Trilha de <DEVS/>

Javascript Intermediário por **C2S**

https://www.contact2sale.com

Códigos fontes em

https://github.com/contact2sale/trilhaDeDevs2020

Aulas

- 07/11 - Raphael - DOM
- 10/11 - Raphael - DOM
- 10/11 - Raphael - BOM
- 14/11 - Raphael - BOM
- 17/11 - Pedro - AJAX
- 19/11 - Pedro - AJAX
- 21/11 - Pedro - Prática

Sobre os instrutores

Pedro Ayres - CTO na C2S (Contact2Sale)
https://www.linkedin.com/in/ayres-pedro/

Raphael Araújo - Analista de Sistemas na C2S (Contact2Sale)
https://www.linkedin.com/in/raphox/

Javascript Intermediário

Aula 01 - DOM

Aula 01 - DOM

1. XML - E**X**tensible **M**arkup **L**anguage
2. HTML - **H**yper**T**ext **M**arkup **L**anguage
    a. Wikipedia Pt: Hipertexto é o termo que remete a um texto ao qual se agregam outros conjuntos de informação na forma de blocos de textos, palavras, imagens ou sons, cujo acesso se dá através de referências específicas, no meio digital denominadas hiperligações.
    b. Wikipedia Eng: Documents that are connected by hyperlinks.
3. O que é DOM? **D**ocument **O**bject **M**odel
4. API do DOM
    a. https://developer.mozilla.org/pt-BR/docs/DOM/Referencia_do_DOM/Introdu%C3%A7%C3%A3o
5. Exemplo de variações entre browsers
    a. https://developer.mozilla.org/en-US/docs/Web/API/HTML_DOM_API#Browser_compatibility
6. **Prática:** Dropdowns para alterar fontes, cores, background, etc.

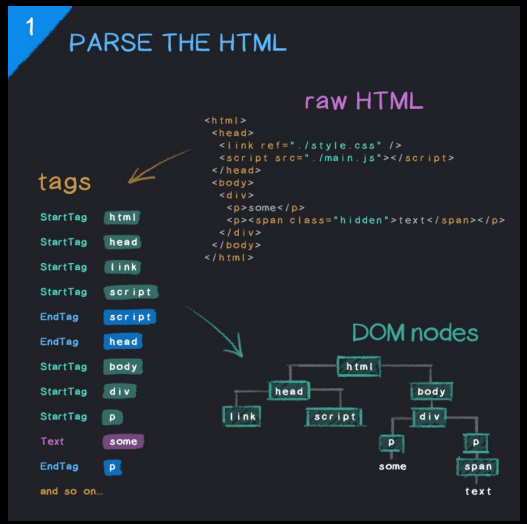
XML > (X)HTML

Mostrar o que é XML e a definição de um documento (X)HTML.

https://www.w3schools.com/HTML/html_xhtml.asp

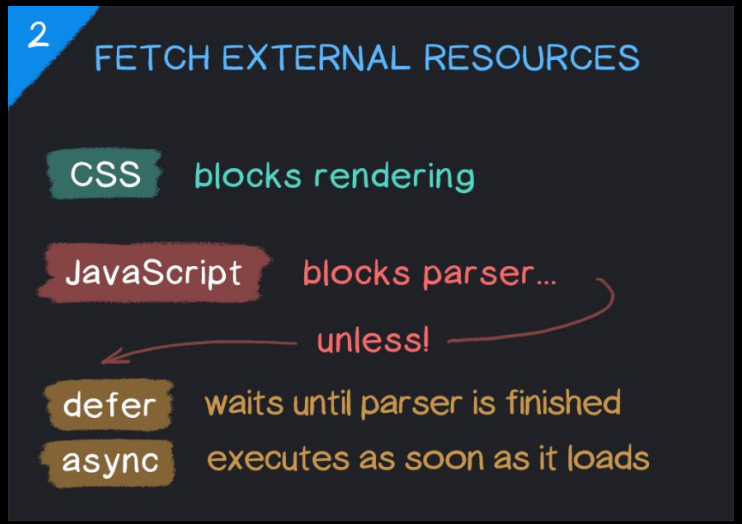
https://www.w3schools.com/xml/schema_intro.asp

