

Módulo 1b - Javascript

T03 #TDW #MCTW

03/11/2021

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HTML CSS and JavaScript for Beginners - A Web Design Course

<https://learning.oreilly.com/videos/html-css-and/9781838551278/>



Chapter 5 : JavaScript

Document Object Model





Introduction do JavaScript DOM



What is the DOM

- Todo o website num objeto, criado pelo browser
 - + `console.dir(document);`



DOM Manipulation

- Nodes, childNodes
- Selecionar o primeiro elemento:
 - + `document.querySelector('h1');`
 - + `document.querySelector('.class');`
 - + `document.querySelector('#id');`
- Manipular um elemento:
 - + `el1.innerHTML = '...';`
 - + `el1.innerText = '...'; // Qual a diferença do innerHTML?`
 - + `el1.style.color = 'red';`
 - + `el1.style.background = 'blue';`



DOM Selection

- `document.getElementById('one');`
- `document.getElementsByTagName('li');`
 - + resultado não é um array, mas sim uma node list
- `document.getElementsByClassName('highlight');`
- `document.querySelector('...');` // tag, id ou classname
 - + só retorna o primeiro
- `document.querySelectorAll('...');` // tag, id ou classname
 - + retorna uma node list com todos



Element Text Manipulation

- innerHTML vs innerText vs textContent
- innerHTML vs outerHTML



Change Classes DOM

- el1.className = “red”;
- el1.classList.add(‘red’);
- el1.classList.remove(‘test’);
- el1.classList.toggle(‘red’);



Change Styles DOM

- el1 = document.getElementsByClassName('test');
console.log(el1[0]); // porquê o índice 0?
tempEle = el1[0];
- tempEle.style.backgroundColor = "Green";
- tempEle.style.color = "white";
- tempEle.style.border = "5px dotted purple";
- tempEle.style.fontSize = "40px";
- tempEle.style.display = "none";
- tempEle.style.display = "block";



Element Attribute Manipulation

- el1 = document.getElementsByTagName('a');
- el1[0].getAttribute('href');
- el1[0].setAttribute('href', 'http://www.google.com');

- el2 = document.getElementsByTagName('img');
- el2[0].setAttribute('src', el2[1].getAttribute('src'));



Interactive DOM Events

- ele1 = document.querySelector('ul');
- ele1.addEventListener('click', function() {
 // Função anónima
 ...
})



Select Multiple Elements

```
• eleList = document.querySelectorAll('li');

• for (var x=0; x < eleList.length; x++) {
    eleList[x].addEventListener('click', makeItRed);
}

function makeItRed() {
    console.log(this);
    this.classList.toggle('red');
}
```



KeyPress Events

- ele = document.querySelector('input[name="newItem"]');
- ele.addEventListener('keypress', addItem);

```
function addItem() {
    //console.log(event);
    if (event.keyCode === 13 && ele.value.length > 0) {
        console.log('you pressed enter');
    }
}
```



Mouse Events

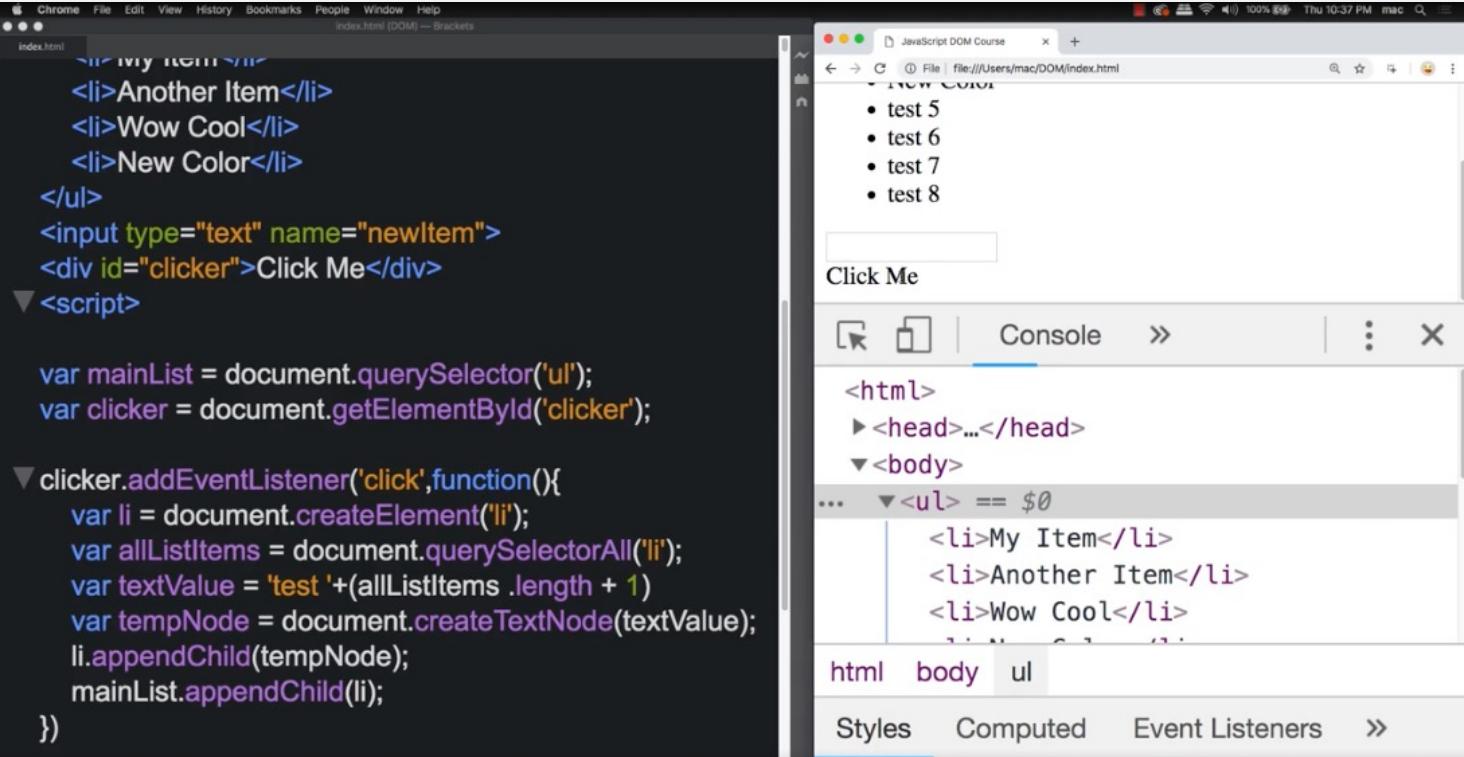
```
• eleList = document.querySelectorAll('li');

• for (var x=0; x < eleList.length; x++) {
    eleList[x].addEventListener('mouseover', function() {
        this.classList.add('red');
    });

    eleList[x].addEventListener('mouseout', function() {
        this.classList.remove('red');
    });
}
```



