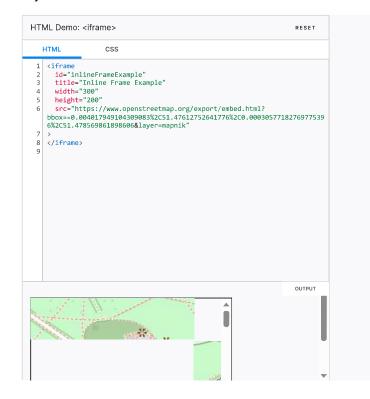
/// mdn web docs

# <iframe>: The Inline Frame element

The <iframe> HTML element represents a nested browsing context, embedding another HTML page into the current one.

# Try it



Each embedded browsing context has its own <u>document</u> and allows URL navigations. The navigations of each embedded browsing context are linearized into the <u>session history</u> of the *topmost* browsing context. The browsing context that embeds the others is called the *parent browsing context*. The *topmost* browsing context — the one with no parent — is usually the browser window, represented by the <u>window</u> object.



Warning: Because each browsing context is a complete document environment, every <iframe> in a page requires increased memory and other computing resources. While theoretically you can use as many <iframe> s as you like, check for performance problems.

# **Attributes**

This element includes the global attributes.

### allow

Specifies a Permissions Policy for the <iframe> . The policy defines what features are available to the <iframe> (for example, access to the microphone, camera, battery, web-share, etc.) based on the origin of the request.

① No

Note: A Permissions Policy specified by the allow attribute implements a further restriction on top of the policy specified in the permissions-Policy header. It doesn't replace it.

### allowfullscreen

Set to true if the <iframe> can activate fullscreen mode by calling the requestFullscreen() method.

Note: This attribute is considered a legacy attribute and redefined as allow="fullscreen".

## allowpaymentrequest $\underline{\underline{\mathbb{A}}}$

Set to true if a cross-origin <iframe> should be allowed to invoke the Payment Request API.

0

Note: This attribute is considered a legacy attribute and redefined as allow="payment".

#### credentialless $\underline{\mathbb{A}}$ $\pmb{\mathbb{A}}$

Set to true to make the <iframe> credentialless, meaning that its content will be loaded in a new, ephemeral context. It doesn't have access to the network, cookies, and storage data associated with its origin. It uses a new context local to the top-level document lifetime. In return, the Cross-Origin-Embedder-Policy (COEP) embedding rules can be lifted, so documents with COEP set can embed third-party documents that do not. See <a href="IFRame credentialless">IFRame credentialless</a> for more details.

#### csp 🗸

A Content Security Policy enforced for the embedded resource. See HTMLIFrameElement.csp for details.

#### height

The height of the frame in CSS pixels. Default is 150.

#### loading

Indicates how the browser should load the iframe:

- eager: Load the iframe immediately, regardless if it is outside the visible viewport (this is the default value).
- lazy: Defer loading of the iframe until it reaches a calculated distance from the viewport, as defined by the browser.

#### nama

A targetable name for the embedded browsing context. This can be used in the target attribute of the <a> or <a href="color: blue target">color: color: blue target</a> attribute of the <a href="color: blue target">color: color: blue target</a> attribute of the <a href="color: blue target">color: color: blue target</a> attribute of the <a href="color: blue target">color: color: blue target</a> attribute of the <a href="color: blue target">color: color: blue target</a> attribute of the <a href="color: blue target">color: color: blue target</a> attribute of the <a href="color: blue target">color: color: blue target</a> attribute of the <a href="color: blue target">color: color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of the <a href="color: blue target">color: blue target</a> attribute of target</a> attribute of target</a> attribute of target</a> attribute of target</a> attribute

#### referrerpolicy

Indicates which referrer to send when fetching the frame's resource:

- no-referrer: The Referer header will not be sent.
- no-referrer-when-downgrade: The <u>Referer</u> header will not be sent to <u>origin</u>s without <u>TLS</u> (<u>HTTPS</u>).
- · origin: The sent referrer will be limited to the origin of the referring page: its scheme, host, and port.
- origin-when-cross-origin: The referrer sent to other origins will be limited to the scheme, the host, and the port. Navigations on the same origin will still include the path.
- same-origin: A referrer will be sent for same origin, but cross-origin requests will contain no referrer information.
- strict-origin: Only send the origin of the document as the referrer when the protocol security level stays the same (HTTPS->HTTPS), but don't send it to a less secure destination (HTTPS->HTTP).
- strict-origin-when-cross-origin (default): Send a full URL when performing a same-origin request, only send the origin when the protocol security level stays the same (HTTPS->HTTPS), and send no header to a less secure destination (HTTPS->HTTP).
- unsafe-un1: The referrer will include the origin and the path (but not the <u>fragment</u>, <u>password</u>, or <u>username</u>). This value is unsafe, because it leaks origins and paths from TLS-protected resources to insecure origins.

