

Data Processing

JavaScript

Agenda

Web/DOM basics

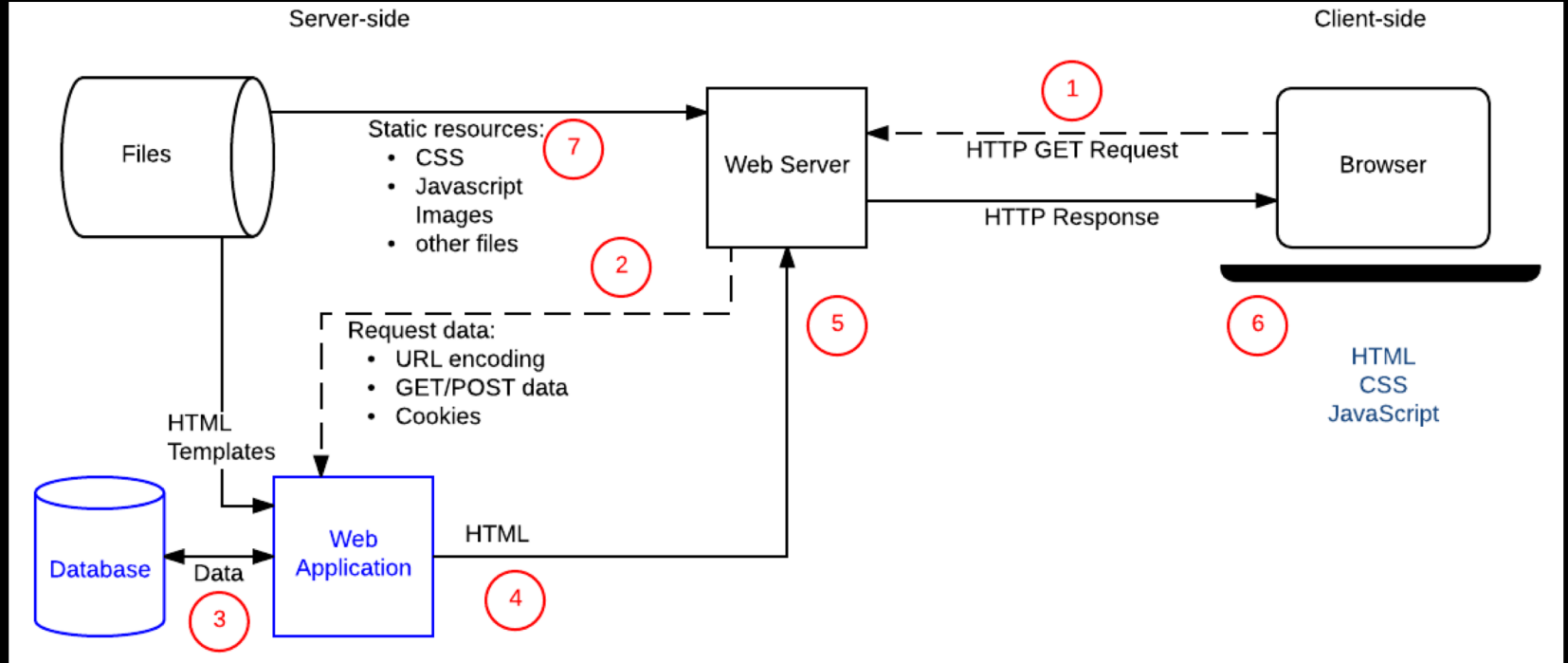
JavaScript

JavaScript line assignment

Group exercise

Web/DOM basics

C\$50 Finance



Web/DOM basics

HTML, CSS, JavaScript and the DOM

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    <title>hello, world</title>
```

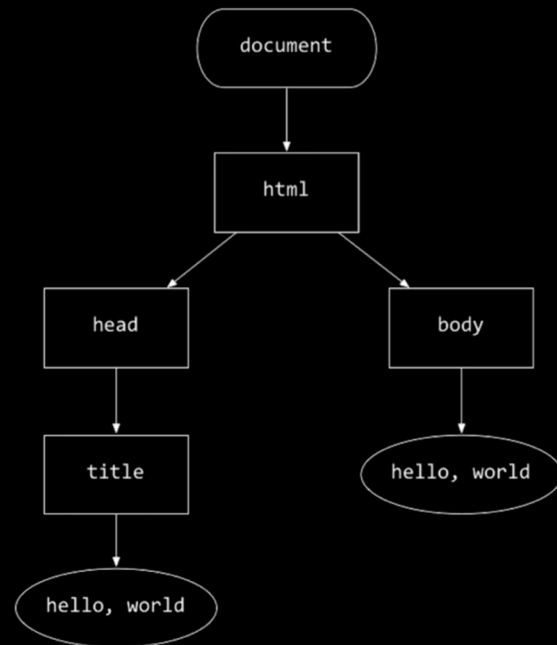
```
  </head>
```

```
  <body>
```

```
    hello, world
```

```
  </body>
```

```
</html>
```



Web/DOM basics

A quick example

Your upcoming exercises will be in JavaScript (mostly)

JavaScript

- Basics
- Libraries
- Syntax
- Style
- Debugging

JavaScript - Basics

Interaction on website

Frontend

Downsides?

The JavaScript logo, consisting of the letters 'JS' in a bold, dark blue font, centered within a solid yellow square.

JavaScript - Libraries

Plenty!

jQuery -> \$

JavaScript - Syntax - Variables

Not int, char* etc., but ``var``

Weakly typed, they change

JavaScript - Syntax - Loops

For, for/in, forEach, while, do/while

```
for (var i = 0; i < 100; i++){  
  
}
```

```
while (input > 23 || input < 0){  
  
}
```

JavaScript - Syntax - Loops

forEach → methode van type object

```
var arr = [1, 2, 3];  
var result = 0;  
arr.forEach(function(d){  
    result += d;  
});  
console.log(result);
```

JavaScript - Syntax - Arrays

Arrays can hold whatever types

```
var arr = [1, "2", 3];  
var result = 0;  
arr.forEach(function(d){  
    result += d;  
});  
console.log(result);
```

JavaScript - Syntax - Objects

Everything is an object

Like a dictionary in Python

```
var obj = {  
  "key": "value",  
  4: true,  
  "dataArray": [1, 3, 5, 7],  
  "childObject": {1: 2, 3: 4}  
}
```

