# Event reference

DOM Events are sent to notify code of interesting things that have taken place. Each event is represented by an object which is based on the Event interface, and may have additional custom fields and/or functions used to get additional information about what happened. Events can represent everything from basic user interactions to automated notifications of things happening in the rendering model.

This article offers a list of events that can be sent; some are standard events defined in official specifications, while others are events used internally by specific browsers; for example, Mozilla-specific events are listed so that add-ons can use them to interact with the browser.

## **Most Common Categories**

#### Resource Events

Event Name	Fired When
cached	The resources listed in the manifest have been downloaded, and the application is now cached.
error	A resource failed to load.
abort	The loading of a resource has been aborted.
load	A resource and its dependent resources have finished loading.
beforeunload	The window, the document and its resources are about to be unloaded.
unload	The document or a dependent resource is being unloaded.

#### Network Events

#### Event Name Fired When

online	The browser has gained access to the network.
offline	The browser has lost access to the network.

#### Focus Events

#### Event Name Fired When

focus	An element has received focus (does not bubble).
blur	An element has lost focus (does not bubble).

#### Websocket Events

#### Event Name Fired When

open	A WebSocket connection has been established.
message A message is received through a WebSocket.	
error	A WebSocket connection has been closed with prejudice (some data couldn't be sent for example).
close	A WebSocket connection has been closed.

#### Session History Events

## Event Name Fired When

pagehide	A session history entry is being traversed from.
pageshow A session history entry is being traversed to.	
popstate	A session history entry is being navigated to (in certain cases).

#### **CSS Animation Events**

## Event Name Fired When

animationstart	A CSS animation has started.	
animationend	A CSS animation has completed.	
animationiteration	A CSS animation is repeated.	

#### Form Events

## Event Name Fired When

reset	The reset button is pressed
submit	The submit button is pressed

#### Printing Events

## Event Name Fired When

beforeprint	The print dialog is opened
afterprint	The print dialog is closed

## Text Composition Events

#### Event Name Fired When

compositionstart	The composition of a passage of text is prepared (similar to keydown for a keyboard input, but works with other inputs such as speech recognition).	
compositionupdate	onupdate A character is added to a passage of text being composed.	
compositionend	The composition of a passage of text has been completed or canceled.	

## View Events

Event Name	Fired When
fullscreenchange	An element was turned to fullscreen mode or back to normal mode.
fullscreenerror	It was impossible to switch to fullscreen mode for technical reasons or because the permission was denied.
resize	The document view has been resized.
scroll	The document view or an element has been scrolled.

#### Clipboard Events

#### Event Name Fired When

cut	The selection has been cut and copied to the clipboard
сору	The selection has been copied to the clipboard

#### **Keyboard Events**

#### Event Name Fired When

keydown	ANY key is pressed
keypress	ANY key except Shift, Fn, CapsLock is in pressed position. (Fired continously.)
keyup	ANY key is released

#### Mouse Events

Event Name	Fired When					
mouseenter	A pointing device is moved onto the element that has the listener attached.					
mouseover	A pointing device is moved onto the element that has the listener attached or onto one of its children.					
mousemove	A pointing device is moved over an element. (Fired continously as the mouse moves.)					
mousedown	A pointing device button (ANY button) is pressed on an element.					
mouseup	A pointing device button (ANY button) is released over an element.					
click	A pointing device button (ANY button) has been pressed and released on an element.					
dblclick	A pointing device button is clicked twice on an element.					
contextmenu	The right button of the mouse is clicked (before the context menu is displayed).					
wheel	A wheel button of a pointing device is rotated in any direction.					
mouseleave	A pointing device is moved off the element that has the listener attached.					
mouseout	A pointing device is moved off the element that has the listener attached or off one of its children.					
select	Some text is being selected.					
pointerlockchange	The pointer was locked or released.					
pointerlockerror	It was impossible to lock the pointer for technical reasons or because the permission was denied.					

#### Drag & Drop Events

#### Event Name Fired When

dragstart	The user starts dragging an element or text selection.
drag	An element or text selection is being dragged (Fired continuously every 350ms).
dragend	A drag operation is being ended (by releasing a mouse button or hitting the escape key).
dragenter	A dragged element or text selection enters a valid drop target.
dragover	An element or text selection is being dragged over a valid drop target. (Fired continuously every 350ms.)
dragleave	A dragged element or text selection leaves a valid drop target.
drop	An element is dropped on a valid drop target.

#### Media Events

#### vent Name Fired Whe

Event Name	Fired When
durationchange	The duration attribute has been updated.
loadedmetadata	The metadata has been loaded.
loadeddata	The first frame of the media has finished loading.
canplay	The browser can play the media, but estimates that not enough data has been loaded to play the media up to its end without having to stop for further buffering of content.
canplaythrough	The browser estimates it can play the media up to its end without stopping for content buffering.
ended	Playback has stopped because the end of the media was reached.
emptied	The media has become empty; for example, this event is sent if the media has already been loaded (or partially loaded), and the load() method is called to reload it.
stalled	The user agent is trying to fetch media data, but data is unexpectedly not forthcoming.
suspend	Media data loading has been suspended.
play	Playback has begun.
playing	Playback is ready to start after having been paused or delayed due to lack of data.
pause	Playback has been paused.
waiting	Playback has stopped because of a temporary lack of data.
seeking	A seek operation began.
seeked	A seek operation completed.
ratechange	The playback rate has changed.
timeupdate	The time indicated by the currentTime attribute has been updated.
volumechange	The volume has changed.
complete	The rendering of an OfflineAudioContext is terminated.
ended	Playback has stopped because the end of the media was reached.
audioprocess	The input buffer of a ScriptProcessorNode is ready to be processed.

