



WEB TECHNOLOGIES

Event Handling

Vinay Joshi

Department of
Computer Science and Engineering

Event Handling

Event Propagation

Ways of event propagation in the HTML DOM,

- Event bubbling
 - Event capturing.
 - Target Phase
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- **Propagation** *is a mechanism that defines how events propagate or travel through the DOM tree to arrive at its target.*
 - Event propagation is a way of defining the element order when an event occurs.
- ```
<div>
 <p> /<p>
</div>
```
- If both <p> and <div> elements registered Click event, which element's "click" event should be handled first?

### *bubbling*

- inner most element's event is handled first and then the outer: the <p> element's click event is handled first, then the <div> element's click event.

### *capturing*

- outer most element's event is handled first and then the inner: the <div> element's click event will be handled first, then the <p> element's click event.

## Event Handling

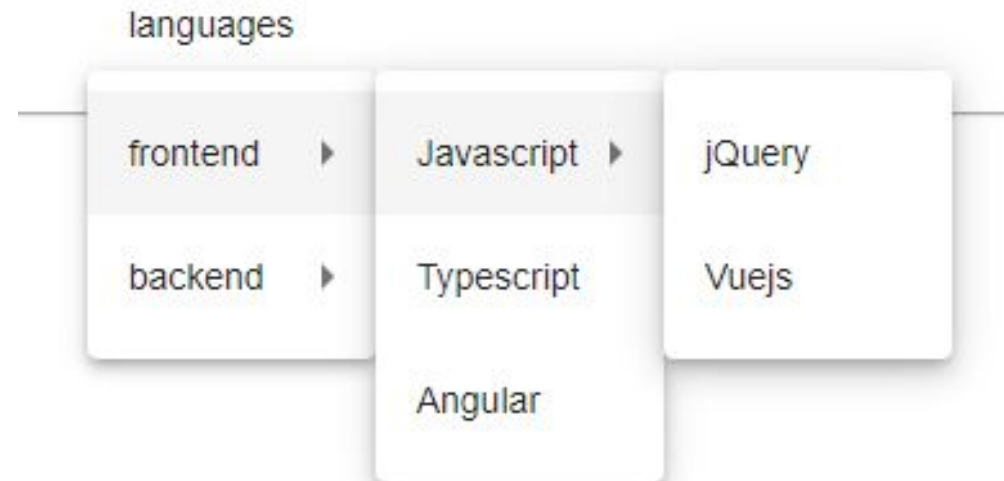
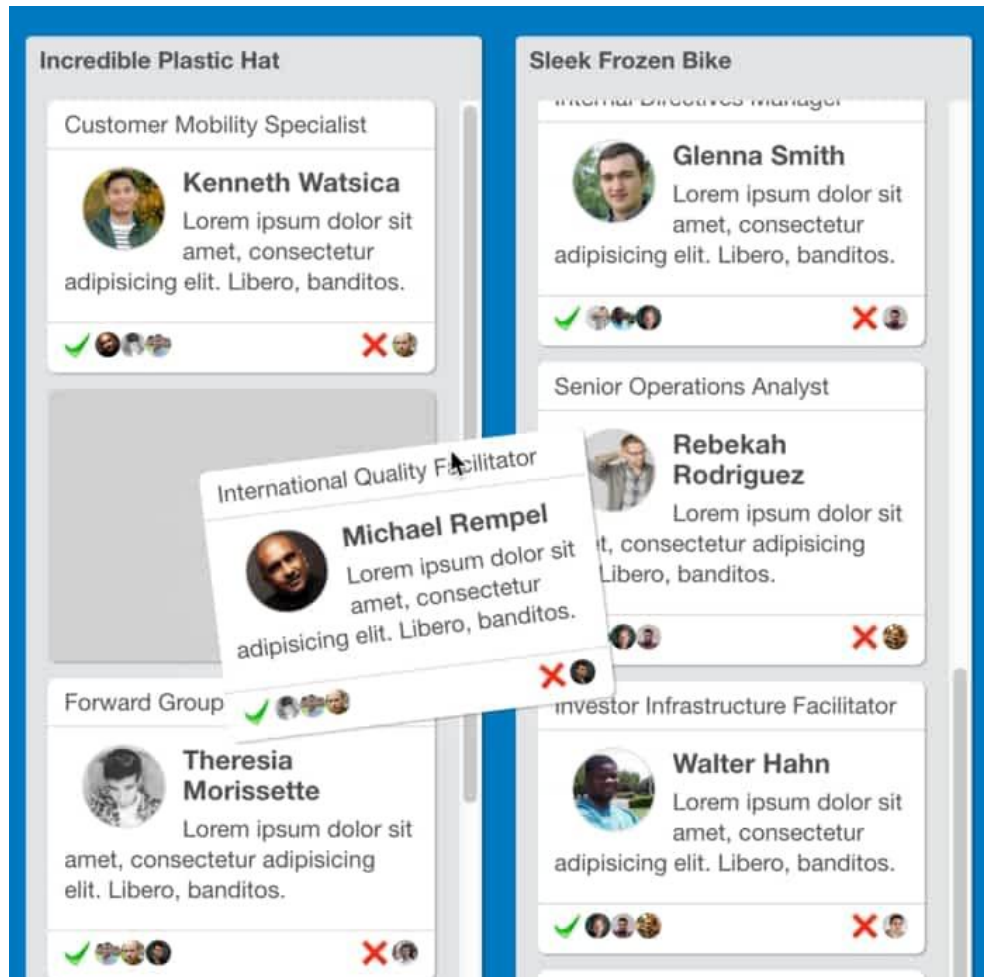
### Event Delegation

