**HTML 5**

**New HTML5 Elements**  
The most interesting new HTML5 elements are:

* New semantic elements like <header>, <footer>, <article>, and <section>.
* New attributes of form elements like number, date, time, calendar, and range.
* New graphic elements: <svg> and <canvas>.
* New multimedia elements: <audio> and <video>

**New HTML5 API's (Application Programming Interfaces)**  
The most interesting new API's in HTML5 are:

* HTML Geolocation
* HTML Drag and Drop
* HTML Local Storage
* HTML Application Cache
* HTML Web Workers
* HTML SSE

**Tip:** HTML Local storage is a powerful replacement for cookies.

**Removed Element Use Instead**  
<acronym> <abbr>  
<applet> <object>  
<basefont> CSS  
<big> CSS  
<center> CSS  
<dir> <ul>  
<font> CSS  
<frame>   
<frameset>   
<noframes>   
<strike> CSS, <s>, or <del>  
<tt> CSS

**HTML5 Browser Support**  
HTML5 is supported in all modern browsers.

* In addition, all browsers, old and new, automatically handle unrecognized elements as inline elements.
* Because of this, you can "teach" older browsers to handle "unknown" HTML elements.

**Define Semantic Elements as Block Elements**  
HTML5 defines eight new semantic elements.

* All these are block-level elements.
* To secure correct behavior in older browsers, you can set the CSS display property for these HTML elements to block:  
    
  header, section, footer, aside, nav, main, article, figure {  
   display: block;   
  }

**New Elements in HTML5**  
Below is a list of the new HTML5 elements, and a description of what they are used for.  
  
**New Semantic/Structural Elements**  
HTML5 offers new elements for better document structure:  
  
Tag Description  
<article> Defines an article in a document  
<aside> Defines content aside from the page content  
<bdi> Isolates a part of text that might be formatted in a different direction from other text outside it  
<details> Defines additional details that the user can view or hide  
<dialog> Defines a dialog box or window  
<figcaption> Defines a caption for a <figure> element  
<figure> Defines self-contained content  
<footer> Defines a footer for a document or section  
<header> Defines a header for a document or section  
<main> Defines the main content of a document  
<mark> Defines marked/highlighted text  
<meter> Defines a scalar measurement within a known range (a gauge)  
<nav> Defines navigation links  
<progress> Represents the progress of a task  
<rp> Defines what to show in browsers that do not support ruby annotations  
<rt> Defines an explanation/pronunciation of characters (for East Asian typography)  
<ruby> Defines a ruby annotation (for East Asian typography)  
<section> Defines a section in a document  
<summary> Defines a visible heading for a <details> element  
<time> Defines a date/time  
<wbr> Defines a possible line-break

**New Form Elements**  
Tag Description  
<datalist> Specifies a list of pre-defined options for input controls  
<output> Defines the result of a calculation

**New Input Types**  
New Input Types New Input Attributes  
Color autocomplete placeholder  
Date autofocus required  
Datetime form step  
Datetime-local formaction  
Email formenctype  
Month formmethod  
Number formnovalidate  
Range formtarget  
Search height and width  
Tel list  
Time min and max  
Url multiple  
Week pattern (regexp)

**HTML5 Graphics**  
Tag Description  
<canvas> Draw graphics, on the fly, via scripting (usually JavaScript)  
<svg> Draw scalable vector graphics

**New Media Elements**  
Tag Description  
<audio> Defines sound content  
<embed> Defines a container for an external (non-HTML) application  
<source> Defines multiple media resources for media elements (<video> and <audio>)  
<track> Defines text tracks for media elements (<video> and <audio>)  
<video> Defines video or movie

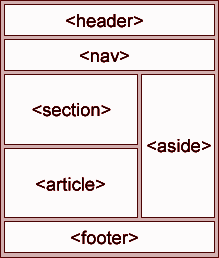
**HTML5 - New Attribute Syntax**  
HTML5 allows four different syntaxes for attributes.  
  
This example demonstrates the different syntaxes used in an <input> tag:  
Type Example  
Empty <input type="text" value="John" disabled>  
Unquoted <input type="text" value=John>  
Double-quoted <input type="text" value="John Doe">  
Single-quoted <input type="text" value='John Doe'>

In HTML5, all four syntaxes may be used, depending on what is needed for the attribute.

**HTML5 Semantic Elements**

Semantics is the study of the meanings of words and phrases in a language.  
  
Semantic elements = elements with a meaning.  
  
What are Semantic Elements?  
A semantic element clearly describes its meaning to both the browser and the developer.

* Examples of non-semantic elements: <div> and <span> - Tells nothing about its content.
* Examples of semantic elements: <form>, <table>, and <article> - Clearly defines its content.

**New Semantic Elements in HTML5**  
Many web sites contain HTML code like: <div id="nav"> <div class="header"> <div id="footer">  
to indicate navigation, header, and footer.  
  
HTML5 offers new semantic elements to define different parts of a web page:   
  
<article>   
<aside>  
<details>  
<figcaption>  
<figure>  
<footer>  
<header>  
<main>  
<mark>  
<nav>  
<section>  
<summary>  
<time>

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<div id="header"> <header>  
<div id="menu"> <nav>  
<div id="content"> <section>  
<div class="article"> <article>  
<div id="footer"> <footer>

**Use Lower Case Element Names**  
HTML5 allows mixing uppercase and lowercase letters in element names.  
  
We recommend using lowercase element names because:

* Mixing uppercase and lowercase names is bad
* Developers normally use lowercase names (as in XHTML)
* Lowercase look cleaner
* Lowercase are easier to write