#### Progress Events

## Event Name Fired When

loadstart	Progress has begun.			
progress	In progress.			
error	Progression has failed.			
timeout	Progression is terminated due to preset time expiring.			
abort	Progression has been terminated (not due to an error).			
load	Progression has been successful.			
loadend	Progress has stopped (after "error", "abort" or "load" have been dispatched).			

change (see Non-standard events) storage

## Update events

checking

downloading

noupdate

obsolete

updateready

#### Value change events

broadcast

CheckboxStateChange

hashchange

RadioStateChange readystatechange

ValueChange

### Uncategorized events

localized

message message

message

open show

# Less Common and NonStandard Categories

#### SVG events

SVGAbort

SVGError

SVGLoad

SVGResize SVGScroll

SVGUnload

SVGZoom

## Database events

abort

blocked

complete

error (link)

success upgradeneeded

versionchange

#### Notification events

AlertActive AlertClose

## CSS events

CssRuleViewRefreshed

CssRuleViewChanged

CssRule View CSSLink Clicked

transitionend

## Script events

afterscriptexecute

beforescriptexecute

#### Menu events

 ${\tt DOMMenuItemActive}$ 

DOMMenuItemInactive

#### Window events

 ${\color{blue} DOMWindowCreated}$ DOMTitleChanged

DOMWindowClose

SSWindowClosing

SSWindowStateReady SSWindowStateBusy

## Document events

DOMLinkAdded

DOMLinkRemoved DOMMetaAdded

DOMMetaRemoved

DOMWillOpenModalDialog

 ${\sf DOMModalDialogClosed}$ 

## Popup events

popuphidden

popuphiding

popupshowing

popupshown

DOMPopupBlocked

## Tab events

TabOpen

TabClose TabSelect

TabShow

TabHide

TabPinned TabUnpinned SSTabClosing SSTabRestoring SSTabRestored visibilitychange

#### Battery events

chargingchange chargingtimechange dischargingtimechange levelchange

#### Call events

alerting
busy
callschanged
cfstatechange
connected
connecting
dialing
disconnected
disconnecting
error
held, holding
incoming
resuming
statechange

#### Sensor events

voicechange

compassneedscalibration

devicelight
devicemotion
deviceorientation
deviceproximity
MozOrientation
orientationchange
userproximity

#### Smartcard events

icccardlockerror iccinfochange smartcard-insert smartcard-remove stkcommand stksessionend cardstatechange

#### SMS and USSD events

delivered received sent ussdreceived

## Frame events

mozbrowserclose
mozbrowsercontextmenu
mozbrowsereror
mozbrowsericonchange
mozbrowserlocationchange
mozbrowserloadend
mozbrowserloadstart
mozbrowseropenwindow
mozbrowsersecuritychange
mozbrowsershowmodalprompt (link)
mozbrowsertitlechange
DOMFrameContentLoaded

#### DOM mutation events

DOMAttributeNameChanged
DOMAttrModified
DOMCharacterDataModified
DOMContentLoaded
DOMElementNameChanged
DOMNodeInserted
DOMNodeInsertedIntoDocument
DOMNodeRemoved
DOMNodeRemovedFromDocument
DOMSubtreeModified

## Touch events

MozEdgeUlGesture MozMagnifyGesture  ${\bf Moz Magnify Gesture Start}$ MozMagnifyGestureUpdate  ${\bf Moz Press Tap Gesture}$ MozRotateGesture MozRotateGestureStart MozRotateGestureUpdate MozSwipeGesture MozTapGesture  ${\bf Moz Touch Down}$ MozTouchMove MozTouchUp touchcancel touchend touchenter

## Pointer events

pointerover pointerenter

touchleave
touchmove
touchstart

PEVent Name	Event Type	Specification	Fired when
pointermove			
pointerup			

## Standard events

pointercancel pointerout pointerleave gotpointercapture lostpointercapture

These events are defined in official Web specifications, and should be common across browsers. Each event is listed along with the interface representing the object sent to recipients of the event (so you can find information about what data is provided with each event) as well as a link to the specification or specifications that define the event.

