Groups the header content in a table
<tbody>	Groups the body content in a table
<tfoot>	Groups the footer content in a table
<col>	Specifies column properties for each column within a <colgroup> element
<colgroup>	Specifies a group of one or more columns in a table for formatting

Styles and Semantics

Tag	Description
<style>	Defines style information for a document
<div>	Defines a section in a document
	Defines a section in a document
<header>	Defines a header for a document or section
<hgroup>	Defines a header and related content

<u><footer></u>	Defines a footer for a document or section
<u><main></u>	Specifies the main content of a document
<u><section></u>	Defines a section in a document
<u><search></u>	Defines a search section
<u><article></u>	Defines an article
<u><aside></u>	Defines content aside from the page content
<u><details></u>	Defines additional details that the user can view or hide
<u><dialog></u>	Defines a dialog box or window
<u><summary></u>	Defines a visible heading for a <details> element
<u><data></u>	Adds a machine-readable translation of a given content

Meta Info

Tag	Description
-----	-------------

<u><head></u>	Defines information about the document
<u><meta></u>	Defines metadata about an HTML document
<u><base></u>	Specifies the base URL/target for all relative URLs in a document
<u><basefont></u>	Not supported in HTML5. Use CSS instead. Specifies a default color, size, and font for all text in a document

Programming


Tag	Description
<u><script></u>	Defines a client-side script
<u><noscript></u>	Defines an alternate content for users that do not support client-side scripts
<u><applet></u>	Not supported in HTML5. Use <embed> or <object> instead. Defines an embedded applet
<u><embed></u>	Defines a container for an external (non-HTML) application






<u><object></u>	Defines an embedded object
<u><param></u>	Defines a parameter for an object

HTML Reference - Browser Support

HTML Reference with Browser Support






The table below lists all HTML elements and their attributes, along with browser support:




					
<u><a></u>	Yes	Yes	Yes	Yes	Yes
<u>download</u>	14.0	18.0	20.0	10.1	15.0
<u>href</u>	Yes	Yes	Yes	Yes	Yes
<u>hreflang</u>	Yes	Yes	Yes	Yes	Yes
<u>media</u>	Yes	Yes	Yes	Yes	Yes
<u>ping</u>	Yes	No	Yes	No	Yes
<u>referrerpolicy</u>	51.0	79.0	50.0	11.1	38.0
<u>rel</u>	Yes	Yes	Yes	Yes	Yes
<u>target</u>	Yes	Yes	Yes	Yes	Yes
<u>type</u>	Yes	Yes	Yes	Yes	Yes






					
<u><abbr></u>	Yes	Yes	Yes	Yes	Yes






					
<u><address></u>	Yes	Yes	Yes	Yes	Yes






					
<u><area></u>	Yes	Yes	Yes	Yes	Yes
<u>alt</u>	Yes	Yes	Yes	Yes	Yes
<u>coords</u>	Yes	Yes	Yes	Yes	Yes
<u>download</u>	Yes	Yes	Yes	Yes	Yes
<u>href</u>	Yes	Yes	Yes	Yes	Yes
<u>hreflang</u>	Yes	Yes	Yes	Yes	Yes
<u>media</u>	Yes	Yes	Yes	Yes	Yes
<u>referrerpolicy</u>	51.0	79.0	50.0	11.1	38.0
<u>rel</u>	Yes	Yes	Yes	Yes	Yes
<u>shape</u>	Yes	Yes	Yes	Yes	Yes
<u>target</u>	Yes	Yes	Yes	Yes	Yes
<u>type</u>	Yes	Yes	Yes	Yes	Yes






					
<u><article></u>	6.0	9.0	4.0	5.0	11.1






					
<u><aside></u>	6.0	9.0	4.0	5.0	11.1






					
<u><audio></u>	4.0	9.0	3.5	4.0	11.5
<u>autoplay</u>	4.0	9.0	3.5	4.0	11.5
<u>controls</u>	4.0	9.0	3.5	4.0	11.5
<u>loop</u>	4.0	9.0	3.5	4.0	11.5
<u>muted</u>	4.0	10.0	11.0	7.1	11.5
<u>preload</u>	4.0	9.0	4.0	4.0	11.5
<u>src</u>	4.0	9.0	3.5	4.0	11.5






					
<u></u>	Yes	Yes	Yes	Yes	Yes






					
<u><base></u>	Yes	Yes	Yes	Yes	Yes
<u>href</u>	Yes	Yes	Yes	Yes	Yes
<u>target</u>	Yes	Yes	Yes	Yes	Yes

					
<u><bdi></u>	16.0	79.0	10.0	No	15.0






					
<u><bdo></u>	Yes	Yes	Yes	Yes	Yes
<u>dir</u>	Yes	Yes	Yes	Yes	Yes






					
<u><blockquote></u>	Yes	Yes	Yes	Yes	Yes
<u>cite</u>	Yes	Yes	Yes	Yes	Yes






					
<u><body></u>	Yes	Yes	Yes	Yes	Yes






					
<u>
</u>	Yes	Yes	Yes	Yes	Yes






					
<u><button></u>	Yes	Yes	Yes	Yes	Yes
<u>autofocus</u>	5.0	10.0	4.0	5.0	9.6
<u>disabled</u>	Yes	Yes	Yes	Yes	Yes
<u>form</u>	10.0	16.0	4.0	5.1	9.5
<u>formaction</u>	9.0	10.0	4.0	5.1	15.0
<u>formenctype</u>	9.0	10.0	4.0	5.1	11.5
<u>formmethod</u>	9.0	10.0	4.0	5.1	15.0
<u>formnovalidate</u>	6.0	11.0	4.0	Yes	Yes
<u>formtarget</u>	9.0	10.0	4.0	5.1	10.6
<u>name</u>	Yes	Yes	Yes	Yes	Yes
<u>type</u>	Yes	Yes	Yes	Yes	Yes
<u>value</u>	Yes	Yes	Yes	Yes	Yes






					
<u><canvas></u>	4.0	9.0	2.0	3.1	9.0
<u>height</u>	4.0	9.0	2.0	3.1	9.0
<u>width</u>	4.0	9.0	2.0	3.1	9.0






					
<u><caption></u>	Yes	Yes	Yes	Yes	Yes






					
<u><cite></u>	Yes	Yes	Yes	Yes	Yes






					
<u><code></u>	Yes	Yes	Yes	Yes	Yes






					
<u><col></u>	Yes	Yes	Yes	Yes	Yes
<u>span</u>	Yes	Yes	Yes	Yes	Yes






					
<u><colgroup></u>	Yes	Yes	Yes	Yes	Yes
<u>span</u>	Yes	Yes	Yes	Yes	Yes






					
<u><data></u>	62.0	13.0	22.0	No	49.0
value	62.0	13.0	22.0	No	49.0






					
<u><datalist></u>	20.0	10.0	4.0	12.1	9.5

					
<u><dd></u>	Yes	Yes	Yes	Yes	Yes






					
<u></u>	Yes	Yes	Yes	Yes	Yes
cite	Yes	Yes	Yes	Yes	Yes
datetime	Yes	Yes	Yes	Yes	Yes






					
<u><details></u>	12.0	79.0	49.0	6.0	15.0
open	12.0	79.0	49.0	6.0	15.0





					
<u><dfn></u>	Yes	Yes	Yes	Yes	Yes






					
<u><dialog></u>	37.0	79.0	53.0*	No	24.0
<u>open</u>	37.0	79.0	53.0*	No	24.0






* Not supported by default, but can be enabled in about:config (set dom.dialog_element.enabled to true).

					
<u><div></u>	Yes	Yes	Yes	Yes	Yes





					
<u><dl></u>	Yes	Yes	Yes	Yes	Yes

					
<u><dt></u>	Yes	Yes	Yes	Yes	Yes






					
<u></u>	Yes	Yes	Yes	Yes	Yes






					
<u><embed></u>	Yes	Yes	Yes	Yes	Yes
<u>height</u>	Yes	Yes	Yes	Yes	Yes
<u>src</u>	Yes	Yes	Yes	Yes	Yes






type	Yes	Yes	Yes	Yes	Yes
width	Yes	Yes	Yes	Yes	Yes

					
<fieldset>	Yes	Yes	Yes	Yes	Yes
disabled	Yes	Yes	Yes	6.0	Yes
form	Yes	Yes	Yes	Yes	Yes
name	Yes	11.0	Yes	Yes	Yes






					
<figcaption>	8.0	9.0	4.0	5.1	11.0






					
<figure>	8.0	9.0	4.0	5.1	11.0





					
<footer>	5.0	9.0	4.0	5.0	11.1






					
<form>	Yes	Yes	Yes	Yes	Yes
accept-charset	Yes	Yes	Yes	Yes	Yes
action	Yes	Yes	Yes	Yes	Yes
autocomplete	Yes	Yes	4.0	5.2	15.0






enctype	Yes	Yes	Yes	Yes	Yes
method	Yes	Yes	Yes	Yes	Yes
name	Yes	Yes	Yes	Yes	Yes
novalidate	Yes	10.0	4.0	10.1	15.0
rel	Yes	Yes	Yes	Yes	Yes
target	Yes	Yes	Yes	Yes	Yes




					
<h1> - <h6>	Yes	Yes	Yes	Yes	Yes

					
<head>	Yes	Yes	Yes	Yes	Yes






					
<header>	5.0	9.0	4.0	5.0	11.1

					
<hr>	Yes	Yes	Yes	Yes	Yes

					
<html>	Yes	Yes	Yes	Yes	Yes
xmlns	Yes	Yes	Yes	Yes	Yes

					
<u><i></u>	Yes	Yes	Yes	Yes	Yes






					
<u><iframe></u>	Yes	Yes	Yes	Yes	Yes
allow	60.0	79.0	74.0	11.1	47.0
allowfullscreen	27.0	11.0 -ms-	18.0	7.0	Yes
allowpaymentrequest	No	No	No	No	No
<u>height</u>	Yes	Yes	Yes	Yes	Yes
<u>name</u>	Yes	Yes	Yes	Yes	Yes
<u>referrerpolicy</u>	51.0	79.0	50.0	11.1	38.0
<u>sandbox</u>	4.0	10.0	17.0	5.0	15.0
<u>src</u>	Yes	Yes	Yes	Yes	Yes
<u>srcdoc</u>	20.0	79.0	25.0	6.0	15.0
<u>width</u>	Yes	Yes	Yes	Yes	Yes






					
<u></u>	Yes	Yes	Yes	Yes	Yes
<u>alt</u>	Yes	Yes	Yes	Yes	Yes
crossorigin	Yes	Yes	Yes	Yes	Yes
<u>height</u>	Yes	Yes	Yes	Yes	Yes
<u>ismap</u>	Yes	Yes	Yes	Yes	Yes
<u>loading</u>	77.0	79.0	75.0	No	64.0
<u>longdesc</u>	Yes	Yes	Yes	Yes	Yes






referrerpolicy	51.0	79.0	50.0	11.1	38.0
sizes	Yes	Yes	Yes	Yes	Yes
src	Yes	Yes	Yes	Yes	Yes
srcset	34.0	?	38.0	8.0	21.0
usemap	Yes	Yes	Yes	Yes	Yes
width	Yes	Yes	Yes	Yes	Yes






					
<input>	Yes	Yes	Yes	Yes	Yes
accept	26.0	10.0	37.0	11.1	15.0
alt	Yes	Yes	Yes	Yes	Yes
autocomplete	17.0	6.0	2.0	5.1	10.0
autofocus	5.0	11.0	4.0	5.0	9.6
checked	Yes	Yes	Yes	Yes	Yes
dirname	Yes	79.0	No	Yes	Yes
disabled	Yes	Yes	Yes	Yes	Yes
form	Yes	Yes	Yes	5.1	10.6
formaction	Yes	10.0	Yes	5.1	10.6
formenctype	Yes	10.0	Yes	5.1	10.6
formmethod	Yes	10.0	Yes	5.1	10.6
formnovalidate	Yes	10.0	Yes	10.1	10.6
formtarget	Yes	10.0	Yes	5.1	10.6
height	Yes	Yes	16.0	Yes	Yes
list	20.0	10.0	4.0	No	9.6
max	5.0	10.0	16.0	5.1	10.6






maxlength	4.0	10.0	4.0	5.1	15.0
min	5.0	10.0	16.0	5.1	10.6
minlength	40.0	17.0	51.0	10.1	27.0
multiple	6.0	10.0	3.6	5.0	11.0
name	Yes	Yes	Yes	Yes	Yes
pattern	5.0	10.0	4.0	10.1	9.6
placeholder	10.0	10.0	4.0	5.0	11.0
readonly	Yes	Yes	Yes	Yes	Yes
required	5.0	10.0	4.0	10.1	9.6
size	Yes	Yes	Yes	Yes	Yes
src	Yes	Yes	Yes	Yes	Yes
step	6.0	10.0	16.0	5.0	10.6
type	Yes	Yes	Yes	Yes	Yes
value	Yes	Yes	Yes	Yes	Yes
width	Yes	Yes	16.0	Yes	Yes






					
<ins>	Yes	Yes	Yes	Yes	Yes
cite	Yes	Yes	Yes	Yes	Yes
datetime	Yes	Yes	Yes	Yes	Yes






					
<kbd>	Yes	Yes	Yes	Yes	Yes






					
<u><label></u>	Yes	Yes	Yes	Yes	Yes
<u>for</u>	Yes	Yes	Yes	Yes	Yes
<u>form</u>	Yes	Yes	Yes	Yes	Yes


					
<u><legend></u>	Yes	Yes	Yes	Yes	Yes

					
<u></u>	Yes	Yes	Yes	Yes	Yes
<u>value</u>	Yes	Yes	Yes	Yes	Yes

					
<u><link></u>	Yes	Yes	Yes	Yes	Yes
crossorigin	25.0	79.0	18.0	?	15.0
<u>href</u>	Yes	Yes	Yes	Yes	Yes
<u>hreflang</u>	Yes	Yes	Yes	Yes	Yes
<u>media</u>	Yes	Yes	Yes	Yes	Yes
<u>referrerpolicy</u>	51.0	79.0	50.0	11.1	38.0
<u>rel</u>	Yes	Yes	Yes	Yes	Yes
<u>sizes</u>	No	No	No	No	No
title	Yes	Yes	Yes	Yes	Yes
<u>type</u>	Yes	Yes	Yes	Yes	Yes

					
<u><main></u>	26.0	12.0	21.0	7.0	16.0




					
<u><map></u>	Yes	Yes	Yes	Yes	Yes
<u>name</u>	Yes	Yes	Yes	Yes	Yes






					
<u><mark></u>	6.0	9.0	4.0	5.0	11.1






					
<u><meta></u>	Yes	Yes	Yes	Yes	Yes
<u>charset</u>	Yes	Yes	Yes	Yes	Yes
<u>content</u>	Yes	Yes	Yes	Yes	Yes
<u>http_equiv</u>	Yes	Yes	Yes	Yes	Yes
<u>name</u>	Yes	Yes	Yes	Yes	Yes






					
<u><meter></u>	8.0	13.0	16.0	6.0	11.5
<u>form</u>	No	No	No	No	No
<u>high</u>	8.0	13.0	16.0	6.0	11.5
<u>low</u>	8.0	13.0	16.0	6.0	11.5
<u>max</u>	8.0	13.0	16.0	6.0	11.5

min	8.0	13.0	16.0	6.0	11.5
optimum	8.0	13.0	16.0	6.0	11.5
value	8.0	13.0	16.0	6.0	11.5






					
<nav>	5.0	9.0	4.0	5.0	11.1

					
<noscript>	Yes	Yes	Yes	Yes	Yes


					
<object>	Yes	Yes	Yes	Yes	Yes
data	Yes	Yes	Yes	Yes	Yes
form	No	No	No	No	No
height	Yes	Yes	Yes	Yes	Yes
name	Yes	Yes	Yes	Yes	Yes
type	Yes	Yes	Yes	Yes	Yes
usemap	No	No	Yes	No	No
width	Yes	Yes	Yes	Yes	Yes






					
	Yes	Yes	Yes	Yes	Yes
reversed	18.0	79.0	18.0	6.0	12.1
start	Yes	Yes	Yes	Yes	Yes






<u>type</u>	Yes	Yes	Yes	Yes	Yes
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<u><optgroup></u>	Yes	Yes	Yes	Yes	Yes
<u>disabled</u>	Yes	8.0	Yes	Yes	Yes
<u>label</u>	Yes	Yes	Yes	Yes	Yes






