# The <video> element

## INTRODUCTION

The <video> element of HTML5 is one of the two "Flash killers" (the other being the<canvas> element). It was designed to replace horrible things like embedded Flash objects that we used to encounter not so long ago.

## BEFORE HTML5, HOW DID WE EMBED VIDEOS IN A WEB PAGE?

Answer: like that!

```
<object width="425" height="344">
  <param name="movie"
        value="http://www.youtube.com/v/9sEI1AUFJKw&hl=en_GB&fs=1&">
  </param>
  <param name="allowFullScreen"   value="true"></param>
  <param name="allowscriptaccess" value="always"></param>
  <embed src="http://www.youtube.com/v/9sEI1AUFJKw&hl=en_GB&fs=1&"
        type="application/x-shockwave-flash"
        allowscriptaccess="always" allowfullscreen="true"
        width="425" height="344">
  </embed>
</object>
```

Indeed, until two years ago, this was the only way to embed a YouTube video (fortunately, YouTube has changed that now). Furthermore, embedding a Flash player made it impossible to watch videos on some mobile platforms (especially Apple devices).

## AFTER HTML5:

The new way of doing things is a lot better... (please open this live example at JS Bin).


The source code of this example shows the typical usage of the `<video>` element:

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

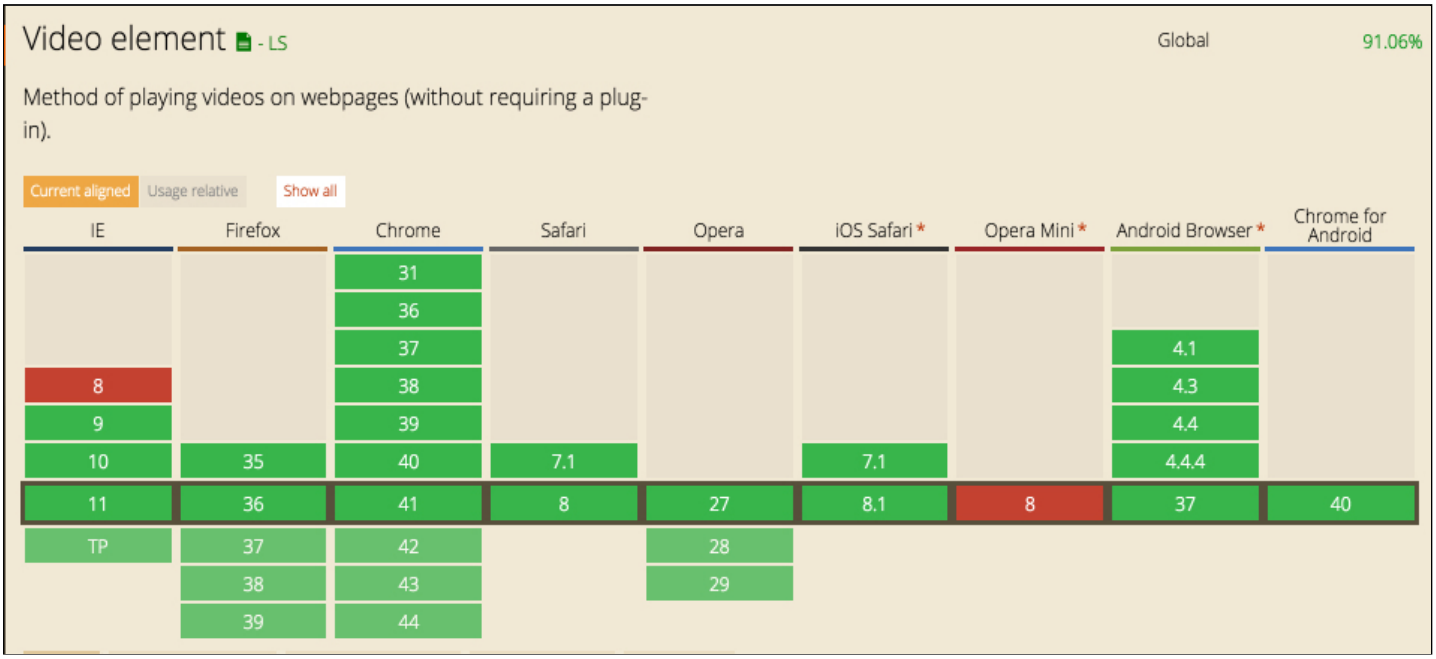
Please note that:

- The `controls` attribute indicates that a control panel with play/stop/volume/progress widgets should be displayed;
- Usually the browser will use the first format it recognizes (in this case, the browser checks whether `mp4` is supported, and if not, it will check for the `ogg` format, and so on). Some browsers may use a different heuristic and choose a "preferred" format.
- The `<video>` element is a DOM member, so CSS3 styling and transformations can be applied, as well as manipulation using the DOM API.

More details on the different attributes of the `<video>` element are given later on in the course...