Event Name	Event Type	Specification	Fired when
abort	UIEvent	☑ DOM L3	The loading of a resource has been aborted.
abort	ProgressEvent		Progression has been terminated (not due to an error).
abort	Event	☑ IndexedDB	A transaction has been aborted.
afterprint	Event	♂ HTML5	The associated document has started printing or the print preview has been closed.
animationend	AnimationEvent		A CSS animation has completed.
animationiteration	AnimationEvent		A CSS animation is repeated.
animationstart	AnimationEvent		A CSS animation has started.
audioprocess	AudioProcessingEvent		The input buffer of a ScriptProcessorNode is ready to be processed.
audioend 🗸	Event	☑ Web Speech API	The user agent has finished capturing audio for speech recognition.
audiostart 🗸	Event	☑ Web Speech API	The user agent has started to capture audio for speech recognition.
beforeprint	Event	☑ HTML5	The associated document is about to be printed or previewed for printing.
beforeunload	BeforeUnloadEvent	☑ HTML5	The window, the document and its resources are about to be unloaded.
beginEvent	TimeEvent	♂ SVG	A SMIL animation element begins.
blocked		☑ IndexedDB	An open connection to a database is blocking a versionchange transaction on the same database.
blur	FocusEvent	☑ DOM L3	An element has lost focus (does not bubble).
boundary 🗸	SpeechSynthesisEvent	☑ Web Speech API	The spoken utterance reaches a word or sentence boundary
cached	Event	☑ Offline	The resources listed in the manifest have been downloaded, and the application is now cached.
canplay	Event		The user agent can play the media, but estimates that not enough data has been loaded to play the media up to its en content.
canplaythrough	Event	☑ HTML5 media	The user agent can play the media up to its end without having to stop for further buffering of content.
change	Event	☑ DOM L2, ☑ HTML5	The change event is fired for <input/> , <select>, and <textarea> elements when a change to the element's value is of&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;chargingchange&lt;/td&gt;&lt;td&gt;Event&lt;/td&gt;&lt;td&gt;☑ Battery status&lt;/td&gt;&lt;td&gt;The battery begins or stops charging.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;chargingtimechange&lt;/td&gt;&lt;td&gt;Event&lt;/td&gt;&lt;td&gt;☑ Battery status&lt;/td&gt;&lt;td&gt;The chargingTime attribute has been updated.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;checking&lt;/td&gt;&lt;td&gt;Event&lt;/td&gt;&lt;td&gt;☑ Offline&lt;/td&gt;&lt;td&gt;The user agent is checking for an update, or attempting to download the cache manifest for the first time.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;click&lt;/td&gt;&lt;td&gt;MouseEvent&lt;/td&gt;&lt;td&gt;☑ DOM L3&lt;/td&gt;&lt;td&gt;A pointing device button has been pressed and released on an element.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;close&lt;/td&gt;&lt;td&gt;Event&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;A WebSocket connection has been closed.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;complete&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;☑ IndexedDB&lt;/td&gt;&lt;td&gt;A transaction successfully completed.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;complete&lt;/td&gt;&lt;td&gt;OfflineAudioCompletionEvent&lt;/td&gt;&lt;td&gt;☑ Web Audio API The definition of 'OfflineAudioCompletionEvent' in that specification.&lt;/td&gt;&lt;td&gt;The rendering of an OfflineAudioContext is terminated.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;compositionend&lt;/td&gt;&lt;td&gt;CompositionEvent&lt;/td&gt;&lt;td&gt;♂ DOM L3&lt;/td&gt;&lt;td&gt;The composition of a passage of text has been completed or canceled.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;compositionstart&lt;/td&gt;&lt;td&gt;CompositionEvent&lt;/td&gt;&lt;td&gt;♂DOM L3&lt;/td&gt;&lt;td&gt;The composition of a passage of text is prepared (similar to keydown for a keyboard input, but works with other inputs&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;compositionupdate&lt;/td&gt;&lt;td&gt;CompositionEvent&lt;/td&gt;&lt;td&gt;☑ DOM L3&lt;/td&gt;&lt;td&gt;A character is added to a passage of text being composed.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;contextmenu&lt;/td&gt;&lt;td&gt;MouseEvent&lt;/td&gt;&lt;td&gt;☑ HTML5&lt;/td&gt;&lt;td&gt;The right button of the mouse is clicked (before the context menu is displayed).&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;сору&lt;/td&gt;&lt;td&gt;ClipboardEvent&lt;/td&gt;&lt;td&gt;☑ Clipboard&lt;/td&gt;&lt;td&gt;The text selection has been added to the clipboard.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;cut&lt;/td&gt;&lt;td&gt;ClipboardEvent&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;The text selection has been removed from the document and added to the clipboard.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;dblclick&lt;/td&gt;&lt;td&gt;MouseEvent&lt;/td&gt;&lt;td&gt;☑ DOM L3&lt;/td&gt;&lt;td&gt;A pointing device button is clicked twice on an element.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;devicechange&lt;/td&gt;&lt;td&gt;Event&lt;/td&gt;&lt;td&gt;&lt;/td&gt;&lt;td&gt;A media device such as a camera, microphone, or speaker is connected or removed from the system.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;devicelight&lt;/td&gt;&lt;td&gt;DeviceLightEvent&lt;/td&gt;&lt;td&gt;☑ Ambient Light Events&lt;/td&gt;&lt;td&gt;Fresh data is available from a light sensor.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;devicemotion&lt;/td&gt;&lt;td&gt;DeviceMotionEvent&lt;/td&gt;&lt;td&gt;&lt;ul&gt;&lt;li&gt;☑ Device Orientation&lt;br&gt;Events&lt;/li&gt;&lt;/ul&gt;&lt;/td&gt;&lt;td&gt;Fresh data is available from a motion sensor.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;deviceorientation&lt;/td&gt;&lt;td&gt;DeviceOrientationEvent&lt;/td&gt;&lt;td&gt;&lt;ul&gt;&lt;li&gt;☑ Device Orientation&lt;br&gt;Events&lt;/li&gt;&lt;/ul&gt;&lt;/td&gt;&lt;td&gt;Fresh data is available from an orientation sensor.&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;deviceproximity&lt;/td&gt;&lt;td&gt;DeviceProximityEvent&lt;/td&gt;&lt;td&gt;☑ Proximity Events&lt;/td&gt;&lt;td&gt;Fresh data is available from a proximity sensor (indicates an approximated distance between the device and a nearby&lt;/td&gt;&lt;/tr&gt;&lt;tr&gt;&lt;td&gt;dischargingtimechange&lt;/td&gt;&lt;td&gt;Event&lt;/td&gt;&lt;td&gt;☑ Battery status&lt;/td&gt;&lt;td&gt;The dischargingTime attribute has been updated.&lt;/td&gt;&lt;/tr&gt;&lt;/tbody&gt;&lt;/table&gt;</textarea></select>