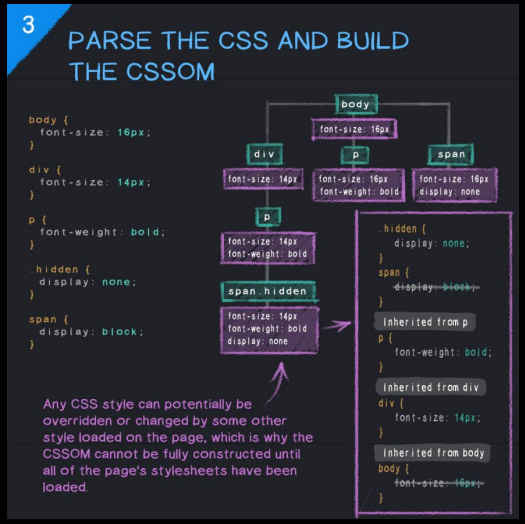
DOM


1
PARSE THE HTML
raw HTML
<html>
<head>
<link ref="./style.css" />
<script src="./main.js"></script>
</head>
<body>

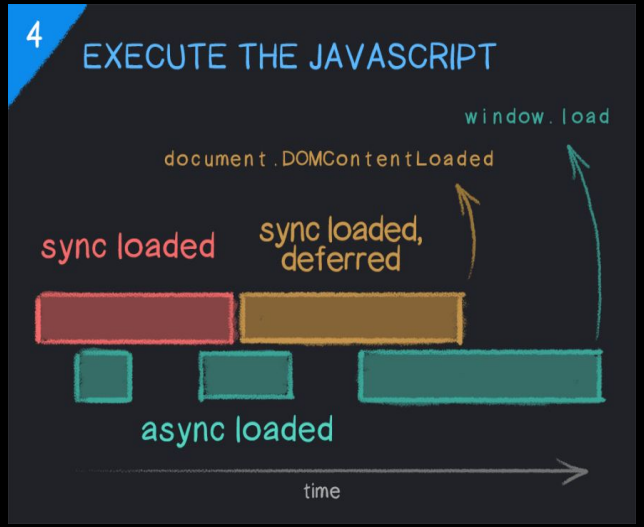
some
text

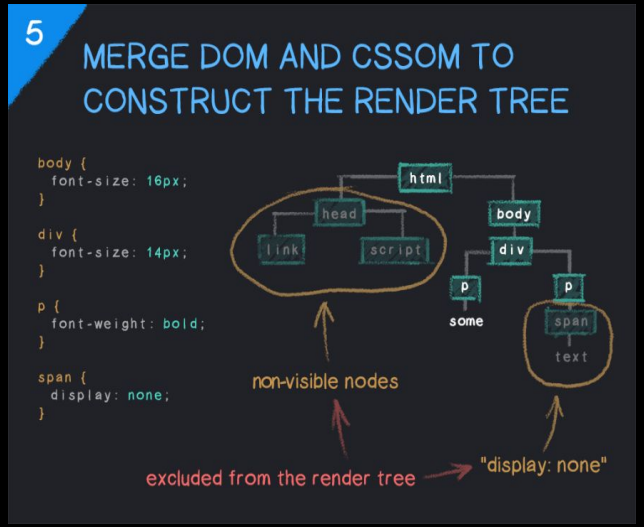
</body>
</html>
tags
StartTag html
StartTag head
StartTag link
StartTag script
EndTag script
EndTag head
StartTag body
StartTag div
StartTag p
Text some
EndTag p
and so on...
DOM nodes
html
head
body
link
script
div
p
p
some
span
text

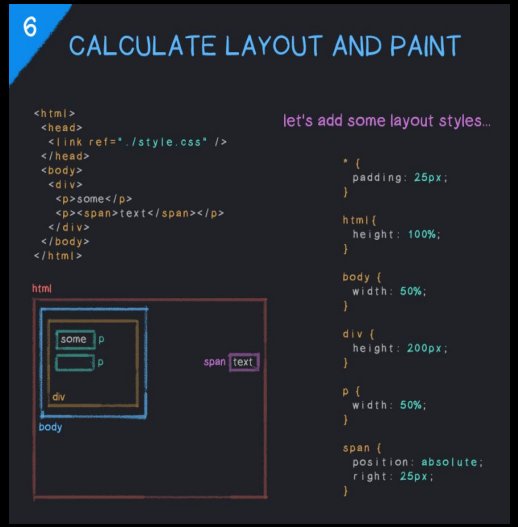

2
FETCH EXTERNAL RESOURCES
CSS
blocks rendering
JavaScript
blocks parser...
unless!
defer
waits until parser is finished
async
executes as soon as it loads


