

Client Side Scripting } *Language Basics*

Language Basics

- { JavaScript Basics
- { More About The DOM
- { Object Communication
- { Language Reference

JavaScript Basics



Client Side Scripting

JavaScript Basics

- { Language Basics
 - { *Allows the developer to create custom tools, and functionality*
- { Built in Tools, Methods and Properties
- { Framework
 - { *Common code providing generic functionality*



We're going to focus on the
built in methods and properties

Language Basics

JavaScript is an Event Based language.

Events



What is an event?

Action that initiates a command

Example of Events

- { onClick
- { onMouseOver
- { onMouseOut
- { onMouseDown
- { onLoad

onClick Event

```
<p onclick="myFunction()">
```

What? A p tag is click-able?

```
</p>
```

onClick Event

```
<p onclick="myFunction()">
```

What? A p tag is click-able?

```
</p>
```

The event will trigger and call the method which refers to the defined code

```
graph LR; A[Event] --> B[triggers method call]; B --> C[references defined code];
```

Event

**triggers
method call**

**references
defined code**

```
<p onclick="myFunction()">
```

What? A p tag is clickable?

```
</p>
```

```
doSomething()
```

```
function doSomething(){
```

```
    // do something...
```

```
}
```

onClick Event

```
<p onclick="myFunction()">
```

What? A p tag is click-able?

```
</p>
```

The event will trigger call the method which refers to the defined code

Web Standards onClick

```
<p onclick="myFunction()">
```

What? A p tag is click-able?

```
</p>
```

**Technically this
isn't a good
practice.**

Web Standards onClick

```
<p id='ptag' onclick="myFunction()">  
What? A p tag is click-able?  
</p>
```

```
onload=init;
```

```
function init(){  
    document.getElementById('ptag').onclick = alertMe  
  
    function alertMe(){  
        alert('hi')  
    }  
}
```

Web Standards onClick

```
<p id='ptag' onclick="myFunction()">  
What? A p tag is click-able?  
</p>
```

```
onload=init;
```

```
function init(){  
    document.getElementById('ptag').onclick = alertMe  
  
    function alertMe(){  
        alert('hi')  
    }  
}
```

Try this instead.

