

Introduction to JavaScript

Web Technologies



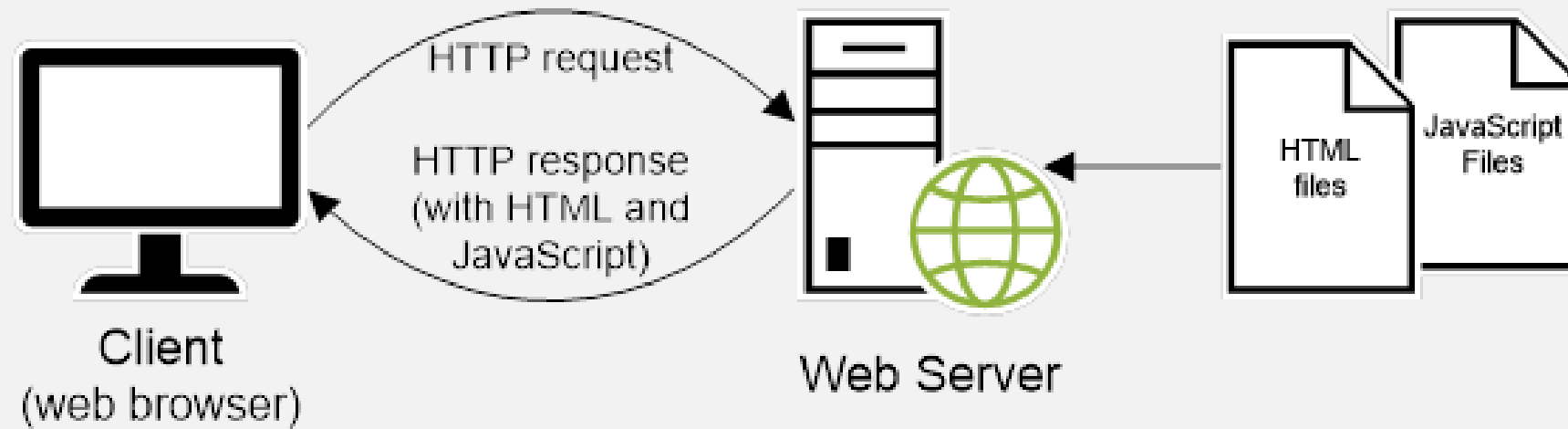
Lecture by
Dr Elahe Kani-Zabihi

```
<!doctype html>
<html>
  <head>
    <title>
      Web Technologies
    </title>
    <style>
      p {
        color: blue;
      }
    </style>
    <script>
      console.log("client-side");
    </script>
  </head>
  <body>
    <p>
      Welcome!
    </p>
  </body>
</html>
```

