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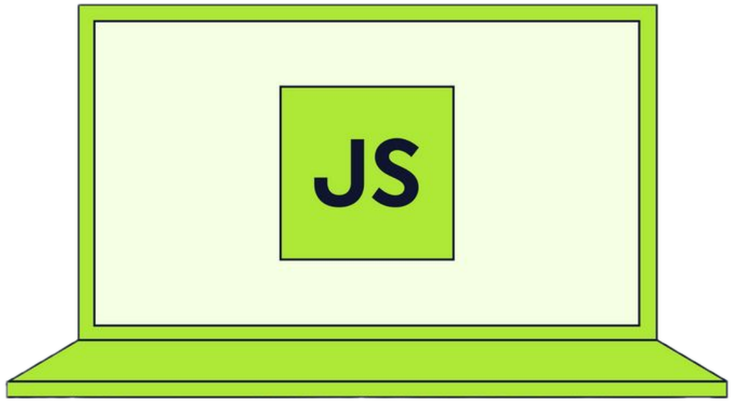
The Complete Javascript Course



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Lecture 23: Dynamic Web Pages with JavaScript

-Ajay Sharma

JS

Key Take away from this Lecture

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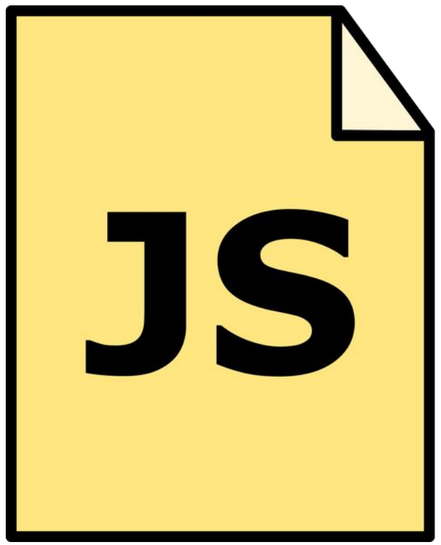
- Quick review on handling clicks
- Making things appear with JS
- Storing data using arrays
- Build your first mini project



Recap: How Button Clicks Work

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Inline Events

```
1 <button onclick="sayHello()">Click Me</button>
```

Inline event handler attribute

Recap: How Button Clicks Work

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Inline Events

```
1 <button onclick="sayHello()">Click Me</button>
```

Inline event handler attribute

Event: click (triggered when the element is clicked)

Event attribute: onclick

Event handler: fun() — the function that runs when the event occurs

Recap: How Button Clicks Work

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Inline Events

```
1 <button onclick="sayHello()">Click Me</button>
```

Why we call function here :

1. Inline event handlers act like you are writing code inside an attribute.
2. The browser expects an expression to execute, not a function reference (name of function).

Recap: How Button Clicks Work

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JavaScript property event handlers

```
let a = document.querySelector("#btn");
a.onclick = fun;
```

Why we call function here :

1. a.onclick expects a **function reference**(function name), not a **function call**.
2. If you write **fun()**, it will run **immediately** and assign its return value (usually undefined) to onclick.

Recap: How Button Clicks Work

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Inline Events

```html
<button onclick="sayHello()">Click Me</button>
```

Event Listeners—The Professional Way

```javascript
const button = document.getElementById("myButton");
button.addEventListener("click", function() {
        alert("Hello!");
});
```

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How to add multiple event listeners to a single button click.

One Button, Many Event Listeners

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When you attach multiple event listeners of the same type (for example, multiple "click" listeners) to the same HTML element using **addEventListener( )**,

```html
<html>
  <button id="myButton">Click Me!</button>
</html>
<script>
    const button = document.getElementById("myButton");
    button.addEventListener("click", function() { alert("First!");});
    button.addEventListener("click", function() { alert("Second!");});
    button.addEventListener("click", function() { alert("Third!");});
</script>
```

Result: One click, multiple actions!

- They are called in the order you registered (attached) them in nearly all modern browsers.
- Useful when handling logic separately.

