

Interacting with the Web with JavaScript



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Introduction



Where JavaScript came from

What it is

How you can create JavaScript



Where Did JavaScript Come From?



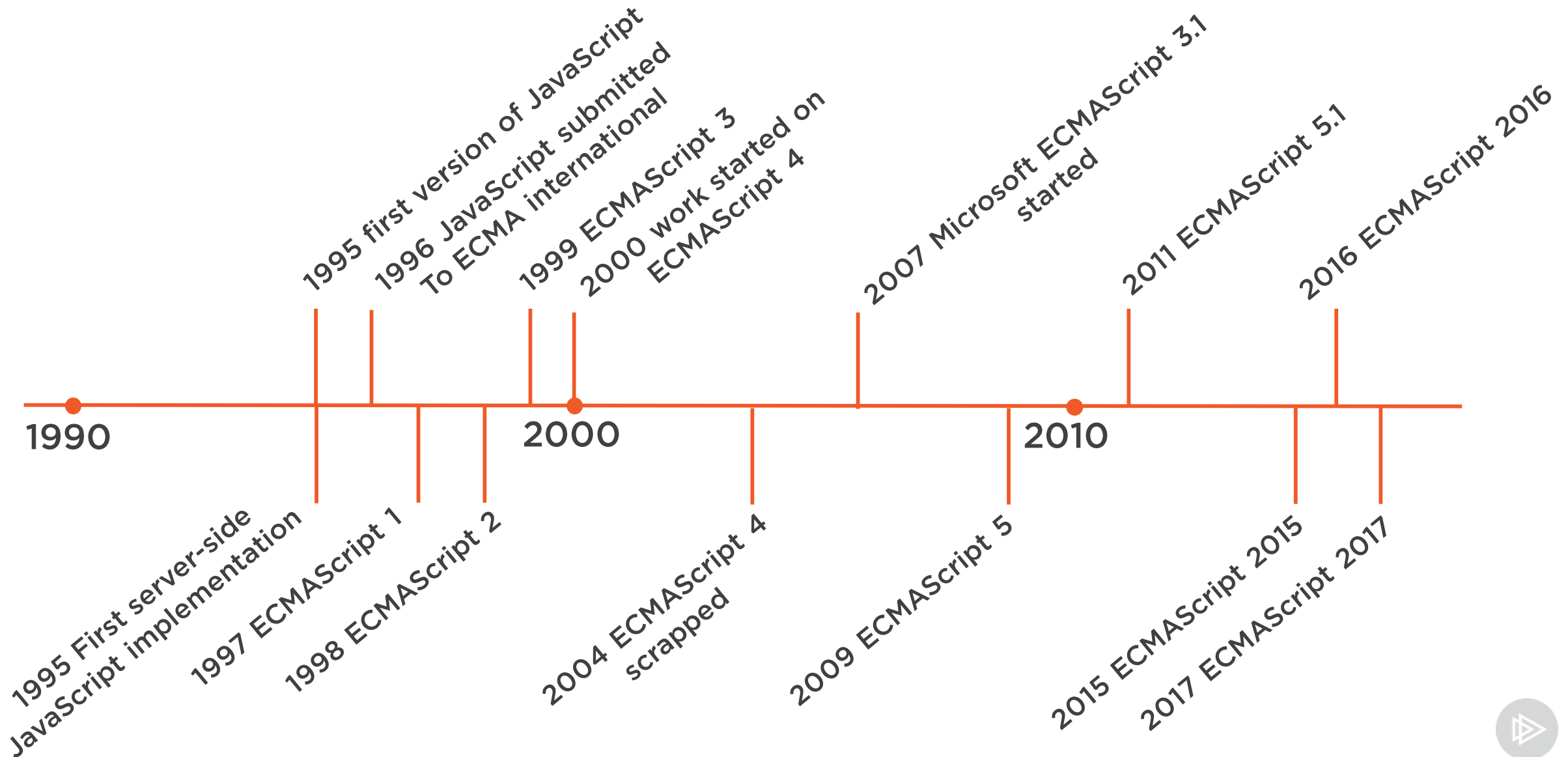
JavaScript is a high-level,
interpreted programming
language



JavaScript is not Java!