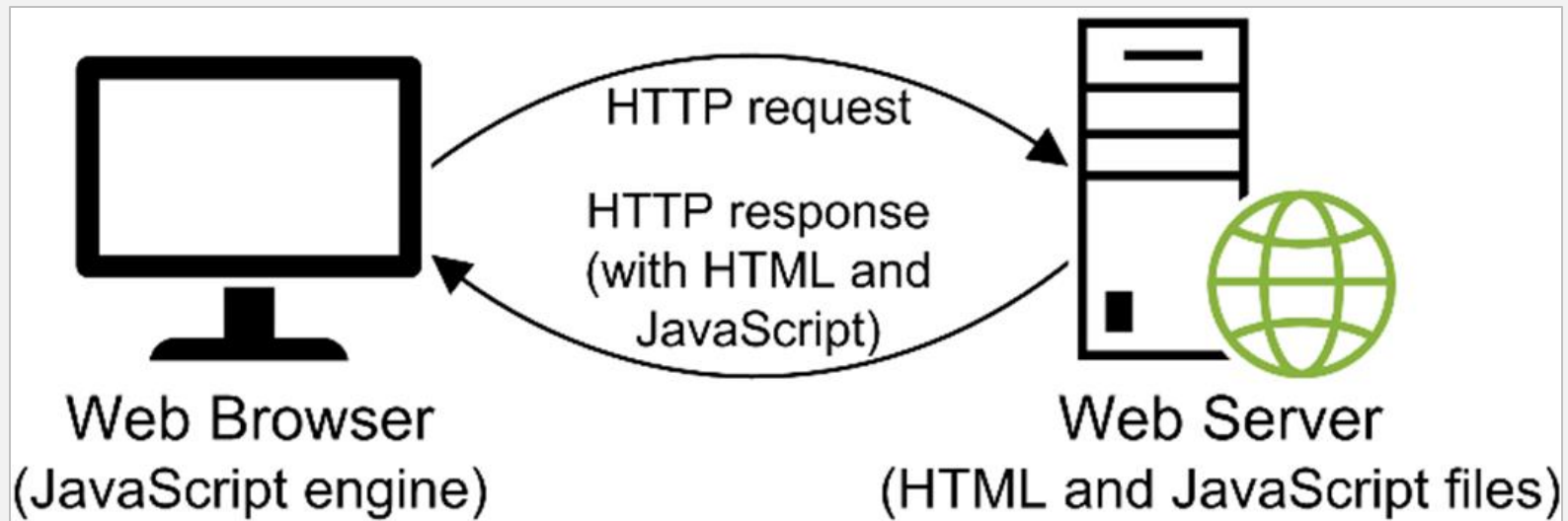

What we will cover

- The architecture
- Client-side processing
- Three ways to include JavaScript code
- Document Object Model (DOM)
- Document Object
 - Methods
 - Properties
 - Events

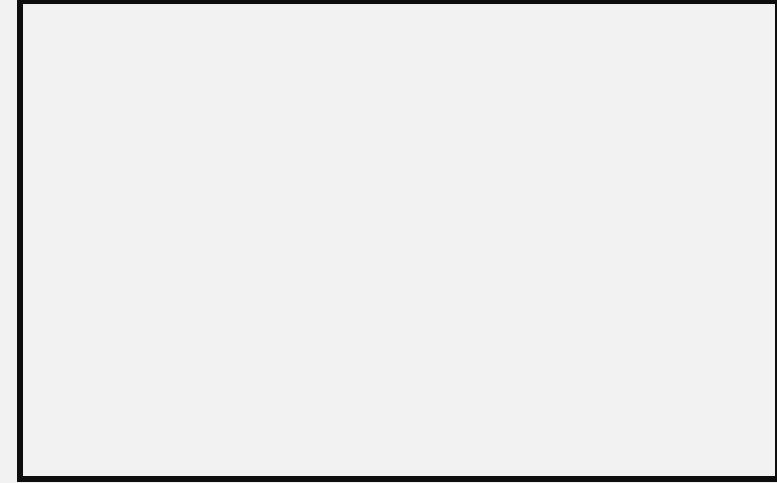
The Architecture



Client-Side Processing



Example

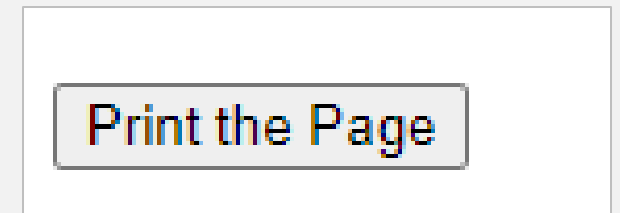


JavaScript code

```
"use strict";  
var $ = function(id) {  
    return  
    document.getElementById(id);};  
var printPage = function() {  
    window.print(); }  
window.onload = function() {  
    $("printButton").onclick = printPage;}
```

HTML code

```
<input type="button" id="printButton"  
value="Print the Page">
```



Three ways to include JavaScript

1. **<script> element to link to the external JavaScript file**

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

2. **Embed the JavaScript code inside the <script> element within the <head>**

3. **Embed the JavaScript code inside the <script> element within the <body>**

```
<p>
```

