# https://encrypted-tbn3.google.com/images?q=tbn:ANd9GcTLAZpQzmzAPnXtyNCq1onsRE4y0bvoWlMvd3YA8Lt715oLXEJxWAIT 5443 Web Technologies Study Guide **Module 5: Dynamic HTML**

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## Overview and learning outcomes

A common use of JavaScript is to manipulate client side content like HTML and CSS to provide dynamic effects (which basically means the change of contents on the fly after they are loaded). This dynamic capability is often referred to as dynamic HTML or DHTML. At the heart of this dynamic change is the HTML DOM (document object model).

1. Describe HTML DOM concepts, including hierarchy, nodes, and node types.
2. Explain how event processing is handled on the client side.
3. Apply the event model in HTML DOM using JavaScript, particularly the click and load events.
4. Use JavaScript to access (read) and change HTML elements:
   1. Change HTML element content and attributes (text, image, link, div, etc.)
   2. Change HTML element styles (color, size, position, visibility, etc.)

This module is related to course level learning outcomes 2.

## Task list

1. Follow the core online learning materials listed in learning materials to learn and practice JavaScript DHTML. The video will get you some quick start but do complete the readings for more details.
2. Review and research:
   1. [Now you have more experience with what JavaScript can do, let’s continue the discussion from last module and see if you have new comments.] JavaScript is executed all on the client side within the browser. What kind of tasks or applications do you think is best to be executed completely on the client side, without communicating with the server? Give an example. Please avoid repeating previous examples posted by other students.
3. Lab exercise (no submission):
   1. Follow the exercises in readings. Summarize all mistakes you have made during the exercise.
   2. Complete the “lab exercise” after you completed all required readings and videos. Summarize all mistakes you have made during the exercise.
4. Self-assessment: <https://www.w3schools.com/js/js_quiz.asp> - complete this quiz for yourself.

## Learning materials

1. Core learning materials.
   1. What is DHTML? <http://www.yourhtmlsource.com/javascript/dhtmlexplained.html>
   2. HTML DOM introduction
      1. <https://developer.mozilla.org/en-US/docs/Web/API/Document_Object_Model/Introduction>
      2. <https://javascript.info/dom-nodes>
   3. <https://www.w3schools.com/js/js_htmldom.asp> - read the following 7 sections (the menu is on the left “JS HTML DOM”) and practice the examples online: “DOM Intro” to “DOM Events”, except “DOM Animations”.
   4. Tutorial videos and examples.
      1. JavaScript function and event: <https://www.youtube.com/watch?v=LjJwDegeAZU> - Note the “DocType” in the video is an old version.
      2. EJ Media <https://www.youtube.com/playlist?list=PLr6-GrHUlVf96NLj3PQq-tmEB6woZjwEl> - #25, 26, 30, 31, and 33
2. “dhtml examples and lab.zip”
   1. JavaScript lab: “lab5 dhtml.docx” guide and associated files.
   2. Examples “dhtml examples” provided by the instructor (#8 is optional).
3. Additional readings and resources
   1. HTML/JS: Making webpages interactive: <https://www.khanacademy.org/computing/computer-programming/html-css-js>
   2. What is the Document Object Model? <https://www.w3.org/TR/REC-DOM-Level-1/introduction.html>
   3. More examples and references
      1. <https://www.w3schools.com/js/js_dom_examples.asp>
      2. <http://www.w3schools.com/js/js_ex_dom.asp>
      3. <http://www.w3schools.com/js/js_events_examples.asp>
      4. <https://www.w3schools.com/jsref/dom_obj_document.asp>
   4. Mozilla Learning: <https://developer.mozilla.org/en-US/docs/Learn/JavaScript/Client-side_web_APIs/Manipulating_documents>
   5. <https://javascript.info/document>
   6. <http://eloquentjavascript.net> chapter 14, 15
   7. <http://itwebtutorials.mga.edu/js/default.aspx> chapter 8, 10
   8. Goodies: <https://greasyfork.org>