					
<u><option></u>	Yes	Yes	Yes	Yes	Yes
<u>disabled</u>	Yes	8.0	Yes	Yes	Yes
<u>label</u>	Yes	8.0	No	Yes	Yes
<u>selected</u>	Yes	Yes	Yes	Yes	Yes
<u>value</u>	Yes	Yes	Yes	Yes	Yes




					
<u><output></u>	10.0	13.0	4.0	5.1	11.0
<u>for</u>	10.0	13.0	4.0	7.0	11.5
<u>form</u>	No	No	No	No	No
<u>name</u>	10.0	13.0	4.0	7.0	11.5






					
<u><p></u>	Yes	Yes	Yes	Yes	Yes






					
<u><param></u>	Yes	Yes	Yes	Yes	Yes
<u>name</u>	Yes	Yes	Yes	Yes	Yes
<u>value</u>	Yes	Yes	Yes	Yes	Yes

					
<u><picture></u>	38.0	13.0	38.0	9.1	25.0






					
<u><pre></u>	Yes	Yes	Yes	Yes	Yes






					
<u><progress></u>	8.0	10.0	16.0	6.0	11.0
<u>max</u>	8.0	10.0	16.0	6.0	11.0
<u>value</u>	8.0	10.0	16.0	6.0	11.0






					
<u><q></u>	Yes	Yes	Yes	Yes	Yes
<u>cite</u>	Yes	Yes	Yes	Yes	Yes

					
<u><rp></u>	5.0	5.5	38.0	5.0	15.0






					
<u><rt></u>	5.0	5.5	38.0	5.0	15.0






					
<u><ruby></u>	5.0	5.5	38.0	5.0	15.0






					
<u><s></u>	Yes	Yes	Yes	Yes	Yes






					
<u><samp></u>	Yes	Yes	Yes	Yes	Yes






					
<u><script></u>	Yes	Yes	Yes	Yes	Yes
<u>async</u>	8.0	10.0	3.6	5.1	15.0
<u>crossorigin</u>	30.0	18.0	13.0	13.0	12.1
<u>defer</u>	8.0	10.0	3.5	5.0	15.0
<u>integrity</u>	45.0	17.0	43.0	13.0	66.0
nomodule	61.0	16.0	60.0	11.0	48.0
<u>referrerpolicy</u>	70.0	79.0	65.0	No	Yes
<u>src</u>	Yes	Yes	Yes	Yes	Yes
<u>type</u>	Yes	Yes	Yes	Yes	Yes

					
<u><section></u>	5.0	9.0	4.0	5.0	11.5






					
<u><select></u>	Yes	Yes	Yes	Yes	Yes
<u>autofocus</u>	Yes	10.0	No	Yes	Yes
<u>disabled</u>	Yes	9.0	Yes	Yes	Yes
<u>form</u>	Yes	Yes	Yes	Yes	Yes
<u>multiple</u>	Yes	Yes	Yes	Yes	Yes
<u>name</u>	Yes	Yes	Yes	Yes	Yes
<u>required</u>	Yes	10.0	4.0	Yes	Yes
<u>size</u>	Yes	Yes	Yes	Yes	Yes






					
<u><slot></u>	53.0	79.0	63.0	10.0	40.0






					
<u><small></u>	Yes	Yes	Yes	Yes	Yes






					
<u><source></u>	4.0	9.0	3.5	4.0	10.5
<u>media</u>	38.0	9.0	15.0	9.1	25.0
sizes	38.0	13.0	3.8	9.1	25.0






src	4.0	9.0	3.5	4.0	10.5
srcset	38.0	13.0	38.0	9.1	25.0
type	4.0	9.0	3.5	4.0	10.5

					
	Yes	Yes	Yes	Yes	Yes

					
	Yes	Yes	Yes	Yes	Yes


					
<style>	Yes	Yes	Yes	Yes	Yes
media	Yes	Yes	Yes	Yes	Yes
type	Yes	Yes	Yes	Yes	Yes






					
<sub>	Yes	Yes	Yes	Yes	Yes






					
<summary>	12.0	79.0	49.0	6.0	15.0





					
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<u><sup></u>	Yes	Yes	Yes	Yes	Yes
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<u><svg></u>	4.0	9.0	3.0	3.2	10.1

					
<u><table></u>	Yes	Yes	Yes	Yes	Yes






					
<u><tbody></u>	Yes	Yes	Yes	Yes	Yes





					
<u><td></u>	Yes	Yes	Yes	Yes	Yes
<u>colspan</u>	Yes	Yes	Yes	Yes	Yes
<u>headers</u>	Yes	Yes	Yes	Yes	Yes
<u>rowspan</u>	Yes	Yes	Yes	Yes	Yes

					
<u><template></u>	26.0	13.0	22.0	8.0	15.0






					
<u><textarea></u>	Yes	Yes	Yes	Yes	Yes






autocomplete	No	No	59.0	13.0	No
autofocus	Yes	10.0	4.0	Yes	Yes
cols	Yes	Yes	Yes	Yes	Yes
dirname	Yes	79.0	No	Yes	Yes
disabled	Yes	Yes	Yes	Yes	Yes
form	Yes	11.0	Yes	Yes	Yes
maxlength	Yes	10.0	4.0	Yes	Yes
minlength	Yes	Yes	Yes	Yes	Yes
name	Yes	Yes	Yes	Yes	Yes
placeholder	Yes	10.0	4.0	5.0	11.5
readonly	Yes	Yes	Yes	Yes	Yes
required	Yes	10.0	4.0	Yes	Yes
rows	Yes	Yes	Yes	Yes	Yes
spellcheck	Yes	11.0	Yes	Yes	Yes
wrap	Yes	Yes	Yes	Yes	Yes






					
<tfoot>	Yes	Yes	Yes	Yes	Yes






					
<th>	Yes	Yes	Yes	Yes	Yes
abbr	Yes	Yes	Yes	Yes	Yes
colspan	Yes	Yes	Yes	Yes	Yes
headers	Yes	Yes	Yes	Yes	Yes
rowspan	Yes	Yes	Yes	Yes	Yes


<u>scope</u>	Yes	Yes	Yes	Yes	Yes
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<u><thead></u>	Yes	Yes	Yes	Yes	Yes






					
<u><time></u>	62.0	18.0	22.0	7.0	49.0
<u>datetime</u>	62.0	18.0	22.0	7.0	49.0






					
<u><title></u>	Yes	Yes	Yes	Yes	Yes

					
<u><tr></u>	Yes	Yes	Yes	Yes	Yes






					
<u><track></u>	23.0	10.0	31.0	6.0	12.1
<u>default</u>	23.0	10.0	31.0	6.0	12.1
<u>kind</u>	23.0	10.0	31.0	6.0	12.1
<u>label</u>	23.0	10.0	31.0	6.0	12.1
<u>src</u>	23.0	10.0	31.0	6.0	12.1
<u>srclang</u>	23.0	10.0	31.0	6.0	12.1

					
<u><u></u>	Yes	Yes	Yes	Yes	Yes

					
<u></u>	Yes	Yes	Yes	Yes	Yes

					
<u><var></u>	Yes	Yes	Yes	Yes	Yes

					
<u><video></u>	4.0	9.0	3.5	3.1	11.5
<u>autoplay</u>	4.0	9.0	3.5	3.1	11.5
<u>controls</u>	4.0	9.0	3.5	3.1	11.5
<u>height</u>	4.0	9.0	3.5	3.1	11.5
<u>loop</u>	4.0	9.0	11.0	3.1	11.5
<u>muted</u>	30.0	10.0	11.0	5.0	Yes
<u>poster</u>	4.0	9.0	3.6	3.1	10.5
<u>preload</u>	4.0	9.0	4.0	3.1	10.5
<u>src</u>	4.0	9.0	3.5	3.1	11.5
<u>width</u>	4.0	9.0	3.5	3.1	11.5

					
<u><wbr></u>	Yes	Yes	Yes	Yes	Yes

HTML Attribute Reference

HTML Attribute Reference

The table below lists all HTML attributes and what elements they can be used within:

Attribute	Belongs to	Description
accept	<input>	Specifies the types of files that the server accepts (only for type="file")
accept-charset	<form>	Specifies the character encodings that are to be used for the form submission
accesskey	Global Attributes	Specifies a shortcut key to activate/focus an element
action	<form>	Specifies where to send the form-data when a form is submitted
align	Not supported in HTML 5.	Specifies the alignment according to surrounding elements. Use CSS instead
alt	<area> , , <input>	Specifies an alternate text when the original element fails to display
async	<script>	Specifies that the script is executed asynchronously (only for external scripts)

autocomplete	<form> , <input>	Specifies whether the <form> or the <input> element should have autocomplete enabled
autofocus	<button> , <input> , <select> , <textarea>	Specifies that the element should automatically get focus when the page loads
autoplay	<audio> , <video>	Specifies that the audio/video will start playing as soon as it is ready
bgcolor	Not supported in HTML 5.	Specifies the background color of an element. Use CSS instead
border	Not supported in HTML 5.	Specifies the width of the border of an element. Use CSS instead
charset	<meta> , <script>	Specifies the character encoding
checked	<input>	Specifies that an <input> element should be pre-selected when the page loads (for type="checkbox" or type="radio")
cite	<blockquote> , , <ins> , <q>	Specifies a URL which explains the quote/deleted/inserted text
class	Global Attributes	Specifies one or more classnames for an element (refers to a class in a style sheet)
color	Not supported in HTML 5.	Specifies the text color of an element. Use CSS instead

<u>cols</u>	<u><textarea></u>	Specifies the visible width of a text area
<u>colspan</u>	<u><td></u> , <u><th></u>	Specifies the number of columns a table cell should span
<u>content</u>	<u><meta></u>	Gives the value associated with the http-equiv or name attribute
<u>contenteditable</u>	<u>Global Attributes</u>	Specifies whether the content of an element is editable or not
<u>controls</u>	<u><audio></u> , <u><video></u>	Specifies that audio/video controls should be displayed (such as a play/pause button etc)
<u>coords</u>	<u><area></u>	Specifies the coordinates of the area
<u>data</u>	<u><object></u>	Specifies the URL of the resource to be used by the object
<u>data-*</u>	<u>Global Attributes</u>	Used to store custom data private to the page or application
<u>datetime</u>	<u></u> , <u><ins></u> , <u><time></u>	Specifies the date and time
<u>default</u>	<u><track></u>	Specifies that the track is to be enabled if the user's preferences do not indicate that another track would be more appropriate

<u>defer</u>	<u><script></u>	Specifies that the script is executed when the page has finished parsing (only for external scripts)
<u>dir</u>	<u>Global Attributes</u>	Specifies the text direction for the content in an element
<u>dirname</u>	<u><input></u> , <u><textarea></u>	Specifies that the text direction will be submitted
<u>disabled</u>	<u><button></u> , <u><fieldset></u> , <u><input></u> , <u><optgroup></u> , <u><option></u> <u>></u> , <u><select></u> , <u><textare</u> <u>a></u>	Specifies that the specified element/group of elements should be disabled
<u>download</u>	<u><a></u> , <u><area></u>	Specifies that the target will be downloaded when a user clicks on the hyperlink
<u>draggable</u>	<u>Global Attributes</u>	Specifies whether an element is draggable or not
<u>enctype</u>	<u><form></u>	Specifies how the form-data should be encoded when submitting it to the server (only for method="post")
<u>enterkeyh</u> <u>int</u>	<u>Global Attributes</u>	Specifies the text of the enter-key on a virtual keyboard
<u>for</u>	<u><label></u> , <u><output></u>	Specifies which form element(s) a label/calculation is bound to

form	<button> , <fieldset> , <input> , <label> , <meter> , <object> , <output> , <select> , <textarea>	Specifies the name of the form the element belongs to
formaction	<button> , <input>	Specifies where to send the form-data when a form is submitted. Only for type="submit"
headers	<td> , <th>	Specifies one or more headers cells a cell is related to
height	<canvas> , <embed> , <iframe> , , <input> , <object> , <video>	Specifies the height of the element
hidden	Global Attributes	Specifies that an element is not yet, or is no longer, relevant
high	<meter>	Specifies the range that is considered to be a high value
href	<a> , <area> , <base> , <link>	Specifies the URL of the page the link goes to
hreflang	<a> , <area> , <link>	Specifies the language of the linked document
http-equiv	<meta>	Provides an HTTP header for the information/value of the content attribute

<u>id</u>	<u>Global Attributes</u>	Specifies a unique id for an element
<u>inert</u>	<u>Global Attributes</u>	Specifies that the browser should ignore this section
<u>inputmode</u>	<u>Global Attributes</u>	Specifies the mode of a virtual keyboard
<u>ismap</u>	<u></u>	Specifies an image as a server-side image map
<u>kind</u>	<u><track></u>	Specifies the kind of text track
<u>label</u>	<u><track></u> , <u><option></u> , <u><optgroup></u>	Specifies the title of the text track
<u>lang</u>	<u>Global Attributes</u>	Specifies the language of the element's content
<u>list</u>	<u><input></u>	Refers to a <u><datalist></u> element that contains pre-defined options for an <u><input></u> element
<u>loop</u>	<u><audio></u> , <u><video></u>	Specifies that the audio/video will start over again, every time it is finished
<u>low</u>	<u><meter></u>	Specifies the range that is considered to be a low value

<u>max</u>	<u><input></u> , <u><meter></u> , <u><progress></u>	Specifies the maximum value
<u>maxlength</u>	<u><input></u> , <u><textarea></u>	Specifies the maximum number of characters allowed in an element
<u>media</u>	<u><a></u> , <u><area></u> , <u><link></u> , <u><source></u> , <u><style></u>	Specifies what media/device the linked document is optimized for
<u>method</u>	<u><form></u>	Specifies the HTTP method to use when sending form-data
<u>min</u>	<u><input></u> , <u><meter></u>	Specifies a minimum value
<u>multiple</u>	<u><input></u> , <u><select></u>	Specifies that a user can enter more than one value
<u>muted</u>	<u><video></u> , <u><audio></u>	Specifies that the audio output of the video should be muted
<u>name</u>	<u><button></u> , <u><fieldset></u> , <u><form></u> , <u><iframe></u> , <u><input></u> , <u><map></u> , <u><meta></u> , <u><object></u> , <u><output></u> , <u><param></u> , <u><select></u> , <u><textarea></u>	Specifies the name of the element
<u>novalidate</u>	<u><form></u>	Specifies that the form should not be validated when submitted

onabort	<audio> , <embed> , , <object> , <video>	Script to be run on abort
onafterprint	<body>	Script to be run after the document is printed
onbeforeprint	<body>	Script to be run before the document is printed
onbeforeunload	<body>	Script to be run when the document is about to be unloaded
onblur	All visible elements.	Script to be run when the element loses focus
oncanplay	<audio> , <embed> , <object> , <video>	Script to be run when a file is ready to start playing (when it has buffered enough to begin)
oncanplaythrough	<audio> , <video>	Script to be run when a file can be played all the way to the end without pausing for buffering
onchange	All visible elements.	Script to be run when the value of the element is changed
onclick	All visible elements.	Script to be run when the element is being clicked
oncontextmenu	All visible elements.	Script to be run when a context menu is triggered

oncopy	All visible elements.	Script to be run when the content of the element is being copied
oncuechange	<track>	Script to be run when the cue changes in a <track> element
oncut	All visible elements.	Script to be run when the content of the element is being cut
ondblclick	All visible elements.	Script to be run when the element is being double-clicked
ondrag	All visible elements.	Script to be run when the element is being dragged
ondragend	All visible elements.	Script to be run at the end of a drag operation
ondragenter	All visible elements.	Script to be run when an element has been dragged to a valid drop target
ondragleave	All visible elements.	Script to be run when an element leaves a valid drop target
ondragover	All visible elements.	Script to be run when an element is being dragged over a valid drop target
ondragstart	All visible elements.	Script to be run at the start of a drag operation

<u>ondrop</u>	All visible elements.	Script to be run when dragged element is being dropped
<u>ondurationchange</u>	<u><audio></u> , <u><video></u>	Script to be run when the length of the media changes
<u>onemptied</u>	<u><audio></u> , <u><video></u>	Script to be run when something bad happens and the file is suddenly unavailable (like unexpectedly disconnects)
<u>onended</u>	<u><audio></u> , <u><video></u>	Script to be run when the media has reach the end (a useful event for messages like "thanks for listening")
<u>onerror</u>	<u><audio></u> , <u><body></u> , <u><embed></u> , <u></u> , <u><object></u> , <u><script></u> , <u><style></u> , <u>></u> , <u><video></u>	Script to be run when an error occurs
<u>onfocus</u>	All visible elements.	Script to be run when the element gets focus
<u>onhashchange</u>	<u><body></u>	Script to be run when there has been changes to the anchor part of the a URL
<u>oninput</u>	All visible elements.	Script to be run when the element gets user input
<u>oninvalid</u>	All visible elements.	Script to be run when the element is invalid
<u>onkeydown</u>	All visible elements.	Script to be run when a user is pressing a key

