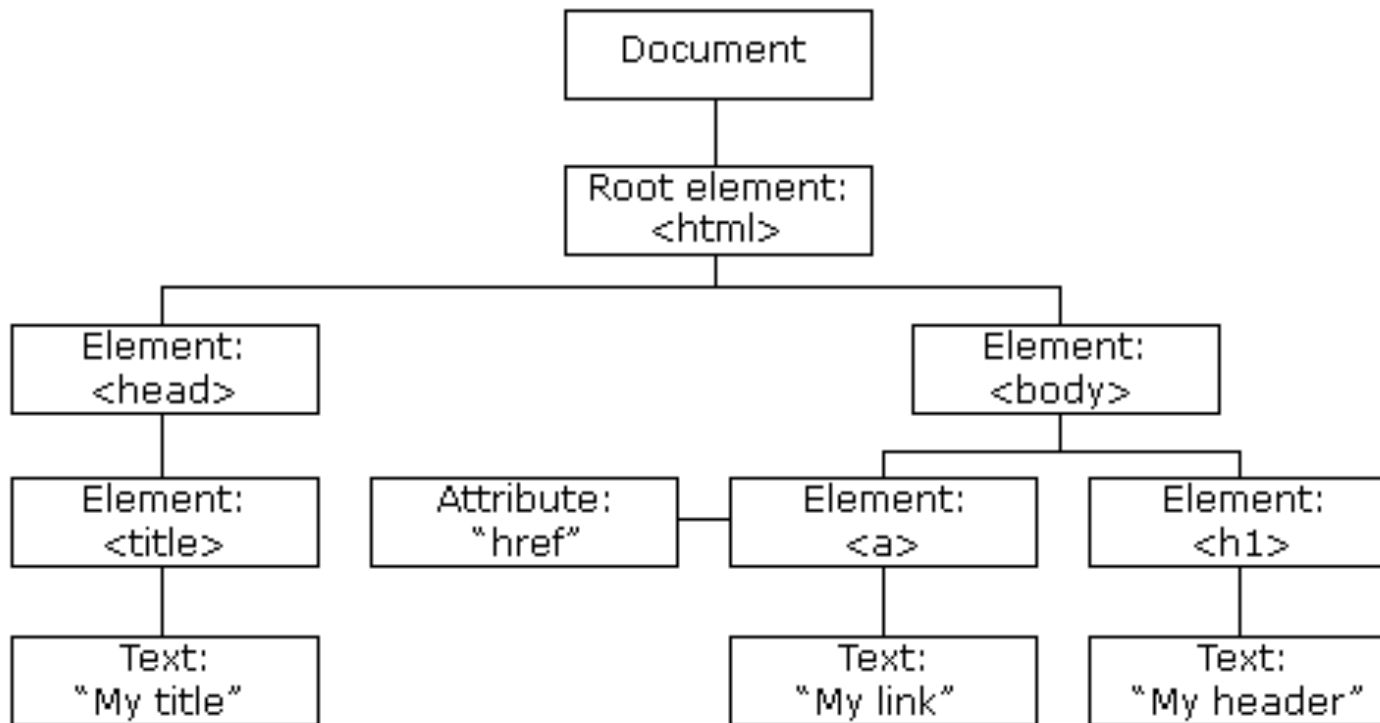


# JAVASCRIPT HTML DOM

---

## The HTML DOM Tree of Objects



# ALL ELEMENTS ARE OBJECTS

---

- JavaScript **can change** all the HTML elements in the page
- JavaScript **can change** all the HTML attributes in the page
- JavaScript **can change** all the CSS styles in the page
  
- JavaScript **can remove** existing HTML elements and attributes
- JavaScript **can add new** HTML elements and attributes
  
- JavaScript **can react** to all existing HTML **events** in the page
- JavaScript **can create new** HTML **events** in the page

# DOM DOCUMENT

---

```
<html>
```

```
<body>
```

```
<p id="demo"></p>
```

```
<script>
```

```
document.getElementById("demo").innerHTML = "Hello World!";
```

```
</script>
```

```
</body>
```

```
</html>
```

# FINDING HTML ELEMENTS

`document.getElementById(id)`

Find an element by element id

`document.getElementsByTagName(name)`

Find elements by tag name

`document.getElementsByClassName(name)`

Find elements by class name

```
document.getElementById("demo").innerHTML = "Hello World!";
```

```
var x = document.getElementsByTagName("p");  
x[0].innerHTML = "Hello World!";
```

# CHANGING HTML ELEMENTS

---

<code>element.innerHTML = new html content</code>	Change the inner HTML of an element
<code>element.attribute = new value</code>	Change the attribute value of an HTML element
<code>element.setAttribute(attribute, value)</code>	Change the attribute value of an HTML element
<code>element.style.property = new style</code>	Change the style of an HTML element

```

<p id="p2" style="color: red;" >Hello World!</p>
<script>
document.getElementById("myImage").src = "landscape.jpg";
document.getElementById("p2").style.color = "blue";
</script>
```

# CREATING HTML ELEMENTS

---

## EXEMPLO

```
// create a <p> tag element
var paragraph = document.createElement("p");
paragraph.id = 'p2';
paragraph.style = 'color: red;';
paragraph.innerHTML = 'Hello World!';

// add it to the HTML document
var div = document.getElementById("div1");
div.appendChild(paragraph);

// remove it
div.removeChild(div.lastElementChild);
```