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- When an event occurs in an element inside another element, and both elements have registered a handle for that event.
- Propagation is the process of calling all the listeners for the given event type, attached to the nodes on the branch.
- Each listener will be called with an event object that gathers information relevant to the event.
- Several listeners can be registered on a node for the same event type.
- When the propagation reaches one such node, listeners are invoked in the order of their registration.

# Event Handling

## Event Propagation



There are three phases in which an event can propagate to handlers defined in parent elements:

- Capturing phase
- Target phase
- Bubbling phase

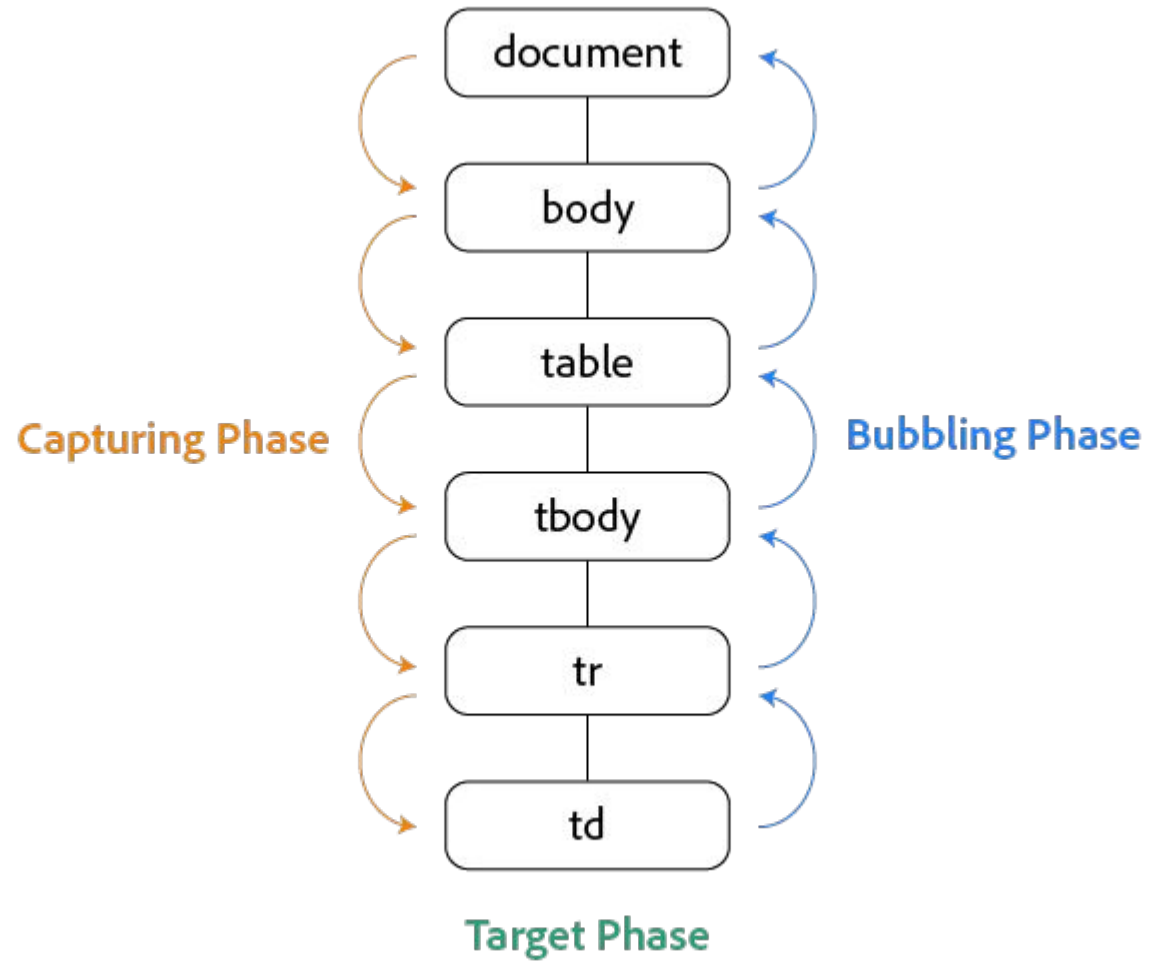
```
elem.addEventListener("event", func_ref, flag);
```