<u>onkeypress</u>	All visible elements.	Script to be run when a user presses a key
<u>onkeyup</u>	All visible elements.	Script to be run when a user releases a key
<u>onload</u>	<u><body></u> , <u><iframe></u> , <u></u> , <u><input></u> , <u><link></u> , <u><script></u> , <u><style></u>	Script to be run when the element is finished loading
<u>onloadeddata</u>	<u><audio></u> , <u><video></u>	Script to be run when media data is loaded
<u>onloadedmetadata</u>	<u><audio></u> , <u><video></u>	Script to be run when meta data (like dimensions and duration) are loaded
<u>onloadstart</u>	<u><audio></u> , <u><video></u>	Script to be run just as the file begins to load before anything is actually loaded
<u>onmousedown</u>	All visible elements.	Script to be run when a mouse button is pressed down on an element
<u>onmousemove</u>	All visible elements.	Script to be run as long as the mouse pointer is moving over an element
<u>onmouseout</u>	All visible elements.	Script to be run when a mouse pointer moves out of an element
<u>onmouseover</u>	All visible elements.	Script to be run when a mouse pointer moves over an element

onmouseup	All visible elements.	Script to be run when a mouse button is released over an element
onmousewheel	All visible elements.	Script to be run when a mouse wheel is being scrolled over an element
onoffline	<body>	Script to be run when the browser starts to work offline
ononline	<body>	Script to be run when the browser starts to work online
onpagehide	<body>	Script to be run when a user navigates away from a page
onpageshow	<body>	Script to be run when a user navigates to a page
onpaste	All visible elements.	Script to be run when the user pastes some content in an element
onpause	<audio> , <video>	Script to be run when the media is paused either by the user or programmatically
onplay	<audio> , <video>	Script to be run when the media has started playing
onplaying	<audio> , <video>	Script to be run when the media has started playing

onpopstate	<body>	Script to be run when the window's history changes.
onprogress	<audio> , <video>	Script to be run when the browser is in the process of getting the media data
onratechange	<audio> , <video>	Script to be run each time the playback rate changes (like when a user switches to a slow motion or fast forward mode).
onreset	<form>	Script to be run when a reset button in a form is clicked.
onresize	<body>	Script to be run when the browser window is being resized.
onscroll	All visible elements.	Script to be run when an element's scrollbar is being scrolled
onsearch	<input>	Script to be run when the user writes something in a search field (for <code><input type="search"></code>)
onseeked	<audio> , <video>	Script to be run when the seeking attribute is set to false indicating that seeking has ended
onseeking	<audio> , <video>	Script to be run when the seeking attribute is set to true indicating that seeking is active
onselect	All visible elements.	Script to be run when the element gets selected

onstalled	<audio> , <video>	Script to be run when the browser is unable to fetch the media data for whatever reason
onstorage	<body>	Script to be run when a Web Storage area is updated
onsubmit	<form>	Script to be run when a form is submitted
onsuspended	<audio> , <video>	Script to be run when fetching the media data is stopped before it is completely loaded for whatever reason
ontimeupdate	<audio> , <video>	Script to be run when the playing position has changed (like when the user fast forwards to a different point in the media)
ontoggle	<details>	Script to be run when the user opens or closes the <details> element
onunload	<body>	Script to be run when a page has unloaded (or the browser window has been closed)
onvolumechange	<audio> , <video>	Script to be run each time the volume of a video/audio has been changed
onwaiting	<audio> , <video>	Script to be run when the media has paused but is expected to resume (like when the media pauses to buffer more data)

onwheel	All visible elements.	Script to be run when the mouse wheel rolls up or down over an element
open	<details>	Specifies that the details should be visible (open) to the user
optimum	<meter>	Specifies what value is the optimal value for the gauge
pattern	<input>	Specifies a regular expression that an <input> element's value is checked against
placeholder	<input> , <textarea>	Specifies a short hint that describes the expected value of the element
popover	Global Attributes	Specifies a popover element
popovertarget	<button> , <input>	Specifies which popover element to invoke
popoveraction	<button> , <input>	Specifies what happens to the popover element when the button is clicked
poster	<video>	Specifies an image to be shown while the video is downloading, or until the user hits the play button
preload	<audio> , <video>	Specifies if and how the author thinks the audio/video should be loaded when the page loads

readonly	<input> , <textarea>	Specifies that the element is read-only
rel	<a> , <area> , <form> , <link>	Specifies the relationship between the current document and the linked document
required	<input> , <select> , <textarea>	Specifies that the element must be filled out before submitting the form
reversed		Specifies that the list order should be descending (9,8,7...)
rows	<textarea>	Specifies the visible number of lines in a text area
rowspan	<td> , <th>	Specifies the number of rows a table cell should span
sandbox	<iframe>	Enables an extra set of restrictions for the content in an <iframe>
scope	<th>	Specifies whether a header cell is a header for a column, row, or group of columns or rows
selected	<option>	Specifies that an option should be pre-selected when the page loads
shape	<area>	Specifies the shape of the area

size	<input> , <select>	Specifies the width, in characters (for <input>) or specifies the number of visible options (for <select>)
sizes	 , <link> , <source>	Specifies the size of the linked resource
span	<col> , <colgroup>	Specifies the number of columns to span
spellcheck	Global Attributes	Specifies whether the element is to have its spelling and grammar checked or not
src	<audio> , <embed> , <iframe> , , <input> , <script> , <source> , <track> , <video>	Specifies the URL of the media file
srcdoc	<iframe>	Specifies the HTML content of the page to show in the <iframe>
srclang	<track>	Specifies the language of the track text data (required if kind="subtitles")
srcset	 , <source>	Specifies the URL of the image to use in different situations
start		Specifies the start value of an ordered list

<u>step</u>	<u><input></u>	Specifies the legal number intervals for an input field
<u>style</u>	<u>Global Attributes</u>	Specifies an inline CSS style for an element
<u>tabindex</u>	<u>Global Attributes</u>	Specifies the tabbing order of an element
<u>target</u>	<u><a></u> , <u><area></u> , <u><base></u> , <u><form></u>	Specifies the target for where to open the linked document or where to submit the form
<u>title</u>	<u>Global Attributes</u>	Specifies extra information about an element
<u>translate</u>	<u>Global Attributes</u>	Specifies whether the content of an element should be translated or not
<u>type</u>	<u><a></u> , <u><button></u> , <u><embed></u> , <u><input></u> , <u><link></u> , <u><menu></u> , <u><object></u> , <u><script></u> , <u><source></u> , <u><style></u>	Specifies the type of element
<u>usemap</u>	<u></u> , <u><object></u>	Specifies an image as a client-side image map
<u>value</u>	<u><button></u> , <u><input></u> , <u></u> , <u><option></u> , <u><meter></u> , <u><progress></u> , <u><param></u>	Specifies the value of the element
<u>width</u>	<u><canvas></u> , <u><embed></u> , <u><iframe></u> , <u></u> , <u><i</u>	Specifies the width of the element

[nput](#)>, [<object](#)>, [<video](#)>

[wrap](#)

[<textarea](#)>

Specifies how the text in a text area is to be wrapped when submitted in a form

HTML Global Attributes

HTML Global Attributes

The global attributes are attributes that can be used with all HTML elements.

Attribute	Description
accesskey	Specifies a shortcut key to activate/focus an element
class	Specifies one or more classnames for an element (refers to a class in a style sheet)
contenteditable	Specifies whether the content of an element is editable or not
data-*	Used to store custom data private to the page or application
dir	Specifies the text direction for the content in an element

draggable	Specifies whether an element is draggable or not
enterkeyhint	Specifies the text of the enter-key on a virtual keyboard
hidden	Specifies that an element is not yet, or is no longer, relevant
id	Specifies a unique id for an element
inert	Specifies that the browser should ignore this section
inputmode	Specifies the mode of a virtual keyboard
lang	Specifies the language of the element's content
popover	Specifies a popover element
spellcheck	Specifies whether the element is to have its spelling and grammar checked or not
style	Specifies an inline CSS style for an element
tabindex	Specifies the tabbing order of an element

title	Specifies extra information about an element
translate	Specifies whether the content of an element should be translated or not

HTML Event Attributes

Global Event Attributes

HTML has the ability to let events trigger actions in a browser, like starting a JavaScript when a user clicks on an element.

To learn more about programming events, please visit our [JavaScript tutorial](#).

Below are the global event attributes that can be added to HTML elements to define event actions.

Window Event Attributes

Events triggered for the window object (applies to the <body> tag):

Attribute	Value	Description
onafterprint	<i>script</i>	Script to be run after the document is printed
onbeforeprint	<i>script</i>	Script to be run before the document is printed
onbeforeunload	<i>script</i>	Script to be run when the document is about to be unloaded

onerror	<i>script</i>	Script to be run when an error occurs
onhashchange	<i>script</i>	Script to be run when there has been changes to the anchor part of the a URL
onload	<i>script</i>	Fires after the page is finished loading
onmessage	<i>script</i>	Script to be run when the message is triggered
onoffline	<i>script</i>	Script to be run when the browser starts to work offline
ononline	<i>script</i>	Script to be run when the browser starts to work online
onpagehide	<i>script</i>	Script to be run when a user navigates away from a page
onpageshow	<i>script</i>	Script to be run when a user navigates to a page
onpopstate	<i>script</i>	Script to be run when the window's history changes
onresize	<i>script</i>	Fires when the browser window is resized

onstorage	<i>script</i>	Script to be run when a Web Storage area is updated
onunload	<i>script</i>	Fires once a page has unloaded (or the browser window has been closed)

Form Events

Events triggered by actions inside a HTML form (applies to almost all HTML elements, but is most used in form elements):

Attribute	Value	Description
onblur	<i>script</i>	Fires the moment that the element loses focus
onchange	<i>script</i>	Fires the moment when the value of the element is changed
oncontextmenu	<i>script</i>	Script to be run when a context menu is triggered
onfocus	<i>script</i>	Fires the moment when the element gets focus
oninput	<i>script</i>	Script to be run when an element gets user input
oninvalid	<i>script</i>	Script to be run when an element is invalid

onreset	<i>script</i>	Fires when the Reset button in a form is clicked
onsearch	<i>script</i>	Fires when the user writes something in a search field (for <input="search">)
onselect	<i>script</i>	Fires after some text has been selected in an element
onsubmit	<i>script</i>	Fires when a form is submitted

Keyboard Events

Attribute	Value	Description
onkeydown	<i>script</i>	Fires when a user is pressing a key
onkeypress	<i>script</i>	Fires when a user presses a key
onkeyup	<i>script</i>	Fires when a user releases a key

Mouse Events

Attribute	Value	Description
-----------	-------	-------------

onclick	<i>script</i>	Fires on a mouse click on the element
ondblclick	<i>script</i>	Fires on a mouse double-click on the element
onmousedown	<i>script</i>	Fires when a mouse button is pressed down on an element
onmousemove	<i>script</i>	Fires when the mouse pointer is moving while it is over an element
onmouseout	<i>script</i>	Fires when the mouse pointer moves out of an element
onmouseover	<i>script</i>	Fires when the mouse pointer moves over an element
onmouseup	<i>script</i>	Fires when a mouse button is released over an element
onmousewheel	<i>script</i>	Deprecated. Use the onwheel attribute instead
onwheel	<i>script</i>	Fires when the mouse wheel rolls up or down over an element

Drag Events

Attribute	Value	Description
ondrag	<i>script</i>	Script to be run when an element is dragged
ondragend	<i>script</i>	Script to be run at the end of a drag operation
ondragenter	<i>script</i>	Script to be run when an element has been dragged to a valid drop target
ondragleave	<i>script</i>	Script to be run when an element leaves a valid drop target
ondragover	<i>script</i>	Script to be run when an element is being dragged over a valid drop target
ondragstart	<i>script</i>	Script to be run at the start of a drag operation
ondrop	<i>script</i>	Script to be run when dragged element is being dropped
onscroll	<i>script</i>	Script to be run when an element's scrollbar is being scrolled

Clipboard Events

Attribute	Value	Description
oncopy	<i>script</i>	Fires when the user copies the content of an element
oncut	<i>script</i>	Fires when the user cuts the content of an element
onpaste	<i>script</i>	Fires when the user pastes some content in an element

Media Events

Events triggered by medias like videos, images and audio (applies to all HTML elements, but is most common in media elements, like `<audio>`, `<embed>`, ``, `<object>`, and `<video>`).

Tip: Look at our [HTML Audio and Video DOM Reference](#) for more information.

Attribute	Value	Description
onabort	<i>script</i>	Script to be run on abort
oncanplay	<i>script</i>	Script to be run when a file is ready to start playing (when it has buffered enough to begin)
oncanplaythrough	<i>script</i>	Script to be run when a file can be played all the way to the end without pausing for buffering

oncuechange	<i>script</i>	Script to be run when the cue changes in a <track> element
ondurationchange	<i>script</i>	Script to be run when the length of the media changes
onemptied	<i>script</i>	Script to be run when something bad happens and the file is suddenly unavailable (like unexpectedly disconnects)
onended	<i>script</i>	Script to be run when the media has reach the end (a useful event for messages like "thanks for listening")
onerror	<i>script</i>	Script to be run when an error occurs when the file is being loaded
onloadeddata	<i>script</i>	Script to be run when media data is loaded
onloadedmetadata	<i>script</i>	Script to be run when meta data (like dimensions and duration) are loaded
onloadstart	<i>script</i>	Script to be run just as the file begins to load before anything is actually loaded
onpause	<i>script</i>	Script to be run when the media is paused either by the user or programmatically

onplay	<i>script</i>	Script to be run when the media is ready to start playing
onplaying	<i>script</i>	Script to be run when the media actually has started playing
onprogress	<i>script</i>	Script to be run when the browser is in the process of getting the media data
onratechange	<i>script</i>	Script to be run each time the playback rate changes (like when a user switches to a slow motion or fast forward mode)
onseeked	<i>script</i>	Script to be run when the seeking attribute is set to false indicating that seeking has ended
onseeking	<i>script</i>	Script to be run when the seeking attribute is set to true indicating that seeking is active
onstalled	<i>script</i>	Script to be run when the browser is unable to fetch the media data for whatever reason
onsuspend	<i>script</i>	Script to be run when fetching the media data is stopped before it is completely loaded for whatever reason

ontimeupdate	<i>script</i>	Script to be run when the playing position has changed (like when the user fast forwards to a different point in the media)
onvolumechange	<i>script</i>	Script to be run each time the volume is changed which (includes setting the volume to "mute")
onwaiting	<i>script</i>	Script to be run when the media has paused but is expected to resume (like when the media pauses to buffer more data)

Misc Events

Attribute	Value	Description
ontoggle	<i>script</i>	Fires when the user opens or closes the <details> element

HTML Color Names

Color Names Supported by All Browsers

All modern browsers support the following 140 color names (click on a color name, or a hex value, to view the color as the background-color along with different text colors):

[For a full overview of HTML colors, visit our colors tutorial.](#)

[AliceBlue](#)

[#F0F8FE](#)

[AntiqueWhite](#)

[#FAEBD7](#)

<u>Aqua</u> #00FFFF
<u>Aquamarine</u> #7FFFD4
<u>Azure</u> #F0FFFF
<u>Beige</u> #F5F5DC
<u>Bisque</u> #FFE4C4
<u>Black</u> #000000
<u>BlanchedAlmond</u> #FFEBCD
<u>BlueViolet</u> #8A2BE2
<u>Brown</u> #A52A2A
<u>BurlyWood</u> #DEB887
<u>CadetBlue</u> #5F9EA0
<u>Chartreuse</u> #7FFF00
<u>Chocolate</u> #D2691E
<u>Coral</u> #FF7F50
<u>CornflowerBlue</u> #6495ED
<u>Cornsilk</u> #FFF8DC
<u>Crimson</u> #DC143C
<u>Cyan</u> #00FFFF
<u>DarkBlue</u> #00008B
<u>DarkCyan</u> #008B8B
<u>DarkGoldenRod</u> #B8860B
<u>DarkGray</u> #A9A9A9
<u>DarkGrey</u> #A9A9A9
<u>DarkGreen</u>

[#006400](#)

[DarkKhaki](#)

[#BDB76B](#)

[DarkMagenta](#)

[#8B008B](#)

[DarkOliveGreen](#)

[#556B2F](#)

[DarkOrange](#)

[#FF8C00](#)

[DarkOrchid](#)

[#9932CC](#)

[DarkRed](#)