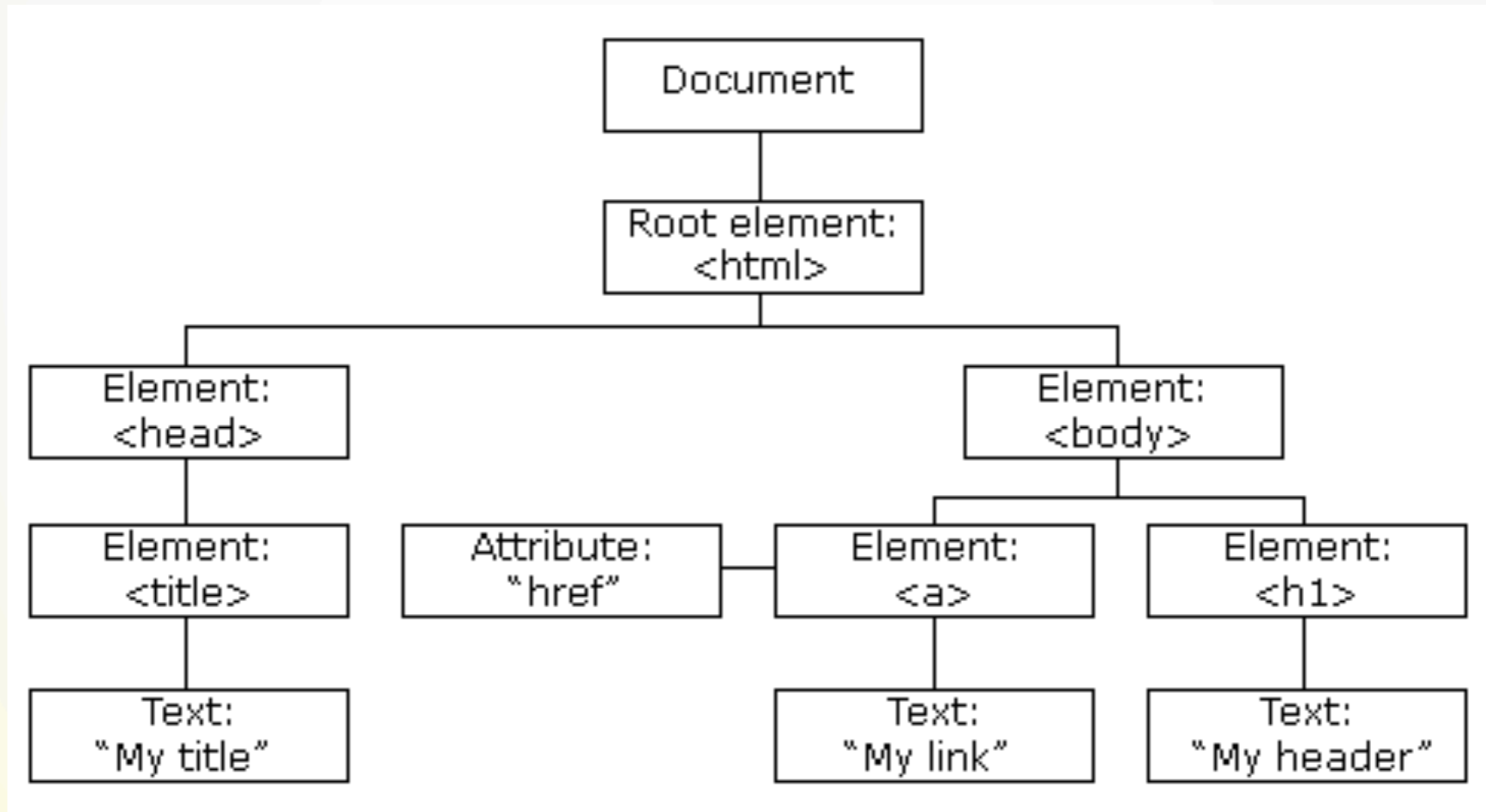


More about the DOM

DOM

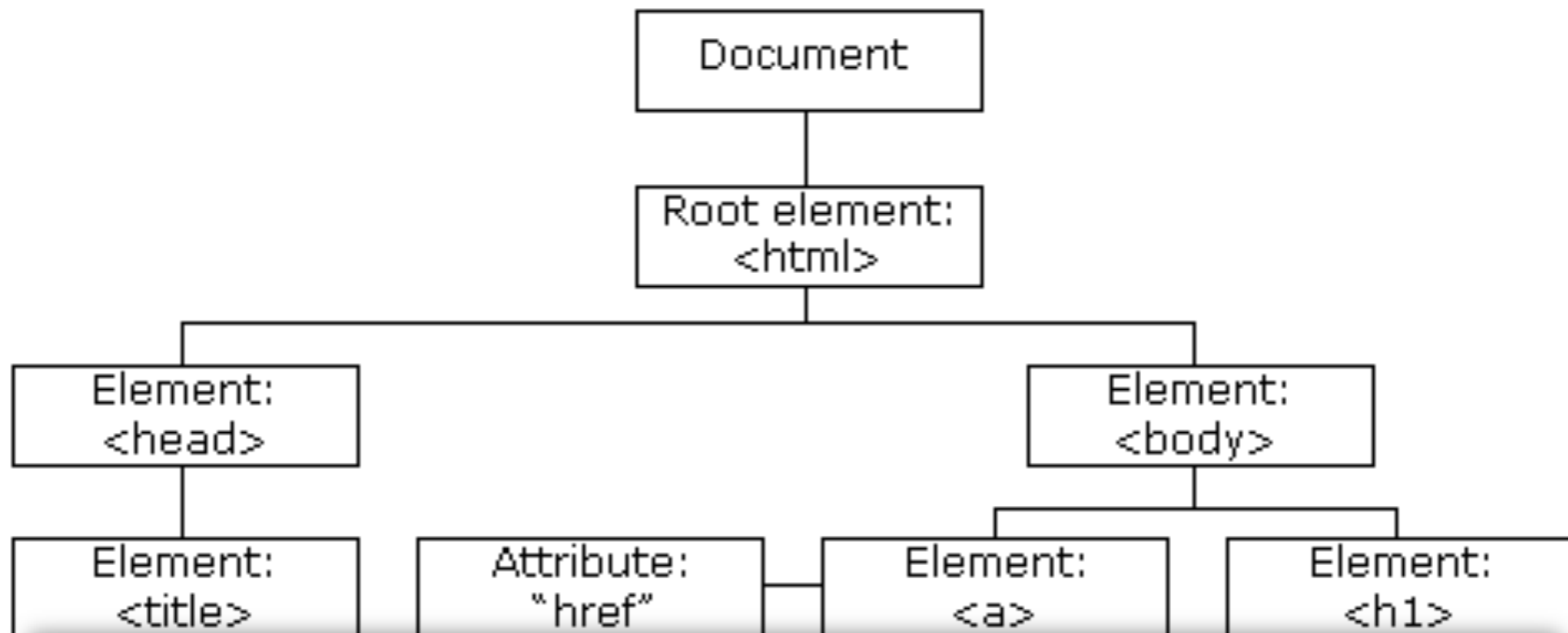
It's a system of methods and properties that allow access, modification and creation of structure (HTML) and display (CSS).