#### sandbox

Controls the restrictions applied to the content embedded in the <iframe> . The value of the attribute can either be empty to apply all restrictions, or space-separated tokens to lift particular restrictions:

- allow-downloads: Allows downloading files through an <a> or <area> element with the <area> download</a> attribute, as well as through the navigation that leads to a download of a file. This works regardless of whether the user clicked on the link, or JS code initiated it without user interaction.
- ullet allow-downloads-without-user-activation  $\underline{\mathbb{A}}$ : Allows for downloads to occur without a gesture from the user.
- allow-forms: Allows the page to submit forms. If this keyword is not used, form will be displayed as normal, but submitting it will not trigger input validation, sending data to a web server or closing a dialog.
- allow-modals: Allows the page to open modal windows by <u>window.alert()</u>, <u>window.print()</u> and <u>window.prompt()</u>, while opening a <u>sdialogs</u> is allowed regardless of this keyword. It also allows the page to receive <u>BeforeUnloadEvent</u> event.
- allow-orientation-lock: Lets the resource lock the screen orientation.
- allow-pointer-lock : Allows the page to use the Pointer Lock API
- allow-popups: Allows popups (like from Window.open(), target="\_blank", Window.showModalDialog()). If this keyword is not used, that functionality will silently fail.
- allow-popups-to-escape-sandbox: Allows a sandboxed document to open new windows without forcing the sandboxing flags upon them. This will allow, for example, a third-party advertisement to be safely sandboxed without forcing the same restrictions upon the page the ad links to.
- allow-presentation: Allows embedders to have control over whether an iframe can start a presentation session.

- allow-same-origin: If this token is not used, the resource is treated as being from a special origin that always fails the <u>same-origin policy</u> (potentially preventing access to <u>data storage/cookies</u> and some JavaScript APIs).
- allow-scripts: Allows the page to run scripts (but not create pop-up windows). If this keyword is not used, this operation is not allowed.
- allow-storage-access-by-user-activation 🚨: Allows a document loaded in the <a href="frame">iframe</a> to use the <a href="Storage Access API">Storage Access API</a> to request access to unpartitioned cookies.
- allow-top-navigation: Lets the resource navigate the top-level browsing context (the one named \_top).
- allow-top-navigation-by-user-activation: Lets the resource navigate the top-level browsing context, but only if initiated by a user gesture.
- allow-top-navigation-to-custom-protocols: Allows navigations to non- http protocols built into browser or registered by a website. This feature is also activated by allow-popups or allow-top-navigation keyword.

#### note:

- When the embedded document has the same origin as the embedding page, it is **strongly discouraged** to use both **allow-scripts** and **allow-same-origin**, as that lets the embedded document remove the **sandbox** attribute making it no more secure than not using the **sandbox** attribute at all.
- Sandboxing is useless if the attacker can display content outside a sandboxed iframe such as if the viewer opens the frame in a new tab. Such content should be also served from a separate origin to limit potential damage.

src

The URL of the page to embed. Use a value of about:blank to embed an empty page that conforms to the same-origin policy. Also note that programmatically removing an <iframe> 's src attribute (e.g. via Element.removeAttribute()) causes about:blank to be loaded in the frame in Firefox (from version 65), Chromium-based browsers, and Safari/iOS.

#### srcdoc

Inline HTML to embed, overriding the src attribute. If a browser does not support the srcdoc attribute, it will fall back to the URL in the src attribute.

#### width

The width of the frame in CSS pixels. Default is 300.

#### Deprecated attributes

These attributes are deprecated and may no longer be supported by all user agents. You should not use them in new content, and try to remove them from existing content.

#### align 🖺

The alignment of this element with respect to the surrounding context.