flag = true :=> Handler registered for Capturing phase

flag = false :=> Handler registered for Bubbling phase (default)

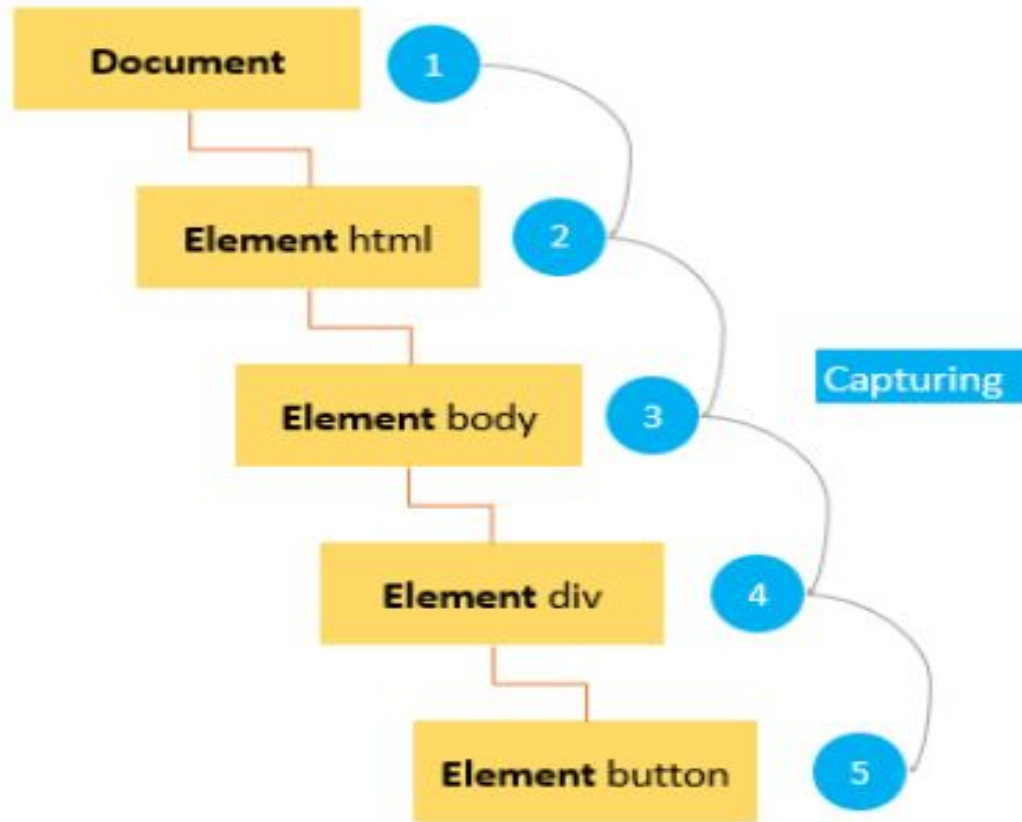
# Event Flow

## Event Capturing



# Event Flow

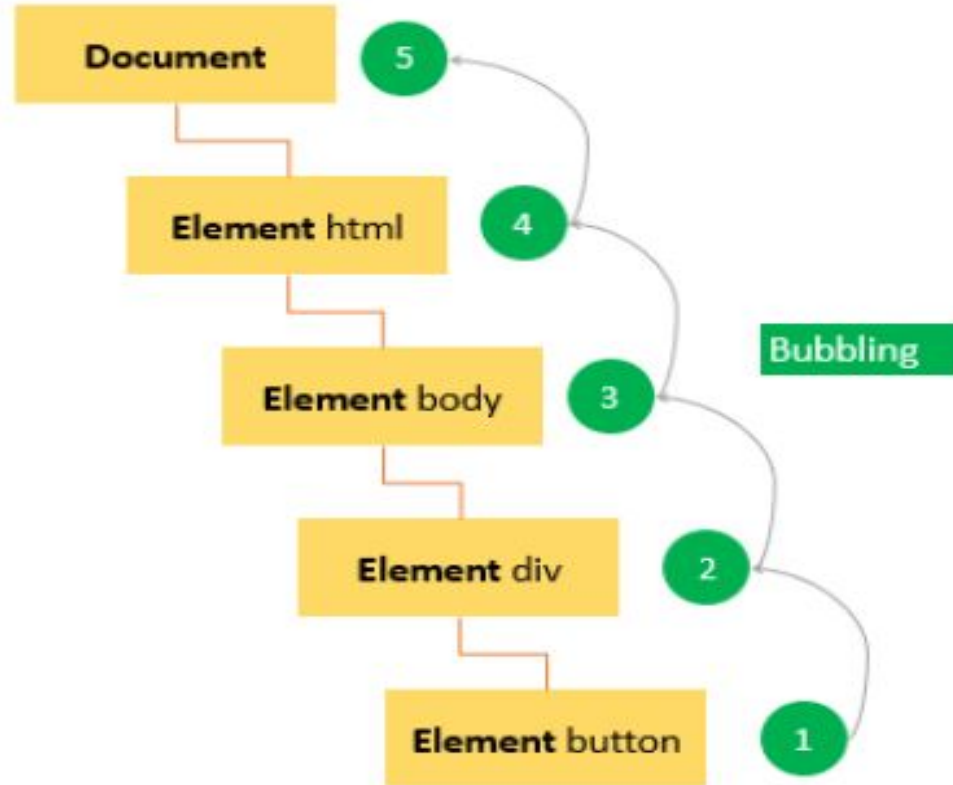
## Event Capturing





# Event Flow

## Event Bubbling



## Event Flow

### Event Capturing

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The eventPhase event property returns a number that indicates which phase of the event flow is currently being evaluated.

The number is represented by 4 constants:

0	NONE	
1	CAPTURING_PHASE	The event flow is in capturing phase
2	AT_TARGET	The event flow is in target phase, i.e. it is being evaluated at the event target
3	BUBBLING_PHASE	The event flow is in bubbling phase

# Event Handling

## Event Object Properties

- Event object has properties and methods related to Bubbling and Capturing

Property/ Method	IE5-8 Equivalent	Purpose
cancelBubble	-	A historical alias to <a href="#">stopPropagation()</a> . Setting its value to <b>true</b> before returning prevents propagation
eventPhase	-	Specifies which phase of the event flow is being processed
cancelable	Not supported	Indicates whether you can cancel the default behaviour of an element
preventDefault()	returnValue	It cancels the default behavior of the event (if possible)
stopPropogation()	cancelBubble	It stops any further bubbling/ capturing of the event.



**THANK YOU**

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**Vinay Joshi**

Department of Computer Science and Engineering

**[vinayj@pes.edu](mailto:vinayj@pes.edu)**

**+91 80 2672 6622**