3
PARSE THE CSS AND BUILD THE CSSOM
body {
font-size: 16px;
}
div {
font-size: 14px;
}
p {
font-weight: bold;
}
.hidden {
display: none;
}
span {
display: block;
}
body
font-size: 16px
div
p
span
font-size: 14px
font-size: 16px
font-weight: bold
font-size: 16px
display: none
p
font-size: 14px
font-weight: bold
span.hidden
font-size: 14px
font-weight: bold
display: none
Any CSS style can potentially be overridden or changed by some other style loaded on the page, which is why the CSSOM cannot be fully constructed until all of the page's stylesheets have been loaded.
.hidden {
display: none;
}
span {
display: block;
}
Inherited from p
p {
font-weight: bold;
}
Inherited from div
div {
font-size: 14px;
}
Inherited from body
body {
font-size: 16px;
}

DOM


4
EXECUTE THE JAVASCRIPT
window.load
document.DOMContentLoaded
sync loaded
sync loaded, deferred
async loaded
time


5
MERGE DOM AND CSSOM TO CONSTRUCT THE RENDER TREE
body { font-size: 16px; }
div { font-size: 14px; }
p { font-weight: bold; }
span { display: none; }
html
head
link
script
body
div
p
some
p
span
text
non-visible nodes
excluded from the render tree
"display: none"


6
CALCULATE LAYOUT AND PAINT
<html>
<head>
<link ref="./style.css" />
</head>
<body>

some
text

</body>
</html>
let's add some layout styles...
* { padding: 25px; }
html { height: 100%; }
body { width: 50%; }
div { height: 200px; }
p { width: 50%; }
span { position: absolute; right: 25px; }
html
some
p
p
div
body
span
text