### frameborder 📋

The value 1 (the default) draws a border around this frame. The value a removes the border around this frame, but you should instead use the CSS property border to control <iframe> borders.

### longdesc 📋

A URL of a long description of the frame's content. Due to widespread misuse, this is not helpful for non-visual browsers.

#### marginheight 🗎

The amount of space in pixels between the frame's content and its top and bottom borders.

# marginwidth 🗓

The amount of space in pixels between the frame's content and its left and right borders.

#### scrolling 🗓

Indicates when the browser should provide a scrollbar for the frame:

- auto: Only when the frame's content is larger than its dimensions.
- yes: Always show a scrollbar.
- no : Never show a scrollbar.

### Scripting

Inline frames, like  $\frac{\text{sframe}}{\text{open}}$  elements, are included in the  $\frac{\text{window.frames}}{\text{open}}$  pseudo-array.

With the DOM HTMLTFrameElement object, scripts can access the window object of the framed resource via the contentWindow property. The contentDocument property refers to the document inside the ciframe>, same as contentWindow.document.

From the inside of a frame, a script can get a reference to its parent window with window.parent.

Script access to a frame's content is subject to the <u>same-origin policy</u>. Scripts cannot access most properties in other <u>window</u> objects if the script was loaded from a different origin, including scripts inside a frame accessing the frame's parent. Cross-origin communication can be achieved using <u>Window, postNessage()</u>.

# Positioning and scaling

As a replaced element, the position, alignment, and scaling of the embedded document within the <iframe> element's box, can be adjusted with the object-position and object-fit properties.

# **Examples**

# A simple <iframe>

This example embeds the page at  $\underline{\text{https://example.org}} \ \square$  in an iframe.

### HTML

```
HTML

<iframe

src="https://example.org"

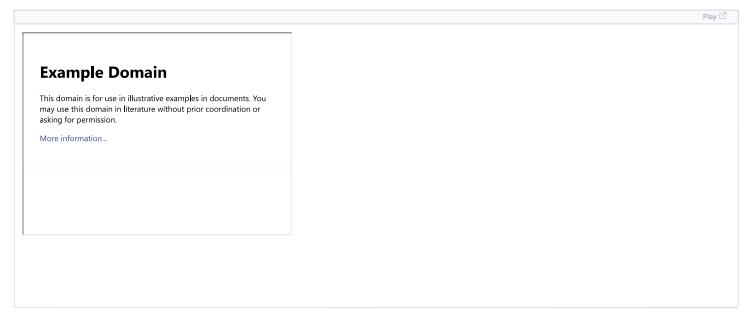
title="iframe Example 1"

width="400"

height="300">

</iframe>
```

# Result



### Accessibility concerns

People navigating with assistive technology such as a screen reader can use the <a href="https://rithe.attribute">https://rithe.attribute</a> on an <a href="https://rithe.attribute">41 frame</a> to label its content. The title's value should concisely describe the embedded content:

```
HTML

<iframe

title="Wikipedia page for Avocados"

src="https://en.wikipedia.org/wiki/Avocado"></iframe>
```

Without this title, they have to navigate into the <iframe> to determine what its embedded content is. This context shift can be confusing and time-consuming, especially for pages with multiple <iframe> s and/or if embeds contain interactive content like video or audio.

### Technical summary

| Content categories | Flow content, phrasing content, embedded content, interactive content, palpable content. |
|--------------------|--|
| Permitted content  | None.  |
| Tag omission       | None, both the starting and ending tag are mandatory.                                    |
| Permitted parents  | Any element that accepts embedded content.   |

| Implicit ARIA role   | No corresponding role ☑                                   |  |  |  |  |  |  |
|----------------------|---|--|--|--|--|--|--|
| Permitted ARIA roles | <pre>application, document, img, none, presentation</pre> |  |  |  |  |  |  |
| DOM interface        | HTMLIFrameElement   |  |  |  |  |  |  |