## CURRENT BROWSER SUPPORT FOR THE `<VIDEO>` ELEMENT

The `<video>` element is supported by all major browsers since 2012:




To get an updated version, see the support table from Can I Use...?

As you can see, with the exception of Opera mini and older versions of Internet Explorer, nearly all browsers support the `<video>` element. Popular streaming Web sites like YouTube or Dailymotion also support this element and automatically switch from the Flash player to the HTML5 version, based on your browser (whether or not it is mobile, supports Flash, etc.).

## RESTRICTION: YOU CANNOT EMBED A YOUTUBE OR DAILYMOTION VIDEO USING THE `<VIDEO>` ELEMENT

Help! `<video src="my youtube video URL"></video>` does not work!

> **BEWARE**: *you cannot directly embed videos from most of the popular social Web sites such as YouTube, Dailymotion, Vimeo, etc. For commercial reasons, and certainly because advertising is automatically added to the videos, these Web sites do not allow "regular" embedding of their videos.*

While they use HTML5 to render their videos, these hosting sites (YouTube, etc.) use rather complex techniques in order to prevent you from using them with the `<video>`element. Instead, you often need to embed an `<iframe>` that will render the HTML5 videos in your Web site, and of course, the advertising that come along with them.

Usually you have an "embed" button close to the videos that prompts you with some HTML code that you can copy and paste for embedding.

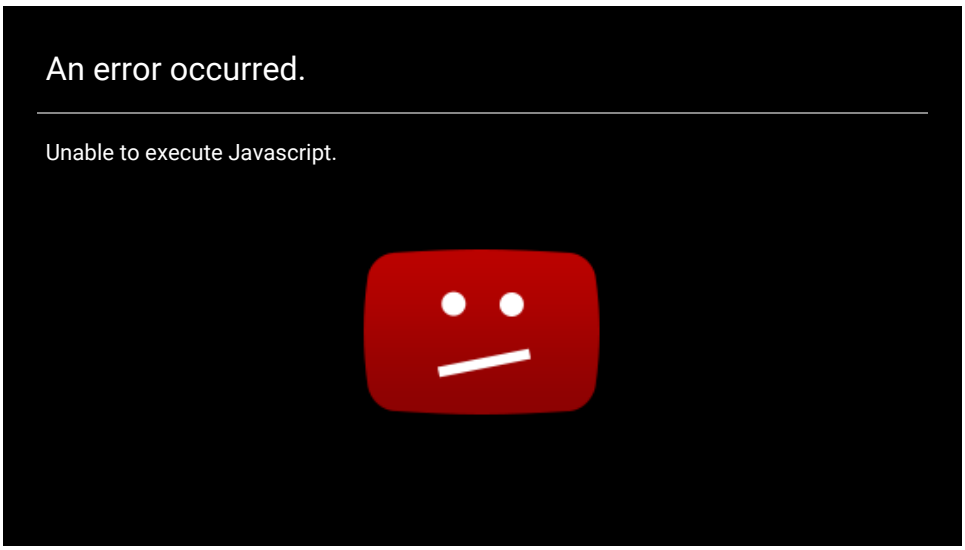
**Example with YouTube:**

Here is the HTML code you need to copy and paste in order to embed a video (in this case, a tutorial that tells

you how to embed a YouTube video):

```
<iframe width="560" height="315"src="https://www.youtube.com/embed/ZH1XOsv8Oyo" frameborder="0" allowfullscreen></iframe>
```

The YouTube video embedded in this page by the above code: it's HTML5 but it's not a `<video>` element directly inserted in the HTML of this page, it's an `<iframe>`:




## CODEC SUPPORT

This is one of the main issues that the industry had to solve during the last few years: codec support was not the same from one browser to another, for commercial/cost reasons. For example, Firefox only supported the ogg/oggm format from 2010 to 2013. It did not natively support mp3/mp4 encoding for audio/video, while Internet Explorer only supported the H.264 encoding. Since 2012, things have changed as browsers have been updated. In order to check codec support, the best way is to try it yourself: just go and visit Video Format Support from Microsoft IE (test works for all browsers).

You might also check external resources, such as this page from the Mozilla Developer Network, but beware, it is very difficult to maintain such lists.

> *The recommended codec that works on most browsers, as of 2015:*
> ***H264/mp4***

However, the recommended way to do things, if you target the largest possible audience with a large variety of possible browsers,  is to encode your videos in the major supported formats.

## EXTERNAL RESOURCES

- One excellent reference is in the online documentation of the Opera browser. At the bottom of the page, you will find important references and links to many relevant examples.
- Check out this article about the state of HTML5 video as well, a must-read for all of you!
- Another very good reference is from Apple's developer site.
- About DRM, and some HTML5 video features to come in HTML 5.1: "HTML5 Video in the Open Web Platform" is a talk by Philippe le Hegaret from W3C (video + slides) (in April 2013).