

DOM Structure

The DOM (Document Object Model) structure represents the HTML/XML document as a tree-like structure. Each node in this tree is an object that represents a part of the document, such as elements, attributes, and text. Here's an overview of how the DOM structure looks:

Node Types:

1. **Document Node (document):** Represents the entire HTML document and serves as an entry point to the DOM.
2. **Element Node:** Represents HTML elements in the document, like `<div>`, `<p>`, ``, etc.
3. **Text Node:** Represents the text content within an element.
4. **Attribute Node:** Represents an attribute of an element.

Tree Structure:

1. **Document Node:**
 - Represents the entire HTML document.
 - It's the root of the DOM tree.
2. **Element Nodes:**
 - Elements like `<html>`, `<head>`, `<body>`, `<div>`, etc.
 - They are nested within each other forming the structure of the document.
3. **Text Nodes:**
 - Contain the text content inside an element.
 - They are children of element nodes.
4. **Attribute Nodes:**
 - Contain attribute information of elements.
 - Attached to respective element nodes.

Relationships:

1. **Parent-Child Relationship:**
 - Elements can contain other elements or text nodes as children.
 - For example, a `<div>` element containing `<p>` and text nodes.
2. **Sibling Relationship:**
 - Elements on the same level in the DOM tree are considered siblings.
 - They share the same parent.
3. **Ancestor-Descendant Relationship:**
 - Ancestors are elements higher up in the hierarchy.
 - Descendants are elements nested within those ancestors.

Example:

Consider this HTML structure:

```
<!DOCTYPE html>

<html>

  <head>

    <title>Sample Page</title>

  </head>

  <body>

    <div id="main">

      <h1>Welcome</h1>

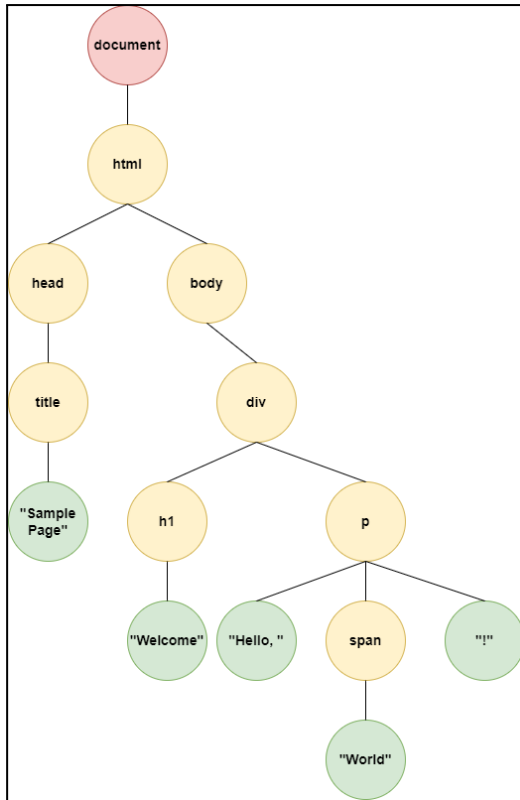
      <p>Hello, <span class="highlight">world</span>!!</p>

    </div>

  </body>

</html>
```

The corresponding DOM structure:



Each node in the DOM tree has properties and methods that can be accessed and manipulated using JavaScript, enabling dynamic interactions and modifications to the web page.