The HTML DOM



source: <http://w3schools.com/html/dom/default.asp>

The HTML DOM



A series of methods and properties that allow for access and modification of this structure.

HTML DOM

```
// Methods  
getElementsByTagName()  
getElementById()
```

```
// Properties  
innerHTML  
className  
style  
id
```

HTML DOM

```
// Methods  
getElementsByTagName()  
getElementById()
```

```
// Properties  
innerHTML  
className  
style  
id
```

These are most important when modifying any content on screen.



Object Communication

`getElementsByTagName()`



getElementsByTagName()

```
<p id="bob">Hello World</p>  
<script type="text/javascript">  
alert(document.getElementsByTagName('p')[0].innerHTML);  
</script>
```

getElementsByTagName()

```
<p id="bob">Hello World</p>  
<script type="text/javascript">  
alert(document.getElementsByTagName('p')[0].innerHTML);  
</script>
```

Using the document object and dot syntax we can gain access to the contents of the element

getElementsByTagName()

```
<p id="bob">Hello World</p>  
<script type="text/javascript">  
alert(document.getElementsByTagName('p')[0].innerHTML);  
</script>
```

**This is the tag (or element)
we are inspecting**

getElementsByTagName()

```
<p id="bob">Hello World</p>  
<script type="text/javascript">  
alert(document.getElementsByTagName('p')[0].innerHTML);  
</script>
```

This is an index, which means a number referring to the location of this instance within the document.

getElementsByTagName()

```
<p id="bob">Hello World</p>  
<script type="text/javascript">  
alert(document.getElementsByTagName('p')[0].innerHTML);  
</script>
```

This is a property we will look at in more depth later on.

getElementById()



getElementById()

```
<p id="bob">Hello World</p>  
<script type="text/javascript">  
alert(document.getElementById('bob').innerHTML);  
</script>
```

getElementById()

```
<p id="bob">Hello World</p>  
<script type="text/javascript">  
alert(document.getElementById('bob').innerHTML);  
</script>
```

Using the document object and dot syntax we can gain access to the contents of the id

getElementById()

```
<p id="bob">Hello World</p>  
<script type="text/javascript">  
alert(document.getElementById('bob').innerHTML);  
</script>
```

Note the id pairings.

innerHTML



innerHTML

```
<p id="bob">Hello World</p>  
<script type="text/javascript">  
alert(document.getElementById('bob').innerHTML);  
</script>
```

innerHTML is a property that refers to everything in the inspected element.