Event Name	Event Type	Specification	Fired when
DOMActivate 🖓	UIEvent	☑ DOM L3	A button, link or state changing element is activated (use click instead).
DOMAttributeNameChanged 🗘	MutationNameEvent	☑ DOM L3 Removed	The name of an attribute changed (use mutation observers instead).
DOMAttrModified 🖓	MutationEvent	♂ DOM L3	The value of an attribute has been modified (use mutation observers instead).
DOMCharacterDataModified $ abla$	MutationEvent	♂ DOM L3	A text or another CharacterData has changed (use mutation observers instead).
DOMContentLoaded	Event	♂ HTML5	The document has finished loading (but not its dependent resources).
DOMElementNameChanged $ abla$	MutationNameEvent	☑ DOM L3 Removed	The name of an element changed (use mutation observers instead).
DOMFocusIn 🖓 Unimplemented	FocusEvent	♂ DOM L3	An element has received focus (use focus or focusin instead).
DOMFocusOut 🖓 Unimplemented	FocusEvent	♂ DOM L3	An element has lost focus (use blur or focusout instead).
DOMNodeInserted 🖓	MutationEvent	♂DOM L3	A node has been added as a child of another node (use mutation observers instead).
DOMNodeInsertedIntoDocument $Q$	MutationEvent	☑ DOM L3	A node has been inserted into the document (use mutation observers instead).
DOMNodeRemoved 🖓	MutationEvent	☑ DOM L3	A node has been removed from its parent node (use mutation observers instead).
DOMNodeRemovedFromDocument $ abla$	MutationEvent	☑ DOM L3	A node has been removed from the document (use mutation observers instead).
DOMSubtreeModified 🖓	MutationEvent	♂ DOM L3	A change happened in the document (use mutation observers instead).
downloading	Event	☑ Offline	The user agent has found an update and is fetching it, or is downloading the resources listed by the cache manifest for
drag	DragEvent	♂ HTML5	An element or text selection is being dragged (every 350ms).
dragend	DragEvent	♂ HTML5	A drag operation is being ended (by releasing a mouse button or hitting the escape key).
dragenter	DragEvent	☑ HTML5	A dragged element or text selection enters a valid drop target.
dragleave	DragEvent	♂ HTML5	A dragged element or text selection leaves a valid drop target.
dragover	DragEvent	♂ HTML5	An element or text selection is being dragged over a valid drop target (every 350ms).
dragstart	DragEvent	♂ HTML5	The user starts dragging an element or text selection.
drop	DragEvent	♂ HTML5	An element is dropped on a valid drop target.
durationchange	Event	☑ HTML5 media	The duration attribute has been updated.
emptied	Event	♂ HTML5 media	The media has become empty; for example, this event is sent if the media has already been loaded (or partially loaded)
end 🗸	Event	☑ Web Speech API	The speech recognition service has disconnected.
end 🗸	SpeechSynthesisEvent	☑ Web Speech API	The utterance has finished being spoken.
ended	Event		Playback has stopped because the end of the media was reached.
ended	Event	☑ Web Audio API	Playback has stopped because the end of the media was reached.
endEvent	TimeEvent	<b>♂</b> SVG	A SMIL animation element ends.
error	UIEvent	☑ DOM L3	A resource failed to load.
error	ProgressEvent	☑ Progress and ☑ XMLHttpRequest	Progression has failed.
error	Event	☑ Offline	An error occurred while downloading the cache manifest or updating the content of the application.
error	Event	☑ WebSocket	A WebSocket connection has been closed with prejudice (some data couldn't be sent for example).
error	Event	☑ Server Sent Events	An event source connection has been failed.
error	Event	☑ IndexedDB	A request caused an error and failed.
error A	Event	☑ Web Speech API	A speech recognition error occurs.
error	SpeechSynthesisErrorEvent	☑ Web Speech API	An error occurs that prevents the utterance from being successfully spoken.
focus	FocusEvent	☑ DOM L3	An element has received focus (does not bubble).
focusin Unimplemented (see 🗷 bug 687787)	FocusEvent	☑ DOM L3	An element is about to receive focus (bubbles).
focusout Unimplemented (see ☑ bug 687787)	FocusEvent	☑ DOM L3	An element is about to lose focus (bubbles).
fullscreenchange	Event	☑ Full Screen	An element was turned to fullscreen mode or back to normal mode.
fullscreenerror	Event	☑ Full Screen	It was impossible to switch to fullscreen mode for technical reasons or because the permission was denied.
gamepadconnected	GamepadEvent	☑ Gamepad	A gamepad has been connected.
gamepaddisconnected	GamepadEvent	☑ Gamepad	A gamepad has been disconnected.
gotpointercapture	PointerEvent	Pointer Events	Element receives pointer capture.
hashchange	HashChangeEvent	☑ HTML5	The fragment identifier of the URL has changed (the part of the URL after the #).
lostpointercapture	PointerEvent	☑ Pointer Events	Element lost pointer capture.
input	Event	☑ HTML5	The value of an element changes or the content of an element with the attribute contenteditable is modified.
invalid	Event	♂ HTML5	A submittable element has been checked and doesn't satisfy its constraints.
keydown	KeyboardEvent	☑ DOM L3	A key is pressed down.