```
obj["key"];  
obj.key;
```

JavaScript - Style

<https://github.com/airbnb/javascript>

camelCasing

Semicolons

Comments // vs /* */

Indentation

JavaScript - Debugging

`console.log()`

`typeof()`

`==` vs `===`

JavaScript line assignment

Converter

Create HTML

Load in data (asynchronously)

Clean if necessary

createTransform

Draw line

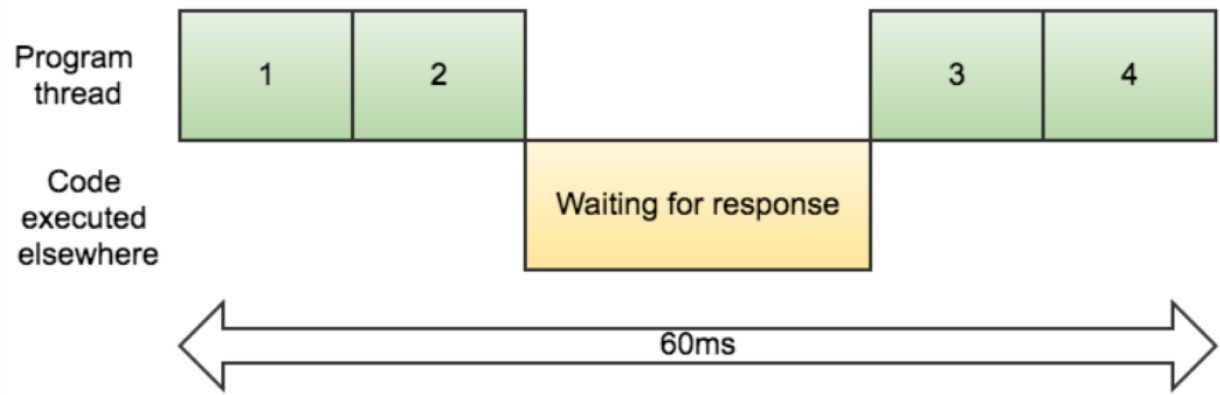
Draw axes, title, etc.

Asynchronicity

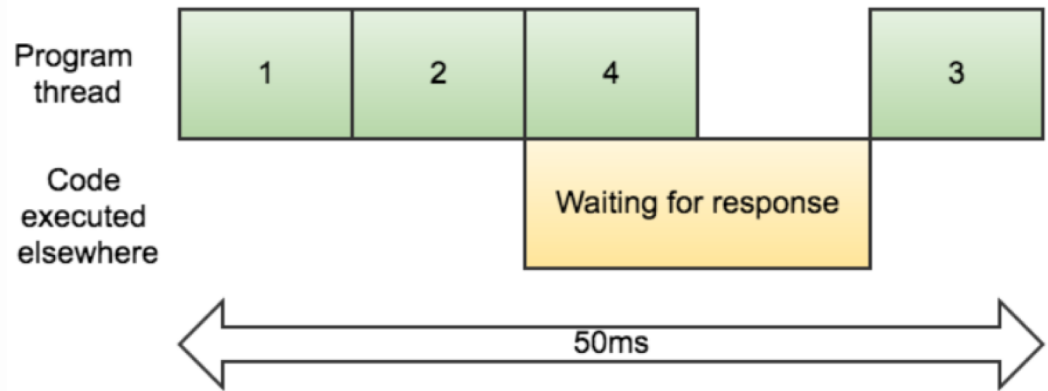
What is it?

Why?

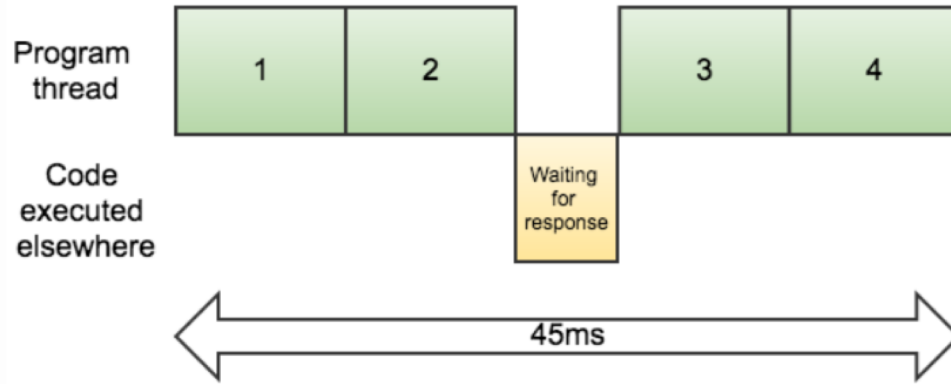
With synchronous execution :



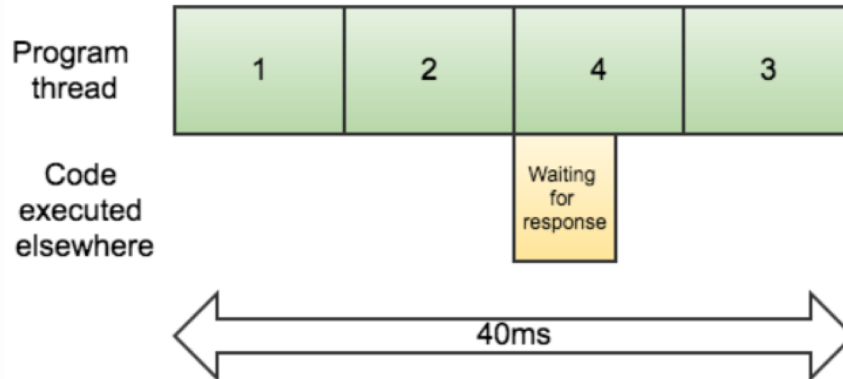
With asynchronous execution :



With synchronous execution :



With asynchronous execution :



Group exercise

Groups of 2 or 3

<https://data.mprog.nl/sections/javascript-dom>

Basics and Objects, if your team has time left try your luck at JQuery