History of JavaScript



JavaScript is a high-level,
interpreted programming
language

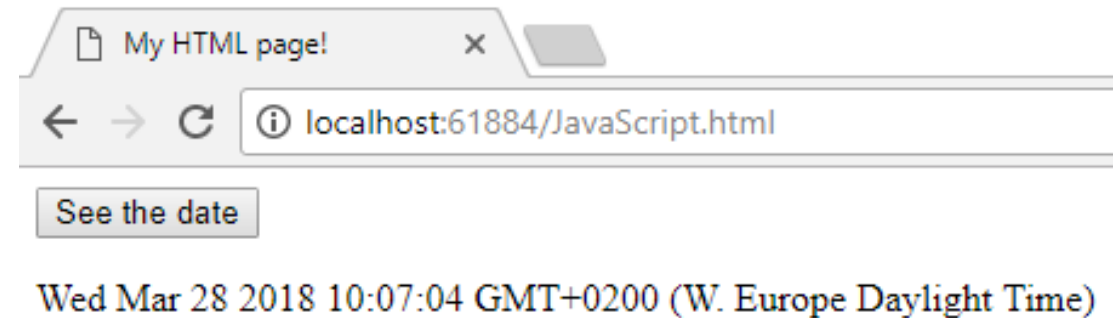


What Is JavaScript?



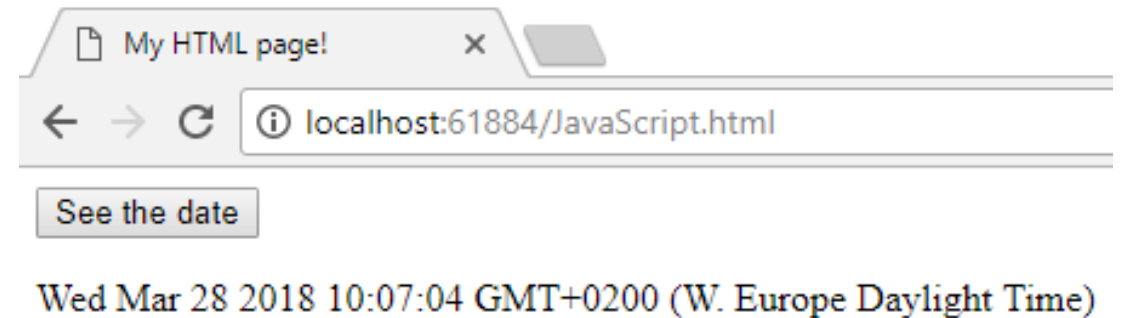
Dynamic Values with JavaScript

```
<!DOCTYPE html>
<html>
<head>
  <title>My HTML page!</title>
</head>
<body>
  <button type="button"
    onclick="document.getElementById('demo').innerHTML = Date()">
    See the date
  </button>
  <p id="demo"></p>
</body>
</html>
```



Dynamic Values with JavaScript

```
<!DOCTYPE html>
<html>
<head>
  <title>My HTML page!</title>
  <script>
    function ShowDate() {
      document.getElementById('demo').innerHTML = Date();
    }
  </script>
</head>
<body>
  <button type="button"
    onclick="ShowDate();">
    See the date
  </button>
  <p id="demo"></p>
</body>
</html>
```



Dynamic Values with JavaScript

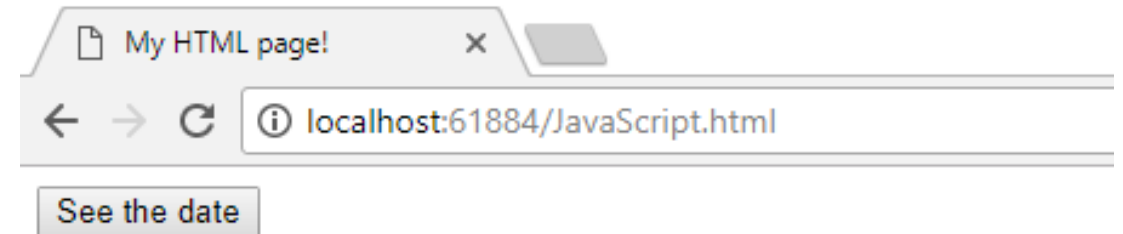
```
<!DOCTYPE html>
<html>
<head>
  <title>My HTML page!</title>
</head>
<body>
  <button type="button"
    onclick="ShowDate();">
    See the date
  </button>
  <p id="demo"></p>

  <script src="ScriptFile.js"></script>

</body>
</html>
```