Prática

https://github.com/contact2sale/trilhaDeDevs2020/tree/master/aula_01

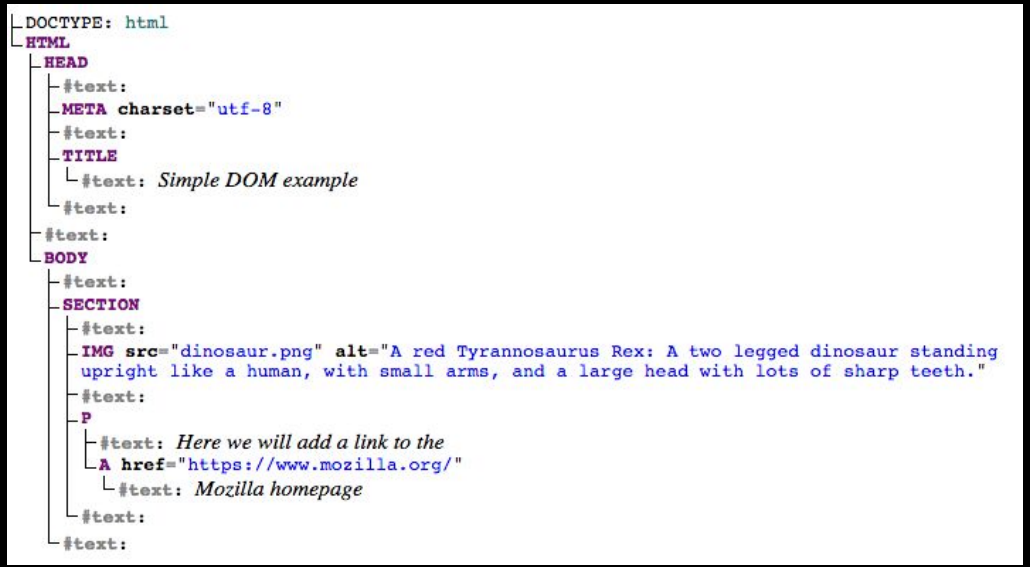
Javascript Intermediário

Aula 02 - DOM

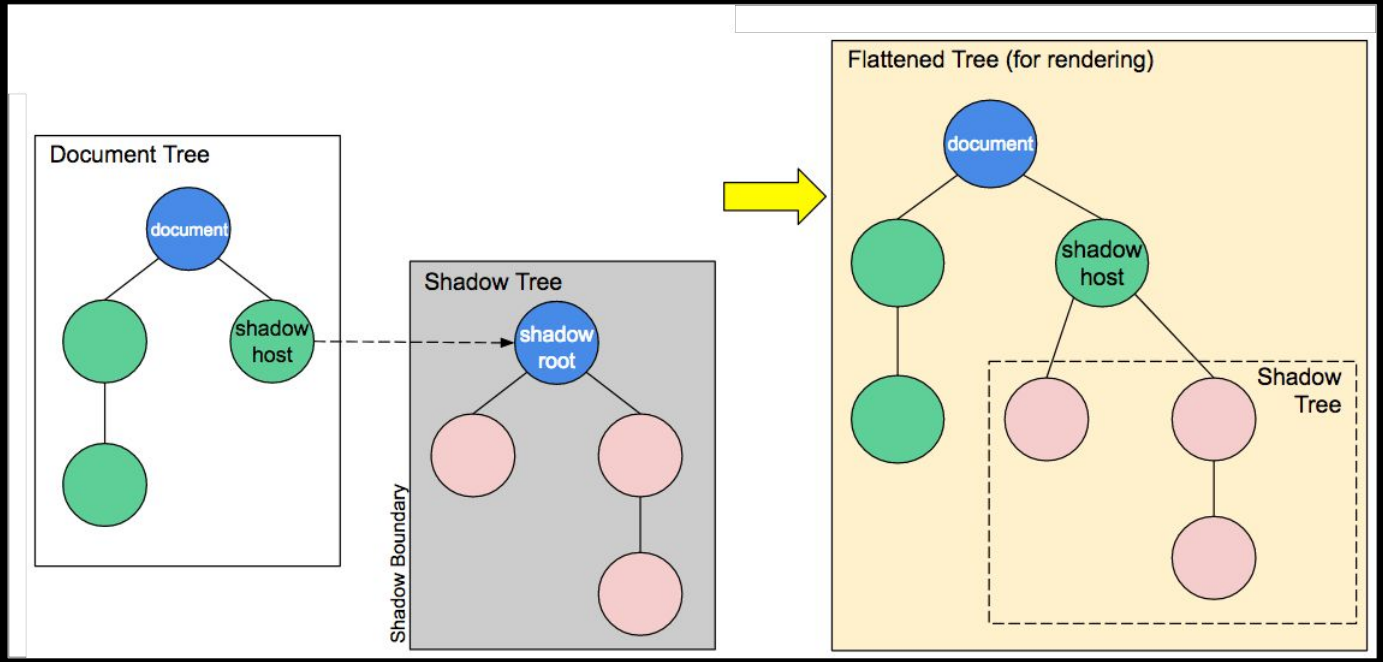
Aula 02 - DOM

1. DOM
2. Shadow DOM
    a. https://www.w3schools.com/tags/tryit.asp?filename=tryhtml5_video_src
3. Virtual DOM
    a. https://pt-br.reactjs.org/docs/faq-internals.html
4. Manipulação de nós com DOM
    a. Parent
    b. Children
    c. Siblings
    d. Closest
    e. Next
5. Manipulação de nós com Virtual DOM
    a. https://pt-br.reactjs.org/docs/refs-and-the-dom.html
6. **Prática:** Etiquetas dinâmicas

