edureka!
a Veranda Enterprise

Full Stack Web Development Program

edureka!
a Veranda Enterprise

Day 21 - Document Object Model

Titles

- Browser Object Model
- Windows Object Model
- Screen Object Model
- History Object Model
- Navigator Object Model
- Location Object Model
- XMLHttpRequest
- Document Object Model
- HTML DOM
- Selecting Elements
- Traversing Elements
- Manipulating Elements

Learning Objectives

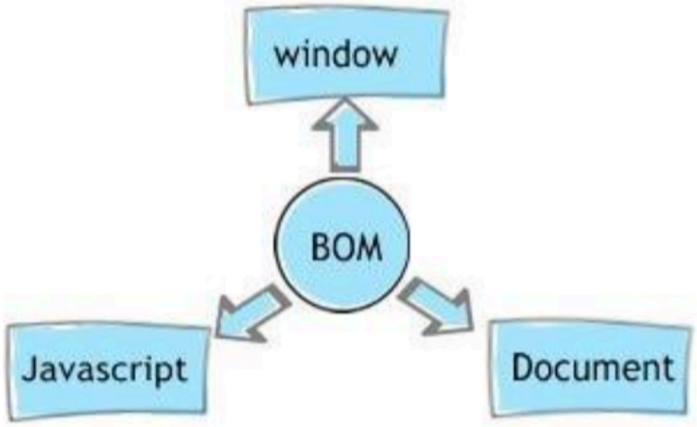
By the end of this module, you will be able to:

- Describe Browser Object Model
- Implement operations on Document Object Model and their methods

Browser Object Model

Browser Object Model (BOM)

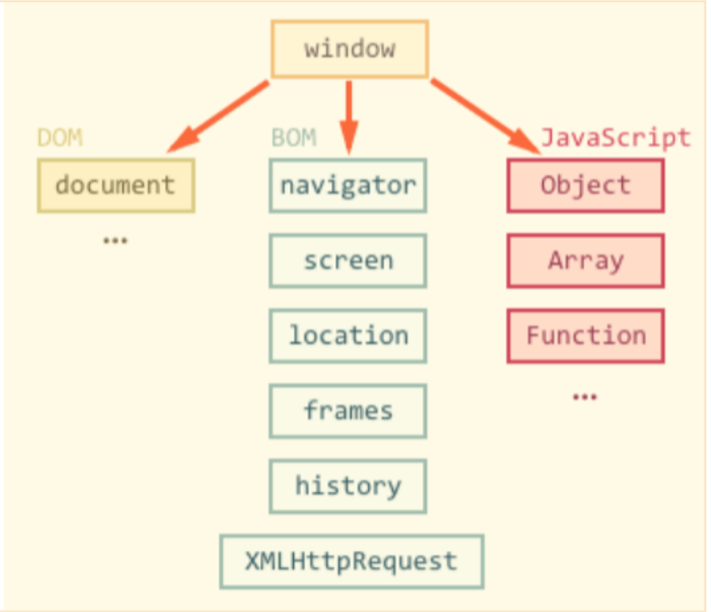
- Browser Object Model (BOM) enables JavaScript to communicate with the browser regarding aspects beyond the page's content. This includes elements like Navigator, History, Screen, and more.
- The Browser Object Model allows manipulation and access of the browser window.
- Developers can use the BOM to move the window, change the text in the status bar, and do other things that aren't directly related to the page content.



Browser Object Model (contd.)

The following elements comprise the Browser Object Model in JavaScript:

- Window Object Model
- Screen Object Model
- History Object Model
- Navigator Object Model
- Location Object Model
- XMLHttpRequest



Windows Object Model

- The Windows Object Model facilitates the browser windows object to display messages similar to the alert messages of JavaScript.
- Different methods of Windows Object Model are:

Windows Object Method	Description
alert()	Displays a message box with an OK button, using the Windows method for alerts.
confirm()	Presents a confirmation dialog that offers OK and Cancel options through the interface.
close()	Closes the current window using the Windows method.
open()	Initiates the opening of a new window via the Windows method.
prompt()	The Windows method triggers a dialog box prompting the user for text input.
setTimeout()	Executes specified actions, such as invoking functions or evaluating expressions, after a set delay, as determined by a Windows method.
setInterval()	It repeatedly calls a callback function with a fixed delay between each call.

Screen Object Model

- The Screen Object Model allows us to retrieve browser data like screen width, height, color depth, pixel depth, etc.
- Different properties of the Screen Object Model are:

Screen Object Property	Description
width	Returns the width of the screen.
height	Returns the height of the screen.
availWidth	Returns the available width of the screen.
availHeight	Returns the available height of the screen.
colorDepth	Returns the color depth.
pixelDepth	Returns the pixel depth.

History Object Model

- The History Object Model provides a collection of URLs representing the sites the user has navigated through in their browser history.
- Methods for the History Object Model are as follows:

History Object Method	Description
forward()	Navigates to the subsequent page in the history stack.
go()	Retrieves and displays the page from the history list based on the given page offset.
back()	Transitions to the page that precedes the current one in the session history.

Navigator Object Model

- The Navigator Object Model enables the gathering of browser details, including the application's name, cookie data, version, and user agent information, among other aspects.
- The table below lists properties of navigator object in JavaScript:

Navigator Object Method	Description
appName	Retrieves the browser's application name.
appVersion	Acquires the browser's application version.
language	Obtains the languages supported by Firefox and Netscape.
appCodeName	This method returns the name of the code.

Navigator Object Model (contd.)

Navigator Object Method	Description
cookieEnabled	Determines if cookies are permitted in the browser and returns a boolean value.
userAgent	Provides details about the browser's user agent string.
userLanguage	Fetches the preferred language settings.
systemLanguage	This method returns the system language that is supported by the Internet Explorer browser.
plugins	This method returns the plugins that are compatible with the Netscape and Firefox browsers.
platform	Reports the operating system platform.
online	Indicates the browser's connection status.

Location Object Model

- In JavaScript, the window's Location object stores the current page's URL and allows browser redirection to new pages.
- Although not standardized, it's supported by all major browsers.
- The table below lists the methods associated with location objects in JavaScript:

Location Object Method	Description
assign()	Initiates the loading of a different webpage.
reload()	Refreshes the present web document by employing the `location.href` attribute.
replace()	Substitutes the active document with a new one as specified. This action disables the use of the browser's back button to go back to the former document.

XMLHttpRequest

- XMLHttpRequest is an API in the form of an object whose methods transfer data between a web browser and a web server.
- It is used to perform HTTP requests and receive responses without reloading the page.
- It is commonly used in AJAX programming.
- To initiate an XMLHttpRequest object, you can employ the constructor pattern as shown:

```
var xhttp = new XMLHttpRequest();
```