Using multiple event listeners on one button click

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```html
<html>
  <button id="myButton">Click Me!</button>
  <p id="message"></p>
</html>
<script>
    const button = document.getElementById("myButton");
    const message = document.getElementById("message");
    // First listener: show alert
    button.addEventListener("click", function() {
      alert("You clicked the button!");
    });
    // Second listener: change button color and update text
    button.addEventListener("click", function() {
      button.style.backgroundColor = "lightgreen";
      message.innerText = "The button was clicked and color changed!";
    });
  </script>
```

- Clicking the button triggers both actions—first showing the alert, then changing the color.
- Order matters: Listeners run in the order you attached them

The 3 Magic Words 🪄

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To add something new to the page:

1. createElement( ) → make it
2. innerText → write on it
3. appendChild( ) → place it on the screen

Once you've learned all three concepts, you'll be able to understand this code

```
const p = document.createElement("p");
p.innerText = "Hello!";
document.body.appendChild(p);
```

Understanding createElement( )

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Purpose:

createElement() is used to make a new HTML element with JavaScript — like creating a building block you can add to your webpage dynamically.

Syntax:

```
const element = document.createElement("tagName");
```

creating a paragraph tag

```
const para = document.createElement("p");
//Create a <p> element
```

Understanding innerText

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Purpose:

innerText is used to set or get the text inside an HTML element using JavaScript.

Syntax:

```
element.innerText = "Your new text here";
```

To set text inside p tag

```
const para = document.createElement("p");  // Step 1: Create a <p> element
para.innerText = "I was created with JS!"; // Step 2: Add content
```

Understanding appendChild( )

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Purpose:

appendChild() is used to add (or "attach") a new element to the end of an existing parent element in the DOM.

Syntax:

```
parentElement.appendChild(childElement);
```

Result on the Page

```
const para = document.createElement("p");    // Step 1: Create a <p> element
para.innerText = "This is a new paragraph."; // Step 2: Add some text
document.body.appendChild(para);             // Step 3: Add to the body
```

🔁 Remember: Create → Write → Stick!

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Coding Time

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Manipulating Arrays

Websites Need “Memory” = Arrays 🧠

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The browser shows things, BUT we also need to remember them.

We can use the Array to store multiple value in under one name.

Arrays = lists you store and use later

```
1 const names = [ ];
2 names.push("Alice");
3 names.push("Bob");
4 console.log(names); // ["Alice", "Bob"]
```

Arrays in Action: Store User Input

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```
const tasks = [];
button.addEventListener("click", () => {
  const task = input.value;
  tasks.push(task);
});
```

🔎 **Where we can use Arrays?**

- Count items
- Filter, delete, search
- Data to Save later

Arrays in Action: Store User Input

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```html
<html>
  <input id="taskInput" type="text" placeholder="Enter a task">
  <button id="addTask">Add Task</button>
</html>
<script>
const tasks = [];
button.addEventListener("click", () => {
  const task = input.value;
  tasks.push(task);
});
</script>
```

🔎 Where we can use Arrays?

- Count items
- Filter, delete, search
- Data to Save later

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Coding Time

Mini Project: “Name Collector”

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Create a small web app where users can type a name into an input box:

- User types a name and clicks “Add Name”
- The name is added to a list on the page
- Each name stored in an array
- Input field clears automatically
- Total count updates

```
<html>
    <input id="nameInput" />
    <button id="addName">Add</button>
    <ul id="nameList"></ul>
    <p id="counter">Total: 0</p>
</html>
```

Mini Project: “Name Collector” –Solution

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```html
<html>
    <input id="nameInput" />
    <button id="addName">Add</button>
    <ul id="nameList"></ul>
    <p id="counter">Total: 0</p>
</html>
<script>
  const names = [];
  document.getElementById("addName").addEventListener("click", () => {
  const input = document.getElementById("nameInput");
  const name = input.value;
  names.push(name);
  const li = document.createElement("li");
  li.innerText = name;
  document.getElementById("nameList").appendChild(li);
  document.getElementById("counter").innerText = "Total: " + names.length;
  input.value = "";
});
</script>
```

What You Learned Today

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You can now:

- Create webpage content instantly.
- Respond to events like clicks.
- Remember things using arrays.
- Use createElement, appendChild, and addEventListener.
- Build your first dynamic project.
- Use multiple listeners on one element!

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Quiz Time

References

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Dynamic DOM Creation & Manipulation

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Multiple Event Listeners on One Element

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Feedback

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Now it's time to give your valuable feedback

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Thanks for watching!