# HTML stands for Hyper Text Markup Language, which is the most widely used language on Web to develop web pages. HTML was created by Berners-Lee in late 1991 but "HTML 2.0" was the first standard HTML specification which was published in 1995. HTML 4.01 was a major version of HTML and it was published in late 1999. Though HTML 4.01 version is widely used but currently we are having HTML-5 version which is an extension to HTML 4.01, and this version was published in 2012.

HTML5 Introduction

HTML5 Semantic Elements

emantics is the study of the meanings of words and phrases in language.

Semantic elements are 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 <img> - Clearly defines its content.

HTML5 semantic elements are supported in all modern browsers.

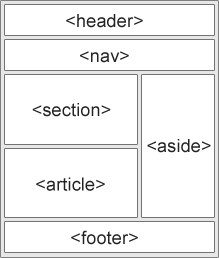
In addition, you can "teach" older browsers how to handle "unknown elements".

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>



HTML5 <section> Element

The <section> element defines a section in a document.

According to W3C's HTML5 documentation: "A section is a thematic grouping of content, typically with a heading."

A Web site's home page could be split into sections for introduction, content, and contact information.

HTML5 <article> Element

The <article> element specifies independent, self-contained content.

An article should make sense on its own, and it should be possible to read it independently from the rest of the web site.

Examples of where an <article> element can be used:

* Forum post
* Blog post
* Newspaper article

Nesting Semantic Elements

In the HTML5 standard, the <article> element defines a complete, self-contained block of related elements.

The <section> element is defined as a block of related elements.

Can we use the definitions to decide how to nest elements? No, we cannot!

On the Internet, you will find HTML pages with <section> elements containing <article> elements, and <article> elements containing <sections> elements.

You will also find pages with <section> elements containing <section> elements, and <article> elements containing <article> elements.

|  |  |
| --- | --- |
|  | Newspaper: The sports **articles** in the sports **section**, have a technical**section** in each **article**. |

HTML5 <header> Element

The <header> element specifies a header for a document or section.

The <header> element should be used as a container for introductory content.

You can have several <header> elements in one document.

The following example defines a header for an article:

HTML5 <footer> Element

The <footer> element specifies a footer for a document or section.

A <footer> element should contain information about its containing element.

A footer typically contains the author of the document, copyright information, links to terms of use, contact information, etc.

You can have several <footer> elements in one document.

HTML5 <nav> Element

The <nav> element defines a set of navigation links.

The <nav> element is intended for large blocks of navigation links. However, not all links in a document should be inside a <nav> element!

HTML5 <aside> Element

The <aside> element defines some content aside from the content it is placed in (like a sidebar).

The aside content should be related to the surrounding content.

HTML5 <figure> and <figcaption> Elements

In books and newspapers, it is common to have captions with images.

The purpose of a caption is to add a visual explanation to an image.

With HTML5, images and captions can be grouped together in **<figure>** elements:

The **<img>** element defines the image, the **<figcaption>** element defines the caption.

Why Semantic HTML5 Elements?

With HTML4, developers used their own favorite attribute names to style page elements:

header, top, bottom, footer, menu, navigation, main, container, content, article, sidebar, topnav, ...

This made it impossible for search engines to identify the correct web page content.

With HTML5 elements like: <header> <footer> <nav> <section> <article>, this will become easier.

According to the W3C, a Semantic Web:

"Allows data to be shared and reused across applications, enterprises, and communities."

Semantic Elements in HTML5

Below is an alphabetical list of the new semantic elements in HTML5.

The links goes to our complete

|  |  |
| --- | --- |
| **Tag** | **Description** |
| [<article>](http://www.w3schools.com/tags/tag_article.asp) | Defines an article |
| [<aside>](http://www.w3schools.com/tags/tag_aside.asp) | Defines content aside from the page content |
| [<details>](http://www.w3schools.com/tags/tag_details.asp) | Defines additional details that the user can view or hide |
| [<figcaption>](http://www.w3schools.com/tags/tag_figcaption.asp) | Defines a caption for a <figure> element |
| [<figure>](http://www.w3schools.com/tags/tag_figure.asp) | Specifies self-contained content, like illustrations, diagrams, photos, code listings, etc. |
| [<footer>](http://www.w3schools.com/tags/tag_footer.asp) | Defines a footer for a document or section |
| [<header>](http://www.w3schools.com/tags/tag_header.asp) | Specifies a header for a document or section |
| [<main>](http://www.w3schools.com/tags/tag_main.asp) | Specifies the main content of a document |
| [<mark>](http://www.w3schools.com/tags/tag_mark.asp) | Defines marked/highlighted text |
| [<nav>](http://www.w3schools.com/tags/tag_nav.asp) | Defines navigation links |
| [<section>](http://www.w3schools.com/tags/tag_section.asp) | Defines a section in a document |
| [<summary>](http://www.w3schools.com/tags/tag_summary.asp) | Defines a visible heading for a <details> element |
| [<time>](http://www.w3schools.com/tags/tag_time.asp) | Defines a date/time |

