

# ✓ JavaScript – Day 8: Event Bubbling & Event Delegation (With Examples)

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## 📘 Concept 1: Event Bubbling

### ♦ Definition:

Event Bubbling is a phase in the event propagation model where an event starts from the target element and bubbles upward through its ancestors in the DOM.

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### ♦ Structure:

html

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```
<section id="outer">

  <div id="middle">

    <button id="inner">Click Me</button>

  </div>

</section>
```

### ♦ JS Code (with bubbling):

js

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```
document.getElementById("inner").addEventListener("click", () => {
```

```
        console.log("Button clicked");
    });

    document.getElementById("middle").addEventListener("click", () => {
        console.log("DIV clicked");
    });

    document.getElementById("outer").addEventListener("click", () => {
        console.log("SECTION clicked");
    });
```

◆ **Output on Clicking Button:**

css

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Button clicked

DIV clicked

SECTION clicked

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## Concept 2: Event Delegation

◆ **Definition:**

**Event Delegation is a technique where a single event listener is attached to a parent element to handle events on current and future child elements.**

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♦ **Example Structure:**

html

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```
<ul id="todoList">

  <li>Task 1</li>

  <li>Task 2</li>

  <li>Task 3</li>

</ul>
```

♦ **JS Code:**

js

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```
document.getElementById("todoList").addEventListener("click", function
(e) {

  if (e.target.tagName === "LI") {

    console.log("You clicked:", e.target.innerText);

  }

});
```

♦ **Output:**

Clicking "Task 2" → You clicked: Task 2

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## Concept 3: `event.target` vs `event.currentTarget`

### ◆ Code Example:

html

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```
<div id="parent">

  <button id="child">Click Me</button>

</div>
```

js

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```
document.getElementById("parent").addEventListener("click", function
(e) {

  console.log("event.target:", e.target.id);          // child

  console.log("event.currentTarget:", e.currentTarget.id); // parent

});
```

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## Bonus: `stopPropagation()`

js

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```
document.getElementById("inner").addEventListener("click", (e) => {

  e.stopPropagation(); // stops bubbling

  console.log("Only button clicked");
```

```
});
```

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## Day 8 Tasks (With Structure, No Code Solutions)

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### ♦ Task 1: Bubbling Test

Structure:

html

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```
<section>

  <div>

    <button>Click Me</button>

  </div>

</section>
```

Goal: Alert from button, div, and section in bubbling order

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### ♦ Task 2: Basic Delegation

Structure:

html

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```
<ul id="list">

  <li>One</li>

  <li>Two</li>

</ul>
```

Goal: Add one listener to `<ul>`, detect which `<li>` was clicked

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### ♦ Task 3: Dynamic List (Add Items)

Structure:

html

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```
<ul id="dynamicList">

  <li>Item A</li>

</ul>

<button id="addBtn">Add New</button>
```

Goal:

- Add new `<li>` on button click
  - Listener on `ul` should detect all items (old + new)
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### ♦ Task 4: Highlight Selected Item

Structure:

html

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```
<ul id="highlightList">

  <li>Apple</li>

  <li>Mango</li>

  <li>Banana</li>

</ul>
```

Goal: When a list item is clicked, highlight it by changing its background. Only one should be active at a time.

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#### ♦ Task 5: One Listener for Multiple Buttons

Structure:

html

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```
<div id="actions">

  <button>Edit</button>

  <button>Delete</button>

</div>
```

Goal: Single listener on parent div should detect which button was clicked.

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## Summary Table

 Concept

 Key Term

 Description

Event Bubbling

`bubbles: true`

Event travels from child to parent

Event Delegation

`event.target`

Handles child events from parent element

Stopping  
Bubbling

`stopPropagation()`

Prevent event from bubbling further

Listener Scope

`event.currentTarget`

Element where listener was attached