Event Name	Event Type	Specification	Fired when
keypress	KeyboardEvent	☑ DOM L3	A key is pressed down and that key normally produces a character value (use input instead).
keyup	KeyboardEvent	♂DOM L3	A key is released.
languagechange ▲	Event	☑ HTML5.1  The definition of 'NavigatorLanguage.languages' in that specification.	The user's preferred languages have changed.
levelchange	Event	☑ Battery status	The level attribute has been updated.
load	UIEvent	☑ DOM L3	A resource and its dependent resources have finished loading.
load	ProgressEvent	☑ Progress and ☑ XMLHttpRequest	Progression has been successful.
loadeddata	Event		The first frame of the media has finished loading.
loadedmetadata	Event		The metadata has been loaded.
loadend	ProgressEvent	☑ Progress and ☑ XMLHttpRequest	Progress has stopped (after "error", "abort" or "load" have been dispatched).
loadstart	ProgressEvent	☑ Progress and ☑ XMLHttpRequest	Progress has begun.
mark 🗸	SpeechSynthesisEvent		The spoken utterance reaches a named SSML "mark" tag.
message	MessageEvent		A message is received through a WebSocket.
message	MessageEvent	☑ Web Workers	A message is received from a Web Worker.
message	MessageEvent		A message is received from a child (i)frame or a parent window.
message	MessageEvent	☑ Server Sent Events	A message is received through an event source.
message A	ServiceWorkerMessageEvent or ExtendableMessageEvent, depending on context.	Service Workers	A message is received from a service worker, or a message is received in a service worker from another context.
mousedown	MouseEvent	☑ DOM L3	A pointing device button (usually a mouse) is pressed on an element.
mouseenter	MouseEvent	☑ DOM L3	A pointing device is moved onto the element that has the listener attached.
mouseleave	MouseEvent	☑ DOM L3	A pointing device is moved off the element that has the listener attached.
mousemove	MouseEvent	☑ DOM L3	A pointing device is moved over an element.
mouseout	MouseEvent	☑ DOM L3	A pointing device is moved off the element that has the listener attached or off one of its children.
mouseover	MouseEvent	☑ DOM L3	A pointing device is moved onto the element that has the listener attached or onto one of its children.
mouseup	MouseEvent	☑ DOM L3	A pointing device button is released over an element.
nomatch 🗸	SpeechRecognitionEvent	☑ Web Speech API	The speech recognition service returns a final result with no significant recognition.
notificationclick	NotificationEvent	☑ Notifications API The definition of 'onnotificationclick' in that specification.	A system notification spawned by ServiceWorkerRegistration.showNotification() has been clicked.
noupdate	Event	☑ Offline	The manifest hadn't changed.
obsolete	Event	☑ Offline	The manifest was found to have become a 404 or 410 page, so the application cache is being deleted.
offline	Event	☑ HTML5 offline	The browser has lost access to the network.
online	Event	☑ HTML5 offline	The browser has gained access to the network (but particular websites might be unreachable).
open	Event		A WebSocket connection has been established.
open	Event	☑ Server Sent Events	An event source connection has been established.
orientationchange	Event	☑ Screen Orientation	The orientation of the device (portrait/landscape) has changed
pagehide	PageTransitionEvent	☑ HTML5	A session history entry is being traversed from.
pageshow	PageTransitionEvent	♂ HTML5	A session history entry is being traversed to.
paste	ClipboardEvent		Data has been transferred from the system clipboard to the document.
pause	Event	☑ HTML5 media	Playback has been paused.
pause 🗸	SpeechSynthesisEvent	☑ Web Speech API	The utterance is paused part way through.
pointercancel	PointerEvent	☑ Pointer Events	The pointer is unlikely to produce any more events.
pointerdown	PointerEvent	☑ Pointer Events	The pointer enters the active buttons state.
pointerenter	PointerEvent	☑ Pointer Events	Pointing device is moved inside the hit-testing boundary.
pointerleave	PointerEvent	☑ Pointer Events	Pointing device is moved out of the hit-testing boundary.
pointerlockchange	Event	☑ Pointer Lock	The pointer was locked or released.
pointerlockerror	Event	☑ Pointer Lock	It was impossible to lock the pointer for technical reasons or because the permission was denied.
pointermove	PointerEvent	☑ Pointer Events	The pointer changed coordinates.
pointerout	PointerEvent	☑ Pointer Events	The pointing device moved out of hit-testing boundary or leaves detectable hover range.
pointerover	PointerEvent	☑ Pointer Events	The pointing device is moved into the hit-testing boundary.

Event Name pointerup	Fvent Type Fointer Event	Specification Pointer Events	Fired when teaves the active buttons state.
play	Event		Playback has begun.
playing	Event		Playback is ready to start after having been paused or delayed due to lack of data.
popstate	PopStateEvent	♂HTML5	A session history entry is being navigated to (in certain cases).
progress	ProgressEvent	☑ Progress and ☑ XMLHttpRequest	In progress.
progress	ProgressEvent	Offline	The user agent is downloading resources listed by the manifest.
push	PushEvent	☑ Push API	A Service Worker has received a push message.
pushsubscriptionchange	PushEvent	Push API	A PushSubscription has expired.
ratechange	Event		The playback rate has changed.
readystatechange	Event	HTML5 and ☑ XMLHttpRequest	The readyState attribute of a document has changed.
repeatEvent	TimeEvent	<b>♂SVG</b>	A SMIL animation element is repeated.
reset	Event	☑ DOM L2, ☑ HTML5	A form is reset.
resize	UIEvent	☑ DOM L3	The document view has been resized.
resourcetimingbufferfull	Performance	☑ Resource Timing	The browser's resource timing buffer is full.
result <u></u>	SpeechRecognitionEvent	☑ Web Speech API	The speech recognition service returns a result — a word or phrase has been positively recognized and this has be
resume 🗸	SpeechSynthesisEvent	☑ Web Speech API	A paused utterance is resumed.
scroll	UIEvent	☑ DOM L3	The document view or an element has been scrolled.
seeked	Event	☑ HTML5 media	A seek operation completed.
seeking	Event	☑ HTML5 media	A seek operation began.
select	UIEvent	♂DOM L3	Some text is being selected.
selectstart ∡	Event	☑ Selection API	A selection just started.
selectionchange 🗸	Event	Selection API	The selection in the document has been changed.
show	MouseEvent	♂HTML5	A contextmenu event was fired on/bubbled to an element that has a contextmenu attribute
soundend 🗸	Event	☑ Web Speech API	Any sound — recognisable speech or not — has stopped being detected.
soundstart <u></u>	Event	☑ Web Speech API	Any sound — recognisable speech or not — has been detected.
speechend 🗸	Event	☑ Web Speech API	Speech recognised by the speech recognition service has stopped being detected.
speechstart <u></u>	Event	☑ Web Speech API	Sound that is recognised by the speech recognition service as speech has been detected.
stalled	Event	☑ HTML5 media	The user agent is trying to fetch media data, but data is unexpectedly not forthcoming.
start 🗸	Event	☑ Web Speech API	The speech recognition service has begun listening to incoming audio with intent to recognize grammars associated
start	SpeechSynthesisEvent	☑ Web Speech API	The utterance has begun to be spoken.
storage	StorageEvent	✓ Web Storage	A storage area (localStorage or sessionStorage) has changed.
submit	Event	☑ DOM L2, ☑ HTML5	A form is submitted.
success	Event	☑ IndexedDB	A request successfully completed.
suspend	Event	☑ HTML5 media	Media data loading has been suspended.
SVGAbort	SVGEvent	☑ SVG	Page loading has been stopped before the SVG was loaded.
SVGError	SVGEvent	☑ SVG	An error has occurred before the SVG was loaded.
SVGLoad	SVGEvent	<b>♂</b> SVG	An SVG document has been loaded and parsed.
SVGResize	SVGEvent	<b>▽ SVG</b>	An SVG document is being resized.
SVGScroll	SVGEvent	<b>♂ SVG</b>	An SVG document is being scrolled.
SVGUnload	SVGEvent	<b>♂</b> SVG	An SVG document has been removed from a window or frame.
SVGZoom	SVGZoomEvent	<b>♂ SVG</b>	An SVG document is being zoomed.
timeout	ProgressEvent		
timeupdate	Event	♂ HTML5 media	The time indicated by the currentTime attribute has been updated.
touchcancel	TouchEvent	☑ Touch Events	A touch point has been disrupted in an implementation-specific manners (too many touch points for example).
touchend	TouchEvent	☑ Touch Events	A touch point is removed from the touch surface.
touchmove	TouchEvent	☑ Touch Events	A touch point is moved along the touch surface.
touchstart	TouchEvent	☑ Touch Events	A touch point is moved along the touch surface.  A touch point is placed on the touch surface.
transitionend	TransitionEvent	CSS Transitions	A CSS transition has completed.
unload	UIEvent		The document or a dependent resource is being unloaded.
	SECONO	S DOW LO	accument of a acpondent recourse to being unloaded.