[#8B0000](#)

[DarkSalmon](#)

[#E9967A](#)

[DarkSeaGreen](#)

[#8FBC8F](#)

[DarkSlateBlue](#)

[#483D8B](#)

[DarkSlateGray](#)

[#2F4F4F](#)

[DarkSlateGrey](#)

[#2F4F4F](#)

[DarkTurquoise](#)

[#00CED1](#)

[DarkViolet](#)

[#9400D3](#)

[DeepPink](#)

[#FF1493](#)

[DeepSkyBlue](#)

[#00BFFF](#)

[DimGray](#)

[#696969](#)

[DimGrey](#)

[#696969](#)

[DodgerBlue](#)

[#1E90FF](#)

[FireBrick](#)

[#B22222](#)

[FloralWhite](#)

[#FFFAF0](#)

[ForestGreen](#)

[#228B22](#)

[Fuchsia](#)

[#FF00FF](#)

[Gainsboro](#)

[#DCDCDC](#)

[GhostWhite](#)

[#F8F8FF](#)

<u>Gold</u> #FFD700	
<u>GoldenRod</u> #DAA520	
<u>Gray</u> #808080	
<u>Grey</u> #808080	
<u>Green</u> #008000	
<u>GreenYellow</u> #ADFF2F	
<u>HoneyDew</u> #F0FFF0	
<u>HotPink</u> #FF69B4	
<u>IndianRed</u> #CD5C5C	
<u>Indigo</u> #4B0082	
<u>Ivory</u> #FFFFFF	
<u>Khaki</u> #F0E68C	
<u>Lavender</u> #E6E6FA	
<u>LavenderBlush</u> #FFF0F5	
<u>LawnGreen</u> #7CFC00	
<u>LemonChiffon</u> #FFFACD	
<u>LightBlue</u> #ADD8E6	
<u>LightCoral</u> #F08080	
<u>LightCyan</u> #E0FFFF	
<u>LightGoldenRodYellow</u> #FAFAD2	
<u>LightGray</u> #D3D3D3	
<u>LightGrey</u> #D3D3D3	
<u>LightGreen</u> #90EE90	
<u>LightPink</u> #FFB6C1	
<u>LightSalmon</u>	

[#FFA07A](#)

[LightSeaGreen](#)

[#20B2AA](#)

[LightSkyBlue](#)

[#87CEFA](#)

[LightSlateGray](#)

[#778899](#)

[LightSlateGrey](#)

[#778899](#)

[LightSteelBlue](#)

[#B0C4DE](#)

[LightYellow](#)

[#FFFFE0](#)

[Lime](#)

[#00FF00](#)

[LimeGreen](#)

[#32CD32](#)

[Linen](#)

[#FAF0E6](#)

[Magenta](#)

[#FF00FF](#)

[Maroon](#)

[#800000](#)

[MediumAquaMarine](#)

[#66CDAA](#)

[MediumBlue](#)

[#0000CD](#)

[MediumOrchid](#)

[#BA55D3](#)

[MediumPurple](#)

[#9370DB](#)

[MediumSeaGreen](#)

[#3CB371](#)

[MediumSlateBlue](#)

[#7B68EE](#)

[MediumSpringGreen](#)

[#00FA9A](#)

[MediumTurquoise](#)

[#48D1CC](#)

[MediumVioletRed](#)

[#C71585](#)

[MidnightBlue](#)

[#191970](#)

[MintCream](#)

[#F5FFFA](#)

[MistyRose](#)

[#FFE4E1](#)

[Moccasin](#)

[#FFE4B5](#)

NavajoWhite

#FFDEAD

Navy

#000080

OldLace

#FDF5E6

Olive

#808000

OliveDrab

#6B8E23

Orange

#FFA500

OrangeRed

#FF4500

Orchid

#DA70D6

PaleGoldenRod

#EEE8AA

PaleGreen

#98FB98

PaleTurquoise

#AFEEEE

PaleVioletRed

#DB7093

PapayaWhip

#FFEFD5

PeachPuff

#FFDAB9

Peru

#CD853F

Pink

#FFC0CB

Plum

#DDA0DD

PowderBlue

#B0E0E6

Purple

#800080

RebeccaPurple

#663399

Red

#FF0000

RosyBrown

#BC8F8F

RoyalBlue

#4169E1

SaddleBrown

#8B4513

Salmon

[#FA8072](#)

[SandyBrown](#)

[#F4A460](#)

[SeaGreen](#)

[#2E8B57](#)

[SeaShell](#)

[#FFF5EE](#)

[Sienna](#)

[#A0522D](#)

[Silver](#)

[#C0C0C0](#)

[SkyBlue](#)

[#87CEEB](#)

[SlateBlue](#)

[#6A5ACD](#)

[SlateGray](#)

[#708090](#)

[SlateGrey](#)

[#708090](#)

[Snow](#)

[#FFFAFA](#)

[SpringGreen](#)

[#00FF7F](#)

[SteelBlue](#)

[#4682B4](#)

[Tan](#)

[#D2B48C](#)

[Teal](#)

[#008080](#)

[Thistle](#)

[#D8BFD8](#)

[Tomato](#)

[#FF6347](#)

[Turquoise](#)

[#40E0D0](#)

[Violet](#)

[#EE82EE](#)

[Wheat](#)

[#F5DEB3](#)

[White](#)

[#FFFFFF](#)

[WhiteSmoke](#)

[#F5F5F5](#)

[Yellow](#)

[#FFFF00](#)

[YellowGreen](#)

[#9ACD32](#)

HTML Canvas Reference

The `<canvas>` element defines a **bitmapped** area in an HTML page.

The **Canvas API** allows JavaScript to **draw graphics** on the canvas.

The Canvas API can draw shapes, lines, curves, boxes, text, and images, with colors, rotations, transparencies, and other pixel manipulations.

You can add a canvas element anywhere in an HTML page with the `<canvas>` tag:

Example

```
<canvas id="myCanvas" width="300" height="150"></canvas>
```

[Try it Yourself »](#)

You can access a `<canvas>` element with the **HTML DOM** method `getElementById()`.

To draw in the canvas you need to create a **2D context** object:

```
const myCanvas = document.getElementById("myCanvas");
const ctx = myCanvas.getContext("2d");
```

Note

The HTML `<canvas>` element itself has no drawing abilities.

You must use JavaScript to draw any graphics.

The `getContext()` method returns an object with tools (methods) for drawing.

Drawing on the Canvas

After you have created a 2D context, you can draw on the canvas.

The **fillRect()** method draws a black rectangle with a top-left corner at position 20,20. The rectangle is 150 pixel wide and 100 pixels high.

Example

```
const myCanvas = document.getElementById("myCanvas");
const ctx = myCanvas.getContext("2d");

ctx.fillRect(20, 20, 150, 100);
```

Try it Yourself »

Using Colors

The **fillStyle** property sets the fill color of the drawing object:

Example

```
const myCanvas = document.getElementById("myCanvas");
const ctx = myCanvas.getContext("2d");

ctx.fillStyle = "red";
ctx.fillRect(20, 20, 150, 100);
```

Try it Yourself »

You can also create a new `<canvas>` element with the `document.createElement()` method, and add the element to an existing HTML page:

Example

```
const myCanvas = document.createElement("canvas");
document.body.appendChild(myCanvas);
const ctx = myCanvas.getContext("2d");

ctx.fillStyle = "red";
ctx.fillRect(20, 20, 150, 100);
```

Try it Yourself »

Paths

The common way to draw on the canvas is to:

1. Begin a Path - `beginPath()`
2. Move to a Point - `moveTo()`
3. Draw in the Path - `lineTo()`
4. Draw the Path - `stroke()`

Example

```
const canvas = document.getElementById("myCanvas");
const ctx = canvas.getContext("2d");
```



```
ctx.beginPath();
ctx.moveTo(20, 20);
ctx.lineTo(20, 100);
ctx.lineTo(70, 100);
ctx.stroke();
```

[Try it Yourself »](#)

Complete Canvas API Reference

This reference covers all Properties and Methods of the `getContext("2d")` Object, used to draw text, lines, boxes, circles, pictures, and more on the canvas.

Drawing Methods

There are only 3 methods to draw directly on the canvas:

Method	Description
fillRect()	Draws a "filled" rectangle
strokeRect()	Draws a rectangle (with no fill)
clearRect()	Clears specified pixels within a rectangle

Path Methods

Method	Description
beginPath()	Begins a new path or resets the current path

[closePath\(\)](#)

Adds a line to the path from the current point to the start

[isPointInPath\(\)](#)

Returns true if the specified point is in the current path

[moveTo\(\)](#)

Moves the path to a point in the canvas (without drawing)

[lineTo\(\)](#)

Adds a line to the the path

[fill\(\)](#)

Fills the current path

[rect\(\)](#)

Adds a rectangle to the path

[stroke\(\)](#)

Draws the current path

Circles and Curves

[bezierCurveTo\(\)](#)

Adds a cubic Bézier curve to the path

[arc\(\)](#)

Adds an arc/curve (circle, or parts of a circle) to the path

[arcTo\(\)](#)

Adds an arc/curve between two tangents to the path

[quadraticCurveTo\(\)](#) Adds a quadratic Bézier curve to the path

Text

Method/Prop	Description
direction	Sets or returns the direction used to draw text
fillText()	Draws "filled" text on the canvas
font	Sets or returns the font properties for text content
measureText()	Returns an object that contains the width of the specified text
strokeText()	Draws text on the canvas
textAlign	Sets or returns the alignment for text content
textBaseline	Sets or returns the text baseline used when drawing text

Colors, Styles, and Shadows

Method/Property	Description
-----------------	-------------

[addColorStop\(\)](#)

Specifies the colors and stop positions in a gradient object

[createLinearGradient\(\)](#)

Creates a linear gradient (to use on canvas content)

[createPattern\(\)](#)

Repeats a specified element in the specified direction

[createRadialGradient\(\)](#)

Creates a radial/circular gradient (to use on canvas content)

[fillStyle](#)

Sets or returns the color, gradient, or pattern used to fill the drawing

[lineCap](#)

Sets or returns the style of the end caps for a line

[lineJoin](#)

Sets or returns the type of corner created, when two lines meet

[lineWidth](#)

Sets or returns the current line width

[miterLimit](#)

Sets or returns the maximum miter length

[shadowBlur](#)

Sets or returns the blur level for shadows

shadowColor	Sets or returns the color to use for shadows
shadowOffsetX	Sets or returns the horizontal distance of the shadow from the shape
shadowOffsetY	Sets or returns the vertical distance of the shadow from the shape
strokeStyle	Sets or returns the color, gradient, or pattern used for strokes

Transformations

Method	Description
scale()	Scales the current drawing bigger or smaller
rotate()	Rotates the current drawing
translate()	Remaps the (0,0) position on the canvas
transform()	Replaces the current transformation matrix for the drawing

[setTransform\(\)](#) Resets the current transform to the identity matrix. Then runs [transform\(\)](#)

Image Drawing

Method	Description
drawImage()	Draws an image, canvas, or video onto the canvas

The ImageData Object / Pixel Manipulation

Method/Property	Description
createImageData()	Creates a new, blank ImageData object
getImageData()	Returns an ImageData object that copies the pixel data for the specified rectangle on a canvas
ImageData.data	Returns an object that contains image data of a specified ImageData object
ImageData.height	Returns the height of an ImageData object
ImageData.width	Returns the width of an ImageData object

[putImageData\(\)](#)

Puts the image data (from a specified ImageData object) back onto the canvas

Compositing

Property	Description
globalAlpha	Sets or returns the current alpha or transparency value of the drawing
globalCompositeOperation	Sets or returns how a new image are drawn onto an existing image

Other Methods

Method	Description
clip()	Clips a region of any shape and size from the original canvas
save()	Saves the state of the current drawing context and all its attributes
restore()	Restores the previously saved state and attributes
createEvent()	

getContext()

toDataURL()

Standard Properties and Events

The canvas object also supports the standard [properties](#) and [events](#).

Related Pages







HTML tutorial: [HTML5 Canvas](#)

HTML reference: [HTML <canvas> tag](#)

Browser Support

The `<canvas>` element is an HTML5 standard (2014).

`Canvas API` is supported in all modern browsers:

					
Chrome	Edge	Firefox	Safari	Opera	IE
Yes	Yes	Yes	Yes	Yes	9-11

HTML Audio/Video DOM Reference

HTML Audio and Video DOM Reference

The HTML5 DOM has methods, properties, and events for the `<audio>` and `<video>` elements.

HTML Audio/Video Methods

Method	Description
addTextTrack()	Adds a new text track to the audio/video
canPlayType()	Checks if the browser can play the specified audio/video type
load()	Re-loads the audio/video element
play()	Starts playing the audio/video
pause()	Pauses the currently playing audio/video

HTML Audio/Video Properties

Property	Description
audioTracks	Returns an AudioTrackList object representing available audio tracks
autoplay	Sets or returns whether the audio/video should start playing as soon as it is loaded
buffered	Returns a TimeRanges object representing the buffered parts of the audio/video

<u>controller</u>	Returns the MediaController object representing the current media controller of the audio/video
<u>controls</u>	Sets or returns whether the audio/video should display controls (like play/pause etc.)
crossOrigin	Sets or returns the CORS settings of the audio/video
<u>currentSrc</u>	Returns the URL of the current audio/video
<u>currentTime</u>	Sets or returns the current playback position in the audio/video (in seconds)
<u>defaultMuted</u>	Sets or returns whether the audio/video should be muted by default
<u>defaultPlaybackRate</u>	Sets or returns the default speed of the audio/video playback
<u>duration</u>	Returns the length of the current audio/video (in seconds)
<u>ended</u>	Returns whether the playback of the audio/video has ended or not
<u>error</u>	Returns a MediaError object representing the error state of the audio/video

<u>loop</u>	Sets or returns whether the audio/video should start over again when finished
<u>mediaGroup</u>	Sets or returns the group the audio/video belongs to (used to link multiple audio/video elements)
<u>muted</u>	Sets or returns whether the audio/video is muted or not
<u>networkState</u>	Returns the current network state of the audio/video
<u>paused</u>	Returns whether the audio/video is paused or not
<u>playbackRate</u>	Sets or returns the speed of the audio/video playback
<u>played</u>	Returns a TimeRanges object representing the played parts of the audio/video
<u>preload</u>	Sets or returns whether the audio/video should be loaded when the page loads
<u>readyState</u>	Returns the current ready state of the audio/video
<u>seekable</u>	Returns a TimeRanges object representing the seekable parts of the audio/video

seeking	Returns whether the user is currently seeking in the audio/video
src	Sets or returns the current source of the audio/video element
startDate	Returns a Date object representing the current time offset
textTracks	Returns a TextTrackList object representing the available text tracks
videoTracks	Deprecated. Do not use it.
volume	Sets or returns the volume of the audio/video

HTML Audio/Video Events

Event	Description
abort	Fires when the loading of an audio/video is aborted
canplay	Fires when the browser can start playing the audio/video
canplaythrough	Fires when the browser can play through the audio/video without stopping for buffering

durationchange	Fires when the duration of the audio/video is changed
emptied	Fires when the current playlist is empty
ended	Fires when the current playlist is ended
error	Fires when an error occurred during the loading of an audio/video
loadeddata	Fires when the browser has loaded the current frame of the audio/video
loadedmetadata	Fires when the browser has loaded meta data for the audio/video
loadstart	Fires when the browser starts looking for the audio/video
pause	Fires when the audio/video has been paused
play	Fires when the audio/video has been started or is no longer paused
playing	Fires when the audio/video is playing after having been paused or stopped for buffering
progress	Fires when the browser is downloading the audio/video

ratechange	Fires when the playing speed of the audio/video is changed
seeked	Fires when the user is finished moving/skipping to a new position in the audio/video
seeking	Fires when the user starts moving/skipping to a new position in the audio/video
stalled	Fires when the browser is trying to get media data, but data is not available
suspend	Fires when the browser is intentionally not getting media data
timeupdate	Fires when the current playback position has changed
volumechange	Fires when the volume has been changed
waiting	Fires when the video stops because it needs to buffer the next frame

HTML Character Sets

Common HTML Character Sets

The default character set in HTML5 is UTF-8.

For a closer look, visit our [Complete HTML Character Set Reference](#).

