

HTML Media elements

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Multimedia Elements

- Multimedia on the web is sound, music, videos, movies, and animations.
- Different formats:
- images, music, sound, videos, records, films, animations, and more.

HTML5: Video

Until now, there hasn't been a standard for showing video on a web page.

Today, most videos are shown through a plugin (like Flash). However, not all browsers have the same plugins.

HTML5 specifies a standard way to include video with the video element.

HTML5: Video

Currently, there are 3 supported video formats for the video element:

Format	IE	Firefox	Opera	Chrome	Safari
Ogg	No	3.5+	10.5+	5.0+	No
MPEG 4	No	No	No	5.0+	3.0+
WebM	No	No	10.6+	6.0+	No

HTML5: Video

```
<video width="320" height="240" controls autoplay muted>  
  <source src="movie.ogg" type="video/ogg" />  
  <source src="movie.mp4" type="video/mp4" />  
  <source src="movie.webm" type="video/webm" />  
Your browser does not support the video tag.  
</video>
```

```
<html>
<body>
<button onclick="playVid()" type="button">Play Video</button>
<button onclick="pauseVid()" type="button">Pause Video</button>
<video id="myVideo" width="320" height="176">
  <source src="mov_bbb.mp4" type="video/mp4">
  <source src="mov_bbb.ogv" type="video/ogg">
  Your browser does not support HTML5 video.
</video>
```

```
<script>
var vid = document.getElementById("myVideo");
function playVid() {
  vid.play();
}
function pauseVid() {
  vid.pause();
}
</script>
```

```
<p>Video courtesy of <a href="https://www.bigbuckbunny.org/" target="_blank">Big Buck
Bunny</a>.</p>
</body>
</html>
```

HTML5: Audio

Until now, there has never been a standard for playing audio on a web page.

Today, most audio is played through a plugin (like Flash). However, not all browsers have the same plugins.

HTML5 specifies a standard way to include audio, with the audio element. The audio element can play sound files, or an audio stream.

HTML5: Audio

Currently, there are 3 supported formats for the audio element:

Format	IE 8	Firefox 3.5	Opera 10.5	Chrome 3.0	Safari 3.0
Ogg Vorbis	No	Yes	Yes	Yes	No
MP3	No	No	No	Yes	Yes
Wav	No	Yes	Yes	No	Yes

HTML5: Audio

```
<audio controls="controls">
```

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

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

Your browser does not support the audio element.

```
</audio>
```

HTML5: Audio

Attribute	Value	Description
autoplay	autoplay	Specifies that the audio will start playing as soon as it is ready.
controls	controls	Specifies that controls will be displayed, such as a play button.
loop	loop	Specifies that the audio will start playing again (looping) when it reaches the end
preload	preload	Specifies that the audio will be loaded at page load, and ready to run. Ignored if autoplay is present.
src	<i>url</i>	Specifies the URL of the audio to play

HTML5 Graphics

Tag

<canvas>

<svg>

Description

Defines graphic drawing using JavaScript

Defines graphic drawing using SVG



HTML5: Canvas

The HTML5 canvas element uses JavaScript to draw graphics on a web page.

A canvas is a rectangular area, and you control every pixel of it.

The canvas element has several methods for drawing paths, boxes, circles, characters, and adding images.

HTML5: Canvas

Adding a canvas element to the HTML5 page.

Specify the id, width, height of the element:

```
<canvas id="myCanvas" width="200"  
height="100"></canvas>
```

Add Border

To add a border, use the style attribute.

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



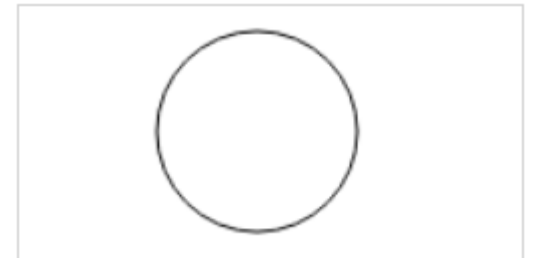
Draw a line

```
var c = document.getElementById("myCanvas");  
var ctx = c.getContext("2d");  
ctx.moveTo(0,0);  
ctx.lineTo(200,100);  
ctx.stroke();
```



Draw a Circle

```
var c = document.getElementById("myCanvas");  
var ctx = c.getContext("2d");  
ctx.beginPath();  
ctx.arc(95,50,40,0,2*Math.PI);  
ctx.stroke();
```



SVG

Scalable Vector Graphics

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

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

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

```
</svg>
```

```
</body>
```

```
</html>
```