Event Name	Event Typ€vent Type	Specifi <b>8ptioif</b> ication	Fired when
upgradeneeded			An attempt was made to open a database with a version number higher than its current version. A versionchange trans
userproximity	UserProximityEvent	☑ Proximity Events	Fresh data is available from a proximity sensor (indicates whether the nearby object is near the device or not).
voiceschanged 🗸	Event	☑ Web Speech API	The list of SpeechSynthesisVoice objects that would be returned by the SpeechSynthesis.getVoices() method has c
versionchange		♂ IndexedDB	A versionchange transaction completed.
visibilitychange	Event	☑ Page visibility	The content of a tab has become visible or has been hidden.
volumechange	Event	♂ HTML5 media	The volume has changed.
vrdisplayconnected ▲	Event	WebVR API	A compatible VR device has been connected to the computer.
vrdisplaydisconnected ▲	Event	WebVR API	A compatible VR device has been disconnected from the computer.
vrdisplaypresentchange ▲	Event	WebVR API	The presenting state of a VR device has changed — i.e. from presenting to not presenting, or vice versa.
waiting	Event	♂ HTML5 media	Playback has stopped because of a temporary lack of data.
wheel	WheelEvent	♂DOM L3	A wheel button of a pointing device is rotated in any direction.

## Non-standard events

Event Name	Event Type	Specification	Fired when
afterscriptexecute	Event	Mozilla Specific	A script has been executed.
beforescriptexecute	Event	Mozilla Specific	A script is about to be executed.
beforeinstallprompt	Event	Chrome specific	A user is prompted to save a web site to a home screen on mobile.
cardstatechange		Firefox OS specific	The MozMobileConnection.cardState property changes value.
change	DeviceStorageChangeEvent	Firefox OS specific	This event is triggered each time a file is created, modified or deleted on a given storage area.
connectionInfoUpdate		☑ Firefox OS specific	The informations about the signal strength and the link speed have been updated.
cfstatechange		Firefox OS specific	The call forwarding state changes.
datachange		Firefox OS specific	The MozMobileConnection.data object changes values.
dataerror		Firefox OS specific	The MozMobileConnection.data object receive an error from the RIL.
DOMMouseScroll 🗘		Mozilla specific	The wheel button of a pointing device is rotated (detail attribute is a number of lines). (use wheel instead)
dragdrop 👨	DragEvent	Mozilla specific	An element is dropped (use drop instead).
dragexit 🗘	DragEvent	Mozilla specific	A drag operation is being ended(use dragend instead).
draggesture 🖓	DragEvent	Mozilla specific	The user starts dragging an element or text selection (use dragstart instead).
icccardlockerror		Firefox OS specific	the MozMobileConnection.unlockCardLock() or MozMobileConnection.setCardLock() methods fails.
iccinfochange		Firefox OS specific	The MozMobileConnection.iccInfo object changes.
localized			The page has been localized using data-I10n-* attributes.
mousewheel 🖓 Unimplemented		☑ IE invented	The wheel button of a pointing device is rotated.
MozAudioAvailable	Event	Mozilla specific	The audio buffer is full and the corresponding raw samples are available.
MozBeforeResize 🛍		Mozilla specific	A window is about to be resized.
mozbrowseractivitydone		Firefox OS Browser API- specific	Sent when some activity has been completed (complete description TBD.)
mozbrowserasyncscroll		Firefox OS Browser API- specific	Sent when the scroll position within a browser <iframe> changes.</iframe>
mozbrowseraudioplaybackchange		Firefox OS Browser API- specific	Sent when audio starts or stops playing within the browser <iframe> content.</iframe>
mozbrowsercaretstatechanged		Firefox OS Browser API- specific	Sent when the text selected inside the browser <iframe> content changes.</iframe>
mozbrowserclose		Firefox OS Browser API- specific	Sent when window.close() is called within a browser <iframe>.</iframe>
mozbrowsercontextmenu		Firefox OS Browser API- specific	Sent when a browser <iframe> try to open a context menu.</iframe>
mozbrowserdocumentfirstpaint		Firefox OS Browser API- specific	Sent when a new paint occurs on any document in the browser <iframe>.</iframe>
mozbrowsererror		Firefox OS Browser API- specific	Sent when an error occured while trying to load a content within a browser iframe
mozbrowserfindchange		Firefox OS Browser API- specific	Sent when a search operation is performed on the browser <iframe> content (see HTMLIFrameElement search methods.)</iframe>
mozbrowserfirstpaint		Firefox OS Browser API- specific	Sent when the <iframe> paints content for the first time (this doesn't include the initial paint from about:blank.)</iframe>
mozbrowsericonchange		Firefox OS Browser API- specific	Sent when the favicon of a browser iframe changes.