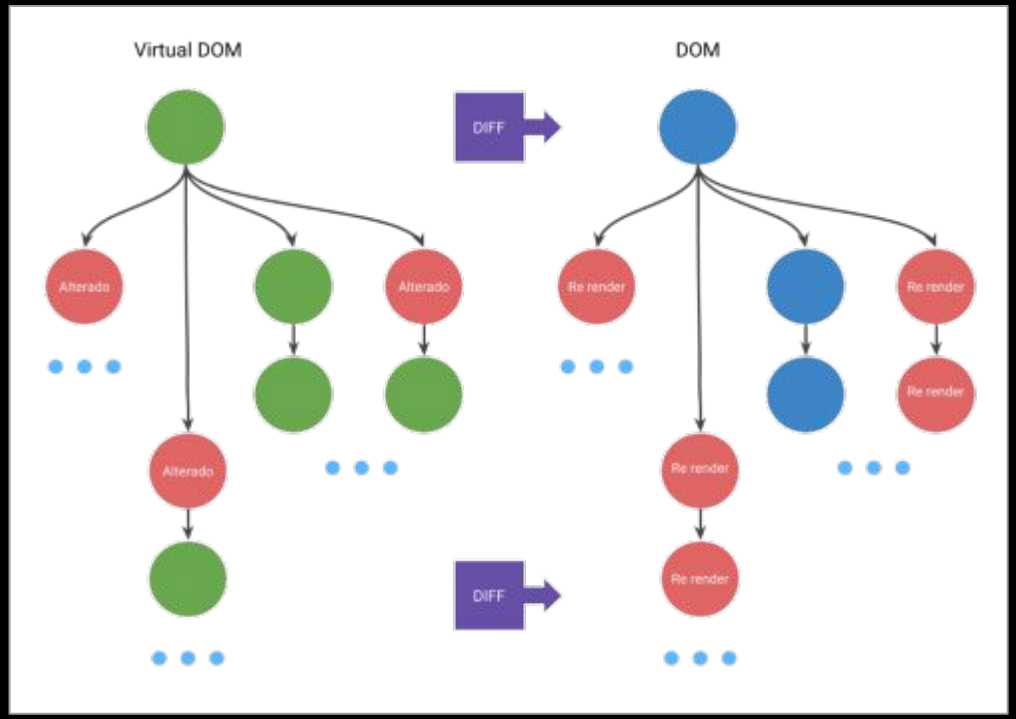
DOM


DOCTYPE: html
HTML
HEAD
#text:
META charset="utf-8"
#text:
TITLE
#text: Simple DOM example
#text:
#text:
BODY
#text:
SECTION
#text:
IMG src="dinosaur.png" alt="A red Tyrannosaurus Rex: A two legged dinosaur standing upright like a human, with small arms, and a large head with lots of sharp teeth."
#text:
P
#text: Here we will add a link to the
A href="https://www.mozilla.org/"
#text: Mozilla homepage
#text:
#text:

Shadow DOM


Document Tree
document
shadow host
Shadow Tree
shadow root
Shadow Boundary
Flattened Tree (for rendering)
document
shadow host
Shadow Tree

Virtual DOM


Virtual DOM
DOM
DIFF
Alterado
Alterado
Alterado
Re render
Re render
Re render
Re render
Re render
DIFF

Manipulação de nós com DOM

Speed Comparison

Here are a few examples of just how fast *Vanilla JS* really is:

Retrieve DOM element by ID

	Code	ops / sec
Vanilla JS	`document.getElementById('test-table');`	12,137,211
Dojo	`dojo.byId('test-table');`	5,443,343
Prototype JS	`$('test-table')`	2,940,734
Ext JS	`delete Ext.elCache['test-table']; Ext.get('test-table');`	997,562
jQuery	`$jq('#test-table');`	350,557
YUI	`YAHOO.util.Dom.get('test-table');`	326,534
MooTools	`document.id('test-table');`	78,802

Retrieve DOM elements by tag name

	Code	ops / sec
Vanilla JS	`document.getElementsByTagName("span");`	8,280,893
Prototype JS	`Prototype.Selector.select('span', document);`	62,872
YUI	`YAHOO.util.Dom.getElementsBy(function(){return true;},'span');`	48,545
Ext JS	`Ext.query('span');`	46,915
jQuery	`$jq('span');`	19,449
Dojo	`dojo.query('span');`	10,335
MooTools	`Slick.search(document, 'span', new Elements);`	5,457

Code Examples

Here are some examples of common tasks in *Vanilla JS* and other frameworks:

Fade an element out and then remove it

Vanilla JS

```
var s = document.getElementById('thing').style;
s.opacity = 1;
(function fade(){(s.opacity-=.1)<0?s.display="none":setTimeout(fade,40)})();
```

jQuery

```
<script src="//ajax.googleapis.com/ajax/libs/jquery/1/jquery.min.js"></script>
<script>
$('#thing').fadeOut();
</script>
```

Make an AJAX call

Vanilla JS

```
var r = new XMLHttpRequest();
r.open("POST", "path/to/api", true);
r.onreadystatechange = function () {
  if (r.readyState != 4 || r.status != 200) return;
  alert("Success: " + r.responseText);
};
r.send("banana=yellow");
```

jQuery

```
<script src="//ajax.googleapis.com/ajax/libs/jquery/1/jquery.min.js"></script>
<script>
$.ajax({
  type: 'POST',
  url: "path/to/api",
  data: "banana=yellow",
  success: function (data) {
    alert("Success: " + data);
  },
});
</script>
```

Prática

https://github.com/contact2sale/trilhaDeDevs2020/tree/master/aula_02

Javascript Intermediário

...

