**✅ What is the DOM in JavaScript?**

**DOM** stands for **Document Object Model**.

It's **not** JavaScript itself — it's a **bridge between JavaScript and the HTML page**.

**💡 In simple terms:**

The DOM is how **JavaScript "sees" and interacts** with your HTML page.

When your browser loads a webpage, it turns the HTML into a **tree-like structure** (nodes) that JavaScript can use to:

* Read content
* Change content
* Add new elements
* Remove elements
* Respond to events (like clicks)

**🧠 Example:**

Given this HTML:

<h1 id="title">Welcome!</h1>

You can use JavaScript to **access and change it** like this:

js

const heading = document.getElementById("title");

heading.textContent = "Hello, Raghad!";

Here:

* document is the root of the DOM
* getElementById is a method to access an element
* textContent changes what’s inside

**🧱 DOM = Tree Structure**

Visually, your HTML becomes something like:

Document

└── html

├── head

└── body

└── h1 (id="title") → "Welcome!"

**📌 So in summary:**

**"The DOM (Document Object Model) allows JavaScript to interact with the HTML page by representing it as a tree structure that JavaScript can read and manipulate."**

* The browser turns the HTML into a **DOM tree**.
* JavaScript uses the **DOM API** to:
  + Select elements
  + Change text, styles, or attributes
  + Add/remove elements
  + Listen for user actions (like clicks)

**✅ What is the DOM API?**

**🔹 DOM API = The set of built-in JavaScript methods and properties**

that let you **interact with the DOM (Document Object Model)**.

**🧠 Think of it like this:**

The **DOM** is the **structure** (the HTML tree),  
and the **DOM API** is the **toolbox** JavaScript uses to **work with** that structure.

**🛠️ Examples of DOM API methods:**

document.getElementById("title") // Selects an element by ID

document.querySelector(".btn") // Selects the first element with class "btn"

element.textContent = "Hello!" // Changes the text inside an element

element.style.color = "red" // Changes the CSS style

element.classList.add("active") // Adds a CSS class

element.addEventListener("click", fn) // Listens for a user action

**🎯 Summary:**

| **Term** | **Meaning** |
| --- | --- |
| **DOM** | The tree structure of the HTML page (like a map of your webpage) |
| **DOM API** | The JavaScript tools to access and modify that tree |

**✅ ما هو window؟**

* هو الكائن (object) الأعلى في **متصفح الويب**.
* يحتوي على كل الكائنات الأخرى مثل:
  + document
  + console
  + alert
  + localStorage
  + وغيرها…

**✅ ما هو DOM؟**

DOM = **Document Object Model**

* هو تمثيل شجري (Tree structure) لصفحة HTML.
* يبدأ من document ويتفرّع إلى:
  + <html>
    - <head>
    - <body> ← ثم العناصر الداخلية مثل الصور، النصوص، الأزرار…

**🎯 العلاقة بين window و DOM:**

| **العنصر** | **شرح** |
| --- | --- |
| window | الكائن العام، يحتوي على كل شيء في المتصفح. |
| document | خاص بالـ DOM، وهو جزء من window. |
| DOM | يبدأ من document ويمثل عناصر HTML في الصفحة. |

**✅ مثال برمجي:**

js

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console.log(window); // الكائن الكبير اللي يحتوي الكل

console.log(window.document); // هذا هو DOM

console.log(document.body); // عنصر <body> داخل DOM

**🧠 تلخيص سريع للجواب:**

**الـ window هو الكائن الأعلى في المتصفح، وواحد من خصائصه هو document،  
اللي يمثل مدخلنا إلى DOM.**