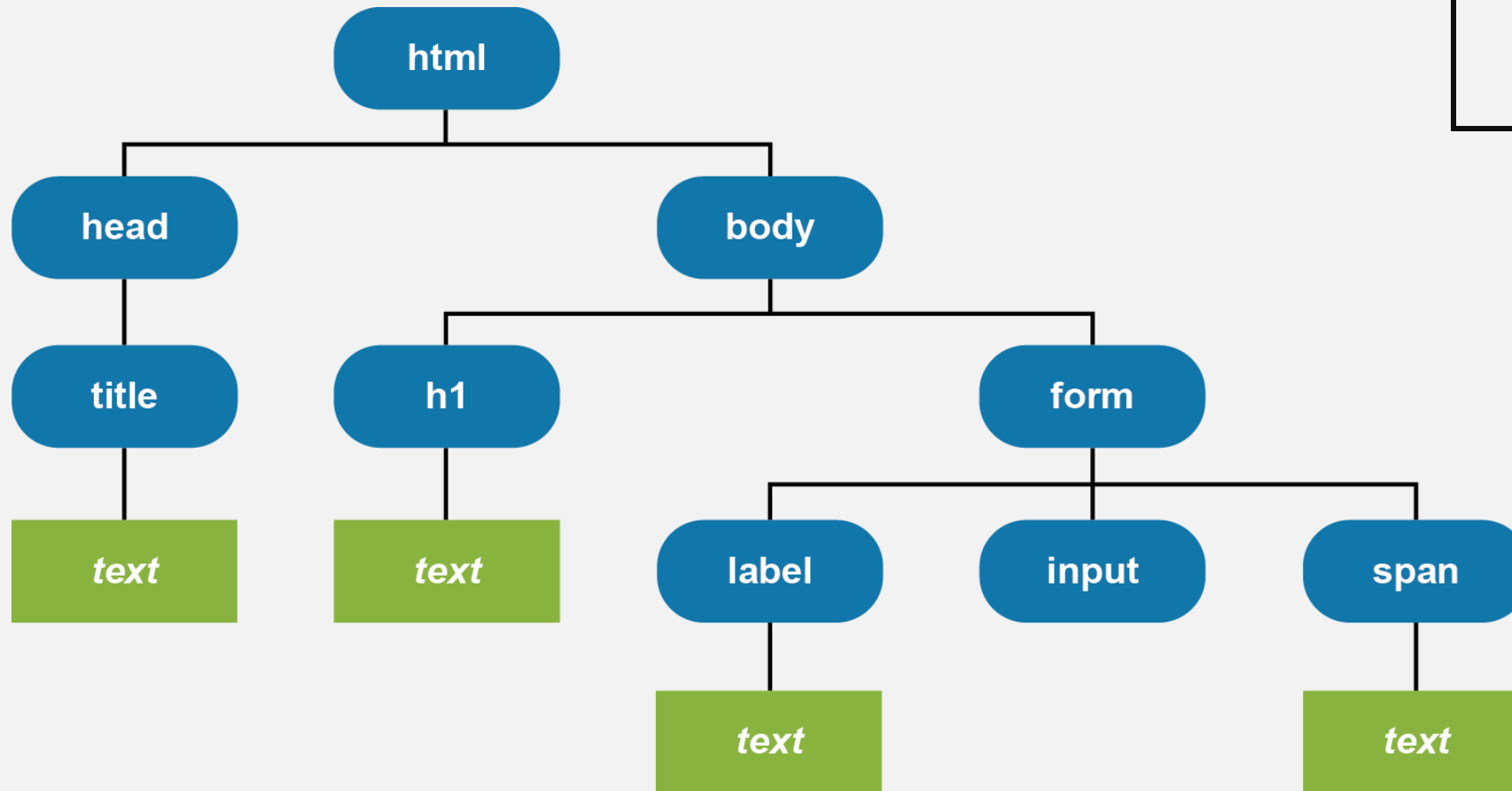
```
<script> document.write ("Hello World!") </script>
```

```
</p>
```

Document Object Model (DOM)