# **Specifications**

Specification

HTML Standard
# the-iframe-element

# Browser compatibility

Report problems with this compatibility data on GitHub  ${\cite{10}}$ 

|   | <del>-</del>    |                  |                   |                |                   | Ц                         |                                    |                           |                  |  |  |
|---|-----------------|------------------|-------------------|----------------|-------------------|---------------------------|------------------------------------|---------------------------|------------------|--|--|
|   | © Chrome        | ු Edge           | • Firefox         | O Opera        | Safari            | Chrome Android            | Firefox for Android                | O Opera Android           | © Cafari on iOS  |  |  |
|   | ✓ Chrome 1      |                  |                   | ✓ Opera 15     |                   |                           |                                    |                           |                  |  |  |
| iframe  | Chrome 1        | ✓ Edge 12        | ✓ Firefox 1 *     | ✓ Opera 15     | ✓ Safari 4 *      | ✓ Chrome 18 Android       | ✓ Firefox 4 ★ for Android          | ✓ Opera 14 Android        | ✓ Safar<br>on iO |  |  |
| align 🛍   | ✓ Chrome 1      | ✓ Edge 12        | ✓ Firefox 1       | ✓ Opera 15     | ✓ Safari 3        | ✓ Chrome 18<br>Android    | ✓ Firefox for 4 Android            | ✓ Opera 14<br>Android     | ✓ Safa           |  |  |
| allow   | ✓ Chrome 60     | ✓ Edge 79        | ✓ Firefox 74      | ✓ Opera 47     | ✓ Safari 11.1     | ✓ Chrome 60<br>Android    | Firefox for No Android             | ✓ Opera 44<br>Android     | ✓ Safar          |  |  |
| allowfullscreen   | ✓ Chrome 38 ··· | ✓ Edge 12        | ✓ Firefox 18 ···  | ✓ Opera 25 ··· | ✓ Safari 10.1 ··· | ✓ Chrome 38 ··<br>Android | ✓ Firefox 18 ···<br>for<br>Android | ✓ Opera 25 ···<br>Android | ✓ Safa<br>iC     |  |  |
| allowpaymentrequest $oxtime \Delta$   | ✓ Chrome 60     | ✓ Edge 79        | Firefox 56-<br>82 | ✓ Opera 47     | X Safari No       | ✓ Chrome 60<br>Android    | Firefox 56-<br>for 82<br>Android   | ✓ Opera 44<br>Android     | × Safa           |  |  |
| credentialless 🗸 🛕  | ✓ Chrome 110    | ✓ Edge 110       | ▼ Firefox No      | ✓ Opera 96     | X Safari No       | ✓ Chrome 110<br>Android   | Firefox for No Android             | ✓ Opera 74<br>Android     | ■ Safa           |  |  |
| external protocol illustration | ? Chrome ?      | ? Edge ?         | ✓ Firefox 67      | ? Opera ?      | ? Safari ?        | ? Chrome ? Android        | ✓ Firefox for 67 Android           | ? Opera ? Android         | ? Saf            |  |  |
| Frameborder 🟛   | ✓ Chrome 1      | ✓ Edge 12        | ✓ Firefox 1       | ✓ Opera 15     | ✓ Safari 3        | ✓ Chrome 18               | ✓ Firefox for 4 Android            | ✓ Opera 14<br>Android     | ✓ Saf            |  |  |
| height  | ✓ Chrome 1      | ✓ Edge 12        | ✓ Firefox 1       | ✓ Opera 15     | ✓ Safari 3        | ✓ Chrome 18<br>Android    | ✓ Firefox for 4 Android            | ✓ Opera 14<br>Android     | ✓ Saf            |  |  |
| oading  | ✓ Chrome 77     | ✓ Edge 79        | ▼ Firefox No *    | ✓ Opera 64     | ✓ Safari 16.4     | ✓ Chrome 77<br>Android    | Firefox No * for Android           | ✓ Opera 55<br>Android     | ✓ Safa<br>iO     |  |  |
| longdesc 🗓  | ✓ Chrome 1      | ✓ Edge 12        | ✓ Firefox 1       | ✓ Opera 15     | ✓ Safari 3        | ✓ Chrome 18<br>Android    | ✓ Firefox for 4 Android            | ✓ Opera 14<br>Android     | ✓ Saf            |  |  |
| arginheight 🏛   | ✓ Chrome 1      | ✓ Edge 12        | ✓ Firefox 1       | ✓ Opera 15     | ✓ Safari 3        | ✓ Chrome 18               | ✓ Firefox for 4 Android            | ✓ Opera 14 Android        | ✓ Saf            |  |  |
| marginwidth 🕮   | ✓ Chrome 1      | ✓ Edge 12        | ✓ Firefox 1       | ✓ Opera 15     | ✓ Safari 3        | ✓ Chrome 18               | ✓ Firefox for 4 Android            | ✓ Opera 14 Android        | ✓ Saf            |  |  |
| name  | ✓ Chrome 1      | ✓ Edge 12        | ✓ Firefox 1       | ✓ Opera 15     | ✓ Safari 3        | ✓ Chrome 18               | ✓ Firefox for 4 Android            | ✓ Opera 14 Android        | ✓ Saf            |  |  |
| referrerpolicy  | ✓ Chrome 51     | ✓ Edge 79        | ✓ Firefox 50      | ✓ Opera 38     | ✓ Safari 13       | ✓ Chrome 51               |                                    | ✓ Opera 41 Android        | ✓ Safa           |  |  |
| andbox  | ✓ Chrome 4      | ✓ Edge 12        | ✓ Firefox 17      | ✓ Opera 15     | ✓ Safari 5        | ✓ Chrome 18               |                                    | ✓ Opera 14 Android        | ✓ Safa           |  |  |
| sandbox="allow-<br>downloads"   | ✓ Chrome 83     | ✓ Edge 83        | ✓ Firefox 82      | ✓ Opera 69     | X Safari No       | ✓ Chrome 83               |                                    | ✓ Opera 59 Android        | Safa     i0      |  |  |
| sandbox="allow-@ A  | X Chrome No     | <b>≭</b> Edge No | X Firefox No      | X Opera No     | X Safari No       | Chrome No                 | Firefox for No Android             | Opera No                  | X Safa           |  |  |

