

Document Vs window



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# Difference between document and window object in javascript

## Introduction:

The window object represents a window/tab containing a DOM document where document object is property of window object that points to the DOM document loaded in that window. You can access a document object either using window.

## Document Object

*The Document object represents the HTML document currently loaded in the browser window. It serves as an entry point to the web page’s content, providing an interface to manipulate the document’s elements, such as accessing and modifying its structure, content, and styles. Essentially, it encapsulates the entire HTML document within a JavaScript object.*

## Key Features of the Document Object:

**1)DOM Manipulation:** *The Document object facilitates Document Object Model (DOM) manipulation, enabling developers to interact with and modify the elements within the HTML document dynamically. This includes tasks such as selecting elements, changing their attributes, or adding/removing elements from the document tree.*

**2) Element access**: *Through methods like `getElementById`, `getElementsByClassName`, `querySelector`, and `querySelectorAll`, developers can access specific elements within the document by their IDs, classes, or CSS selectors, respectively.*

**3.**Content Manipulation**:** *Developers can manipulate the content of elements, including text, attributes, and even HTML structure, using properties such as `innerHTML`, `innerText`, and `setAttribute`.*

**4.**Event Handling**:** *The Document object facilitates event handling for various user interactions, such as clicks, key presses, or form submissions, through methods like `addEventListener`.*

## Window Object

*On the other hand, the Window object represents the browser window that contains the document. It acts as a global object for a browsing context, encapsulating not only the document but also other browser-related functionalities, such as navigation, location, history, and timing. Each browser window or tab has its own Window object.*

## Key Features of the Window Object:

**1.**Global Scope**:** *Variables and functions declared in the global scope are attached to the Window object. This makes them accessible throughout the script and across different frames or iframes within the same browsing context.*

**2.**Navigation and Location**:** *The Window object provides methods to navigate within the browsing context, such as `window.location` for retrieving or setting the URL of the current page and `window.history` for navigating backward and forward in the browser history.*

**3.**Timing**:** *Functions like `setTimeout` and `setInterval` for executing code asynchronously after a specified delay or at regular intervals are part of the Window object. Additionally, the `window.requestAnimationFrame` method is used for smoother animations and rendering.*

**4.**Browser Interaction: *Developers can interact with browser features like alerts, prompts, and confirmation dialogs using methods such as `window.alert`, `window.prompt`, and `window.confirm`.*