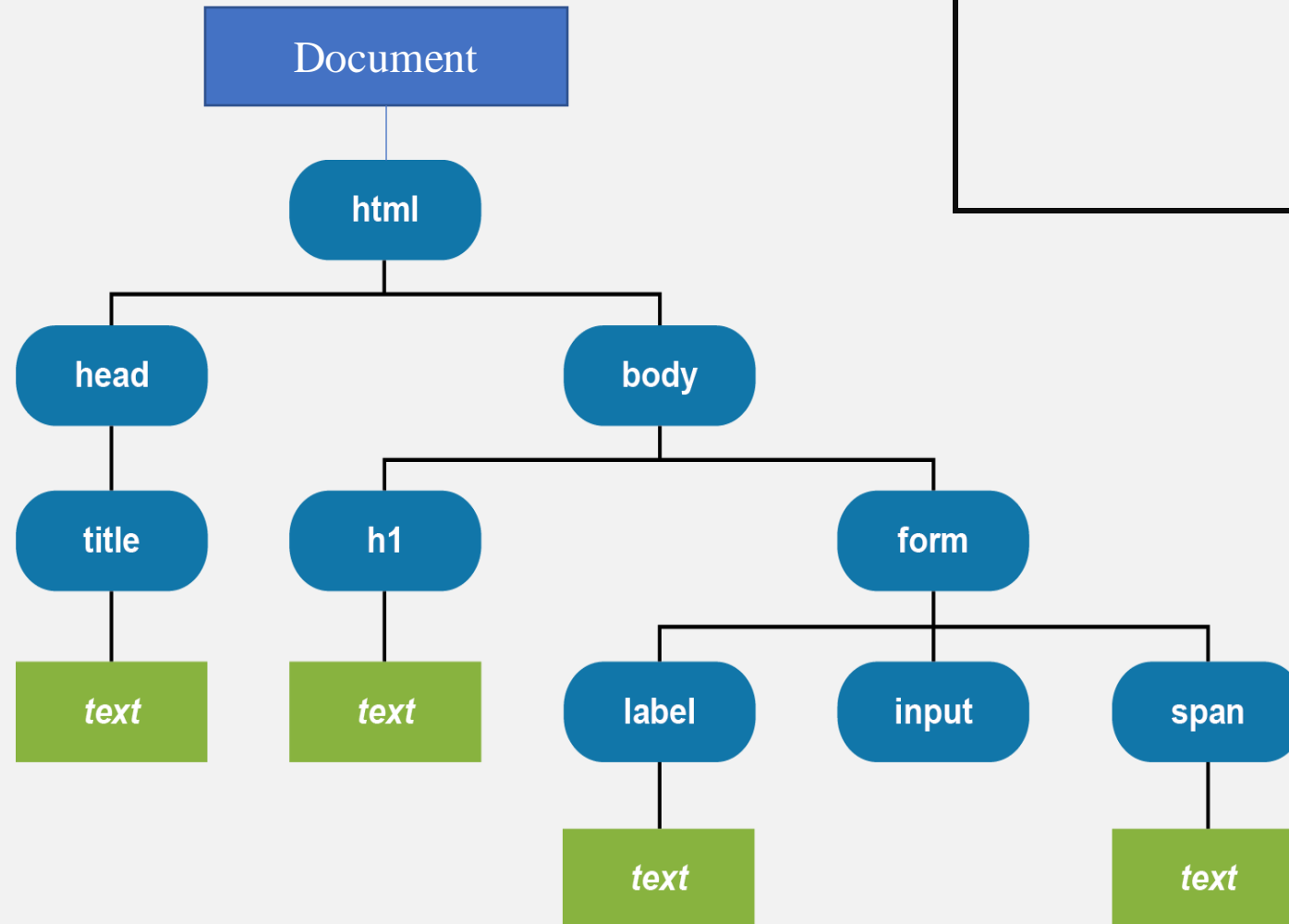
```
<!DOCTYPE html>
<html>
<head>
  <title>Join Email List</title>
</head>
<body>
  <h1>Please join our email list</h1>
  <form id="email_form" name="email_form"
    action="join.html" method="get">
    <label for="email_address">Email Address:</label>
    <input type="text" id="email_address">
    <span id="email_error">*</span>
  </form>
</body>
</html>
```


DOM



Document Object

- **Methods**
- **Properties**
- **Events**



Methods

ObjectName.methodName (parameter)

- **getElementById (id)**
document.getElementById("rate");
- **write (string)**
document.write("Today is... ");

Properties

HTML

```
<input type="text"  
id="email_address1"  
name="email_address1">
```

JavaScript

```
var emailAddress1 =  
$("email_address1").value;
```

Events

HTML

```
<input  
type="button"  
id="printButton"  
value="Print the Page">
```

JavaScript

```
$("printButton").onclick =  
window.print ();
```

Try It Yourself

In this activity, you can practice how to include an external JavaScript code for an HTML file. So,

1. Use the JavaScript code on slide 6, and create a file call it `printPage.js`
2. Use one of your HTML files and create the button using the HTML code on slide 6.
3. Within the `<head>` element insert the `<script>` element.
4. Inside the `<script>` element create a link to `printPage.js`
5. Save and run the HTML file and you should be able to see the print window once the button is clicked.