| activation"   |               |                  |               |              |                 |                             |                              |                         |                         |
|---|---------------|------------------|---------------|--------------|-----------------|-----------------------------|------------------------------|-------------------------|-------------------------|
| sandbox="allow-<br>forms"                                       | ✓ Chrome 49   | ✓ Edge 79        | ✓ Firefox 49  | ✓ Opera 36   | ✓ Safari 10.1   | ✓ Chrome 49                 | ✓ Firefox for 49<br>Anæoid   | ✓ Opera 36  Android     | ✓ Safari or<br>iOS      |
| sandbox="allow-<br>modals"                                      | √ Chrome 46   | ✓ Edge 79        | ✓ Firefox 49  | ✓ Opera 33   | ✓ Safari 11.1   | ✓ Chreme 46<br>Andeoid      | ✓ Firefox for 49             | ✓ Opera 33              | ✓ Safa <u>o</u> o<br>iO |
| sandbox="allow-<br>orientation-lock"                            | ✓ Chrome 68   | ✓ Edger 79       | ✓ Firefex 49  | ✓ Opera 55   | X Safare No     | ✓ Chreme 68<br>O<br>Android | ✓ Firefex for 49             | Opera 48                | Safa o                  |
| sandbox="allow-<br>pointer-lock"                                | ✓ Chrome 49   | ✓ Edge 79        | ✓ Firefox 49  | ✓ Opera 36   | ✓ Safari 10.1   | ✓ Chrome 49<br>Android      | ✓ Firefox for 49 Android     | ✓ Opera 36<br>Android   | ✓ Safari o              |
| sandbox="allow-<br>popups"                                      | ✓ Chrome 4    | ✓ Edge 18        | ✓ Firefox 28  | ✓ Opera 15   | ✓ Safari 10.1   | ✓ Chrome 18 Android         | ✓ Firefox for 27  Android    | ✓ Opera 14<br>Android   | ✓ Safari or iOS         |
| <pre>sandbox="allow- popups-to-escape- sandbox"</pre>           | ✓ Chrome 46   | ✓ Edge 79        | ✓ Firefox 49  | ✓ Opera 33   | ✓ Safari 11.1   | ✓ Chrome 46<br>Android      | ✓ Firefox for 49<br>Android  | ✓ Opera 33<br>Android   | ✓ Safari o<br>iOS       |
| sandbox="allow-<br>presentation"                                | ✓ Chrome 53   | ✓ Edge 79        | ✓ Firefox 50  | ✓ Opera 40   | ■ Safari No     | ✓ Chrome 53<br>Android      | ✓ Firefox for 50<br>Android  | ✓ Opera 41<br>Android   | Safari o                |
| sandbox="allow-same-<br>origin"                                 | ✓ Chrome 49 🛊 | ✓ Edge 79 🛊      | ✓ Firefox 49  | ✓ Opera 36 🛊 | ✓ Safari 10.1 🛊 | ✓ Chrome 49 ★<br>Android    | ✓ Firefox for 49<br>Android  | ✓ Opera 36 ★<br>Android | ✓ Safari 1<br>on<br>iOS |
| <pre>sandbox="allow- scripts"</pre>                             | ✓ Chrome 49   | ✓ Edge 79        | ✓ Firefox 49  | ✓ Opera 36   | ✓ Safari 10.1   | ✓ Chrome 49<br>Android      | ✓ Firefox for 49 Android     | ✓ Opera 36<br>Android   | ✓ Safari or iOS         |