SVG Circle

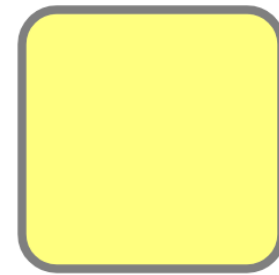


SVG

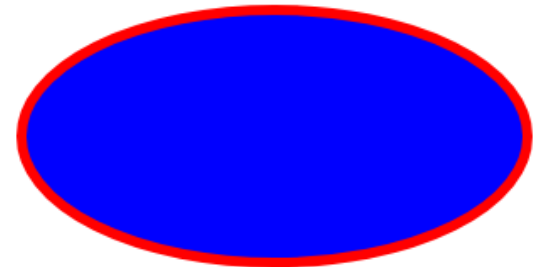
```
<svg width="400" height="110">  
  <rect width="300" height="100"  
    style="fill:green;stroke-width:5;stroke:yellow" />  
</svg>
```



```
<svg width="400" height="180">  
  <rect x="50" y="20" rx="20" ry="20" width="150"  
    height="150" style="fill:yellow;stroke:black;stroke-  
    width:5;opacity:0.5" />  
</svg>
```



```
<svg height="200" width="500">  
  <ellipse cx="200" cy="80" rx="100" ry="50"  
    style="fill:blue;stroke:red;stroke-width:4" />  
</svg>
```



```
<svg height="150" width="500">  
  <ellipse cx="240" cy="100" rx="220" ry="30" style="fill:red" />  
  <ellipse cx="220" cy="70" rx="190" ry="20" style="fill:green" />  
  <ellipse cx="210" cy="45" rx="170" ry="15" style="fill:blue" />  
</svg>
```



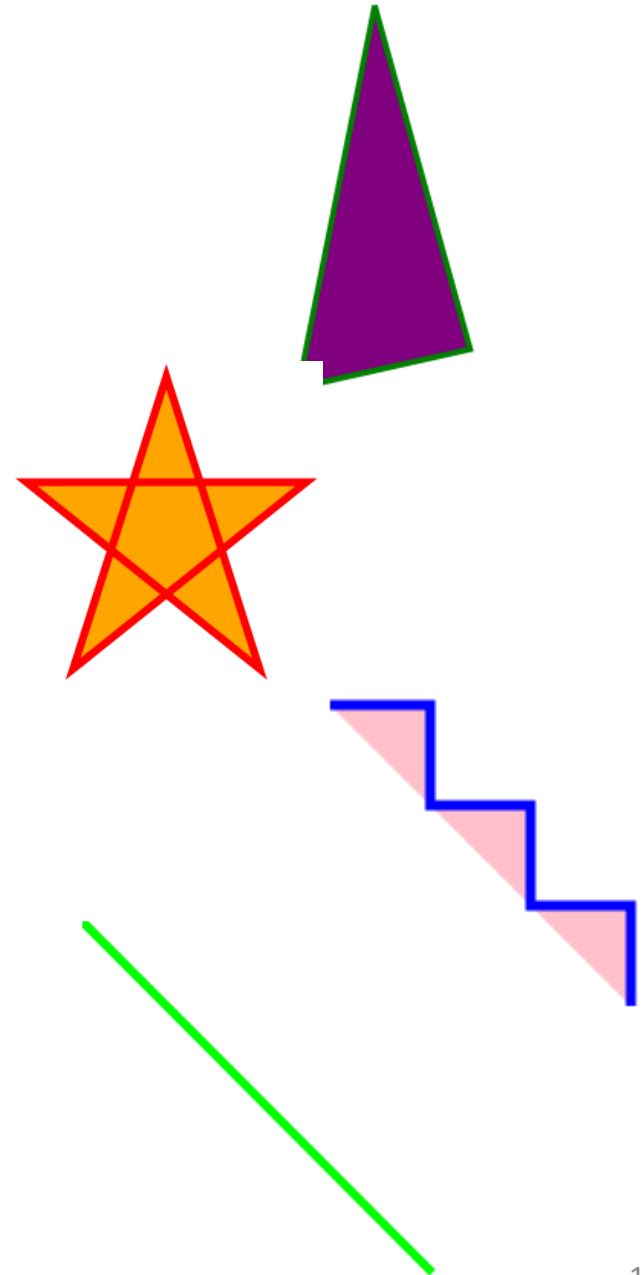
SVG

```
<svg height="250" width="500">  
  <polygon points="200,10 250,190 160,210"  
style="fill:purple;stroke:green;stroke-width:3" />  
</svg>
```

```
<svg height="250" width="500">  
  <polygon points="100,10 40,198 190,78 10,78  
160,198" style="fill:orange;stroke:red;stroke-  
width:5;fill-rule:nonzero;" />  
</svg>
```

```
<svg height="180" width="500">  
  <polyline points="0,40 40,40 40,80 80,80 80,120  
120,120 120,160" style="fill:pink;stroke:blue;stroke-  
width:4" />  
</svg>
```

```
<svg height="250" width="500">  
  <line x1="0" y1="0" x2="200" y2="200"  
style="stroke:rgb(0,255,0);stroke-width:5" />  
</svg>
```



Google map

```
<body>
<h1>My First Google Map</h1>
<div id="map" style="width:400px;height:400px;"></div>
<script>
function myMap() {
  var mapOptions = {
    center: new google.maps.LatLng(51.5, -0.12),
    zoom: 10,
    mapTypeId: google.maps.MapTypeId.HYBRID
  }
  var map = new google.maps.Map(document.getElementById("map"), mapOptions);
}
</script>
</body>
```