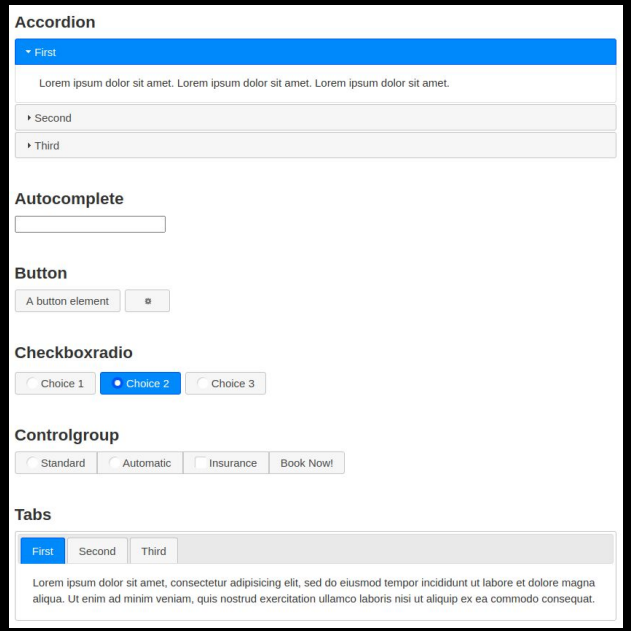
Aula 03 - DOM

Aula 03 - DOM

1. Usando bibliotecas: Jquery, JqueryUI
2. Manipulação de elementos usando Jquery (Show, Hide, Delete, Add, etc.)
3. Intereção com elementos (onClick, doubleClick, mouseOver, mouseOut, etc.)
4. Manipulando atributos (data, src, id, class, etc.)
5. Listeners
6. Animação
    a. Mover elementos
    b. Scroll
7. Drag and Drop (JqueryUI)
8. **Prática:** TODO

Jquery UI

https://jqueryui.com/themeroller/



Prática

https://github.com/contact2sale/trilhaDeDevs2020/tree/master/aula_03

Javascript Intermediário

Aula 04 - BOM

Aula 04 - BOM

1. Window
2. Screen
3. Location
4. History
5. Navigator
6. Popup Alert
7. Timing
8. Cookies
9. **Prática:** Popup que afeta a janela pai

https://www.w3schools.com/js/js_window.asp

Prática

https://github.com/contact2sale/trilhaDeDevs2020/tree/master/aula_04

Javascript Intermediário

•••

Aula 05 - AJAX

Aula 05 - AJAX

1. Jquery https://jquery.com/
2. Axios https://github.com/axios/axios
3. Fetch https://developer.mozilla.org/pt-BR/docs/Web/API/Fetch_API/Using_Fetch
4. **Prática:** Consumir a API https://jsonplaceholder.typicode.com/
5. Json

Javascript Intermediário

•••

Aula 06 - AJAX

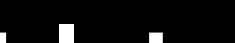
Aula 06 - AJAX

1. TODO com API/CRUD

Referências

1. https://developer.mozilla.org/pt-BR/docs/Web/API/Document
2. https://pt-br.reactjs.org/docs/faq-internals.html
3. https://pt.stackoverflow.com/questions/43169/qual-%C3%A9-a-diferen%C3%A7a-entre-dom-e-virtual-dom
4. https://www.treinaweb.com.br/blog/o-que-e-dom-virtual-dom-e-shadow-dom/
5. https://www.w3schools.com/js/js_window.asp
6. https://www.todoespacoonline.com/w/2014/04/bom-em-javascript/
7. https://developer.mozilla.org/pt-BR/docs/Web/API/Fetch_API/Using_Fetch
8. https://api.jquery.com/
9. https://dev.to/jstarmx/how-the-browser-renders-a-web-page-1ahc
10. https://developer.mozilla.org/en-US/docs/Web/Web_Components/Using_shadow_DOM
11. https://developers.google.com/web/fundamentals/web-components
12. https://medium.com/roliveiradev/por-que-getelementbyid-deve-ser-evitado-6b0d35d055fe

Javascript Intermediário



Aula 07 - Prática