## DOM EVENTS

---

```
<button id="demo" onclick="displayDate()">The time is?</button>
```

```
<script>
//document.getElementById("demo").addEventListener("click",
displayDate);
function displayDate() {
    var x=new Date();
    document.getElementById("demo").innerHTML = x.getHours() + ":" +
x.getMinutes() ;
}
</script>
```

```
Enter your name: <input type="text" id="fname" onchange="toUpperCase()">
```

```
<script>
function toUpperCase() {
    var x = document.getElementById("fname");
    x.value = x.value.toUpperCase();
}
</script>
```

## JS FORM VALIDATION

---

```
<form name="myForm" action="/action_page_post.php"  
onsubmit="return validateForm()" method="post">
```

```
Name: <input type="text" name="fname" value="">
```

```
<input type="submit" value="Submit">
```

```
</form>
```

```
<script>
```

```
function validateForm() {  
    var x = document.forms["myForm"]["fname"].value;  
    if (x == "") {  
        alert("Name must be filled out");  
        return false;  
    }  
}
```

```
</script>
```



# WINDOW METHODS

---

- `window.open()` - open a new window
- `window.close()` - close the current window
- `window.moveTo()` - move the current window
- `window.resizeTo()` - resize the current window

```
var jsWindow = window.open(  
    'https://www.w3schools.com/js',  
    '_blank',  
    'height=600,width=600');
```

```
jsWindow.close();
```

# WINDOW LOCATION ASSIGN

---

The **window.location.assign()** method loads a new document.

```
<html>
<head>
<script>
function newDoc() {
    window.location.assign("https://www.w3schools.com")
    //window.location.href = 'https://www.w3schools.com';
}
</script>
</head>
<body>

<input type="button" value="Load new document" onclick="newDoc()">

</body>
</html>
```

# WINDOW HISTORY

---

```
<html>
<head>
<script>
function goBack() {
    window.history.back()
}
function goForward() {
    window.history.forward()
}
</script>
</head>
<body>

<input type="button" value="Back" onclick="goBack()">
<input type="button" value="Forward" onclick="goForward()">
</body>
</html>
```

# WINDOW ALERT BOX

---

```
<!DOCTYPE html>
<html>
<head>
</head>
<body>
<button onclick="myFunction()">Try it</button>

<script>
function myFunction() {
    window.alert("Alert!")
}
</script>

</body>
</html>
```

[https://www.w3schools.com/js/tryit.asp?filename=tryjs\\_confirm](https://www.w3schools.com/js/tryit.asp?filename=tryjs_confirm)

## WINDOW CONFIRM BOX

---

```
<button onclick="myFunction()">Try it</button>

<p id="demo"></p>

<script>
function myFunction() {
    var txt;
    if (window.confirm("Press a button!") == true) {
        txt = "You pressed OK!";
    } else {
        txt = "You pressed Cancel!";
    }
    document.getElementById("demo").innerHTML = txt;
}
</script>
```

[https://www.w3schools.com/js/tryit.asp?filename=tryjs\\_prompt](https://www.w3schools.com/js/tryit.asp?filename=tryjs_prompt)

## WINDOW PROMPT

---

```
<button onclick="myFunction()">Try it</button>
```

```
<p id="demo"></p>
```

```
<script>
```

```
function myFunction() {
```

```
    var txt;
```

```
    var person = window.prompt("Please enter your name:", "Harry Potter");
```

```
    if (person == null || person == "") {
```

```
        txt = "User cancelled the prompt.";
```

```
    } else {
```

```
        txt = "Hello " + person + "! How are you today?";
```

```
    }
```

```
    document.getElementById("demo").innerHTML = txt;
```

```
}
```

```
</script>
```

## WINDOW TIMING EVENTS

---

**window.setTimeout(*function, milliseconds*);**

```
<html>
<body>
  <p>JavaScript setTimeout Demo</p>
  <button onclick="showAlert();">Show</button>
  <button onclick="cancelAlert();">Cancel</button>
  <script>
    var timeoutID;
    function showAlert() {
      timeoutID = setTimeout(alert, 3000, 'setTimeout Demo!');
    }

    function clearAlert() {
      clearTimeout(timeoutID);
    }
  </script>
</body>
</html>
```

# WINDOW COOKIES

---

## Create a Cookie with JavaScript

- `document.cookie = "username=John Doe";`
- `document.cookie = "username=John Doe; expires=Thu, 18 Dec 2017 12:00:00 UTC";`
- `document.cookie = "username=John Doe; expires=Thu, 18 Dec 2017 12:00:00 UTC; path=/";`

## Read a Cookie with JavaScript

- `var x = document.cookie;`



# WINDOW STORAGE

---

The Storage type stores only string data!

```
const settings = {  
  backgroundColor: '#fff',  
  color: '#111',  
  theme: 'light'  
};
```

Set object in Storage

```
localStorage.setItem('settings', JSON.stringify(settings));
```

Get object in Storage

```
var settings = localStorage.getItem('settings');
```

Remove object in Storage

```
localStorage.removeItem('settings');
```

# LEARN MORE!

---

- <https://www.w3schools.com/js/>
- <https://www.javascripttutorial.net/>