Client-Side JavaScript Execution Environment

- Core JavaScript (EcmaScript) Language and API

- (Traditional) Browser Object Model (BOM) API (non-standardized)

- Window, Navigator, Screen, Location, History, etc.

- Document Object Model (DOM) API

- DOM API Interfaces

- Node, Document, Element, Text, Attr,

DocumentType, Comment, etc.

- Event, EventTarget, EventListener, etc.

- CSSStyleSheet, CSSRule, etc.

- Miscellaneous JavaScript Web APIs

- Geolocation, IndexedDB, Local Storage, File,

Push Notifications, Service Workers, Web Sockets,

Web Workers, XMLHttpRequest (AJAX), etc.

\* most of the APIs are accessed from scripts via the

global object 'Window'

Document Object Model (DOM)

- API that allows access to the HTML document from within scripts

associated with the web page

- a parsed HTML document is represented by a 'DOM tree', which contains

'nodes' representing elements, element attributes, textual content,

and other HTML document components (e.g., DOCTYPE, comments, etc.)

- the API is accessed via the 'Document' object property of the global

'Window' object

- DOM API functionalities:

- retrieve references to nodes (or node collections) in the DOM:

- getElementById()

- getElementsByTagName(), getElementsByClassName(), getElementsByName()

- querySelector(), querySelectorAll()

- traverse the DOM tree (from a given node):

- parentNode, parentElement

- childNodes, children

- firstChild, lastChild, nextSibling, previousSibling

- firstElementChild, lastElementChild, nextElementSibling, previousElementSibling

- construct/copy nodes:

- createElement(), createTextNode(), createAttribute(), etc.

- cloneNode(), importNode()

- manipulate the DOM tree:

- appendChild(), insertBefore(), replaceChild(), removeChild()

- adoptNode()

- miscellaneous attributes and methods:

- nodeType, nodeName, nodeValue

- attributes, id, tagName, className, classList

- ownerDocument, documentElement, hasChildNodes()

- normalize()

- manipulate attributes (for 'Element' nodes):

- setAttribute(), getAttribute(), removeAttribute()

- setAttributeNode(), getAttributeNode(), removeAttributeNode()

- event handling:

-addEventListener(), removeEventListener(), dispatchEvent()

- style handling:

- styleSheets, ownerRule, cssRules, insertRule(), deleteRule()

- getComputedStyle()

\* although technically not defined as part of the DOM, browsers

typically support other properties and methods that can be used to

interact with the DOM tree:

- innerHTML, outerHTML, innerText, outerText

- references to oft-used document sections and collections:

- head, body, anchors, forms, images