

# software studio

## intro to the DOM

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# what is the DOM?

an API for manipulating web pages

- › elements are mutable objects

what you can do

- › add and delete elements
- › change properties of elements
- › attach event listeners to elements

what you can't do

- › modify CSS rules: no CSS rule object in DOM
- › but can modify CSS properties of elements
- › and new CSS object model in works...

# page elements

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```
<html>...</html>
lang="en-US">
<head>...</head>
<body id="home" class="keynote">
  <script type="text/javascript">
    var searchSection = 'global';
    var searchCountry = 'us';
  </script>
  <script src="http://images.apple.com/globalnav.js" type="text/javascript" id="globalnav"></script>
  <nav id="globalheader" class="apple globalheader">
    <script type="text/javascript">
      AC.GlobalNav.Instance = new A
    </script>
    <div id="globalheader-loaded-test"></div>
  </nav>
  <div id="top">...</div>
  <div id="main">
    <div id="content">
      <div id="billboard">...</div>
      <!--/billboard-->
      <aside id="headlines">...</aside>
      <aside class="promos">...</aside>
      <!--/promos-->
    </div>
    <!--/content-->
  </div>
  <div id="homefooter">...</div>
  <!--/homefooter-->
</div>
<!-- Start of DoubleClick Spotlight Tag remove-->
<!-- Creation Date:11/19/07 -->
<script type="text/javascript">...</script>
<iframe src="http://fls.doubleclick.net/clk/1566767;type=apple663;cat=apple24ord=6378379939123.9887" width="1" height="0">...</iframe>
</script>
<!-- End of DoubleClick Spotlight Tag remove-->
</body>
</html>
```



# the standard DOM

## standard DOM API

- › standardized by W3C
- › native to all browsers

## Gecko documentation

- › Mozilla's layout engine
- › comprehensive docs

### Properties

Name	Description	Type
<code>attributes</code>	All attributes associated with an element.	NamedNodeMap
<code>baseURI</code>	Base URI as a string	String
<code>baseURIObject</code> <small>New in Firefox 3</small>	The read-only <code>nsIURI</code> object representing the base URI for the element.	nsIURI
<code>childElementCount</code> <small>New in Firefox 3.5</small>	The number of child nodes that are elements.	Number
<code>childNodes</code>	All child nodes of an element. A live <code>nsIDOMNodeList</code> of the current child elements.	NodeList
<code>children</code> <small>Requires Gecko 1.9</small>	All child nodes of an element as a collection.	HTMLCollection
<code>classList</code> <small>Requires Gecko 1.9.2</small>	Token list of class attribute	DOMTokenList
<code>className</code>	Gets/sets the class of the element.	String

### Methods

Name & Description	Return	Availability
<code>addEventListener( type, listener, useCapture )</code> Register an event handler to a specific event type on the element.	-	All
<code>appendChild( appendedNode )</code> Insert a node as the last child node of this element.	Node	All
<code>blur()</code> Removes keyboard focus from the current element.	-	HTML, XUL
<code>click()</code> Simulates a click on the current element.	-	HTML, XUL
<code>cloneNode( deep )</code> Clone a node, and optionally, all of its contents.	Node	All
<code>compareDocumentPosition( otherNode )</code>	Number	All
<code>dispatchEvent( event )</code> Dispatch an event to this node in the DOM.	Boolean	All
<code>focus()</code> Gives keyboard focus to the current element.	-	HTML, XUL

# libraries

## libraries (eg, JQuery)

- › remove platform dependences
- › smooth over some non-uniformities

## JQuery elements

- › JQuery wraps DOM elements
- › can't apply standard DOM calls

```
elt = document.getElementById("navbar");  
elt.className = elt.className + " active"
```

in standard API

```
elt = $("#navbar");  
elt.addClass("active")
```

in JQuery

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