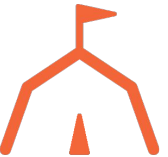# DOM

Document Object Model

The document object model (DOM) is an interface which allows programs and scripts to dynamically access and update the content, style, and structure of an HTML document.

Document Object Model

The HTML DOM defines how to get, change, add, or delete HTML elements

Document Object Model

The DOM has a tree structure and identifies objects using nodes
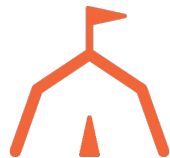
```
let byNode = document.body;
let htmlNode = document.body.parentNode;
let childNodes = document.body.childNodes;
```

Document Object Model

It's possible to find elements on the HTML page by parent, sibling, or child node, but we usually find elements by one of these means:

- ID
- class
- tag name (e.g. p, div, form, button)
- CSS query selector

Document Object Model

Finding by ID...

```
<p id="happy">A happy paragraph!</p>

var paragraph = document.getElementById('happy');
```

Notice the capitalization "Id" at the end of the method. Typing "ID" is a common mistake and will not work!

Document Object Model

Locating by tag name….

```html
<li class="food">Pizza</li>
<li class="food">Sushi</li>
<li class="food">Hummus</li>
```

```javascript
let listItems = document.getElementsByTagName('li');

for (let i = i; i < listItems.length; i++) {
    let listItem = listItems[i];
    //Do stuff with listItem
}
```

Document Object Model

You can also select anything (id, tag, or class) by using querySelector (find one) or querySelectorAll (finds an array).

```
let paragraphs = document.querySelectorAll("p");
let oneHeading = document.querySelector("#heading");
let allNews = document.querySelectorAll(".news");
```

DOM Cheat Sheet

This cheat sheet includes everything you might need to do with DOM, including modifying, adding, and deleting HTML elements and responding to events such as button clicks.

https://github.com/grandcircusco/cheatsheets/blob/master/cheatsheet-dom.md
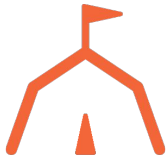
The key is always to follow these two steps:

1. Find the element.
2. Modify the element or listen for the event.

DOM

For today, we will focus on just a few DOM skills from the cheatsheet:

- Responding to button clicks
- Modifying text
- Modifying styles

Example: Button Click

HTML:

```html
<button id="greetBtn">Say Hello</button>
```

JavaScript:

```javascript
// 1. Find the button
let btn = document.getElementById("greetBtn");
// 2. Listen for the click
btn.addEventListener("click", () => {
 console.log("Hello!");
});
```

Example: Modify Text

HTML:

```html
<p>Hello: <span id="name">World</span>!</p>
```

JavaScript:

```javascript
// 1. Find the span
let nameEl = document.getElementById("name");
// 2. Replace the text
nameEl.innerText = "Mate";
```

Example: Modify Styles

```html
<ul>
 <li class="winner">A</li>
 <li>B</li>
 <li class="winner">C</li>
</ul>
```

```javascript
// 1. Find the list item
let winnerEls = document.querySelectorAll("li.winner");
// 2. Modify the text
for (let item of winnerEls) {
 item.style.backgroundColor = "yellow";
 item.style.fontSize = "20px";
}
```