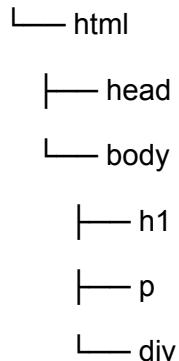


DOM in JavaScript

1. What is DOM?

DOM (Document Object Model) is a programming interface that represents an HTML page as a tree structure so JavaScript can access, change, add, or remove content, styles, and elements.

- When a webpage loads, the browser converts HTML into a DOM tree.



2. Why DOM is Important?

Using DOM, JavaScript can:

- Read HTML content
- Change text and attributes
- Change CSS styles
- Create new elements

Delete elements

Handle user events (click, input, etc.)

3. Accessing DOM Elements

3.1 By ID

```
document.getElementById("title")
```

3.2 By Class Name

```
document.getElementsByClassName("box")
```

3.3 By Tag Name

```
document.getElementsByTagName("p")
```

3.4 Query Selector (Most Used)

```
document.querySelector("#title") // first match
```

```
document.querySelectorAll(".box") // all matches
```

4. Reading & Changing Content

4.1. innerText

```
element.innerText = "Hello"
```

4.2. textContent

```
element.textContent = "Hello"
```

4.3. innerHTML

```
element.innerHTML = "<b>Hello</b>"
```

Property	Description
innerText	Visible text only
textContent	All text
innerHTML	HTML + text

5. Changing Styles

```
element.style.color = "red"
```

```
element.style.backgroundColor = "blue"
```

```
element.style.fontSize = "20px"
```

6. Attributes Handling

6.1 Get Attribute

```
element.getAttribute("id")
```

6.2 Set Attribute

```
element.setAttribute("class", "box")
```

6.3 Remove Attribute

```
element.removeAttribute("disabled")
```

7. Creating & Adding Elements

7.1 Create Element

```
let p = document.createElement("p")
```

```
p.innerText = "New Paragraph"
```

7.2 Add to Page

```
document.body.appendChild(p)
```

7.3 Insert at Specific Position

```
parent.insertBefore(newElement, referenceElement)
```

8. Removing Elements

```
element.remove()
```

or

```
parent.removeChild(child)
```

9. DOM Events

9.1 Click Event

```
button.onclick = function() {  
    alert("Clicked")  
}
```

9.2 addEventListener (Best Method)

```
button.addEventListener("click", function() {  
    alert("Clicked")  
})
```

Common Events

Event Use

```
click    mouse click  
mouseover   hover  
keydown     key pressed  
submit form submit  
input   typing
```

10. Event Object

```
button.addEventListener("click", function(event){  
  console.log(event.target)  
})
```

11. Form Handling

```
let name = document.getElementById("username").value
```

Prevent reload:

```
event.preventDefault()
```

12. Traversing DOM

```
element.parentElement  
element.children  
element.firstElementChild  
element.lastElementChild  
element.nextElementSibling  
element.previousElementSibling
```

13. Class List Manipulation

```
element.classList.add("active")  
element.classList.remove("active")  
element.classList.toggle("active")  
element.classList.contains("active")
```

14. Window Object

```
window.alert("Hi")  
window.location.href  
window.innerWidth  
window.innerHeight
```

15. DOM Ready

```
document.addEventListener("DOMContentLoaded", function() {  
    console.log("DOM Loaded")  
})
```

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