

Chapter 2 - JavaScript Syntax

JavaScript syntax refers to the set of rules that determine how JavaScript programs are built by the programmer and interpreted by the browser.

`<script>..... </script>` Html tag is use to implantation of JavaScript statements.

You can place the `<script>` tags, which contain your JavaScript, anywhere on your web page, but it is usually recommended that you keep it in the `<head>` tags. Or we can add that `<script>` tag to the bottom of the file outside to the Html **or** in the `<body>` tag of the Html code.

There are two ways to add JavaScript in HTML.

1. Embed JavaScript in HTML

JavaScript code will be written as follows:

```
<script>
  JavaScript Code
</script>
```

And the alternate way is

2. External JavaScript File

This makes editing the code much easier for the programmer.

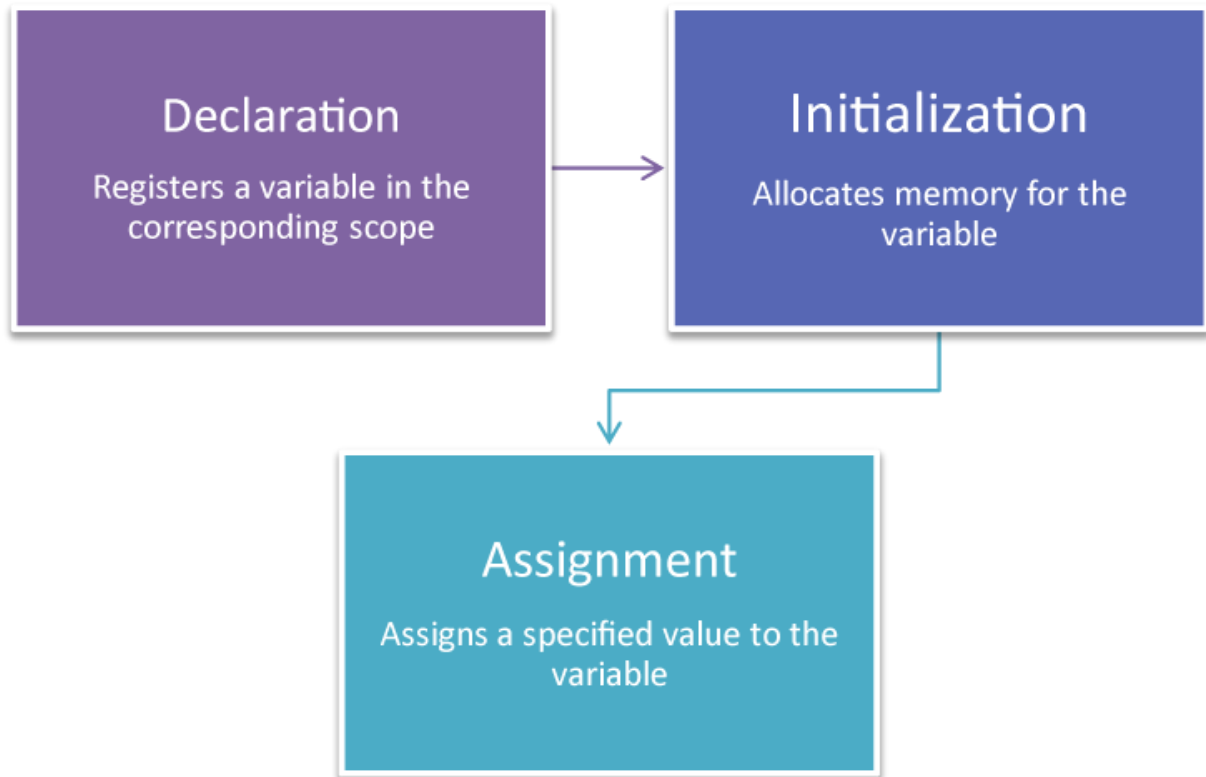
'src' , 'type' and 'language' are most common attributes of `<script>` tag.

```
<script language = "javascript" src= "my_file.js" type= "text/javascript">
</script>
```

Syntax Basics

Understanding statements, variable naming, whitespace, and other basic JavaScript syntax.

Variable Life Cycle



Simple variable declaration

- First step in including variables in your program is a **declaration**
- Declaration creates a variable
- Example:

```
var myName;
```
- “var” is a **keyword** that indicates that this is a variable declaration
 - Keyword (see Intro) has a defined meaning in JavaScript

- **Example:**

```
var message = 'hello GKTCS';
```

Whitespace and Line Breaks

Whitespace

Refers to blank or space characters, tabs & line breaks. JavaScript ignores whitespace in some instances.

```
var name="Christina Truong"; // will both display the same  
var name = "Christina Truong";
```

Whitespace matters when used in a string or using keyword.

```
var name = "ChristinaTruong"; // Will show with no space  
varname = "Christina Truong"; // not valid
```

Because you can use spaces, tabs, and newlines freely in your programs (except in strings, regular expressions, and tokens), you are free to format and indent your programs in a neat and consistent way that makes the code easy to read and understand. If you place a space, tab, or newline within a token, you break it up into two tokens -- thus, 456 is a single numeric token, but 45 6 is two separate tokens (and constitutes a syntax error, incidentally).

Comments in JavaScript

Include some comments in the code that will explain what's going on when you write code. This will not only help you remember it later, but you can also understand the code if someone else view your code.