DOM Create Your Own Elements



The image shows a screenshot of a development environment with two main panes. On the left is the Brackets IDE code editor, displaying an HTML file named 'index.html'. The code creates a list and adds a new item via JavaScript. On the right is a browser window showing the resulting page.

index.html Content:

```
<ul>
  <li>My Item</li>
  <li>Another Item</li>
  <li>Wow Cool</li>
  <li>New Color</li>
</ul>
<input type="text" name="newItem">
<div id="clicker">Click Me</div>
```

JavaScript (in script block):

```
var mainList = document.querySelector('ul');
var clicker = document.getElementById('clicker');

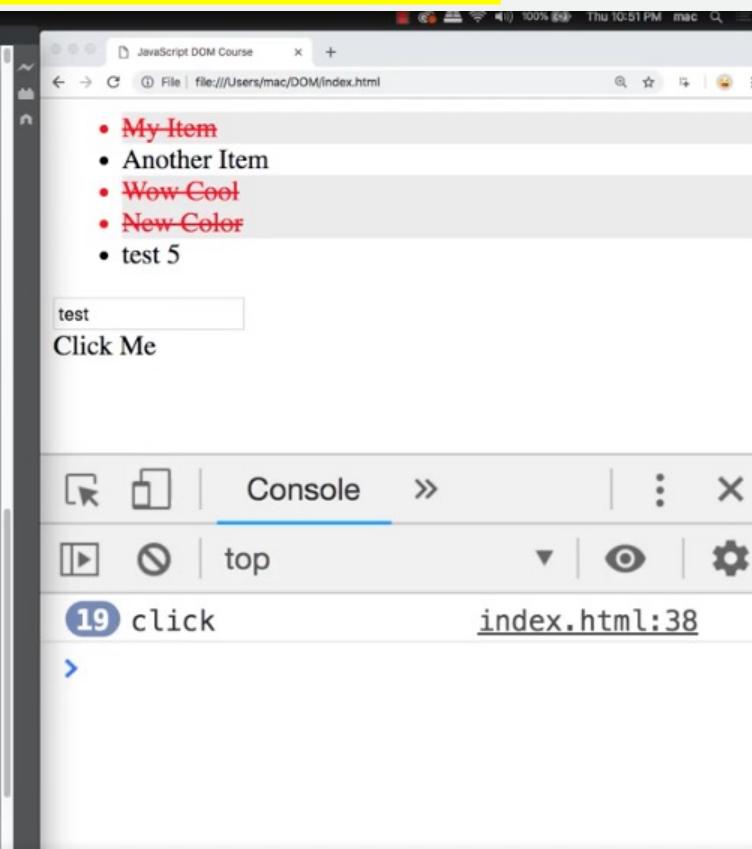
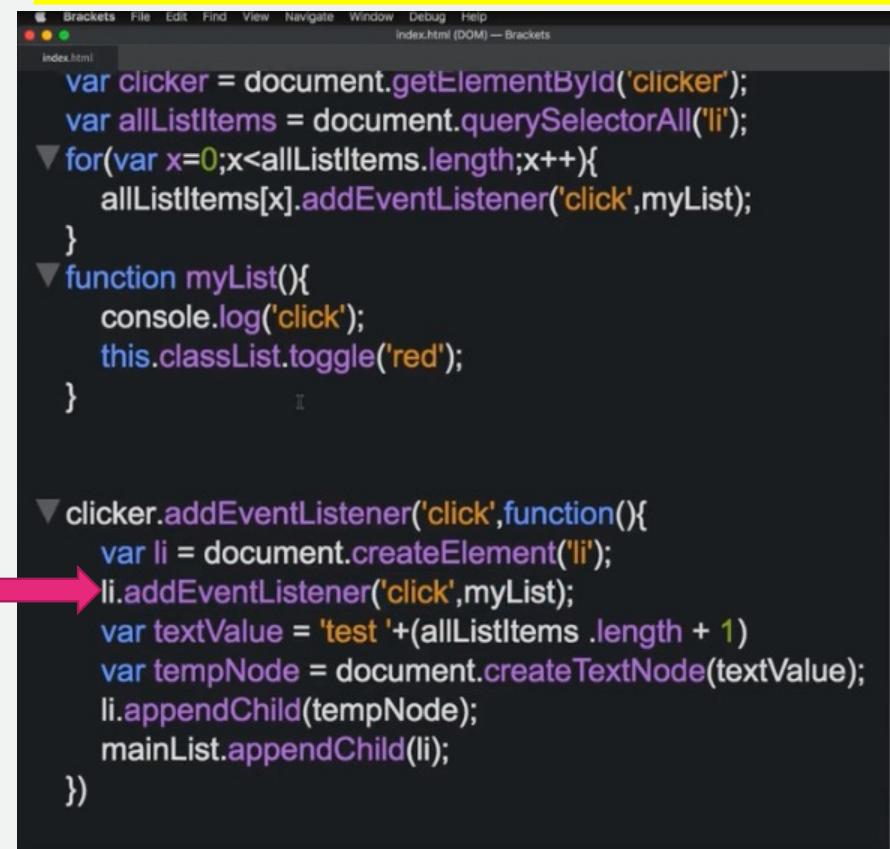
clicker.addEventListener('click',function(){
  var li = document.createElement('li');
  var allListItems = document.querySelectorAll('li');
  var textView = 'test '+ (allListItems.length + 1)
  var tempNode = document.createTextNode(textView);
  li.appendChild(tempNode);
  mainList.appendChild(li);
})
```