Event Name	Event Type	Specification	Fired when
mozbrowserlocationchange		Firefox OS Browser API- specific	Sent when an browser iframe's location changes.
mozbrowserloadend		Firefox OS Browser API- specific	Sent when the browser iframe has finished loading all its assets.
mozbrowserloadstart		Firefox OS Browser API- specific	Sent when the browser iframe starts to load a new page.
mozbrowsermanifestchange		Firefox OS Browser API- specific	Sent when a the path to the app manifest changes, in the case of a browser <iframe> with an open web app embedded in it.</iframe>
mozbrowsermetachange		Firefox OS Browser API- specific	Sent when a <meta/> elelment is added to, removed from or changed in the browser <iframe>'s content.</iframe>
mozbrowseropensearch		Firefox OS Browser API- specific	Sent when a link to a search engine is found.
mozbrowseropentab		Firefox OS Browser API- specific	Sent when a new tab is opened within a browser <iframe> as a result of the user issuing a command to open a link target in a new tab (for example ctrl) cmd + click.)</iframe>
mozbrowseropenwindow		Firefox OS Browser API- specific	Sent when window.open() is called within a browser iframe.
mozbrowserresize		Firefox OS Browser API- specific	Sent when the browser <iframe>'s window size has changed.</iframe>
mozbrowserscrol1		Firefox OS Browser API- specific	Sent when the browser <iframe> content scrolls.</iframe>
mozbrowserscrollareachanged		Firefox OS Browser API- specific	Sent when the available scrolling area in the browser <iframe> changes. This can occur on resize and when the page size changes (while loading for example.)</iframe>
mozbrowserscrollviewchange		Firefox OS Browser API- specific	Sent when asynchronous scrolling (i.e. APCZ) starts or stops.
mozbrowsersecuritychange		Firefox OS Browser API- specific	Sent when the SSL state changes within a browser iframe.
mozbrowserselectionstatechanged		Firefox OS Browser API- specific	Sent when the text selected inside the browser <iframe> content changes. Note that this is deprecated, and newer implementations use mozbrowsercaretstatechanged instead.</iframe>
mozbrowsershowmodalprompt		Firefox OS Browser API- specific	Sent when alert(), confirm() or prompt() are called within a browser iframe
mozbrowsertitlechange		Firefox OS Browser API- specific	Sent when the document.title changes within a browser iframe.
mozbrowserusernameandpasswordrequired		Firefox OS Browser API- specific	Sent when an HTTP authentification is requested.
mozbrowservisibilitychange		Firefox OS Browser API- specific	Sent when the visibility state of the current browser iframe <iframe> changes, for example due to a call to setVisible().</iframe>
MozGamepadButtonDown		To be specified	A gamepad button is pressed down.
MozGamepadButtonUp		To be specified	A gamepad button is released.
MozMousePixelScroll $ abla$		Mozilla specific	The wheel button of a pointing device is rotated (detail attribute is a number of pixels). (use wheel instead)
MozOrientation ♥		Mozilla specific	Fresh data is available from an orientation sensor (see deviceorientation).
MozScrolledAreaChanged	UIEvent	Mozilla specific	The document view has been scrolled or resized.
moztimechange		Mozilla specific	The time of the device has been changed.
MozTouchDown 🖓	<u> </u>	Mozilla specific	A touch point is placed on the touch surface (use touchstart instead).
MozTouchMove 🖓	<u> </u>	Mozilla specific	A touch point is moved along the touch surface (use touchmove instead).
MozTouchUp 🖓	CallEngel	Mozilla specific	A touch point is removed from the touch surface (use touchend instead).
alerting	CallEvent	To be specified	The correspondent is being alerted (his/her phone is ringing).
busy	CallEvent	To be specified	The line of the correspondent is busy.
onconnected connected	CallEvent	To be specified  To be specified	A call has been added or removed from the list of current calls.  A call has been connected.
connecting	CallEvent	To be specified	A call is about to connect.
delivered	SMSEvent	To be specified	An SMS has been successfully delivered.
dialing	CallEvent	To be specified	The number of a correspondent has been dialed.
disabled		☑ Firefox OS specific	Wifi has been disabled on the device.
disconnected	CallEvent	To be specified	A call has been disconnected.
disconnecting	CallEvent	To be specified	A call is about to disconnect.
enabled	C-115	☑ Firefox OS specific	Wifi has been enabled on the device.
error	CallEvent	To be specified	An error occurred.
held	CallEvent	To be specified	A call has been held.
holding	CallEvent	To be specified	A call is about to be held.
incoming	CallEvent	To be specified	A call is being received.