- Two types of comments
 - Single line
 - Uses two forward slashes (i.e. //)
 - Multiple line
 - Uses /* and */

A) Single line Comment

```
<script type="text/javascript">  
  <!--  
    // This is my JavaScript comment  
    document.write("<h1>Hello!</h1>");  
  //-->  
</script>
```

B) Multi line Comment

```
<script type="text/javascript">
  <!--
    /* This is a multiple line comment.
     * The star at the beginning of this line is optional.
     * So is the star at the beginning of this line.
     */
    document.write("<h1>Hello!</h1>");
  //-->
</script>
```

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Semicolons

JavaScript semicolons are optional. It does not strictly require semicolons.

Case Sensitivity

JavaScript is a case-sensitive language. This means that keywords, function names, variables, and any other identifiers must always be typed with a consistent capitalization of letters.

For example:

- 1) The 'return' keyword, must be typed "return", not "Return" or "RETURN".
- 2)

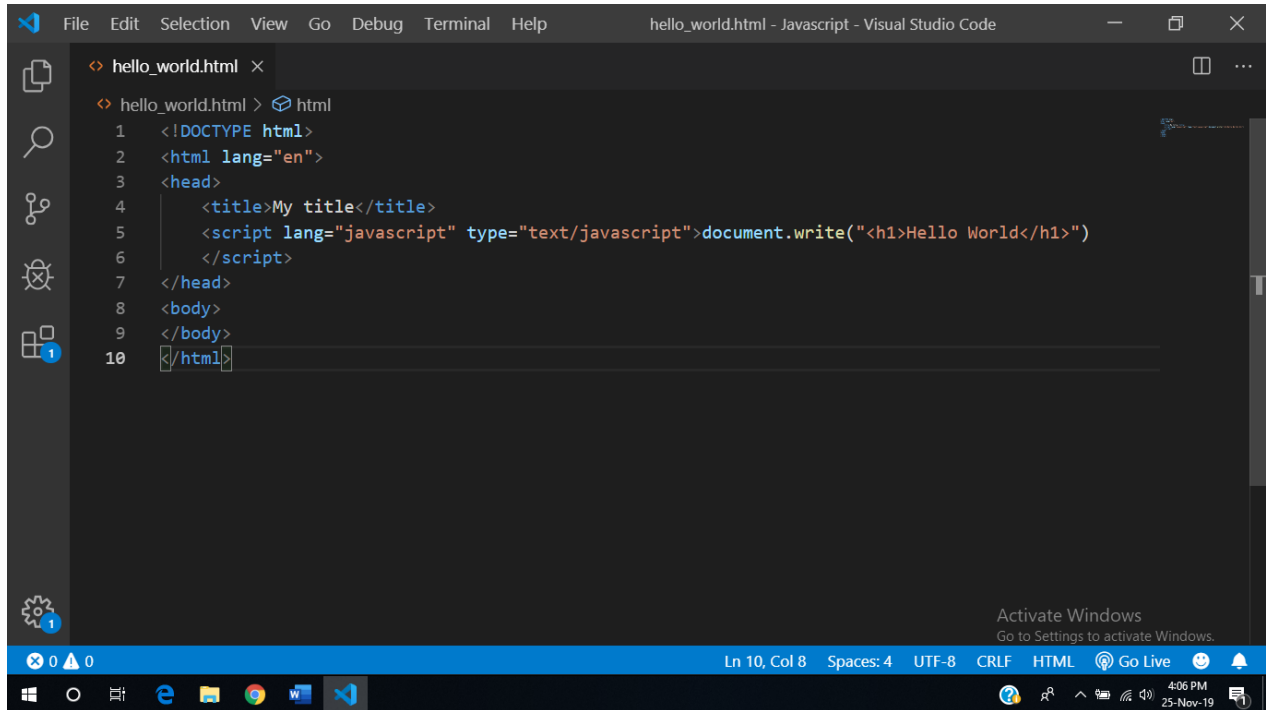
Identifiers **Time**, **Tlme** and **TIME** will have different meanings in JavaScript.

First JavaScript Code

Let us take a simple example to print message “Hello World”.

Code

1)Put `<script>` into the head section.



The screenshot shows the Visual Studio Code editor with a file named 'hello_world.html' open. The code is as follows:

```
hello_world.html > html
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4     <title>My title</title>
5     <script lang="javascript" type="text/javascript">document.write("<h1>Hello World</h1>")
6     </script>
7 </head>
8 <body>
9 </body>
10 </html>
```

The status bar at the bottom indicates the current cursor position is at Line 10, Column 8, with 4 spaces. The encoding is UTF-8 and the line endings are CRLF. The file is recognized as HTML. The Windows taskbar at the bottom shows the time as 4:06 PM on 25-Nov-19.

2)Put `<script>` tag to the bottom of head section.

```
File Edit Selection View Go Debug Terminal Help hello_world.html - Javascript - Visual Studio Code
hello_world.html x
hello_world.html > script
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <title>My title</title>
5 </head>
6 <body>
7 </body>
8 </html>
9 <script lang="javascript" type="text/javascript">document.write("<h1>Hello World</h1>")
10 </script>
```

Activate Windows
Go to Settings to activate Windows.

Ln 10, Col 10 Spaces: 4 UTF-8 CRLF HTML Go Live 4:19 PM 25-Nov-19

Output