Number	ASCII	ANSI	8859-1	UTF-8	Description
32					space
33	!	!	!	!	exclamation mark
34	"	"	"	"	quotation mark
35	#	#	#	#	number sign
36	\$	\$	\$	\$	dollar sign
37	%	%	%	%	percent sign
38	&	&	&	&	ampersand
39	'	'	'	'	apostrophe
40	(	(	(	(	left parenthesis
41	)	)	)	)	right parenthesis
42	*	*	*	*	asterisk

43	+	+	+	+	plus sign
44	,	,	,	,	comma
45	-	-	-	-	hyphen-minus
46	.	.	.	.	full stop
47	/	/	/	/	solidus
48	0	0	0	0	digit zero
49	1	1	1	1	digit one
50	2	2	2	2	digit two
51	3	3	3	3	digit three
52	4	4	4	4	digit four
53	5	5	5	5	digit five
54	6	6	6	6	digit six

55	7	7	7	7	digit seven
56	8	8	8	8	digit eight
57	9	9	9	9	digit nine
58	:	:	:	:	colon
59	;	;	;	;	semicolon
60	<	<	<	<	less-than sign
61	=	=	=	=	equals sign
62	>	>	>	>	greater-than sign
63	?	?	?	?	question mark
64	@	@	@	@	commercial at
65	A	A	A	A	Latin capital letter A
66	B	B	B	B	Latin capital letter B

67	C	C	C	C	Latin capital letter C
68	D	D	D	D	Latin capital letter D
69	E	E	E	E	Latin capital letter E
70	F	F	F	F	Latin capital letter F
71	G	G	G	G	Latin capital letter G
72	H	H	H	H	Latin capital letter H
73	I	I	I	I	Latin capital letter I
74	J	J	J	J	Latin capital letter J
75	K	K	K	K	Latin capital letter K
76	L	L	L	L	Latin capital letter L
77	M	M	M	M	Latin capital letter M
78	N	N	N	N	Latin capital letter N

79	O	O	O	O	Latin capital letter O
80	P	P	P	P	Latin capital letter P
81	Q	Q	Q	Q	Latin capital letter Q
82	R	R	R	R	Latin capital letter R
83	S	S	S	S	Latin capital letter S
84	T	T	T	T	Latin capital letter T
85	U	U	U	U	Latin capital letter U
86	V	V	V	V	Latin capital letter V
87	W	W	W	W	Latin capital letter W
88	X	X	X	X	Latin capital letter X
89	Y	Y	Y	Y	Latin capital letter Y
90	Z	Z	Z	Z	Latin capital letter Z

91	[	[	[	[	left square bracket
92	\	\	\	\	reverse solidus
93	]	]	]	]	right square bracket
94	^	^	^	^	circumflex accent
95	_	_	_	_	low line
96	`	`	`	`	grave accent
97	a	a	a	a	Latin small letter a
98	b	b	b	b	Latin small letter b
99	c	c	c	c	Latin small letter c
100	d	d	d	d	Latin small letter d
101	e	e	e	e	Latin small letter e
102	f	f	f	f	Latin small letter f

103	g	g	g	g	Latin small letter g
104	h	h	h	h	Latin small letter h
105	i	i	i	i	Latin small letter i
106	j	j	j	j	Latin small letter j
107	k	k	k	k	Latin small letter k
108	l	l	l	l	Latin small letter l
109	m	m	m	m	Latin small letter m
110	n	n	n	n	Latin small letter n
111	o	o	o	o	Latin small letter o
112	p	p	p	p	Latin small letter p
113	q	q	q	q	Latin small letter q
114	r	r	r	r	Latin small letter r

115	s	s	s	s	Latin small letter s
116	t	t	t	t	Latin small letter t
117	u	u	u	u	Latin small letter u
118	v	v	v	v	Latin small letter v
119	w	w	w	w	Latin small letter w
120	x	x	x	x	Latin small letter x
121	y	y	y	y	Latin small letter y
122	z	z	z	z	Latin small letter z
123	{	{	{	{	left curly bracket
124	|	|	|	|	vertical line
125	}	}	}	}	right curly bracket
126	~	~	~	~	tilde

127	DEL		
128	€		euro sign
129	• • •		NOT USED
130	,		single low-9 quotation mark
131	<i>f</i>		Latin small letter f with hook
132	„		double low-9 quotation mark
133	...		horizontal ellipsis
134	†		dagger
135	‡		double dagger
136	^		modifier letter circumflex accent
137	‰		per mille sign

138	Š			Latin capital letter S with caron
139	‹			single left-pointing angle quotation mark
140	Œ			Latin capital ligature OE
141	•	•	•	NOT USED
142	Ž			Latin capital letter Z with caron
143	•	•	•	NOT USED
144	•	•	•	NOT USED
145	‘			left single quotation mark
146	’			right single quotation mark
147	“			left double quotation mark
148	”			right double quotation mark

149	•		bullet
150	–		en dash
151	—		em dash
152	~		small tilde
153	™		trade mark sign
154	š		Latin small letter s with caron
155	›		single right-pointing angle quotation mark
156	œ		Latin small ligature oe
157	• • •		NOT USED
158	ž		Latin small letter z with caron
159	ÿ		Latin capital letter Y with diaeresis

160				no-break space
161	¡	¡	¡	inverted exclamation mark
162	¢	¢	¢	cent sign
163	£	£	£	pound sign
164	¤	¤	¤	currency sign
165	¥	¥	¥	yen sign
166	‡	‡	‡	broken bar
167	§	§	§	section sign
168	¨	¨	¨	diaeresis
169	©	©	©	copyright sign
170	ª	ª	ª	feminine ordinal indicator
171	«	«	«	left-pointing double angle quotation mark

172	¬	¬	¬	not sign
173				soft hyphen
174	®	®	®	registered sign
175	-	-	-	macron
176	°	°	°	degree sign
177	±	±	±	plus-minus sign
178	²	²	²	superscript two
179	³	³	³	superscript three
180	´	´	´	acute accent
181	μ	μ	μ	micro sign
182	¶	¶	¶	pilcrow sign
183	.	.	.	middle dot

184	¸	¸	¸	cedilla
185	¹	¹	¹	superscript one
186	º	º	º	masculine ordinal indicator
187	»	»	»	right-pointing double angle quotation mark
188	¼	¼	¼	vulgar fraction one quarter
189	½	½	½	vulgar fraction one half
190	¾	¾	¾	vulgar fraction three quarters
191	¿	¿	¿	inverted question mark
192	À	À	À	Latin capital letter A with grave
193	Á	Á	Á	Latin capital letter A with acute
194	Â	Â	Â	Latin capital letter A with circumflex

195	Ã	Ã	Ã	Latin capital letter A with tilde
196	Ä	Ä	Ä	Latin capital letter A with diaeresis
197	Å	Å	Å	Latin capital letter A with ring above
198	Æ	Æ	Æ	Latin capital letter AE
199	Ç	Ç	Ç	Latin capital letter C with cedilla
200	È	È	È	Latin capital letter E with grave
201	É	É	É	Latin capital letter E with acute
202	Ê	Ê	Ê	Latin capital letter E with circumflex
203	Ë	Ë	Ë	Latin capital letter E with diaeresis
204	Ì	Ì	Ì	Latin capital letter I with grave

205	Í	Í	Í	Latin capital letter I with acute
206	Î	Î	Î	Latin capital letter I with circumflex
207	Ï	Ï	Ï	Latin capital letter I with diaeresis
208	Ð	Ð	Ð	Latin capital letter Eth
209	Ñ	Ñ	Ñ	Latin capital letter N with tilde
210	Ò	Ò	Ò	Latin capital letter O with grave
211	Ó	Ó	Ó	Latin capital letter O with acute
212	Ô	Ô	Ô	Latin capital letter O with circumflex
213	Õ	Õ	Õ	Latin capital letter O with tilde
214	Ö	Ö	Ö	Latin capital letter O with diaeresis

215	×	×	×	multiplication sign
216	Ø	Ø	Ø	Latin capital letter O with stroke
217	Ù	Ù	Ù	Latin capital letter U with grave
218	Ú	Ú	Ú	Latin capital letter U with acute
219	Û	Û	Û	Latin capital letter U with circumflex
220	Ü	Ü	Ü	Latin capital letter U with diaeresis
221	Ý	Ý	Ý	Latin capital letter Y with acute
222	Þ	Þ	Þ	Latin capital letter Thorn
223	ß	ß	ß	Latin small letter sharp s
224	à	à	à	Latin small letter a with grave

225	á	á	á	Latin small letter a with acute
226	â	â	â	Latin small letter a with circumflex
227	ã	ã	ã	Latin small letter a with tilde
228	ä	ä	ä	Latin small letter a with diaeresis
229	å	å	å	Latin small letter a with ring above
230	æ	æ	æ	Latin small letter ae
231	ç	ç	ç	Latin small letter c with cedilla
232	è	è	è	Latin small letter e with grave
233	é	é	é	Latin small letter e with acute
234	ê	ê	ê	Latin small letter e with circumflex

235	ë	ë	ë	Latin small letter e with diaeresis
236	ì	ì	ì	Latin small letter i with grave
237	í	í	í	Latin small letter i with acute
238	î	î	î	Latin small letter i with circumflex
239	ï	ï	ï	Latin small letter i with diaeresis
240	ð	ð	ð	Latin small letter eth
241	ñ	ñ	ñ	Latin small letter n with tilde
242	ò	ò	ò	Latin small letter o with grave
243	ó	ó	ó	Latin small letter o with acute
244	ô	ô	ô	Latin small letter o with circumflex
245	õ	õ	õ	Latin small letter o with tilde

246	ö	ö	ö	Latin small letter o with diaeresis
247	÷	÷	÷	division sign
248	ø	ø	ø	Latin small letter o with stroke
249	ù	ù	ù	Latin small letter u with grave
250	ú	ú	ú	Latin small letter u with acute
251	û	û	û	Latin small letter with circumflex
252	ü	ü	ü	Latin small letter u with diaeresis
253	ý	ý	ý	Latin small letter y with acute
254	þ	þ	þ	Latin small letter thorn
255	ÿ	ÿ	ÿ	Latin small letter y with diaeresis

HTML <!DOCTYPE>

The HTML Document Type

All HTML documents must start with a [<!DOCTYPE>](#) declaration.

The declaration is not an HTML tag. It is an "information" to the browser about what document type to expect.

In HTML5, the `<!DOCTYPE>` declaration is simple:

```
<!DOCTYPE html>
```

In older documents (HTML 4 or XHTML), the declaration is more complicated because the declaration must refer to a DTD (Document Type Definition).