Browser Preview:

The browser shows an ul element with four li items: 'My Item', 'Another Item', 'Wow Cool', and 'New Color'. Below the list is an input field and a button labeled 'Click Me'. The browser's developer tools are open, showing the DOM structure. The ul element is highlighted in the tree view, and its contents ('My Item', 'Another Item', 'Wow Cool') are visible in the preview pane.

```
<html>
  <head>...</head>
  <body>
    <ul>
      <li>My Item</li>
      <li>Another Item</li>
      <li>Wow Cool</li>
    </ul>
  </body>
</html>
```

Event listeners to New elements



```
Brackets  File  Edit  Find  View  Navigate  Window  Debug  Help
index.html (DOM) — Brackets

var clicker = document.getElementById('clicker');
var allListItems = document.querySelectorAll('li');
for(var x=0;x<allListItems.length;x++){
    allListItems[x].addEventListener('click',myList);
}
function myList(){
    console.log('click');
    this.classList.toggle('red');
}

clicker.addEventListener('click',function(){
    var li = document.createElement('li');
    li.addEventListener('click',myList);
    var textValue = 'test '+ (allListItems.length + 1)
    var tempNode = document.createTextNode(textValue);
    li.appendChild(tempNode);
    mainList.appendChild(li);
})
```

The screenshot shows a Brackets code editor on the left and a browser window on the right. The code in the editor creates a list of items and adds a click event listener to each item. When a list item is clicked, it toggles a 'red' class and logs 'click' to the console. Additionally, a new list item is dynamically created and appended to the list when the 'click Me' button is clicked. The browser window displays the list of items, with one item highlighted in red. The browser's developer tools are open, showing the 'Console' tab with the message 'click' and the file 'index.html:38'.

Create Dynamic List

The screenshot shows a Brackets IDE window with two panes. The left pane displays the code for creating a dynamic list:

```
var clicker = document.getElementById('clicker');
var allListItems = document.querySelectorAll('li');
for(var x=0;x<allListItems.length;x++){
    allListItems[x].addEventListener('click',myList);
}
function myList(){
    var temp = this.classList.toggle('red');
    console.log(temp);
    if(temp){
        var span = document.createElement('span');
        span.textContent = ' x ';
        span.addEventListener('click',function(){
            this.parentElement.remove();
        })
        this.appendChild(span);
    }else{
        this.getElementsByTagName('span')[0].remove();
    }
}
```

The right pane shows the browser output and developer tools. The browser window displays a list with three items: "My Item", "New Color", and "test-5". Below the list is a text input field containing "asdds ad saad dasac" and a button labeled "Click Me". The developer tools' Console tab shows the following log entries:

Output	Line Number
true	index.html:40
false	index.html:40
true	index.html:40
false	index.html:40
true	index.html:40