

CSSOM Matches Styles Summarily

November 13, 2023



How CSSOM find what elements need to be applied what style? Explain with example



The CSS Object Model (CSSOM) determines which styles apply to elements by following a cascade and specificity process. When a web page loads, the browser parses the CSS and constructs a CSSOM, matching selectors to elements based on specificity and the cascade.

For instance, consider this CSS:

css

Copy code

```
p {  
  color: blue;  
}  
  
.special {  
  color: red;  
}
```

And the HTML:

html

Copy code

```
<p class="special">Hello</p>
```

In this example, the browser matches the `

` element with the class "special" to the `.special` selector in CSS because it has a higher specificity than the generic `p` selector. So, the text "Hello" will be red, not blue, as specified by the `.special` class. This process of specificity and cascade defines which styles apply to which elements in a

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selector. So, the text "Hello" will be red, not blue, as specified by the `.special` class. This process of specificity and cascade defines which styles apply to which elements in a web page.



Does CSSOM is created when there is no DOM?



The CSS Object Model (CSSOM) is closely tied to the Document Object Model (DOM) in web development. The CSSOM is created based on the DOM structure and the CSS rules that are applied to it. So, without a DOM, there wouldn't typically be a CSSOM because there's no structure to apply the styles to. However, in some cases, the CSSOM might exist independently for some browser-specific functionalities or rendering purposes even without an explicit DOM, but its primary function is to style elements within the DOM structure.



Does browser creates CSSOM even without complete HTML being created?



Browsers start building the CSS Object Model (CSSOM) as soon as they encounter and parse the CSS files linked in the HTML, even before the HTML is fully parsed. This means that the CSSOM can start forming before the entire HTML document is loaded or parsed. However, the CSSOM is influenced by the DOM structure as it applies styles to elements. So, while it begins to form early, its final structure might not be complete until it can interact with the full DOM.



Does CSSOM interact with DOM to complete its structure?



Absolutely. The CSS Object Model (CSSOM) and the Document Object Model (DOM) work in tandem. The CSSOM interacts with the DOM to apply styles to the elements. Once the browser constructs the CSSOM and the DOM, it matches elements in the DOM to the corresponding styles in the CSSOM, ultimately applying the styles to the specific elements in the DOM. This interaction allows the rendering engine to apply the correct styles to the elements, ensuring the visual representation of the web page.

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What happens if CSSOM is created and HTML is not. What will CSSOM look like? Can you show a representation?



The CSS Object Model (CSSOM) can begin forming even if the HTML isn't fully loaded or parsed, but it's dependent on the existing CSS files. The structure might look like a set of

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What happens if CSSOM is created and HTML is not. What will CSSOM look like? Can you show a representation?



The CSS Object Model (CSSOM) can begin forming even if the HTML isn't fully loaded or parsed, but it's dependent on the existing CSS files. The structure might look like a set of rules with selectors and their associated styles, waiting to be applied to the corresponding HTML elements. However, without the HTML, it's challenging to create a precise representation as the CSSOM heavily relies on the DOM structure to finalize its application.

It might look something like this:

CSS

Copy code

Selector:	Styles:
p	color: blue;
h1	font-size: 24px;
.special	color: red;

This would represent the CSS rules and styles but without specific elements to apply to until the corresponding HTML is loaded and parsed.



Ok, how CSSOM will look when HTML is loaded?



Once the HTML is loaded and the Document Object Model (DOM) is constructed, the CSS Object Model (CSSOM) interacts with the DOM, applying styles to the elements. The resulting CSSOM with the HTML loaded will look like a structure mapping selectors to specific elements in the DOM and the styles applied to those elements.

For example, given this HTML:

html

Copy code

```
<!DOCTYPE html>
<html>
<head>
```

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Once the HTML is loaded and the Document Object Model (DOM) is constructed, the CSS Object Model (CSSOM) interacts with the DOM, applying styles to the elements. The resulting CSSOM with the HTML loaded will look like a structure mapping selectors to specific elements in the DOM and the styles applied to those elements.

For example, given this HTML:

html

Copy code

```
<!DOCTYPE html>
<html>
<head>
  <title>Example</title>
  <link rel="stylesheet" type="text/css" href="styles.css">
</head>
<body>
  <p>Hello</p>
  <h1 class="special">Title</h1>
</body>
</html>
```

And this CSS:

css

Copy code

```
p {
  color: blue;
}

.special {
  color: red;
  font-size: 24px;
}
```

After the HTML is loaded and the CSSOM interacts with the DOM, it might look something like this:

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```
<h1 class="special">Title</h1>
</body>
</html>
```

And this CSS:

css

 Copy code

```
p {
  color: blue;
}

.special {
  color: red;
  font-size: 24px;
}
```

After the HTML is loaded and the CSSOM interacts with the DOM, it might look something like this:

css

 Copy code

Selector:	Applied To:
p	<p>Hello</p>
.special	<h1 class="special">Title</h1>
Styles:	
p	color: blue;
.special	color: red; font-size: 24px;

This structure would indicate which elements from the HTML have matched with the selectors and the corresponding styles applied to those elements.

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