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
```

You can read more about document types in the [<!DOCTYPE>](#) reference.

Valid HTML Elements in Different DOCTYPES

Tag	HTML 5	HTML 4	XHTML
<a>	Yes	Yes	Yes
<abbr>	Yes	Yes	Yes
<acronym>	No	Yes	Yes
<address>	Yes	Yes	Yes

<applet>	No	Yes	No
<area>	Yes	Yes	No
<article>	Yes	No	No
<aside>	Yes	No	No
<audio>	Yes	No	No
	Yes	Yes	Yes
<base>	Yes	Yes	Yes
<basefont>	No	Yes	No
<bdi>	Yes	No	No
<bdo>	Yes	Yes	No
<big>	No	Yes	Yes
<blockquote>	Yes	Yes	Yes

<u><body></u>	Yes	Yes	Yes
<u>
</u>	Yes	Yes	Yes
<u><button></u>	Yes	Yes	Yes
<u><canvas></u>	Yes	No	No
<u><caption></u>	Yes	Yes	Yes
<u><center></u>	No	Yes	No
<u><cite></u>	Yes	Yes	Yes
<u><code></u>	Yes	Yes	Yes
<u><col></u>	Yes	Yes	No
<u><colgroup></u>	Yes	Yes	No
<u><data></u>	Yes	No	No
<u><datalist></u>	Yes	No	No

<dd>	Yes	Yes	Yes
	Yes	Yes	No
<details>	Yes	No	No
<dfn>	Yes	Yes	Yes
<dialog>	Yes	No	No
<dir>	No	Yes	No
<div>	Yes	Yes	Yes
<dl>	Yes	Yes	Yes
<dt>	Yes	Yes	Yes
	Yes	Yes	Yes
<embed>	Yes	No	No
<fieldset>	Yes	Yes	Yes

<u><figcaption></u>	Yes	No	No
<u><figure></u>	Yes	No	No
<u></u>	No	Yes	No
<u><footer></u>	Yes	No	No
<u><form></u>	Yes	Yes	Yes
<u><frame></u>	No	No	No
<u><frameset></u>	No	Yes	No
<u><h1> to <h6></u>	Yes	Yes	Yes
<u><head></u>	Yes	Yes	Yes
<u><header></u>	Yes	No	No
<u><hr></u>	Yes	Yes	Yes
<u><html></u>	Yes	Yes	Yes

<u><i></u>	Yes	Yes	Yes
<u><iframe></u>	Yes	Yes	No
<u></u>	Yes	Yes	Yes
<u><input></u>	Yes	Yes	Yes
<u><ins></u>	Yes	Yes	No
<u><kbd></u>	Yes	Yes	Yes
<u><label></u>	Yes	Yes	Yes
<u><legend></u>	Yes	Yes	Yes
<u></u>	Yes	Yes	Yes
<u><link></u>	Yes	Yes	Yes
<u><main></u>	Yes	No	No
<u><map></u>	Yes	Yes	No

<u><mark></u>	Yes	No	No
<u><meta></u>	Yes	Yes	Yes
<u><meter></u>	Yes	No	No
<u><nav></u>	Yes	No	No
<u><noframes></u>	No	Yes	No
<u><noscript></u>	Yes	Yes	Yes
<u><object></u>	Yes	Yes	Yes
<u></u>	Yes	Yes	Yes
<u><optgroup></u>	Yes	Yes	Yes
<u><option></u>	Yes	Yes	Yes
<u><output></u>	Yes	No	No
<u><p></u>	Yes	Yes	Yes

<param>	Yes	Yes	Yes
<picture>	Yes	No	No
<pre>	Yes	Yes	Yes
<progress>	Yes	No	No
<q>	Yes	Yes	Yes
<rp>	Yes	No	No
<rt>	Yes	No	No
<ruby>	Yes	No	No
<s>	Yes	Yes	No
<samp>	Yes	Yes	Yes
<script>	Yes	Yes	Yes
<section>	Yes	No	No

<u><select></u>	Yes	Yes	Yes
<u><small></u>	Yes	Yes	Yes
<u><source></u>	Yes	No	No
<u></u>	Yes	Yes	Yes
<u><strike></u>	No	Yes	No
<u></u>	Yes	Yes	Yes
<u><style></u>	Yes	Yes	Yes
<u><sub></u>	Yes	Yes	Yes
<u><summary></u>	Yes	No	No
<u><sup></u>	Yes	Yes	Yes
<u><table></u>	Yes	Yes	Yes
<u><tbody></u>	Yes	Yes	No

<td>	Yes	Yes	Yes
<template>	Yes	No	No
<textarea>	Yes	Yes	Yes
<tfoot>	Yes	Yes	No
<th>	Yes	Yes	Yes
<thead>	Yes	Yes	No
<time>	Yes	No	No
<title>	Yes	Yes	Yes
<tr>	Yes	Yes	Yes
<track>	Yes	No	No
<tt>	No	Yes	Yes
<u>	Yes	Yes	No

	Yes	Yes	Yes
<var>	Yes	Yes	Yes
<video>	Yes	No	No
<wbr>	Yes	No	No

HTML URL Encoding Reference

URL - Uniform Resource Locator

Web browsers request pages from web servers by using a URL.

The URL is the address of a web page, like: **https://www.w3schools.com.**

URL Encoding (Percent Encoding)

URL encoding converts characters into a format that can be transmitted over the Internet.

URLs can only be sent over the Internet using the [ASCII character-set](#).

Since URLs often contain characters outside the ASCII set, the URL has to be converted into a valid ASCII format.

URL encoding replaces unsafe ASCII characters with a "%" followed by two hexadecimal digits.

URLs cannot contain spaces. URL encoding normally replaces a space with a plus (+) sign or with %20.

Try It Yourself

If you click the "Submit" button below, the browser will URL encode the input before it is sent to the server. A page at the server will display the received input.

Try some other input and click Submit again.

URL Encoding Functions

In JavaScript, PHP, and ASP there are functions that can be used to URL encode a string.

PHP has the `rawurlencode()` function, and ASP has the `Server.URLEncode()` function.

In JavaScript you can use the **`encodeURIComponent()`** function.

Click the "URL Encode" button to see how the JavaScript function encodes the text.

Note: The JavaScript function encodes space as `%20`.

ASCII Encoding Reference

Your browser will encode input, according to the character-set used in your page.

The default character-set in HTML5 is UTF-8.

Character	From Windows-1252	From UTF-8
space	<code>%20</code>	<code>%20</code>
!	<code>%21</code>	<code>%21</code>

"	%22	%22
#	%23	%23
\$	%24	%24
%	%25	%25
&	%26	%26
'	%27	%27
(	%28	%28
)	%29	%29
*	%2A	%2A
+	%2B	%2B
,	%2C	%2C
-	%2D	%2D

.	%2E	%2E
/	%2F	%2F
0	%30	%30
1	%31	%31
2	%32	%32
3	%33	%33
4	%34	%34
5	%35	%35
6	%36	%36
7	%37	%37
8	%38	%38
9	%39	%39

:	%3A	%3A
;	%3B	%3B
<	%3C	%3C
=	%3D	%3D
>	%3E	%3E
?	%3F	%3F
@	%40	%40
A	%41	%41
B	%42	%42
C	%43	%43
D	%44	%44
E	%45	%45

F	%46	%46
G	%47	%47
H	%48	%48
I	%49	%49
J	%4A	%4A
K	%4B	%4B
L	%4C	%4C
M	%4D	%4D
N	%4E	%4E
O	%4F	%4F
P	%50	%50
Q	%51	%51

R	%52	%52
S	%53	%53
T	%54	%54
U	%55	%55
V	%56	%56
W	%57	%57
X	%58	%58
Y	%59	%59
Z	%5A	%5A
[	%5B	%5B
\	%5C	%5C
]	%5D	%5D

^	%5E	%5E
_	%5F	%5F
`	%60	%60
a	%61	%61
b	%62	%62
c	%63	%63
d	%64	%64
e	%65	%65
f	%66	%66
g	%67	%67
h	%68	%68
i	%69	%69

j	%6A	%6A
k	%6B	%6B
l	%6C	%6C
m	%6D	%6D
n	%6E	%6E
o	%6F	%6F
p	%70	%70
q	%71	%71
r	%72	%72
s	%73	%73
t	%74	%74
u	%75	%75

v	%76	%76
w	%77	%77
x	%78	%78
y	%79	%79
z	%7A	%7A
{	%7B	%7B
|	%7C	%7C
}	%7D	%7D
~	%7E	%7E
	%7F	%7F
€	%80	%E2%82%AC
•	%81	%81

,	%82	%E2%80%9A
<i>f</i>	%83	%C6%92
„	%84	%E2%80%9E
...	%85	%E2%80%A6
†	%86	%E2%80%A0
‡	%87	%E2%80%A1
^	%88	%CB%86
‰	%89	%E2%80%B0
Š	%8A	%C5%A0
<	%8B	%E2%80%B9
Œ	%8C	%C5%92
•	%8D	%C5%8D

ž	%8E	%C5%BD
•	%8F	%8F
•	%90	%C2%90
`	%91	%E2%80%98
'	%92	%E2%80%99
“	%93	%E2%80%9C
”	%94	%E2%80%9D
•	%95	%E2%80%A2
–	%96	%E2%80%93
—	%97	%E2%80%94
~	%98	%CB%9C
™	%99	%E2%84

š	%9A	%C5%A1
>	%9B	%E2%80
œ	%9C	%C5%93
•	%9D	%9D
ž	%9E	%C5%BE
ÿ	%9F	%C5%B8
	%A0	%C2%A0
i	%A1	%C2%A1
¢	%A2	%C2%A2
£	%A3	%C2%A3
¤	%A4	%C2%A4
¥	%A5	%C2%A5

!	%A6	%C2%A6
§	%A7	%C2%A7
..	%A8	%C2%A8
©	%A9	%C2%A9
a	%AA	%C2%AA
«	%AB	%C2%AB
¬	%AC	%C2%AC
	%AD	%C2%AD
®	%AE	%C2%AE
—	%AF	%C2%AF
◦	%B0	%C2%B0
±	%B1	%C2%B1

2	%B2	%C2%B2
3	%B3	%C2%B3
'	%B4	%C2%B4
μ	%B5	%C2%B5
¶	%B6	%C2%B6
.	%B7	%C2%B7
¸	%B8	%C2%B8
1	%B9	%C2%B9
o	%BA	%C2%BA
»	%BB	%C2%BB
¼	%BC	%C2%BC
½	%BD	%C2%BD

¾	%BE	%C2%BE
¿	%BF	%C2%BF
À	%C0	%C3%80
Á	%C1	%C3%81
Â	%C2	%C3%82
Ã	%C3	%C3%83
Ä	%C4	%C3%84
Å	%C5	%C3%85
Æ	%C6	%C3%86
Ç	%C7	%C3%87
È	%C8	%C3%88
É	%C9	%C3%89

Ê	%CA	%C3%8A
Ë	%CB	%C3%8B
Ì	%CC	%C3%8C
Í	%CD	%C3%8D
Î	%CE	%C3%8E
Ï	%CF	%C3%8F
Ð	%D0	%C3%90
Ñ	%D1	%C3%91
Ò	%D2	%C3%92
Ó	%D3	%C3%93
Ô	%D4	%C3%94
Õ	%D5	%C3%95

Ö	%D6	%C3%96
×	%D7	%C3%97
Ø	%D8	%C3%98
Ù	%D9	%C3%99
Ú	%DA	%C3%9A
Û	%DB	%C3%9B
Ü	%DC	%C3%9C
Ý	%DD	%C3%9D
Þ	%DE	%C3%9E
ß	%DF	%C3%9F
à	%E0	%C3%A0
á	%E1	%C3%A1

â	%E2	%C3%A2
ã	%E3	%C3%A3
ä	%E4	%C3%A4
å	%E5	%C3%A5
æ	%E6	%C3%A6
ç	%E7	%C3%A7
è	%E8	%C3%A8
é	%E9	%C3%A9
ê	%EA	%C3%AA
ë	%EB	%C3%AB
ì	%EC	%C3%AC
í	%ED	%C3%AD

î	%EE	%C3%AE
ï	%EF	%C3%AF
ð	%F0	%C3%B0
ñ	%F1	%C3%B1
ò	%F2	%C3%B2
ó	%F3	%C3%B3
ô	%F4	%C3%B4
õ	%F5	%C3%B5
ö	%F6	%C3%B6
÷	%F7	%C3%B7
ø	%F8	%C3%B8
ù	%F9	%C3%B9

ú	%FA	%C3%BA
û	%FB	%C3%BB
ü	%FC	%C3%BC
ý	%FD	%C3%BD
þ	%FE	%C3%BE
ÿ	%FF	%C3%BF

URL Encoding Reference

The ASCII control characters **%00-%1F** were originally designed to control hardware devices.

Control characters have nothing to do inside a URL.

ASCII Character	Description	URL-encoding
NUL	null character	%00
SOH	start of header	%01
STX	start of text	%02

ETX	end of text	%03
EOT	end of transmission	%04
ENQ	enquiry	%05
ACK	acknowledge	%06
BEL	bell (ring)	%07
BS	backspace	%08
HT	horizontal tab	%09
LF	line feed	%0A
VT	vertical tab	%0B
FF	form feed	%0C
CR	carriage return	%0D
SO	shift out	%0E

SI	shift in	%0F
DLE	data link escape	%10
DC1	device control 1	%11
DC2	device control 2	%12
DC3	device control 3	%13
DC4	device control 4	%14
NAK	negative acknowledge	%15
SYN	synchronize	%16
ETB	end transmission block	%17
CAN	cancel	%18
EM	end of medium	%19
SUB	substitute	%1A

ESC	escape	%1B
FS	file separator	%1C
GS	group separator	%1D
RS	record separator	%1E
US	unit separator	%1F

HTML Language Code Reference

ISO Language Codes

You should always include the [lang](#) attribute inside the [<html>](#) tag, to declare the language of the Web page. This is meant to assist search engines and browsers:

```
<html lang="en">  
...  
</html>
```

In XHTML, the language is declared inside the [<html>](#) tag as follows:

```
<html xmlns="http://www.w3.org/1999/xhtml" lang="en" xml:lang="en">  
...  
</html>
```

ISO 639-1 Language Codes

ISO 639-1 defines abbreviations for languages:

See also: [Reference for Country Codes](#).

Language	ISO Code
Abkhazian	ab
Afar	aa
Afrikaans	af
Akan	ak
Albanian	sq
Amharic	am
Arabic	ar
Aragonese	an
Armenian	hy
Assamese	as
Avaric	av

Avestan	ae
Aymara	ay
Azerbaijani	az
Bambara	bm
Bashkir	ba
Basque	eu
Belarusian	be
Bengali (Bangla)	bn
Bihari	bh
Bislama	bi
Bosnian	bs
Breton	br

Bulgarian	bg
Burmese	my
Catalan	ca
Chamorro	ch
Chechen	ce
Chichewa, Chewa, Nyanja	ny
Chinese	zh
Chinese (Simplified)	zh-Hans
Chinese (Traditional)	zh-Hant
Chuvash	cv
Cornish	kw
Corsican	co

Cree	cr
Croatian	hr
Czech	cs
Danish	da
Divehi, Dhivehi, Maldivian	dv
Dutch	nl
Dzongkha	dz
English	en
Esperanto	eo
Estonian	et
Ewe	ee
Faroese	fo

Fijian	fj
Finnish	fi
French	fr
Fula, Fulah, Pulaar, Pular	ff
Galician	gl
Gaelic (Scottish)	gd
Gaelic (Manx)	gv
Georgian	ka
German	de
Greek	el
Greenlandic	kl
Guarani	gn

Gujarati	gu
Haitian Creole	ht
Hausa	ha
Hebrew	he
Herero	hz
Hindi	hi
Hiri Motu	ho
Hungarian	hu
Icelandic	is
Ido	io
Igbo	ig
Indonesian	id, in

Interlingua	ia
Interlingue	ie
Inuktitut	iu
Inupiak	ik
Irish	ga
Italian	it
Japanese	ja
Javanese	jv
Kalaallisut, Greenlandic	kl
Kannada	kn
Kanuri	kr
Kashmiri	ks

Kazakh	kk
Khmer	km
Kikuyu	ki
Kinyarwanda (Rwanda)	rw
Kirundi	rn
Kyrgyz	ky
Komi	kv
Kongo	kg
Korean	ko
Kurdish	ku
Kwanyama	kj
Lao	lo

Latin	la
Latvian (Lettish)	lv
Limburgish (Limburger)	li
Lingala	ln
Lithuanian	lt
Luga-Katanga	lu
Luganda, Ganda	lg
Luxembourgish	lb
Manx	gv
Macedonian	mk
Malagasy	mg
Malay	ms

Malayalam	ml
Maltese	mt
Maori	mi
Marathi	mr
Marshallese	mh
Moldavian	mo
Mongolian	mn
Nauru	na
Navajo	nv
Ndonga	ng
Northern Ndebele	nd
Nepali	ne

Norwegian	no
Norwegian bokmål	nb
Norwegian nynorsk	nn
Nuosu	ii
Occitan	oc
Ojibwe	oj
Old Church Slavonic, Old Bulgarian	cu
Oriya	or
Oromo (Afaan Oromo)	om
Ossetian	os
Pāli	pi
Pashto, Pushto	ps

Persian (Farsi)	fa
Polish	pl
Portuguese	pt
Punjabi (Eastern)	pa
Quechua	qu
Romansh	rm
Romanian	ro
Russian	ru
Sami	se
Samoan	sm
Sango	sg
Sanskrit	sa

Serbian	sr
Serbo-Croatian	sh
Sesotho	st
Setswana	tn
Shona	sn
Sichuan Yi	ii
Sindhi	sd
Sinhalese	si
Siswati	ss
Slovak	sk
Slovenian	sl
Somali	so

Southern Ndebele	nr
Spanish	es
Sundanese	su
Swahili (Kiswahili)	sw
Swati	ss
Swedish	sv
Tagalog	tl
Tahitian	ty
Tajik	tg
Tamil	ta
Tatar	tt
Telugu	te

Thai	th
Tibetan	bo
Tigrinya	ti
Tonga	to
Tsonga	ts
Turkish	tr
Turkmen	tk
Twi	tw
Uyghur	ug
Ukrainian	uk
Urdu	ur
Uzbek	uz

Venda	ve
Vietnamese	vi
Volapük	vo
Wallon	wa
Welsh	cy
Wolof	wo
Western Frisian	fy
Xhosa	xh
Yiddish	yi, ji
Yoruba	yo
Zhuang, Chuang	za
Zulu	zu

HTML ISO Country Codes Reference

ISO Country Codes

In HTML, country codes can be used as an addition to the language code in the [lang](#) attribute.

The first two characters of a language code defines the language of the Web page (See [Language Code Reference](#)).

The last two characters define the country.

The following example specifies English as language and United States as country:

```
<html lang="en-US">  
...  
</html>
```

ISO Country Codes

Country	ISO Code
AFGHANISTAN	AF
ALBANIA	AL
ALGERIA	DZ
AMERICAN SAMOA	AS
ANDORRA	AD

ANGOLA	AO
ANTARCTICA	AQ
ANTIGUA AND BARBUDA	AG
ARGENTINA	AR
ARMENIA	AM
ARUBA	AW
AUSTRALIA	AU
AUSTRIA	AT
AZERBAIJAN	AZ
BAHAMAS	BS
BAHRAIN	BH
BANGLADESH	BD

BARBADOS	BB
BELARUS	BY
BELGIUM	BE
BELIZE	BZ
BENIN	BJ
BERMUDA	BM
BHUTAN	BT
BOLIVIA	BO
BOSNIA AND HERZEGOVINA	BA
BOTSWANA	BW
BOUVET ISLAND	BV
BRAZIL	BR

BRITISH INDIAN OCEAN TERRITORY	IO
BRUNEI DARUSSALAM	BN
BULGARIA	BG
BURKINA FASO	BF
BURUNDI	BI
CAMBODIA	KH
CAMEROON	CM
CANADA	CA
CAPE VERDE	CV
CAYMAN ISLANDS	KY
CENTRAL AFRICAN REPUBLIC	CF
CHAD	TD

CHILE	CL
CHINA	CN
CHRISTMAS ISLAND	CX
COCOS (KEELING) ISLANDS	CC
COLOMBIA	CO
COMOROS	KM
CONGO	CG
CONGO, THE DEMOCRATIC REPUBLIC OF THE	CD
COOK ISLANDS	CK
COSTA RICA	CR
CÔTE D'IVOIRE	CI
CROATIA	HR

CUBA	CU
CYPRUS	CY
CZECH REPUBLIC	CZ
DENMARK	DK
DJIBOUTI	DJ
DOMINICA	DM
DOMINICAN REPUBLIC	DO
ECUADOR	EC
EGYPT	EG
EL SALVADOR	SV
EQUATORIAL GUINEA	GQ
ERITREA	ER

ESTONIA	EE
ETHIOPIA	ET
FALKLAND ISLANDS (MALVINAS)	FK
FAROE ISLANDS	FO
FIJI	FJ
FINLAND	FI
FRANCE	FR
FRENCH GUIANA	GF
FRENCH POLYNESIA	PF
FRENCH SOUTHERN TERRITORIES	TF
GABON	GA
GAMBIA	GM

GEORGIA	GE
GERMANY	DE
GHANA	GH
GIBRALTAR	GI
GREECE	GR
GREENLAND	GL
GRENADA	GD
GUADELOUPE	GP
GUAM	GU
GUATEMALA	GT
GUINEA	GN
GUINEA-BISSAU	GW

GUYANA	GY
HAITI	HT
HEARD ISLAND AND MCDONALD ISLANDS	HM
HONDURAS	HN
HONG KONG	HK
HUNGARY	HU
ICELAND	IS
INDIA	IN
INDONESIA	ID
IRAN, ISLAMIC REPUBLIC OF	IR
IRAQ	IQ
IRELAND	IE

ISRAEL	IL
ITALY	IT
JAMAICA	JM
JAPAN	JP
JORDAN	JO
KAZAKHSTAN	KZ
KENYA	KE
KIRIBATI	KI
KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF	KP
KOREA, REPUBLIC OF	KR
KUWAIT	KW
KYRGYZSTAN	KG

LAO PEOPLE'S DEMOCRATIC REPUBLIC (LAOS)	LA
LATVIA	LV
LEBANON	LB
LESOTHO	LS
LIBERIA	LR
LIBYA, STATE OF	LY
LIECHTENSTEIN	LI
LITHUANIA	LT
LUXEMBOURG	LU
MACAO	MO
MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF	MK
MADAGASCAR	MG

MALAWI	MW
MALAYSIA	MY
MALDIVES	MV
MALI	ML
MALTA	MT
MARSHALL ISLANDS	MH
MARTINIQUE	MQ
MAURITANIA	MR
MAURITIUS	MU
MAYOTTE	YT
MEXICO	MX
MICRONESIA, FEDERATED STATES OF	FM

MOLDOVA, REPUBLIC OF	MD
MONACO	MC
MONGOLIA	MN
MONTENEGRO	ME
MONTSERRAT	MS
MOROCCO	MA
MOZAMBIQUE	MZ
MYANMAR	MM
NAMIBIA	NA
NAURU	NR
NEPAL, FEDERAL DEMOCRATIC REPUBLIC OF	NP
NETHERLANDS	NL

NETHERLANDS ANTILLES	AN
NEW CALEDONIA	NC
NEW ZEALAND	NZ
NICARAGUA	NI
NIGER	NE
NIGERIA	NG
NIUE	NU
NORFOLK ISLAND	NF
NORTHERN MARIANA ISLANDS	MP
NORWAY	NO
OMAN	OM
PAKISTAN	PK

PALAU	PW
PALESTINE, STATE OF	PS
PANAMA	PA
PAPUA NEW GUINEA	PG
PARAGUAY	PY
PERU	PE
PHILIPPINES	PH
PITCAIRN	PN
POLAND	PL
PORTUGAL	PT
PUERTO RICO	PR
QATAR	QA

RÉUNION	RE
ROMANIA	RO
RUSSIAN FEDERATION	RU
RWANDA	RW
SAINT HELENA	SH
SAINT KITTS AND NEVIS	KN
SAINT LUCIA	LC
SAINT PIERRE AND MIQUELON	PM
SAINT VINCENT AND THE GRENADINES	VC
SAMOA	WS
SAN MARINO	SM
SAO TOME AND PRINCIPE	ST

SAUDI ARABIA	SA
SENEGAL	SN
SERBIA	RS
SEYCHELLES	SC
SIERRA LEONE	SL
SINGAPORE	SG
SLOVAKIA	SK
SLOVENIA	SI
SOLOMON ISLANDS	SB
SOMALIA	SO
SOUTH AFRICA	ZA
SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS	GS

SOUTH SUDAN	SS
SPAIN	ES
SRI LANKA	LK
SUDAN	SD
SURINAME	SR
SVALBARD AND JAN MAYEN	SJ
SWAZILAND	SZ
SWEDEN	SE
SWITZERLAND	CH
SYRIAN ARAB REPUBLIC	SY
TAIWAN	TW
TAJIKISTAN	TJ

TANZANIA, UNITED REPUBLIC OF	TZ
THAILAND	TH
TIMOR-LESTE	TL
TOGO	TG
TOKELAU	TK
TONGA	TO
TRINIDAD AND TOBAGO	TT
TUNISIA	TN
TURKEY	TR
TURKMENISTAN	TM
TURKS AND CAICOS ISLANDS	TC
TUVALU	TV

UGANDA	UG
UKRAINE	UA
UNITED ARAB EMIRATES	AE
UNITED KINGDOM	GB
UNITED STATES	US
UNITED STATES MINOR OUTLYING ISLANDS	UM
URUGUAY	UY
UZBEKISTAN	UZ
VANUATU	VU
VENEZUELA	VE
VIET NAM	VN
VIRGIN ISLANDS, BRITISH	VG

VIRGIN ISLANDS, U.S.	VI
WALLIS AND FUTUNA	WF
WESTERN SAHARA	EH
YEMEN	YE
ZAMBIA	ZM
ZIMBABWE	ZW

HTTP Status Messages

HTML Error Messages

When a browser requests a service from a web server, an error might occur, and the server might return an error code like "404 Not Found".

It is common to name these errors HTML error messages.

But these messages are something called HTTP status messages. In fact, the server always returns a message for every request. The most common message is 200 OK.

Below is a list of HTTP status messages that might be returned:

1xx: Information

Message:	Description:
----------	--------------

100 Continue	The server has received the request headers, and the client should proceed to send the request body
101 Switching Protocols	The requester has asked the server to switch protocols
103 Early Hints	Used with the Link header to allow the browser to start preloading resources while the server prepares a response

2xx: Successful

Message:	Description:
200 OK	The request is OK (this is the standard response for successful HTTP requests)
201 Created	The request has been fulfilled, and a new resource is created
202 Accepted	The request has been accepted for processing, but the processing has not been completed
203 Non-Authoritative Information	The request has been successfully processed, but is returning information that may be from another source

204 No Content	The request has been successfully processed, but is not returning any content
205 Reset Content	The request has been successfully processed, but is not returning any content, and requires that the requester reset the document view
206 Partial Content	The server is delivering only part of the resource due to a range header sent by the client

3xx: Redirection

Message:	Description:
300 Multiple Choices	A link list. The user can select a link and go to that location. Maximum five addresses
301 Moved Permanently	The requested page has moved to a new URL
302 Found	The requested page has moved temporarily to a new URL
303 See Other	The requested page can be found under a different URL

304 Not Modified	Indicates the requested page has not been modified since last requested
307 Temporary Redirect	The requested page has moved temporarily to a new URL
308 Permanent Redirect	The requested page has moved permanently to a new URL

4xx: Client Error

Message:	Description:
400 Bad Request	The request cannot be fulfilled due to bad syntax
401 Unauthorized	The request was a legal request, but the server is refusing to respond to it. For use when authentication is possible but has failed or not yet been provided
402 Payment Required	<i>Reserved for future use</i>
403 Forbidden	The request was a legal request, but the server is refusing to respond to it

404 Not Found	The requested page could not be found but may be available again in the future
405 Method Not Allowed	A request was made of a page using a request method not supported by that page
406 Not Acceptable	The server can only generate a response that is not accepted by the client
407 Proxy Authentication Required	The client must first authenticate itself with the proxy
408 Request Timeout	The server timed out waiting for the request
409 Conflict	The request could not be completed because of a conflict in the request
410 Gone	The requested page is no longer available
411 Length Required	The "Content-Length" is not defined. The server will not accept the request without it

412 Precondition Failed	The precondition given in the request evaluated to false by the server
413 Request Too Large	The server will not accept the request, because the request entity is too large
414 Request-URI Too Long	The server will not accept the request, because the URI is too long. Occurs when you convert a POST request to a GET request with a long query information
415 Unsupported Media Type	The server will not accept the request, because the media type is not supported
416 Range Not Satisfiable	The client has asked for a portion of the file, but the server cannot supply that portion
417 Expectation Failed	The server cannot meet the requirements of the Expect request-header field

5xx: Server Error

Message:	Description:
-----------------	---------------------

500 Internal Server Error	A generic error message, given when no more specific message is suitable
501 Not Implemented	The server either does not recognize the request method, or it lacks the ability to fulfill the request
502 Bad Gateway	The server was acting as a gateway or proxy and received an invalid response from the upstream server
503 Service Unavailable	The server is currently unavailable (overloaded or down)
504 Gateway Timeout	The server was acting as a gateway or proxy and did not receive a timely response from the upstream server
505 HTTP Version Not Supported	The server does not support the HTTP protocol version used in the request
511 Network Authentication Required	The client needs to authenticate to gain network access

HTTP Request Methods

What is HTTP?

The Hypertext Transfer Protocol (HTTP) is designed to enable communications between clients and servers.

HTTP works as a request-response protocol between a client and server.

Example: A client (browser) sends an HTTP request to the server; then the server returns a response to the client. The response contains status information about the request and may also contain the requested content.

HTTP Methods

- **GET**
- **POST**
- **PUT**
- **HEAD**
- **DELETE**
- **PATCH**
- **OPTIONS**
- **CONNECT**
- **TRACE**

The two most common HTTP methods are: GET and POST.

The GET Method

GET is used to request data from a specified resource.

Note that the query string (name/value pairs) is sent in the URL of a GET request:

```
/test/demo_form.php?name1=value1&name2=value2
```

Some notes on GET requests:

- GET requests can be cached
- GET requests remain in the browser history
- GET requests can be bookmarked
- GET requests should never be used when dealing with sensitive data

- GET requests have length restrictions
- GET requests are only used to request data (not modify)

The POST Method

POST is used to send data to a server to create/update a resource.

The data sent to the server with POST is stored in the request body of the HTTP request:

```
POST /test/demo_form.php HTTP/1.1
Host: w3schools.com
```

```
name1=value1&name2=value2
```

Some notes on POST requests:

- POST requests are never cached
- POST requests do not remain in the browser history
- POST requests cannot be bookmarked
- POST requests have no restrictions on data length

Compare GET vs. POST

The following table compares the two HTTP methods: GET and POST.

	GET	POST
BACK button/Reload	Harmless	Data will be re-submitted (the browser should alert the user that the data are about to be re-submitted)
Bookmarked	Can be bookmarked	Cannot be bookmarked
Cached	Can be cached	Not cached

Encoding type	application/x-www-form-urlencoded	application/x-www-form-urlencoded or multipart/form-data. Use multipart encoding for binary data
History	Parameters remain in browser history	Parameters are not saved in browser history
Restrictions on data length	Yes, when sending data, the GET method adds the data to the URL; and the length of a URL is limited (maximum URL length is 2048 characters)	No restrictions
Restrictions on data type	Only ASCII characters allowed	No restrictions. Binary data is also allowed
Security	GET is less secure compared to POST because data sent is part of the URL Never use GET when sending passwords or other sensitive information!	POST is a little safer than GET because the parameters are not stored in browser history or in web server logs
Visibility	Data is visible to everyone in the URL	Data is not displayed in the URL

The PUT Method

PUT is used to send data to a server to create/update a resource.

The difference between POST and PUT is that PUT requests are idempotent. That is, calling the same PUT request multiple times will always produce the

same result. In contrast, calling a POST request repeatedly have side effects of creating the same resource multiple times.

The HEAD Method

HEAD is almost identical to GET, but without the response body.

In other words, if GET /users returns a list of users, then HEAD /users will make the same request but will not return the list of users.

A HEAD request is useful for checking what a GET request will return before actually making a GET request - a HEAD request can read the Content-Length header to check the size of the file, without actually downloading the file.

The DELETE Method

The DELETE method deletes the specified resource.

The PATCH Method

The PATCH method is used to apply partial modifications to a resource.

The OPTIONS Method

The OPTIONS method describes the communication options for the target resource.

The CONNECT Method

The CONNECT method is used to start a two-way communications (a tunnel) with the requested resource.

The TRACE Method

The TRACE method is used to perform a message loop-back test that tests the path for the target resource (useful for debugging purposes).

Pixels to Ems Conversion

Pixel to Em Converter

The tool below allows you to work out the em sizes from pixels (or vice versa).

- Set a default pixel size for body (usually 16px)
- Then, convert a pixel value to em, based on the default pixel size
- Or, convert an em value to pixels, based on the default pixel size

Body Font Size

In the table below, select a body font size in pixels (px) to display a complete "px to em and percent" conversion table.

Tip: The default font size is usually 16px.

px	em	percent
5px	0.3125em	31.25%
6px	0.3750em	37.50%
7px	0.4375em	43.75%
8px	0.5000em	50.00%
9px	0.5625em	56.25%
10px	0.6250em	62.50%
11px	0.6875em	68.75%
12px	0.7500em	75.00%

13px	0.8125em	81.25%
14px	0.8750em	87.50%
15px	0.9375em	93.75%
16px	1.0000em	100.00%
17px	1.0625em	106.25%
18px	1.1250em	112.50%
19px	1.1875em	118.75%
20px	1.2500em	125.00%
21px	1.3125em	131.25%
22px	1.3750em	137.50%
23px	1.4375em	143.75%
24px	1.5000em	150.00%

25px

1.5625em

156.25%

What is the difference between PX, EM and Percent?

Pixel is a static measurement, while percent and EM are relative measurements. The size of an EM or percent depends on its parent. If the text size of body is 16 pixels, then 150% or 1.5 EM will be 24 pixels (1.5 * 16). Look at [CSS Units](#) for more measurement units.

Keyboard Shortcuts

Keyboard Shortcuts for Windows and Mac

Keyboard shortcuts are often used in modern operating systems and computer software programs.

Learning and using keyboard shortcuts can save you a lot of time.

Basic Shortcuts

Description	Windows	Mac OS
Edit menu	Alt + E	Ctrl + F2 + F
File menu	Alt + F	Ctrl + F2 + E
View menu	Alt + V	Ctrl + F2 + V
Select all text	Ctrl + A	Cmd + A
Copy text	Ctrl + C	Cmd + C

Find text	Ctrl + F	Cmd + F
Find and replace text	Ctrl + H	Cmd + F
New Document	Ctrl + N	Cmd + N
Open a file	Ctrl + O	Cmd + O
Print options	Ctrl + P	Cmd + P
Save file	Ctrl + S	Cmd + S
Paste text	Ctrl + V	Cmd + V
Cut text	Ctrl + X	Cmd + X
Redo text	Ctrl + Y	Shift + Cmd + Z
Undo text	Ctrl + Z	Cmd + Z

Text Editing

Description	Windows	Mac OS
-------------	---------	--------

Cursor Movement

Go to the right or to the beginning of next line break

Right Arrow

Right Arrow

Go to the left or to the end of previous line break

Left Arrow

Left Arrow

Go up one row

Up Arrow

Up Arrow

Go down one row

Down Arrow

Down Arrow

Go to the beginning of the current line

Home

Cmd + Left Arrow

Go to the end of the current line

End

Cmd + Right Arrow

Go to the beginning of the document

Ctrl + Home

Cmd + Up Arrow

Go to the end of the document

Ctrl + End

Cmd + Down Arrow

Move up one frame

Page Up

Fn + Up Arrow

Move down one frame	Page Down	Fn + Down Arrow
Go to beginning of previous word	Ctrl + Left Arrow	Option + Left Arrow
Go to beginning of next word	Ctrl + Right Arrow	Option + Right Arrow
Go to beginning of line break	Ctrl + Up Arrow	Cmd + Left Arrow
Go to end of line break	Ctrl + Down Arrow	Cmd + Right Arrow
Text Selection		
Select characters to the left	Shift + Left Arrow	Shift + Left Arrow
Select characters to the right	Shift + Right Arrow	Shift + Right Arrow
Select lines upwards	Shift + Up Arrow	Shift + Up Arrow

Select lines downwards	Shift + Down Arrow	Shift + Down Arrow
Select words to the left	Shift + Ctrl + Left	Shift + Opt + Left
Select words to the right	Shift + Ctrl + Right	Shift + Opt + Right
Select paragraphs to the left	Shift + Ctrl + Up	Shift + Opt + Up
Select paragraphs to the right	Shift + Ctrl + Down	Shift + Opt + Down
Select text between the cursor and the beginning of the current line	Shift + Home	Cmd + Shift + Left Arrow
Select text between the cursor and the end of the current line	Shift + End	Cmd + Shift + Right Arrow
Select text between the cursor and the beginning of the document	Shift + Ctrl + Home	Cmd + Shift + Up Arrow or Cmd + Shift + Fn + Left Arrow
Select text between the cursor and the end of the document	Shift + Ctrl + End	Cmd + Shift + Down Arrow or Cmd + Shift + Fn + Right Arrow

Select one frame at a time of text above the cursor	Shift + Page Up	Shift + Fn + Up Arrow
Select one frame at a time of text below the cursor	Shift + Page Down	Shift + Fn + Down Arrow
Select all text	Ctrl + A	Cmd + A
Find text	Ctrl + F	Cmd + F
Text Formatting		
Make selected text bold	Ctrl + B	Cmd + B
Make selected text italic	Ctrl + I	Cmd + I
Underline selected text	Ctrl + U	Cmd + U
Make selected text superscript	Ctrl + Shift + =	Cmd + Shift + =
Make selected text subscript	Ctrl + =	Cmd + =

Text Editing

Delete characters to the left	Backspace	Backspace
-------------------------------	-----------	-----------

Delete characters to the right	Delete	Fn + Backspace
--------------------------------	--------	----------------

Delete words to the right	Ctrl + Del	Cmd + Backspace
---------------------------	------------	-----------------

Delete words to the left	Ctrl + Backspace	Cmd + Fn + Backspace
--------------------------	------------------	----------------------

Indent	Tab	Tab
--------	-----	-----

Outdent	Shift + Tab	Shift + Tab
---------	-------------	-------------

Copy text	Ctrl + C	Cmd + C
-----------	----------	---------

Find and replace text	Ctrl + H	Cmd + F
-----------------------	----------	---------

Paste text	Ctrl + V	Cmd + V
------------	----------	---------

Cut text	Ctrl + X	Cmd + X
----------	----------	---------

Redo text	Ctrl + Y	Shift + Cmd + Z
Undo text	Ctrl + Z	Cmd + Z

Web Browsers

Description	Windows	Mac OS
Navigation		
Scroll down a frame	Space or Page Down	Space or Fn + Down Arrow
Scroll up a frame	Shift + Space or Page Up	Shift + Space or Fn + Up Arrow
Go to bottom of the page	End	Cmd + Down Arrow
Go to top of the page	Home	Cmd + Up Arrow
Go back	Alt + Left Arrow or Backspace	Cmd + Left Arrow

Go forward	Alt + Right Arrow or Shift + Backspace	Cmd + Right Arrow
Refresh a webpage	F5	Cmd + R
Refresh a webpage (no cache)	Ctrl + F5	Cmd + Shift + R
Stop	Esc	Esc
Toggle full-screen	F11	Cmd + Shift + F
Zoom in	Ctrl + +	Cmd + +
Zoom out	Ctrl + -	Cmd + -
Zoom 100% (default)	Ctrl + 0	Cmd + 0
Open homepage	Alt + Home	Option + Home or Option + Fn + Left Arrow
Find text	Ctrl + F	Cmd + F

Tab / Window Management

Open a new tab	Ctrl + T	Cmd + T
----------------	----------	---------

Close current tab	Ctrl + W	Cmd + W
-------------------	----------	---------

Close all tabs	Ctrl + Shift + W	Cmd + Q
----------------	------------------	---------

Close all tabs except the current tab	Ctrl + Alt + F4	Cmd + Opt + W
---------------------------------------	-----------------	---------------

Go to next tab	Ctrl + Tab	Control + Tab or Cmd + Shift + Right Arrow
----------------	------------	--

Go to previous tab	Ctrl + Shift + Tab	Shift + Control + Tab or Cmd + Shift + Left Arrow
--------------------	--------------------	---

Go to a specific tab number	Ctrl + 1-8	Cmd + 1-8
-----------------------------	------------	-----------

Go to the last tab	Ctrl + 9	Cmd + 9
--------------------	----------	---------

Reopen the last closed tab	Ctrl + Shift + T	Cmd + Shift + T
Open a new window	Ctrl + N	Cmd + N
Close current window	Alt + F4	Cmd + W
Go to next window	Alt + Tab	Cmd + Tab
Go to previous window	Alt + Shift + Tab	Cmd + Shift + Tab
Reopen the last closed window	Ctrl + Shift + N	
Open links in a new tab in the background	Ctrl + Click	Cmd + Click
Open links in a new tab in the foreground	Ctrl + Shift + Click	Cmd + Shift + Click
Print current webpage	Ctrl + P	Cmd + P
Save current webpage	Ctrl + S	Cmd + S

Address Bar

Cycle between toolbar, search bar, and page elements

Tab

Tab

Go to browser's address bar

Ctrl + L or Alt + D

Cmd + L

Focus and select the browser's search bar

Ctrl + E

Cmd + E /
Cmd + K

Open the address bar location in a new tab

Alt + Enter

Opt + Enter

Display a list of previously typed addresses

F4

Add "www." to the beginning and ".com" to the end of the text typed in the address bar (e.g., type "w3schools" and press Ctrl + Enter to open "www.w3schools.com")

Ctrl + Enter

Cmd + Enter
or Control +
Enter

Bookmarks

Open the bookmarks menu

Ctrl + B

Cmd + B

Add bookmark for current page	Ctrl + D	Cmd + Opt + B or Cmd + Shift + B
Open browsing history	Ctrl + H	Cmd + Shift + H or Cmd + Y
Open download history	Ctrl + J	Cmd + J or Cmd + Shift + J

Screenshots

Description	Windows	Mac OS
Save screenshot of the whole screen as file		Cmd + Shift + 3
Copy screenshot of the whole screen to the clipboard	PrtScr (Print Screen) or Ctrl + PrtScr	Cmd + Ctrl + Shift + 3
Save screenshot of window as file		Cmd + Shift + 4, then Space
Copy screenshot of window to the clipboard	Alt + PrtScr	Cmd + Ctrl + Shift + 4, then Space

Copy screenshot of wanted area to the clipboard

Cmd + Ctrl + Shift + 4

Save screenshot of wanted area as file

Cmd + Shift + 4

Note: Due to different keyboard setups, some shortcuts may not be compatible for all users.

HTML Tags

For a complete reference guide to HTML go [here](#).

HTML `<!--...-->` Tag

Example

An HTML comment:

```
<!--This is a comment. Comments are not displayed in the browser-->
```

```
<p>This is a paragraph.</p>
```






[Try it Yourself »](#)

Definition and Usage

The comment tag is used to insert comments in the source code. Comments are not displayed in the browsers.

You can use comments to explain your code, which can help you when you edit the source code at a later date. This is especially useful if you have a lot of code.

Browser Support

Element					
---------	---	---	---	---	---

<!--...-->	Yes	Yes	Yes	Yes	Yes
------------	-----	-----	-----	-----	-----

Tips and Notes

You can use the comment tag to "hide" scripts from browsers without support for scripts (so they don't show them as plain text):

```
<script type="text/javascript">
<!--
function displayMsg() {
    alert("Hello World!")
}
//-->
</script>
```

Note: The two forward slashes at the end of comment line (//) is the JavaScript comment symbol. This prevents JavaScript from executing the --> tag.

Standard Attributes

The comment tag does not support any standard attributes.

More information about [Standard Attributes](#).

Event Attributes

The comment tag does not support any event attributes.

More information about [Event Attributes](#).

HTML <!DOCTYPE> Declaration

Example

```
<!DOCTYPE html>
<html>
<head>
<title>Title of the document</title>
</head>

<body>
The content of the document.....
</body>
```

</html>

[Try it Yourself »](#)

Definition and Usage






All HTML documents must start with a `<!DOCTYPE>` declaration.

The declaration is not an HTML tag. It is an "information" to the browser about what document type to expect.

In HTML 5, the declaration is simple:

```
<!DOCTYPE html>
```

Browser Support

Element					
<code><!DOCTYPE></code>	Yes	Yes	Yes	Yes	Yes

Older HTML Documents

In older documents (HTML 4 or XHTML), the declaration is more complicated because the declaration must refer to a DTD (Document Type Definition).

HTML 4.01:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
```

XHTML 1.1:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
"http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
```

HTML Elements and Doctypes

Look at our table of all [HTML elements, and what Doctype each element appears in](#).

Tips and Notes

Tip: The `<!DOCTYPE>` declaration is NOT case sensitive.

Examples

```
<!DOCTYPE html>
```

```
<!DocType html>
```

```
<!Doctype html>
```

```
<!doctype html>
```

HTML `<a>` Tag

Example

Create a link to W3Schools.com:

```
<a href="https://www.w3schools.com">Visit W3Schools.com!</a>
```

[Try it Yourself »](#)

More "Try it Yourself" examples below.

Definition and Usage

The `<a>` tag defines a hyperlink, which is used to link from one page to another.

The most important attribute of the `<a>` element is the `href` attribute, which indicates the link's destination.

By default, links will appear as follows in all browsers:

- An unvisited link is underlined and blue
- A visited link is underlined and purple
- An active link is underlined and red






Tips and Notes

Tip: If the `<a>` tag has no `href` attribute, it is only a placeholder for a hyperlink.

Tip: A linked page is normally displayed in the current browser window, unless you specify another target.

Tip: Use CSS to style links: [CSS Links](#) and [CSS Buttons](#).

Browser Support

Element					
<a>	Yes	Yes	Yes	Yes	Yes

Attributes

Attribute	Value	Description
download	<i>filename</i>	Specifies that the target will be downloaded when a user clicks on the hyperlink
href	<i>URL</i>	Specifies the URL of the page the link goes to
hreflang	<i>language_code</i>	Specifies the language of the linked document
media	<i>media_query</i>	Specifies what media/device the linked document is optimized for
ping	<i>list_of_URLs</i>	Specifies a space-separated list of URLs to which, when the link is followed, post requests

		with the body ping will be sent by the browser (in the background). Typically used for tracking.
referrerpolicy	no-referrer no-referrer-when-downgrade origin origin-when-cross-origin same-origin strict-origin-when-cross-origin unsafe-url	Specifies which referrer information to send with the link
rel	alternate author bookmark external help license next nofollow noreferrer noopener prev search tag	Specifies the relationship between the current document and the linked document
target	_blank _parent _self _top	Specifies where to open the linked document
type	<i>media_type</i>	Specifies the media type of the linked document

Global Attributes

The `<a>` tag also supports the [Global Attributes in HTML](#).

Event Attributes

The `<a>` tag also supports the [Event Attributes in HTML](#).

More Examples

Example

How to use an image as a link:

```
<a href="https://www.w3schools.com">  
  
</a>
```

[Try it Yourself »](#)

Example

How to open a link in a new browser window:

```
<a href="https://www.w3schools.com" target="_blank">Visit  
W3Schools.com!</a>
```

[Try it Yourself »](#)

Example

How to link to an email address:

```
<a href="mailto:someone@example.com">Send email</a>
```

[Try it Yourself »](#)

Example

How to link to a phone number:

```
<a href="tel:+4733378901">+47 333 78 901</a>
```

[Try it Yourself »](#)

Example

How to link to another section on the same page:

```
<a href="#section2">Go to Section 2</a>
```

[Try it Yourself »](#)

Example

How to link to a JavaScript:

```
<a href="javascript:alert('Hello World!');">Execute JavaScript</a>
```

[Try it Yourself »](#)

Related Pages

HTML tutorial: [HTML Links](#)

HTML DOM reference: [Anchor Object](#)

CSS Tutorial: [Styling Links](#)

Default CSS Settings

Most browsers will display the `<a>` element with the following default values:

```
a:link, a:visited {
  color: (internal value);
  text-decoration: underline;
  cursor: auto;
}

a:link:active, a:visited:active {
  color: (internal value);
}
```

HTML `<abbr>` Tag

Example

An abbreviation is marked up as follows:

The `<abbr title="World Health Organization">WHO</abbr>` was founded in 1948.

[Try it Yourself »](#)






More "Try it Yourself" examples below.

Definition and Usage

The `<abbr>` tag defines an abbreviation or an acronym, like "HTML", "CSS", "Mr.", "Dr.", "ASAP", "ATM".

Tip: Use the global [title](#) attribute to show the description for the abbreviation/acronym when you mouse over the element.

Browser Support

Element					
<code><abbr></code>	Yes	Yes	Yes	Yes	Yes

Global Attributes

The `<abbr>` tag supports the [Global Attributes in HTML](#).

Event Attributes

The `<abbr>` tag supports the [Event Attributes in HTML](#).

More Examples

Example

`<abbr>` can also be used with [<dfn>](#) to define an abbreviation:

```
<p><dfn><abbr title="Cascading Style Sheets">CSS</abbr>
</dfn> is a language that describes the style of an HTML document.</p>
```

[Try it Yourself »](#)

Related Pages

HTML DOM reference: [Abbreviation Object](#)

Default CSS Settings

Most browsers will display the `<abbr>` element with the following default values:

Example

```
abbr {  
  display: inline;  
}
```

[Try it Yourself »](#)

HTML `<acronym>` Tag

Not Supported in HTML5.

The `<acronym>` tag was used in HTML 4 to define an acronym.

What to Use Instead?

Example

An acronym or abbreviation should be marked up with the `<abbr>` tag:

The `<abbr title="World Health Organization">WHO</abbr>` was founded in 1948.

[Try it Yourself »](#)

HTML `<address>` Tag

Example

Contact information for Example.com:

```
<address>  
Written by <a href="mailto:webmaster@example.com">Jon Doe</a>.<br>  
Visit us at:<br>  
Example.com<br>  
Box 564, Disneyland<br>  
USA  
</address>
```

[Try it Yourself »](#)






Definition and Usage

The `<address>` tag defines the contact information for the author/owner of a document or an article.

The contact information can be an email address, URL, physical address, phone number, social media handle, etc.

The text in the `<address>` element usually renders in *italic*, and browsers will always add a line break before and after the `<address>` element.

Browser Support

Element					
<code><address></code>	Yes	Yes	Yes	Yes	Yes

Global Attributes

The `<address>` tag also supports the [Global Attributes in HTML](#).

Event Attributes

The `<address>` tag also supports the [Event Attributes in HTML](#).

Related Pages

HTML DOM reference: [Address Object](#)

Default CSS Settings

Most browsers will display the `<address>` element with the following default values:

Example

```
address {  
  display: block;  
  font-style: italic;  
}
```

[Try it Yourself »](#)

HTML `<applet>` Tag

Not Supported in HTML5.

The `<applet>` tag was used in HTML 4 to define an embedded applet (Plug-in).

Plug-ins

Plug-ins are a computer programs that extend the standard functionality of the browser.

Plug-ins have been used for many different purposes:

- Run Java applets
- Run ActiveX controls
- Display Flash movies
- Display maps
- Scan for viruses
- Verify a bank id

Most browsers no longer support Java Applets and Plug-ins.

ActiveX controls are no longer supported in any browsers.

The support for Shockwave Flash has also been turned off in modern browsers.

What to Use Instead?

If you want to embed a video, use the `<video>` tag:

Example

```
<video width="320" height="240" controls>
  <source src="movie.mp4" type="video/mp4">
  <source src="movie.ogg" type="video/ogg">
  Your browser does not support the video tag.
</video>
```

[Try it Yourself »](#)

If you want to embed audio, use the `<audio>` tag:

Example

```
<audio controls>
  <source src="horse.ogg" type="audio/ogg">
  <source src="horse.mp3" type="audio/mpeg">
  Your browser does not support the audio tag.
</audio>
```

[Try it Yourself »](#)

To embed objects, you can use both the `<embed>` tag and the `<object>` tags:

Example

Embed a document with the `<embed>` element:

```
<embed src="snippet.html">
```

[Try it Yourself »](#)

Example

Embed a picture with the `<embed>` element:

```
<embed src="pic_trulli.jpg">
```

[Try it Yourself »](#)

Example

Embed a document with the `<object>` element:

```
<object data="snippet.html"></object>
```

[Try it Yourself »](#)

Example

Embed a picture with the `<object>` element:

```
<object data="pic_trulli.jpg"></object>
```

[Try it Yourself »](#)

Tip: To embed a picture, it is better to use the `` tag. To embed a document, it is better to use the `<iframe>` tag.

HTML `<area>` Tag

Example

An image map, with clickable areas:

```

```

```
<map name="workmap">
  <area shape="rect" coords="34,44,270,350" alt="Computer" href="computer.htm">
```

```
<area shape="rect" coords="290,172,333,250" alt="Phone" href="phone.htm">
<area shape="circle" coords="337,300,44" alt="Cup of coffee" href="coffee.htm">
</map>
```

Try it Yourself »

More "Try it Yourself" examples below.






Definition and Usage

The `<area>` tag defines an area inside an image map (an image map is an image with clickable areas).

`<area>` elements are always nested inside a `<map>` tag.

Note: The `usemap` attribute in `` is associated with the `<map>` element's `name` attribute, and creates a relationship between the image and the map.

Browser Support

Element					
<code><area></code>	Yes	Yes	Yes	Yes	Yes

Attributes

Attribute	Value	Description
<code>alt</code>	<i>text</i>	Specifies an alternate text for the area. Required if the href attribute is present

<u>coords</u>	<i>coordinates</i>	Specifies the coordinates of the area
<u>download</u>	<i>filename</i>	Specifies that the target will be downloaded when a user clicks on the hyperlink
<u>href</u>	<i>URL</i>	Specifies the hyperlink target for the area
<u>hreflang</u>	<i>language_code</i>	Specifies the language of the target URL
<u>media</u>	<i>media query</i>	Specifies what media/device the target URL is optimized for
<u>referrerpolicy</u>	no-referrer no-referrer-when-downgrade origin origin-when-cross-origin same-origin strict-origin-when-cross-origin unsafe-url	Specifies which referrer information to send with the link
<u>rel</u>	alternate author bookmark help license next nofollow	Specifies the relationship between the current document and the target URL

	noreferrer prefetch prev search tag		
shape	default rect circle poly		Specifies the shape of the area
target	_blank _parent _self _top <i>framename</i>		Specifies where to open the target URL
type	<i>media_type</i>		Specifies the media type of the target URL

Global Attributes

The `<area>` tag also supports the [Global Attributes in HTML](#).

Event Attributes

The `<area>` tag also supports the [Event Attributes in HTML](#).

More Examples

Example

Another image map, with clickable areas:

```

```

```
<map name="planetmap">
```

```
<area shape="rect" coords="0,0,82,126" href="sun.htm" alt="Sun">
<area shape="circle" coords="90,58,3" href="mercur.htm" alt="Mercury"
>
<area shape="circle" coords="124,58,8" href="venus.htm" alt="Venus">
</map>
```

Try it Yourself »

Related Pages

HTML DOM reference: [Area Object](#)

Default CSS Settings

Most browsers will display the `<area>` element with the following default values:

```
area {
  display: none;
}
```