innerHTML

```
<p id="bob">Hello World</p>  
<script type="text/javascript">  
alert(document.getElementById('bob').innerHTML);  
</script>
```

In this example, it would be everything in the p tag.

innerHTML

```
<p id="bob">Hello World</p>  
<script type="text/javascript">  
document.getElementById( 'bob' ).innerHTML="new stuff";  
</script>
```

In this example, it would change the contents of the p tag. This is one of the fundamental techniques for AJAX applications.

innerHTML

```
<p id="bob">Hello World</p>  
<script type="text/javascript">  
document.getElementById( 'bob' ).innerHTML="new stuff";  
</script>
```

In this example, it would change the contents of the p tag. This is one of the fundamental techniques for AJAX applications.



style



style

```
<p id="bob">Hello World</p>  
<script type="text/javascript">  
alert(document.getElementById('bob').style.color="#f00");  
</script>
```

style

```
<p id="bob">Hello World</p>  
<script type="text/javascript">  
alert(document.getElementById('bob').style.color="#f00");  
</script>
```

**This will change the typeface
color to red**

id



id

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
<html><head><title>JavaScript Test</title>
<style type="text/css">
#billy{color:#ff0;}
#bob{color:#0ff;}

</style></head><body>
  <p id="bob">Hello World</p>

  <script type="text/javascript">
    document.getElementById( 'bob' ).id="billy";

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

id

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://  
www.w3.org/TR/html4/strict.dtd">  
<html><head><title>JavaScript Test</title>  
<style type="text/css">  
#billy{color:#ff0;}  
#bob{color:#0ff;}  
  
</style></head><body>  
  <p id="bob">Hello World</p>  
  
  <script type="text/javascript">  
    document.getElementById( 'bob' ).id="billy";  
  
</script></body></html>
```

This changes the id of p to billy

id

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://  
www.w3.org/TR/html4/strict.dtd">  
<html><head><title>JavaScript Test</title>  
<style type="text/css">  
#billy{color:#ff0;}  
#bob{color:#0ff;}  
  
</style></head><body>  
  <p id="bob">Hello World</p>  
  
  <script type="text/javascript">  
    document.getElementById( 'bob' ).id="billy";  
  
</script></body></html>
```

This changes the id of p to billy



className



id

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
<html><head><title>JavaScript Test</title>
<style type="text/css">
.billy{color:#ff0;}
.bob{color:#0ff;}

</style></head><body>
  <p class="bob">Hello World</p>

  <script type="text/javascript">
    document.getElementById('bob').className="billy";

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

id

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://  
www.w3.org/TR/html4/strict.dtd">  
<html><head><title>JavaScript Test</title>  
<style type="text/css">  
  .billy{color:#ff0;}  
  .bob{color:#0ff;}  
</style></head><body>  
  <p class="bob">Hello World</p>  
  
  <script type="text/javascript">  
    document.getElementById('bob').className="billy";  
  
</script></body></html>
```


Note these are class styles

id

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://  
www.w3.org/TR/html4/strict.dtd">  
<html><head><title>JavaScript Test</title>  
<style type="text/css">  
.billy{color:#ff0;}  
.bob{color:#0ff;}  
  
</style></head><body>  
  <p class="bob">Hello World</p>  
  
  <script type="text/javascript">  
    document.getElementById( 'bob' ).className="billy";  
  
</script></body></html>
```

The class has changed

POP QUIZ!



How can you tell the
difference between a
method or property?

open()

Method or Property?

open()

Method or Property?

open()

Method or Property?

parenthesis indicate it's a method

Language Reference



<http://w3schools.com>

Great resource for all things web, be careful. It's informative but does not promote web standards.

Summary: Language Basics

- { JavaScript Basics
- { Programming Interface
- { Style Integration
- { Language Reference

Language Basics

- { JavaScript Basics
- { More About The DOM
- { Object Communication
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