ScriptFile.js

```
function ShowDate() {
  document.getElementById('demo')
    .innerHTML = Date();
}
```



Wed Mar 28 2018 10:07:04 GMT+0200 (W. Europe Daylight Time)



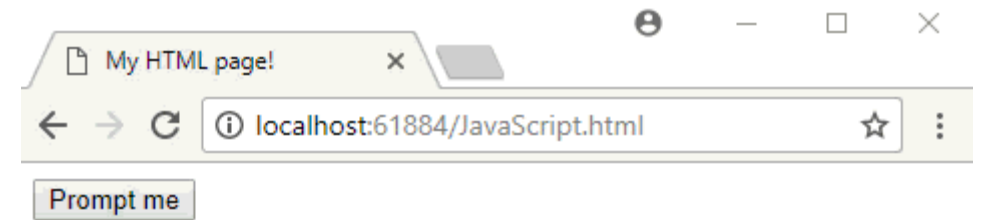
Interacting with the Browser

```
<script>

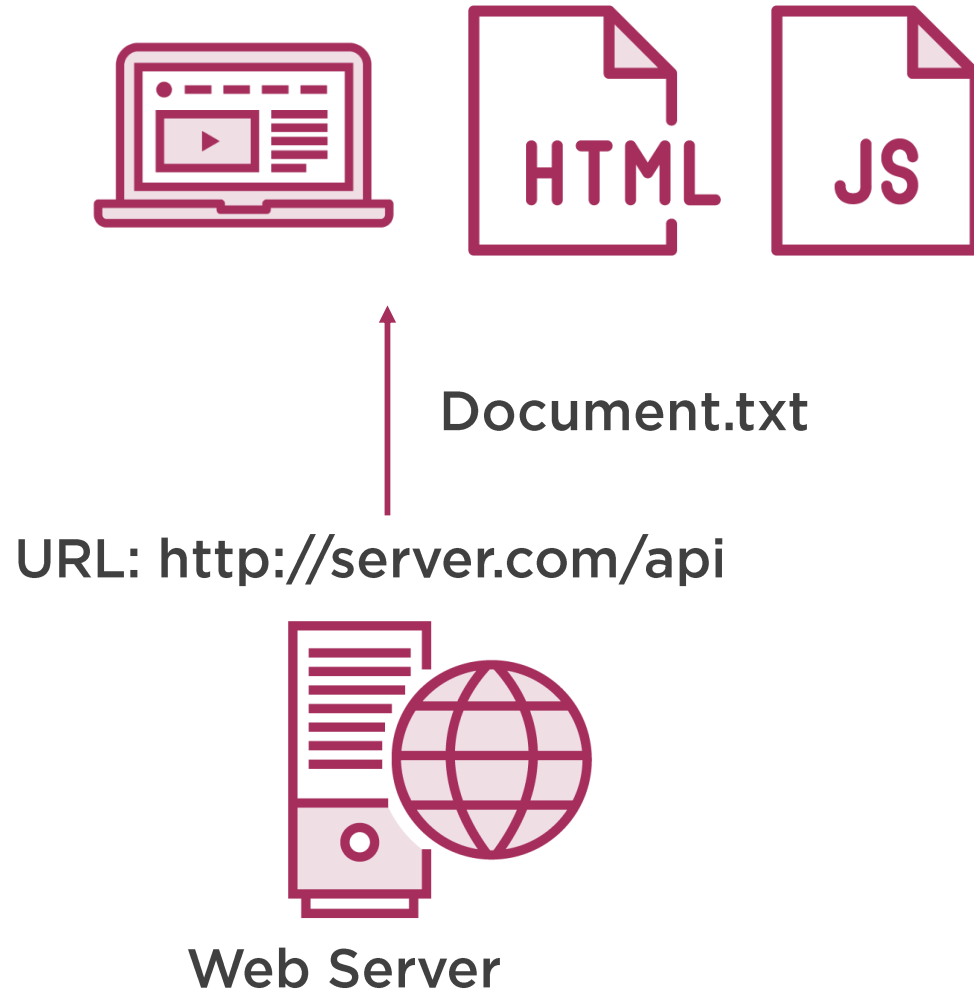
function PromptUser() {
    var txt;
    var name = window.prompt("Enter your name");
    if (name != null || name == "") {
        txt = "Hello " + name;
    }

    document.getElementById("name").innerHTML = name;
}

</script>
```



