

DOM in JavaScript - Methods, Properties & Examples

Accessing Elements

- `document.getElementById(id)`: Gets an element by its ID. Example: `document.getElementById("title")`
- `document.getElementsByClassName(class)`: Returns elements with the given class. Example: `document.getElementsByClassName("item")`
- `document.getElementsByTagName(tag)`: Returns elements by tag name. Example: `document.getElementsByTagName("p")`
- `document.querySelector(selector)`: Returns the first match of a CSS selector. Example: `document.querySelector(".my-class")`
- `document.querySelectorAll(selector)`: Returns all matches. Example: `document.querySelectorAll("div.note")`

Modifying Content and Attributes

- `innerHTML`: Get/set HTML content. Example: `el.innerHTML = "Hi"`
- `innerText`: Get/set visible text. Example: `el.innerText = "Hello World"`
- `textContent`: Get/set all text. Example: `el.textContent = "Hidden Text"`
- `setAttribute(attr, val)`: Set an attribute. Example: `el.setAttribute("class", "box")`
- `getAttribute(attr)`: Get an attribute. Example: `el.getAttribute("id")`
- `removeAttribute(attr)`: Remove an attribute. Example: `el.removeAttribute("style")`

Styling Elements

- `style.property`: Set inline styles. Example: `el.style.color = "red"`
- `classList.add(class)`: Add a class. Example: `el.classList.add("active")`
- `classList.remove(class)`: Remove a class. Example: `el.classList.remove("hidden")`
- `classList.toggle(class)`: Toggle a class. Example: `el.classList.toggle("dark-mode")`

Creating and Removing Elements

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- createElement(tag): Create new element. Example: document.createElement("div")
- appendChild(el): Add child. Example: parent.appendChild(child)
- removeChild(el): Remove child. Example: parent.removeChild(child)
- replaceChild(new, old): Replace child. Example: parent.replaceChild(newEl, oldEl)
- insertBefore(new, ref): Insert before. Example: parent.insertBefore(newEl, refEl)

Other Useful Properties

- children: Get child elements. Example: div.children
- parentElement: Get parent. Example: el.parentElement
- firstElementChild: First child. Example: el.firstElementChild
- lastElementChild: Last child. Example: el.lastElementChild

Example: DOM Manipulation

```
<!DOCTYPE html>
<html>
<head><title>DOM Example</title></head>
<body>
  <h1 id="title">Welcome!</h1>
  <button onclick="changeContent()">Click Me</button>

  <script>
    function changeContent() {
      let title = document.getElementById("title");
      title.innerText = "Hello from JavaScript!";
      title.style.color = "blue";
      title.classList.add("highlight");
    }
  </script>
</body>
</html>
```