

Introduction

In this session, we explored essential DOM-manipulation skills: defining and calling JavaScript **functions**, adding, removing, and toggling CSS classes with `classList`, and wiring everything together with `addEventListener`.

في جافاسكريبت، وإزاي ****functions**** إزاي نكتب ونستخدم الـ DOM في السيشن دي، اتعلمنا أساسيات مهمة في الـ `addEventListener` وكمان إزاي نربط الأحداث بـ `classList` الكلاسات باستخدام (toggle) نضيف ونشيل ونقلب.

Topic 1: Functions (Declaration vs Expression)

Functions group reusable code. Two common ways to create them are **function declarations** and **function expressions**.

```
// Function Declaration
function greet(name) {
  console.log('Hello', name);
}

// Function Expression (stored in a variable)
const greetExp = function (name) {
  console.log('Hello', name);
};
```

Function Expressions أما الـ `Hoist` في أول السطر وبتت `function` بتكتب بكلمة Function Declarations الـ `Hoist` بنفس الشكل متغير ومش بتت.

Topic 2: classList.add

`element.classList.add('className')` adds a class to the element.

```
myBox.classList.add('highlight');
```

بتضيف كلاس للعنصر لو مش موجود `add`.

Topic 3: classList.remove

`element.classList.remove('className')` removes a class if it exists.

```
myBox.classList.remove('highlight');
```

بتشيل الكلاس لو كان موجود `remove`.

Topic 4: classList.toggle

`element.classList.toggle('className')` adds the class if it isn't there or removes it if it is — perfect for switches.

```
myBox.classList.toggle('highlight'); // يضيف أو يزيل على حسب الحالة الحالية
```

مفيدة لو عايز تفتح/تقفل مود معيّن بكليك واحدة `toggle`.

Topic 5: addEventListener

`addEventListener` attaches a function that will run when a specific event fires.

```
button.addEventListener('click', function () {
  console.log('Button clicked');
});
```

عشان يتنفذ لما الحدث يحصل (click بتربط كودك بالحدث) زي `addEventListener`.

Topic 6: Comparing Common Event Types

Event	Fires When	Typical Elements	Bubbles?	Notes
click	User clicks (mouse or touch)	Buttons, links, any element	Yes	Default for most interactions
dblclick	User double-clicks	Same as click	Yes	Less common on mobile
mouseover	Pointer enters element	Any element	Yes	Handy for tooltips/menus
keydown	Key pressed down	Document, inputs	Yes	Good for keyboard shortcuts
submit	Form is submitted	<form>	Yes	Prevent with <code>event.preventDefault()</code>
input	User types/changes value	Inputs, textareas	Yes	Fires on every change

Events: `click`، `dblclick`، `mouseover`، `keydown`، `submit`، و `input`. مقارنة بين أشهر الـ

Topic 7: Full Event Reference (Quick Cheat-Sheet)

Below is a non-exhaustive but **practical** catalogue of DOM events you can attach with `addEventListener`. Keep it handy when you build UI features.

Category	Events
Clipboard	copy, cut, paste
Composition / IME	compositionstart, compositionupdate, compositionend

Category	Events
Drag & Drop	drag, dragstart, dragend, dragenter, dragleave, dragover, drop
Focus	focus, blur, focusin, focusout
Form & Input	input, change, submit, reset, invalid
Keyboard	keydown, keyup, keypress
Mouse / Pointer	click, dblclick, mousedown, mouseup, mousemove, mouseenter, mouseleave, mouseover, mouseout, contextmenu
Pointer (touch / pen)	pointerdown, pointerup, pointermove, pointerenter, pointerleave, pointerover, pointerout, pointercancel
Touch	touchstart, touchend, touchmove, touchcancel
Wheel / Scroll	wheel, scroll
UI & View	resize, scroll, load, unload, beforeunload, error
Media	play, pause, ended, volumechange, timeupdate, seeked, waiting
Animation & Transition	animationstart, animationend, animationiteration, transitionstart, transitionend, transitionrun
Network	online, offline
Selection	select, selectstart, selectionchange
Storage & Data	storage, beforeprint, afterprint

مع `addEventListener` مرجع سريع لأشهر الأحداث التي يمكن استخدامها.

Task – Light Switch Button

Create a button that turns a "light bulb" on and off.

Requirements

1. Use **only JavaScript** for logic.
2. Toggle a CSS class `.on` on a bulb element.
3. Attach a **click** event with `addEventListener`.
4. Use `classList.toggle` (or `.add()` / `.remove()`).
5. Bulb color changes: gray (off) ↔ yellow (on).

Starter Template

```
<!DOCTYPE html>
<html>
<head>
  <style>
    #bulb {
      width: 100px;
```

```
    height: 100px;
    border-radius: 50%;
    background-color: gray; /* Off */
    margin: 20px auto;
  }
  .on {
    background-color: yellow; /* On */
  }
</style>
</head>
<body>

<div id="bulb"></div>
<button id="toggleBtn">Toggle Light</button>

<script>
  const bulb = document.getElementById('bulb');
  const btn = document.getElementById('toggleBtn');

  btn.addEventListener('click', () => {
    bulb.classList.toggle('on');
  });
</script>

</body>
</html>
```

`.click` وحدث `classList.toggle` مطلوب زر يفتح ويطفئ مصباحًا بسيطًا باستخدام

Key Concepts Covered

الحاجات المهمة التي اتعلمناها في السيشن:

1. **Functions**
2. **classList.add / remove / toggle**
3. **addEventListener**
4. أنواع الأحداث الشائعة & مرجع كامل للأحداث