Event Name	Event Type	Specification	Fired when
received	SMSEvent	To be specified	An SMS has been received.
resuming	CallEvent	To be specified	A call is about to resume.
sent	SMSEvent	To be specified	An SMS has been sent.
statechange	CallEvent	To be specified	The state of a call has changed.
statuschange		☑ Firefox OS specific	The status of the Wifi connection changed.
overflow	UIEvent	Mozilla specific	An element has been overflowed by its content or has been rendered for the first time in this state (only works for elements styled with overflow != visible).
smartcard-insert		Mozilla specific	A smartcard has been inserted.
smartcard-remove		Mozilla specific	A smartcard has been removed.
stkcommand		Firefox OS specific	The STK Proactive Command is issued from ICC.
stksessionend		Firefox OS specific	The STK Session is terminated by ICC.
text		Mozilla Specific	A generic composition event occurred.
touchenter	TouchEvent	☑ Touch Events Removed	
touchleave	TouchEvent	☑ Touch Events Removed	
underflow	UIEvent	Mozilla specific	An element is no longer overflowed by its content (only works for elements styled with overflow != visible).
uploadprogress 🖓	ProgressEvent	Mozilla Specific	Upload is in progress (see progress).
ussdreceived		Firefox OS specific	A new USSD message is received
voicechange		Firefox OS specific	The MozMobileConnection.voice object changes values.

# Mozilla-specific events

□ Note: those events are never exposed to web content and can only be used in chrome content context.

## XUL events

Event Name	Event Type	Specification	Fired when
broadcast		XUL	An observer noticed a change to the attributes of a watched broadcaster.
CheckboxStateChange		XUL	The state of a checkbox has been changed either by a user action or by a script (useful for accessibility).
close		XUL	The close button of the window has been clicked.
command		XUL	An element has been activated.
commandupdate		XUL	A command update occurred on a commandset element.
DOMMenuItemActive		XUL	A menu or menuitem has been hovered or highlighted.
DOMMenuItemInactive		XUL	A menu or menuitem is no longer hovered or highlighted.
popuphidden	PopupEvent	XUL	A menupopup, panel or tooltip has been hidden.
popuphiding	PopupEvent	XUL	A menupopup, panel or tooltip is about to be hidden.
popupshowing	PopupEvent	XUL	A menupopup, panel or tooltip is about to become visible.
popupshown	PopupEvent	XUL	A menupopup, panel or tooltip has become visible.
RadioStateChange		XUL	The state of a radio has been changed either by a user action or by a script (useful for accessibility).
ValueChange		XUL	The value of an element has changed (a progress bar for example, useful for accessibility).

## Add-on-specific events

Event Name	Event Type	Specification	Fired when
Event Name	Event Type	Specification	Fired when
MozSwipeGesture		Addons specific	A touch point is swiped across the touch surface
MozMagnifyGestureStart		Addons specific	Two touch points start to move away from each other.
MozMagnifyGestureUpdate		Addons specific	Two touch points move away from each other (after a MozMagnifyGestureStart).
MozMagnifyGesture		Addons specific	Two touch points moved away from each other (after a sequence of MozMagnifyGestureUpdate).
MozRotateGestureStart		Addons specific	Two touch points start to rotate around a point.
MozRotateGestureUpdate		Addons specific	Two touch points rotate around a point (after a MozRotateGestureStart).
MozRotateGesture		Addons specific	Two touch points rotate around a point (after a sequence of MozRotateGestureUpdate).
MozTapGesture		Addons specific	Two touch points are tapped on the touch surface.
MozPressTapGesture		Addons specific	A "press-tap" gesture happened on the touch surface (first finger down, second finger down, second finger up, first finger up).
MozEdgeUIGesture		Addons specific	A touch point is swiped across the touch surface to invoke the edge UI (Win8 only).
MozAfterPaint		Addons specific	Content has been repainted.
DOMPopupBlocked		Addons specific	A popup has been blocked
DOMWindowCreated		Addons specific	A window has been created.

DOMWindowClose	Addons specific	A window is about to be closed.
DOMTitleChanged	Addons specifc	The title of a window has changed.
DOMLinkAdded	Addons specifc	A link has been added a document.
DOMLinkRemoved	Addons specifc	A link has been removed inside from a document.
DOMMetaAdded	Addons specific	A meta element has been added to a document.
DOMMetaRemoved	Addons specific	A meta element has been removed from a document.
DOMWillOpenModalDialog	Addons specific	A modal dialog is about to open.
DOMModalDialogClosed	Addons specific	A modal dialog has been closed.
DOMAutoComplete	Addons specific	The content of an element has been auto-completed.
DOMFrameContentLoaded	Addons specific	The frame has finished loading (but not its dependent resources).
AlertActive	Addons specific	A notification element is shown.
AlertClose	Addons specific	A notification element is closed.
fullscreen	Addons specific	Browser fullscreen mode has been entered or left.
sizemodechange	Addons specific	Window has entered/left fullscreen mode, or has been minimized/unminimized.
MozEnteredDomFullscreen	Addons specific	DOM fullscreen mode has been entered.
SSWindowClosing	Addons specific	The session store will stop tracking this window.
SSTabClosing	Addons specific	The session store will stop tracking this tab.
SSTabRestoring	Addons specific	A tab is about to be restored.
SSTabRestored	Addons specific	A tab has been restored.
SSWindowStateReady	Addons specific	A window state has switched to "ready".
SSWindowStateBusy	Addons specific	A window state has switched to "busy".
TabOpen	Addons specific	A tab has been opened.
TabClose	Addons specific	A tab has been closed.
TabSelect	Addons specific	A tab has been selected.
TabShow	Addons specific	A tab has been shown.
TabHide	Addons specific	A tab has been hidden.
TabPinned	Addons specific	A tab has been pinned.
TabUnpinned	Addons specific	A tab has been unpinned.

## Developer tool-specific events

Event Name	Event Type	Specification	Fired when
CssRuleViewRefreshed		devtools specific	The "Rules" view of the style inspector has been updated.
CssRuleViewChanged		devtools specific	The "Rules" view of the style inspector has been changed.
CssRuleViewCSSLinkClicked		devtools specific	A link to a CSS file has been clicked in the "Rules" view of the style inspector.

## See also

- Event
- Event developer guide