

Client-side Technologies

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iTi

Day 7



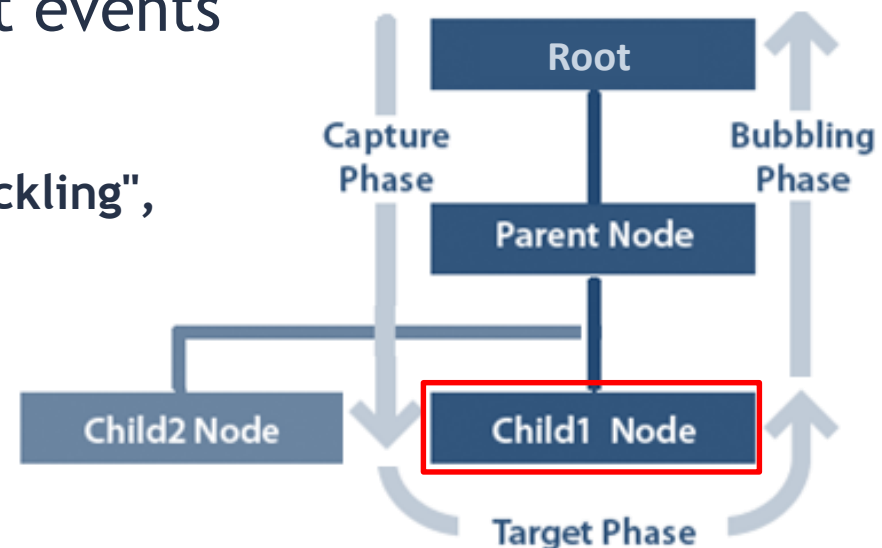
Event Object

Event Object

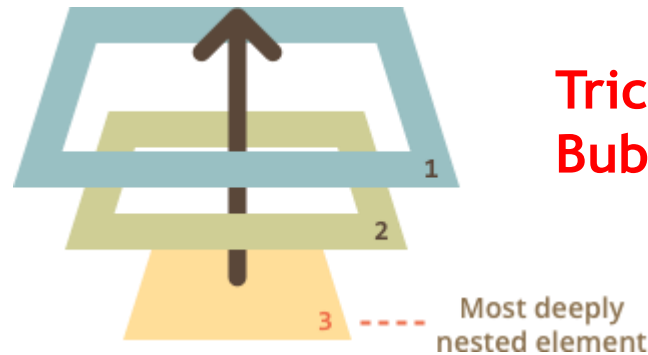
- The event object gives information about an event that has occurred.
- When an event occurs, an **event** object is initialized automatically and passed to the event handlers.
- We can create event object via its constructor
`var evt= new Event()`
- The Event object represents the state of an event, such as the element in which the event occurred, the state of the keyboard keys, the location of the mouse, and the state of the mouse buttons.
- Object Model reference:
[window.]event

Event Object

- Events always propagate from the root
- When an event occurs, it is dispatched to the target element first.
- 2 ways for objects to detect events
 - ▷ Event Capture (Phase1)
 - Capturing is also called "trickling",
 - Event goes down,
 - ▷ Event Bubbling (Phase2)
 - Event goes up



Event Object



Trickle down,
Bubble up


- If the event propagates up, then it will be dispatched to the ancestor elements of the target element in the DOM hierarchy.
- The propagation can be stopped with the **stopPropagation()** method and/or the **cancelBubble** property.

Event Object Properties

Event Object Property	Description
srcElement	The element that fired the event
target	
type	String representing the type of event.
returnValue	Determines whether the event is cancelled.
clientX (layerX)	Mouse pointer X coordinate at the time of the event occurs relative to upper-left corner of the window.
clientY (layerY)	Mouse pointer Y coordinate at the time of the event occurs relative to upper-left corner of the window.
offsetX	Mouse pointer X coordinate relative to element that fired the event.
offsetY	Mouse pointer Y coordinate relative to element that fired the event.

Event Object Properties

Event Object Property	Description
altKey	True if the alt key was also pressed
ctrlKey	True if the alt key was also pressed
shiftKey	True if the alt key was also pressed
keyCode	Returns UniCode value of key pressed
which	
button	Any mouse buttons that are pressed
cancelBubble	Can cancel an event bubble

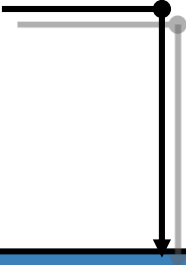


event.button value	Description
1	Left Mouse Button
2	Right Mouse Button
4	Middle Mouse Button

Example!

Event Object Properties

Event Object Property	Description
eventPhase	Any mouse buttons that are pressed
cancelBubble	Can cancel an event bubble



event.eventPhase value	Constant Property	Description
0	Event.NONE	No event is being processed at this time.
1	Event.CAPTURING_PHASE	The event is being propagated through the target's ancestor objects
2	Event.AT_TARGET	The event has arrived at target
3	Event.BUBBLING_PHASE	The event is propagating back up through the target's ancestors in reverse order

Example!

Event Object Methods

Methods	Description
event.stopPropagation()	Disables the propagation of the current event in the DOM hierarchy. (IE8 = <code>cancelBubble</code>)
event.preventDefault()	To cancel the event if it is cancelable, meaning that any default action normally taken by the implementation as a result of the event will not occur. (IE8 = <code>returnValue</code>)

Other Useful Methods

Methods	Description
elem.addEventListener()	Registers an event handler function for the specified event on the current object. (IE8 = attachEvent())
elem.removeEventListener()	method to remove an event listener that has been registered with the addEventListener method. (IE8 = detachEvent())
elem.dispatchEvent()	Initializes an event object created by the createEvent method or Event Constructor

Using Event Constructor

- To create custom event use Event constructor
`var myEvent= new Event(p1,p2)`
 - ▷ p1: the name of the custom event type
 - ▷ p2: an object with the following Optional properties with `false` as default value
 - bubbles: indicating whether the event bubbles.
 - cancelable: indicating whether the event can be canceled.
 - composed: indicating whether the event will trigger listeners outside of a shadow root.
- To fire the event programmatically use `dispatchEvent()` on a specific element
`elem.dispatchEvent(myEvent)`



Assignment