Making AJAX Calls



Ad closed by Google



Run »

Result Size: 625 x 505

```
<!DOCTYPE html>
<html>
<body>

<div id="demo">
<h2>my Ajax Page</h2>
<button type="button" onclick="loadDoc()">Change Content</button>
</div>

<script>
function loadDoc() {
  var xhttp = new XMLHttpRequest();
  xhttp.onreadystatechange = function() {
    if (this.readyState == 4 && this.status == 200) {
      document.getElementById("demo").innerHTML =
        this.responseText;
    }
  };
  xhttp.open("GET", "ajax_info.txt", true);
  xhttp.send();
}
</script>

</body>
</html>
```

my Ajax Page


Change Content

Browser Support of JavaScript

<https://caniuse.com>

XMLHttpRequest advanced features - LS

Usage

% of all users 

Global

90.6% + 4.72% = 95.31%

Adds more functionality to XHR (aka AJAX) requests like file uploads, transfer progress information and the ability to send form data. Previously known as **XMLHttpRequest Level 2**, these features now appear simply in the XMLHttpRequest spec.

Current aligned

Usage relative

Date relative

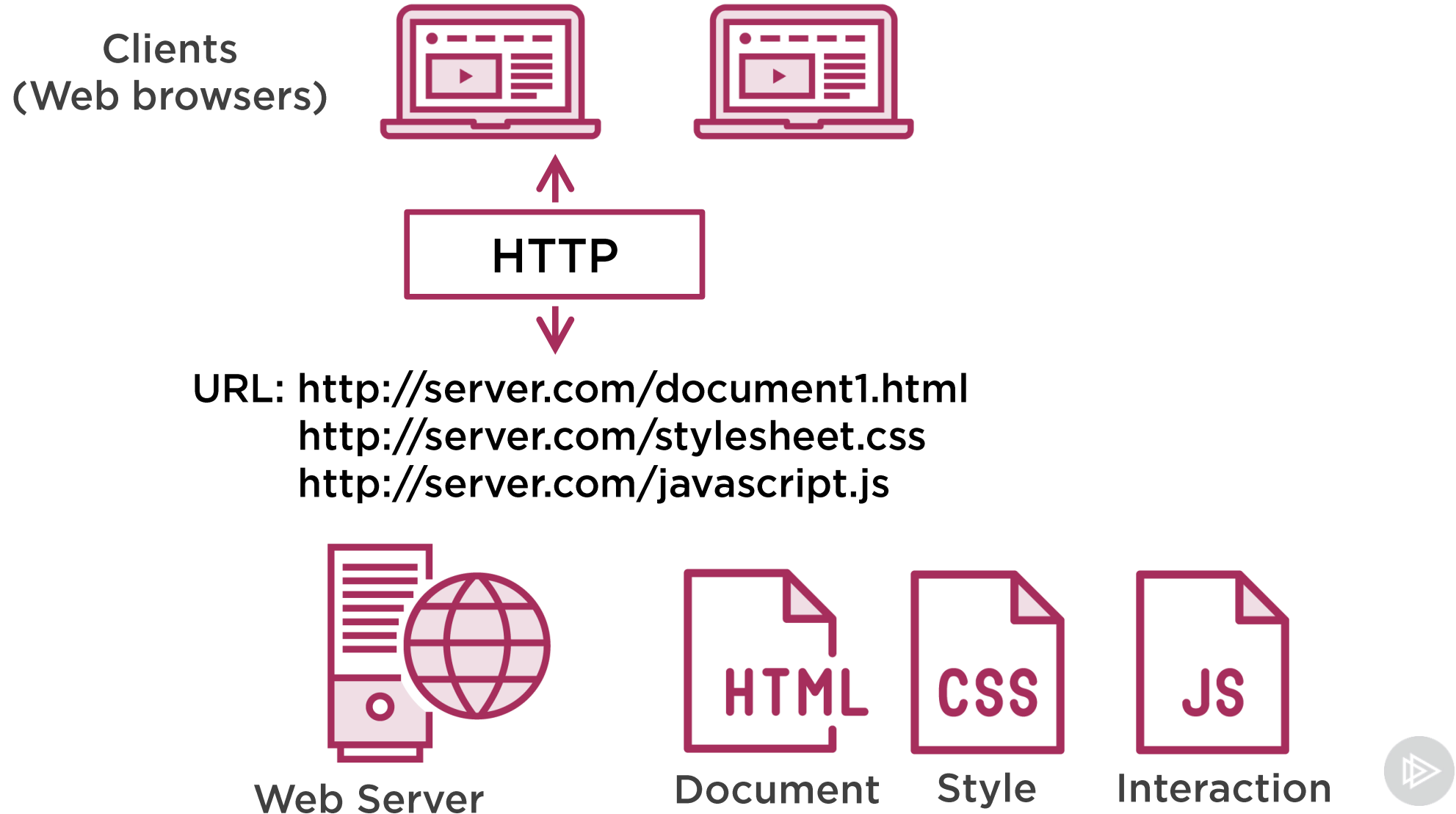
Show all

| IE | Edge * | Firefox | Chrome | Safari | iOS Safari * | Opera Mini * | Chrome for Android | UC Browser for Android | Samsung Internet |
|----|--------|---------|--------|--------|--------------|--------------|--------------------|------------------------|------------------|
| | | | 49 | | | | | | |
| | | | 63 | | 10.2 | | | | |
| | | 58 | 64 | | 10.3 | | | | 4 |
| 11 | 16 | 59 | 65 | 11 | 11.2 | all | 64 | 11.8 | 6.2 |
| | 17 | 60 | 66 | 11.1 | 11.3 | | | | |
| | | 61 | 67 | TP | | | | | |
| | | | 68 | | | | | | |