New HTML5 Elements

The most interesting new elements are:

New **semantic** elements like <header>, <footer>, <article>, and <section>.

New form **control attributes** 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 are:

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

HTML5 Browser Support

You can teach old browsers to handle HTML5

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" old browsers to handle "unknown" HTML elements.

|  |  |
| --- | --- |
|  |  |

Define HTML5 Elements as Block Elements

HTML5 defines 8 new **semantic** HTML elements. All these are **block level** elements.

To secure correct behavior in older browsers, you can set the CSS **display** property to **block**:

Example

header, section, footer, aside, nav, main, article, figure {  
    display: block;   
}

HTML5 New Elements

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 the document |
| <aside> | Defines content aside from the page content |
| <bdi> | Defines a part of text that might be formatted in a different direction from other text |
| <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, like illustrations, diagrams, photos, code listings, etc. |
| <footer> | Defines a footer for the document or a section |
| <header> | Defines a header for the document or a section |
| <main> | Defines the main content of a document |
| <mark> | Defines marked or highlighted text |
| <menuitem> | Defines a command/menu item that the user can invoke from a popup menu |
| <meter> | Defines a scalar measurement within a known range (a gauge) |
| <nav> | Defines navigation links in the document |
| <progress> | Defines 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 the document |
| <summary> | Defines a visible heading for a <details> element |
| <time> | Defines a date/time |
| <wbr> | Defines a possible line-break |

Read more about [HTML5 Semantics](http://www.w3schools.com/html/html5_semantic_elements.asp).

New Form Elements

|  |  |
| --- | --- |
| **Tag** | **Description** |
| <datalist> | Defines pre-defined options for input controls |
| <keygen> | Defines a key-pair generator field (for forms) |
| <output> | Defines the result of a calculation |

Read all about old and new form elements in [HTML Form Elements](http://www.w3schools.com/html/html_form_elements.asp).

New Input Types

|  |  |
| --- | --- |
| **New Input Types** | **New Input Attributes** |
| * color * date * datetime * datetime-local * email * month * number * range * search * tel * time * url * week | * autocomplete * autofocus * form * formaction * formenctype * formmethod * formnovalidate * formtarget * height and width * list * min and max * multiple * pattern (regexp) * placeholder * required * step |

Learn all about old and new input types in [HTML Input Types](http://www.w3schools.com/html/html_form_input_types.asp).

Learn all about input attributes in [HTML Input Attributes](http://www.w3schools.com/html/html_form_attributes.asp).

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 Graphics

|  |  |
| --- | --- |
| **Tag** | **Description** |
| <canvas> | Defines graphic drawing using JavaScript |
| <svg> | Defines graphic drawing using SVG |

Read more about HTML5 Canvas.

Read more about HTML5 SVG.

New Media Elements

|  |  |
| --- | --- |
| **Tag** | **Description** |
| <audio> | Defines sound or music content |
| <embed> | Defines containers for external applications (like plug-ins) |
| <source> | Defines sources for <video> and <audio> |
| <track> | Defines tracks for <video> and <audio> |
| <video> | Defines video or movie content |

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**Tim Berners-Lee, the inventor of HTML,** used to work in the computer section of the CERN (European Laboratory for Particle Physics) at Geneva, Switzerland.  
CERN is an institution for researching particle physics which requires the collaboration of physicists all over the world.

**RGB**

**#000019**

**What are HTML color codes?**

The three primary colors, red, green and blue, are made by mixing the highest intensity of the desired color with the lowest intensities of the other two:

**#FF0000**

**#00FF00**

**#0000FF**

With modern browsers supporting the full spectrum of 24-bit color, there are 16,777,216 different color possibilities. Use our color picker to explore all 16.7 million of them, or if that’s too many, check out our color charts for a selection of palettes focused on flat design, Material design and web safe colors.