



Web Designing - HTML 5

1. What are the new tags added in HTML5?

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Tag	Description
Structural or Semantic Tags	
<article>	It defines the independent or self-contained content of a webpage.
<aside>	It defines the content which provide information about the main content.
<bdi>	It is used to isolate the part of text which might be formatted in another direction.
<details>	It defines additional information which only visible as per user demand.
<dialog>	It represents a dialog box or other interactive components.
<figcaption>	It defines caption for the <figure> element.
<figure>	It defines a self-contained content, and referenced as a single unit.
<footer>	It represents the footer section of the webpage.
<header>	It defines the introductory or navigational content of the webpage.
<main>	It specifies the main content of the HTML document.
<mark>	It represent the text which is highlighted or marked for reference or notation purposes.
<meter>	It represents a scalar value within a known range.
<nav>	It represents the section which contains navigation links.
<progress>	It defines a progress bar which shows completions progress of a task.



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<rp>	It defines alternative content for the browser which do not support ruby annotations.
<rt>	It defines explanations and pronunciations of characters in ruby annotations.
<ruby>	It defines ruby annotations (Specifically for Asian language).
<section>	It defines a generic section within an HTML document.
<summary>	It defines summary or caption for a <details> element which can be clicked to change the state of <details> element.
<time>	It defines data/time within an HTML document.
<wbr>	It specifies a line break opportunity. (Where line break possible)

HTML5 Form Tags

<datalist>	It represent predefined list for input <option> element.
<output>	It is used a container element to represent the output of a calculation or outcome of user action.

Graphics Tags

<canvas>	It allows drawing graphics and animations via scripting.
<svg>	It is used to draw scalable vector graphics.

HTML5 Media Tags

<audio>	It defines sound content.
<embed>	It defines a container for external files/application/media.
<source>	It defines multiple media resources for the media elements.
<track>	It defines text tracks for <audio> and <video> files
<video>	It defines video content within HTML document.

HTML5 New <input> types

Type	Description
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color	It represents an input field which defines a color selector.
date	It represents an input field to define a date selector.
datetime	It defines full date and time display with time zone information.
datetime-local	It defines date and time without time zone information.
email	It defines an input field with email pattern Validation.
month	It defines the input field to enter month for the particular year
number	It defines field which selects a numeric value only.
range	It defines a numeric value selector with a given range of 1 to 100.
search	It is used to define a search field.
tel	It represents a control to enter a telephone number.
time	It represents a control to enter time value with no time zone.
url	It represents an input field to enter a URL
week	It defines a selector for week value for the particular year.



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2. How to embed audio and video in a webpage?

➔ HTML stands for HyperText Markup Language. It is used to design web pages using a markup language. It is a combination of Hypertext and Markup language. HTML uses predefined tags and elements that tell the browser how to properly display the content on the screen. So, in this article, we will learn how to embed audio and video in HTML. In order to insert multimedia files on web pages, we already know how to insert images in HTML.

- How to embed audio in HTML?

To embed audio in HTML, we use the `<audio>` tag. Before HTML5, audio cannot be added to web pages in the Internet Explorer era. To play audio, we used web plugins like Flash. After the release of HTML5, it is possible. This tag supports Chrome, Firefox, Safari, Opera, and Edge in three audio formats – MP3, WAV, OGG. Only Safari browser doesn't support OGG audio format.

Syntax:

```
<audio>
```

```
    <source src="file_name" type="audio_file_type">
```

```
</audio>
```

Attributes of `<audio>` tag

Attribute	Value	Description
autoplay	autoplay	When the page is loaded. It specifies to play audio as soon as possible.



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Attribute	Value	Description
controls	controls	It displays audio control.
loop	loop	It will start the audio again when it is finished.
muted	muted	When the page is loaded audio will be automatically muted.
preload	auto metadata none	It specifies how the author thinks the audio will be loaded when the page is ready.
src	URL	It specifies the URL of the audio file.

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3. Semantic element in HTML5?

➔ 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.

Semantic Elements in HTML

- ➔ Many web sites contain HTML code like: `<div id="nav">` `<div class="header">` `<div id="footer">` to indicate navigation, header, and footer.
- ➔ `<article>`
- ➔ `<aside>`
- ➔ `<details>`
- ➔ `<figcaption>`
- ➔ `<figure>`
- ➔ `<footer>`
- ➔ `<header>`
- ➔ `<main>`
- ➔ `<mark>`
- ➔ `<nav>`
- ➔ `<section>`
- ➔ `<summary>`
- ➔ `<time>`



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4. Canvas and SVG tags

SVG: The Scalable Vector Graphics (SVG) is an XML-based image format that is used to define two-dimensional vector-based graphics for the web. Unlike raster image (Ex .jpg, .gif, .png, etc.), a vector image can be scaled up or down to any extent without losing the image quality.

An SVG image is drawn out using a series of statements that follow the XML schema — that means SVG images can be created and edited with any text editor, such as Notepad. There are several other advantages of using SVG over other image formats like JPEG, GIF, PNG, etc.

Example:

```
<!DOCTYPE html>
<html>

<head>
  <style>
    #svgelem {
      position: relative;
      left: 50%;
      -webkit-transform: translateX(-20%);
      -ms-transform: translateX(-20%);
      transform: translateX(-20%);
    }
  </style>
  <title>HTML5 SVG</title>
</head>

<body>
  <h2 align="center">
    SVG Circle(Geeks For Geeks)
  </h2>

  <svg id="svgelem" height="200">
    <circle id="greencircle" cx="60"
      cy="60" r="50" fill="green" />
  </svg>
</body>
</html>
```

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```
</svg>
</body>

</html>
```

Output:

SVG Circle(Geeks For Geeks)



Canvas: The HTML element is used to draw graphics on the fly, via scripting (usually JavaScript). The element is only a container for graphics. You must use a script to actually draw the graphics. Canvas has several methods for drawing paths, boxes, circles, text, and adding images.

Example:

```
<!DOCTYPE html>
<html>

<head>
  <title>HTML5 Canvas Tag</title>
</head>

<body>
  <h2>Canvas Square(Geeks For Geeks)</h2>

  <canvas id="newCanvas" width="100" height="100"
    style="border:1px solid #000000;">
  </canvas>

  <script>
    var c = document.getElementById('newCanvas');
    var ctx = c.getContext('2d');
    ctx.fillStyle = '#7cce2b';
    ctx.fillRect(0, 0, 100, 100);
```


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```
</script>  
</body>  
  
</html>
```

Output:

Canvas Square(Geeks For Geeks)