| sandbox="allow-<br>storage-access-by-<br>user-activation"       | ✓ Chrome 113  | ✓ Edge 113       | ➤ Firefox 65  | ✓ Opera No   | ✓ Safari 11.1   | ✓ Chrome 113<br>Android     | Firefox for No Android       | Opera No Android        | ✓ Safari o              |
| <pre>sandbox="allow-top- navigation"</pre>                      | ✓ Chrome 49   | ✓ Edge 79        | ✓ Firefox 49  | ✓ Opera 36   | ✓ Safari 10.1   | ✓ Chrome 49<br>Android      | ✓ Firefox for 49 Android     | ✓ Opera 36<br>Android   | ✓ Safari or iOS         |
| sandbox="allow-top-<br>navigation-by-user-<br>activation"       | ✓ Chrome 58   | ✓ Edge 79        | ✓ Firefox 79  | ✓ Opera 45   | ✓ Safari 11.1   | ✓ Chrome 58<br>Android      | ✓ Firefox for 79<br>Android  | ✓ Opera 43<br>Android   | ✓ Safari o              |
| <pre>sandbox="allow-top- navigation-to-custom- protocols"</pre> | Chrome No     | <b>≭</b> Edge No | ✓ Firefox 101 | ▼ Opera No   | ✓ Safari 16     | Chrome No Android           | ✓ Firefox for 101<br>Android | Opera No Android        | ✓ Safari o              |
| scrolling 🕮   | ✓ Chrome 1    | ✓ Edge 12        | ✓ Firefox 1   | ✓ Opera 15   | ✓ Safari 3      | ✓ Chrome 18 Android         | ✓ Firefox for 4 Android      | ✓ Opera 14<br>Android   | ✓ Safari                |
| src   | ✓ Chrome 1    | ✓ Edge 12        | ✓ Firefox 1   | ✓ Opera 15   | ✓ Safari 4      | ✓ Chrome 18<br>Android      | ✓ Firefox for 4 Android      | ✓ Opera 14<br>Android   | ✓ Safari o              |
| srcdoc  | ✓ Chrome 20   | ✓ Edge 79        | ✓ Firefox 25  | ✓ Opera 15   | ✓ Safari 6      | ✓ Chrome 25<br>Android      | ✓ Firefox for 25  Android    | ? Opera ? Android       | ? Safari                |
| vidth   | ✓ Chrome 1    | ✓ Edge 12        | ✓ Firefox 1   | ✓ Opera 15   | ✓ Safari 3      | ✓ Chrome 18 Android         | ✓ Firefox for 4 Android      | ✓ Opera 14<br>Android   | ✓ Safari o              |
|   |               |                  |               |              | 1               | 1                           | 1                            |                         |                         |

Tip: you can click/tap on a cell for more information.

| ✓ Full support | Partial support        | X No support   | ? Compatibility unk | nown     | Experimental. Expect behavior to    | change in the future. | A Non-standard. Check cross-t      | prowser support before using. |
|----------------|------------------------|----------------|---------------------|----------|-------------------------------------|-----------------------|------------------------------------|-------------------------------|
| m Denrecated N | lot for use in new weh | cites 😾 See in | nnlementation notes | imi lise | must explicitly enable this feature | ■ Requires a vendo    | r prefix or different name for use | Has more compatibility info   |

# See also

- CSP: frame-ancestors
- Privacy, permissions, and information security

This page was last modified on Jul 30, 2023 by MDN contributors.