

DOM (Document Object Model)

Definition:

The DOM is a programming interface for web documents. It represents the structure of an HTML or XML document as a tree of objects.

Purpose:

- To access and manipulate **HTML elements**.
- Used for **creating, modifying, or deleting** elements and attributes dynamically.

Key Properties and Methods:

- `document.getElementById()`
- `document.querySelector()`
- `element.innerHTML` / `element.textContent`
- `element.style`
- `document.createElement()`
- `appendChild()`, `removeChild()`
- `addEventListener()`

Example:

```
javascript
CopyEdit
document.getElementById("title").innerText = "Hello, World!";
```

BOM (Browser Object Model)

Definition:

The BOM allows interaction with the browser (outside the HTML content). It provides objects for controlling the browser window and environment.

Purpose:

- To interact with the **browser window, URL, history, screen**, etc.

Key BOM Objects:

- window – the top-level object.
- navigator – browser info.
- screen – screen resolution.
- location – URL info.
- history – browser history.
- alert(), confirm(), prompt() – dialog boxes.
- setTimeout(), setInterval() – timers.

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DOM (Document Object Model) Examples

1. Change Text of an Element

```
html
CopyEdit
<p id="demo">Hello</p>
<script>
```

```
document.getElementById("demo").innerText = "Hello, DOM!";
</script>
```

2. Create and Add a New Element

```
html
CopyEdit
<div id="container"></div>
<script>
  const newElement = document.createElement("p");
  newElement.textContent = "This is a new paragraph!";
  document.getElementById("container").appendChild(newElement);
</script>
```

3. Change CSS Style with JavaScript

```
html
CopyEdit
<h2 id="heading">Change My Color</h2>
<script>
  document.getElementById("heading").style.color = "blue";
</script>
```

4. Handle Button Click (Event Listener)

```
html
CopyEdit
<button id="btn">Click Me</button>
<p id="result"></p>
<script>
  document.getElementById("btn").addEventListener("click", function()
  {
    document.getElementById("result").innerText = "Button was
    clicked!";
  });
</script>
```

BOM (Browser Object Model) Examples

1. Alert Box

```
html
CopyEdit
<script>
    alert("This is a BOM alert!");
</script>
```

2. Redirect to Another Page

```
html
CopyEdit
<script>
    window.location.href = "https://www.google.com";
</script>
```

3. Get Current URL

```
html
CopyEdit
<script>
    console.log("Current URL: " + window.location.href);
</script>
```

4. Browser Info Using navigator

```
html
CopyEdit
<script>
    console.log("Browser Info: " + navigator.userAgent);
</script>
```

5. Set Timeout

```
html
CopyEdit
<script>
  setTimeout(function() {
    alert("This shows after 3 seconds");
  }, 3000);
</script>
```

6. Go Back in History

```
html
CopyEdit
<button onclick="window.history.back()">Go Back</button>
```