

Query DOM - How to find an element?

AGENDA

1. Find an element
2. Find all elements

1. Find an element

#	Name	Desc
1	id-named global variables	supported mainly for compatibility --> avoid using this
1	document.getElementById(id) (not available on Element)	return null if not found, return the element having id
2	document.querySelector(selector)	return the first Element match CSS selector, using DFS Pre-order , return null otherwise

```
<h1 id="title">Easy Frontend</h1>
```

```
const title = document.getElementById('title');
if (title) {
  console.log(title.textContent)
}
```

```
// remember to have hash before the id (css selector)
const title = document.querySelector('#title');
if (title) {
  console.log(title.textContent)
}
```

	getElementById	querySelector
for document only	YES	NO, also available on Element
search by	id	css selector
return	element having match id	the first node matches selector
when to use	query by id	query by others

REMEMBER: Narrow down the scope when querying

```
<!-- ... -->

<div id="product-123" class="product">
  <p class="product__name">Javascript cho người mới bắt đầu 🌈</p>
  <p class="product__price">39.99$</p>
</div>

<!-- ... -->
```

```
// DON'T
const productName =
  document.querySelector('#product-123 > .product__name');

const productPrice =
  document.querySelector('#product-123 > .product__price');
// as it need to search on the whole tree over and over again for each
query
```

```
// DO: arrow down the query scope
// 1. Get the product first
// 2. From the product element, search the element inside it's subtree
only
const product = document.getElementById('product-123');
if (product) {
  const productName = product.querySelector('.product__name');
  const productPrice = product.querySelector('.product__price');
}
```

2. Find all elements

#	Name	search by	Can call on element?	Live
1	querySelectorAll (recommended)	CSS-selector	Yes	No
2	getElementsByName	name	NO	YES
3	getElementsByTagName	tag or '*'	Yes	YES
4	getElementsByClassName	class	Yes	YES

```
<!-- ... -->

<ul id="todoList">
  <li>Learn Javascript</li>
  <li>Learn ReactJS</li>
  <li>Learn NextJS</li>
</ul>

<!-- ... -->
```

```
// 1. Narrow down the scope of querying
const todoListElement = document.getElementById('todoList');

// 2. Make sure to check if existed before using
if (todoListElement) {
  // 3. Get list of li elements
  const todoElementList = todoListElement.querySelectorAll('li');

  // 4. Loop through it and log the content
  for (const todoElement of todoElementList) {
    console.log(todoElement.textContent);
    // Learn Javascript
    // Learn ReactJS
    // Learn NextJS
  }
}
```

Can use multiple CSS selectors by commas

```
<!-- ... -->

<div id="todoList">
  <ul class="todo-list" data-weekday="monday">
    <li>Learn Javascript</li>
    <li>Learn ReactJS</li>
    <li>Learn NextJS</li>
  </ul>

  <ul class="todo-list tuesday" data-weekday="tuesday">
    <li>Learn Javascript</li>
    <li>Learn ReactJS</li>
    <li>Learn NextJS</li>
  </ul>
</div>

<!-- ... -->
```

```
// 1. Narrow down the scope of querying
const todoListElement = document.getElementById('todoList');

// 2. Make sure to check if existed before using
if (todoListElement) {
  // 3. Some ways of query all li
  todoListElement.querySelectorAll('li');
  todoListElement.querySelectorAll('ul > li');
  todoListElement.querySelectorAll('ul.todo-list > li');

  todoListElement.querySelectorAll(
    'ul[data-weekday="monday"] > li, ul[data-weekday="tuesday"] > li'
  );
}
```

Source: <https://javascript.info/searching-elements-dom>

Một vài lưu ý

- DOM càng lớn, search càng tốn thời gian.
- Hãy thu hẹp phạm vi search khi có thể.
- getElementById(): query by id
- querySelector(): query by css selector
- querySelectorAll(): query all by css selector

Tham khảo

- <https://developer.mozilla.org/en-US/docs/Web/API/Document/getElementById>
 - <https://developer.mozilla.org/en-US/docs/Web/API/Document/querySelector>
 - <https://developer.mozilla.org/en-US/docs/Web/API/Document/querySelectorAll>
 - <https://javascript.info/searching-elements-dom>
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Khoá học Javascript cho người mới bắt đầu 2021 🎉

- Tác giả: **Hậu Nguyễn** - Founder Easy Frontend
- Khoá học chỉ được published trên Udemy, không thông qua trung gian.
- Khoá học không bán dạng videos upload trên Google Drive hay bất cứ hình thức nào tương tự.
- Khoá học có nhóm discord để hỗ trợ trong quá trình học tập.

☎️ Liên hệ tác giả để được hỗ trợ:

- ✅ Facebook: <https://www.facebook.com/nvhauesmn/>
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- ✅ Youtube Channel: <https://www.youtube.com/easyfrontend>