

HTML5 Basics

HTML5 is the latest version of the Hypertext Markup Language used to structure and display content on the internet. It includes new features such as simplified coding through the use of semantic elements, improved multimedia support, and enhanced mobile compatibility. Its main purpose is to provide a standardized framework for web design that is accessible to all users.

● New features in HTML5

1. Improved semantic elements
2. Canvas element for 2D drawing
3. Drag and drop API
4. Video and audio support without plugins
5. Offline web application support
6. Web storage option
7. New form controls and validation
8. Geolocation API
9. Multimedia composition with `<picture>` element

● HTML Semantic Elements (Semantic elements = elements with a meaning)

What are Semantic Elements?

A semantic element clearly describes its meaning to both the browser and the developer.

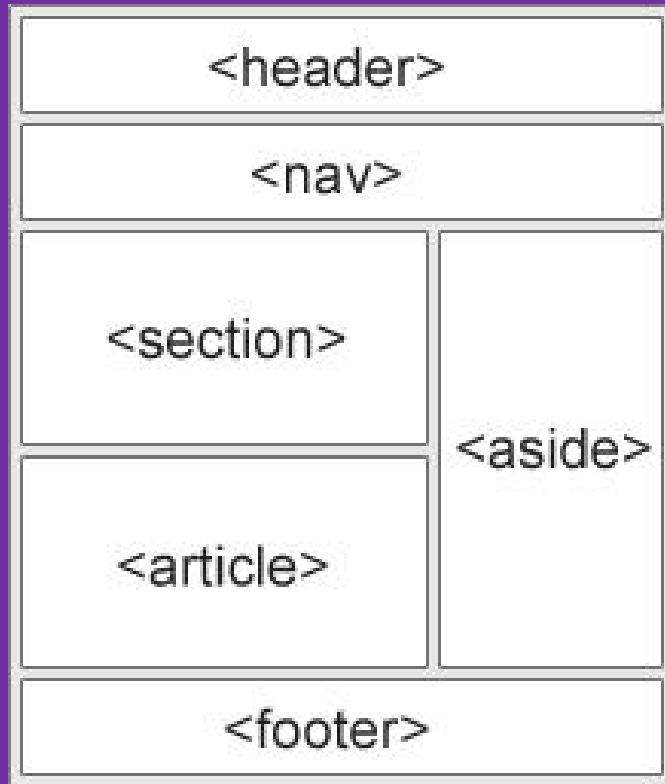
Examples of non-semantic elements: `<div>` and `` - Tells nothing about its content.

Examples of semantic elements: `<form>`, `<table>`, and `<article>` - Clearly defines its content.

In HTML there are some semantic elements that can be used to define different parts of a web page:

- | | | |
|--------------------------------|-----------------------------------|-------------------------------|
| ❖ <code><article></code> | ❖ <code><details></code> | ❖ <code><figure></code> |
| ❖ <code><aside></code> | ❖ <code><figcaption></code> | ❖ <code><footer></code> |

- ❖ <header>
- ❖ <main>
- ❖ <mark>
- ❖ <nav>
- ❖ <section>
- ❖ <summary>
- <time>



● HTML5 Audio and video (same from chapter4 multimedia)

➤ Video tag in html

The <video> tag is used to embed video content in a document, such as a movie clip or other video streams. The <video> tag contains one or more <source> tags with different video sources. The browser will choose the first source it supports. The text between the <video> and </video> tags will only be displayed in browsers that do not support the <video> element.

Ex:

```
<video width="320" height="240" controls>
```

```
  <source src="movie.mp4" type="video/mp4">
```

```
<source src="movie.ogg" type="video/ogg">
```

Your browser does not support the video tag.

```
</video>
```

➤ Audio tag in html

The <audio> tag is used to embed sound content in a document, such as music or other audio streams.

Ex:

```
<audio controls>
```

```
<source src="horse.ogg" type="audio/ogg">
```

```
<source src="horse.mp3" type="audio/mpeg">
```

Your browser does not support the audio tag.

```
</audio>
```

● What is HTML Canvas?

The HTML <canvas> element is used to draw graphics, on the fly, via JavaScript. The <canvas> element is only a container for graphics. You must use JavaScript to actually draw the graphics. Canvas has several methods for drawing paths, boxes, circles, text, and adding images. A canvas is a rectangular area on an HTML page. By default, a canvas has no border and no content.



Smile!

The above graphic is created with `<canvas>`. It shows four elements: a red rectangle, a gradient rectangle, a multicolor rectangle, and a multicolor text.

Ex: `<canvas id="myCanvas" width="200" height="100" style="border:1px solid #000000;"></canvas>`

● What is SVG?

SVG stands for **Scalable Vector Graphics**. SVG is used to define graphics for the Web. The HTML `<svg>` element is a container for SVG graphics. SVG has several methods for drawing paths, boxes, circles, text, and graphic images.

Ex: `<svg width="100" height="100">`

`<circle cx="50" cy="50" r="40" stroke="green" stroke-width="4" fill="yellow" />`

`</svg>`

● HTML5 drag and drop

In HTML, any element can be dragged and dropped. It is when you "grab" an object and drag it to a different location.

● HTML5 forms:

HTML5 introduced several enhancements and new features for form elements compared to HTML 4. Here are some notable changes:

1. New Input Types:

HTML5 introduced a variety of new input types that were not present in HTML 4. These include email, url, tel, number, date, time, color, and more. These input types provide better support for specific data types and allow browsers to offer more appropriate input controls.

```
<input type="email">
```

2. Placeholder Attribute:

The placeholder attribute was introduced in HTML5. It allows you to provide a hint or example text inside an input field, giving users guidance on what information to enter.

```
<input type="text" placeholder="Enter your name">
```

3. Required Attribute:

HTML5 introduced the required attribute, which can be added to form elements to indicate that a particular field must be filled out before submitting the form.

```
<input type="text" required>
```

4. Autofocus Attribute:

The autofocus attribute was introduced in HTML5, allowing you to automatically focus on a form element when the page loads.

```
<input type="text" autofocus>
```

Q. What do you understand by markup tag explain with example?

ANS: Markup tags are elements used in markup languages to define the structure and presentation of a document. Markup languages are used to annotate text or data to provide instructions on how it should be displayed or processed. HTML (Hypertext Markup Language) is a common example of a markup language used for creating web pages. Markup tags are

enclosed in angle brackets (<>) and usually come in pairs, with an opening tag and a closing tag.

EX: <p>This is a paragraph of text.</p>

Here, <p> is the opening tag, "This is a paragraph of text." is the content, and </p> is the closing tag. The combination of these tags and content defines a paragraph in HTML.

Different elements in HTML have different purposes, and using markup tags allows web browsers to interpret and display the content correctly. HTML provides a standardized way to structure content on the web, and markup tags play a crucial role in achieving this structure.