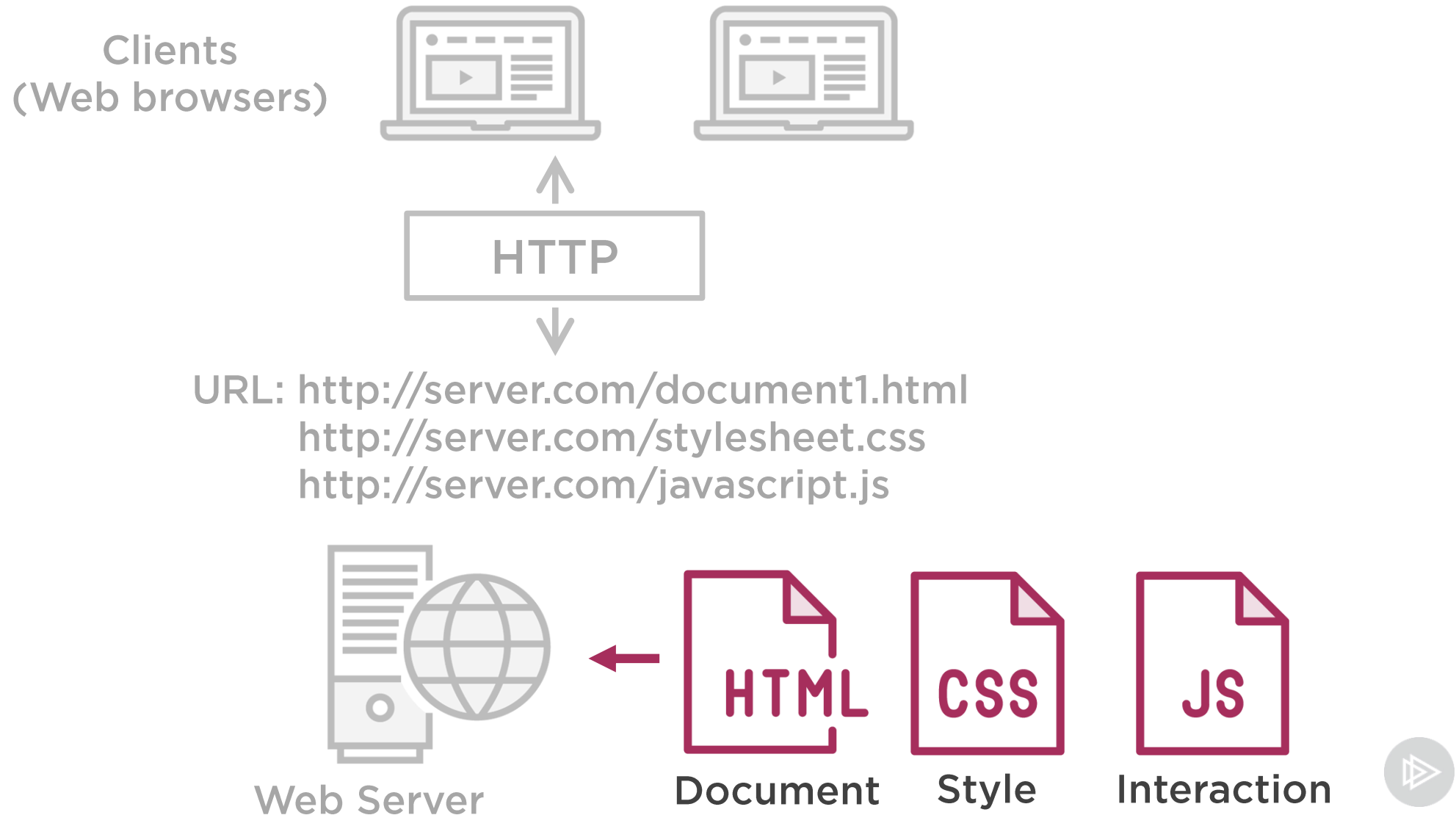
Working with JavaScript



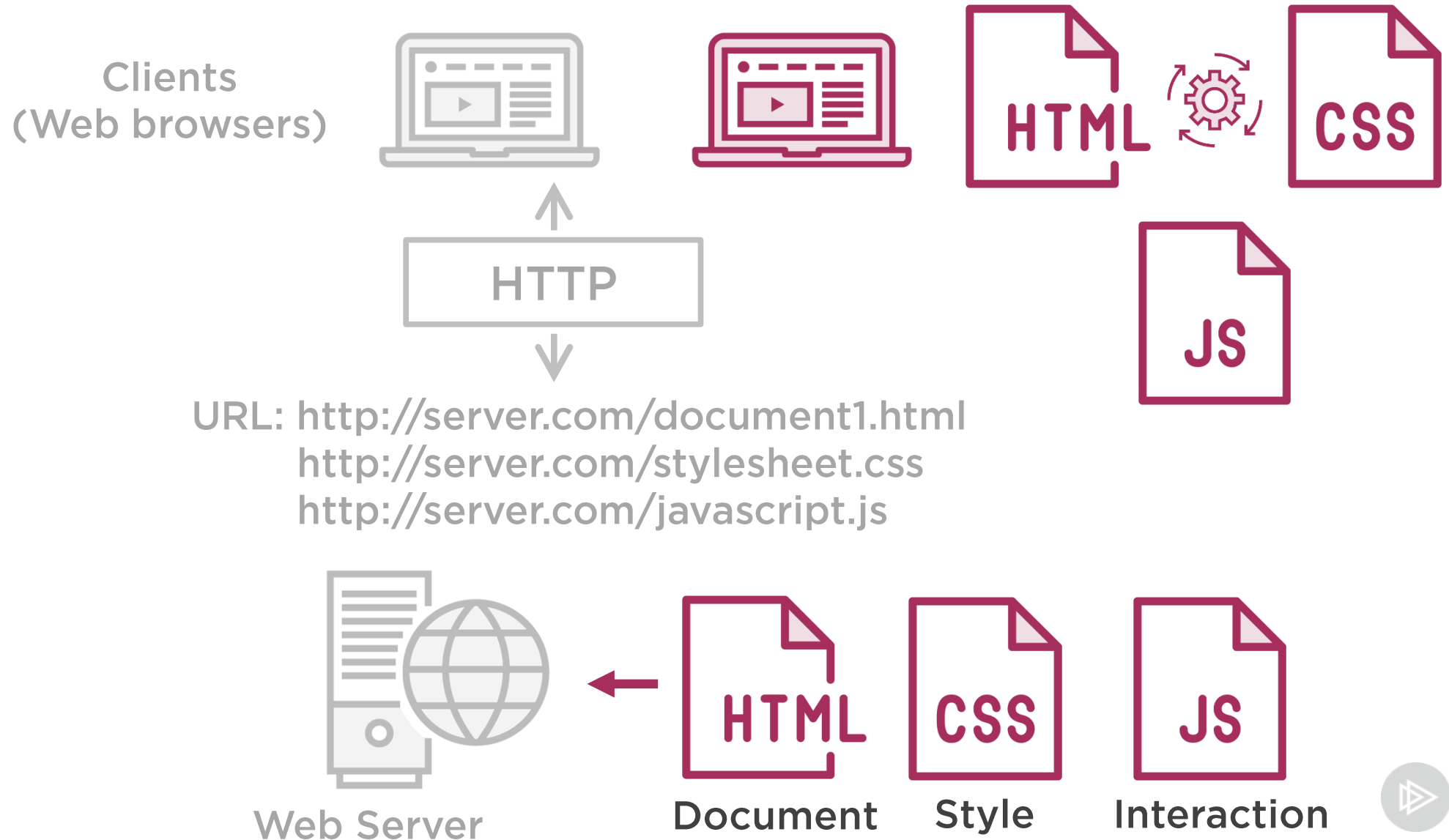
Ingredients for the Web



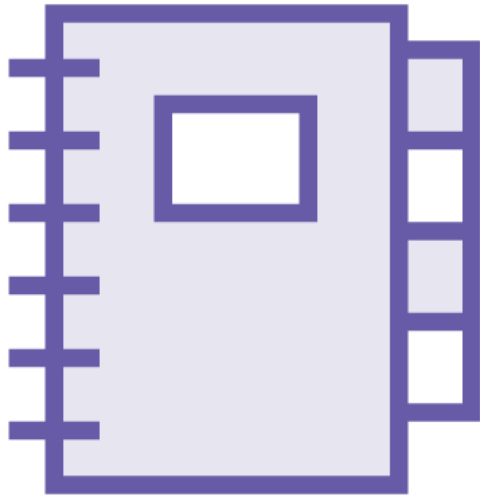
Ingredients for the Web



Ingredients for the Web



How to Write JavaScript from Scratch



Text editor

- Notepad
- Notepad++



Integrated Development Environment (IDE)

- Visual Studio
- Eclipse
- Atom



JavaScript Libraries and Frameworks

JQuery
Dojo Toolkit
Prototype.js
Bootstrap
Velocity.js
D3.js

Angular
Backbone.js
Ember.js
Knockout
Node.js
Vue.js
React
TypeScript



Angular Example

```
<!DOCTYPE html>
<html>
<head>
  <script src="angular.min.js"></script>
</head>
<body>
  <div ng-app="">
    <p>Input something in the input box:</p>
    <p>Name: <input type="text" ng-model="name"></p>
    <p ng-bind="name"></p>
  </div>
</body>
</html>
```

Input something in the input box:

Name:



Things to Remember



JavaScript is the “glue” of the web

JavaScript is not derived from Java

It is a language that you can use to

- Interact with HTML
- Interact with the web browser
- Interact with other systems (like APIs)

The language is a standard (ECMAScript)

- Interpreted by web browsers

You can use JavaScript

- By writing it from scratch
- By using a library (like Angular)

