UNIVERSITAT POLITÈCNICA DE VALÈNCIA

alfatec

EDIBO
European Digital Bootcamps

JavaScript

Developer environment to work with JavaScript

Options:

- Web browser (google)
- Web server (Apache)
- Node.js

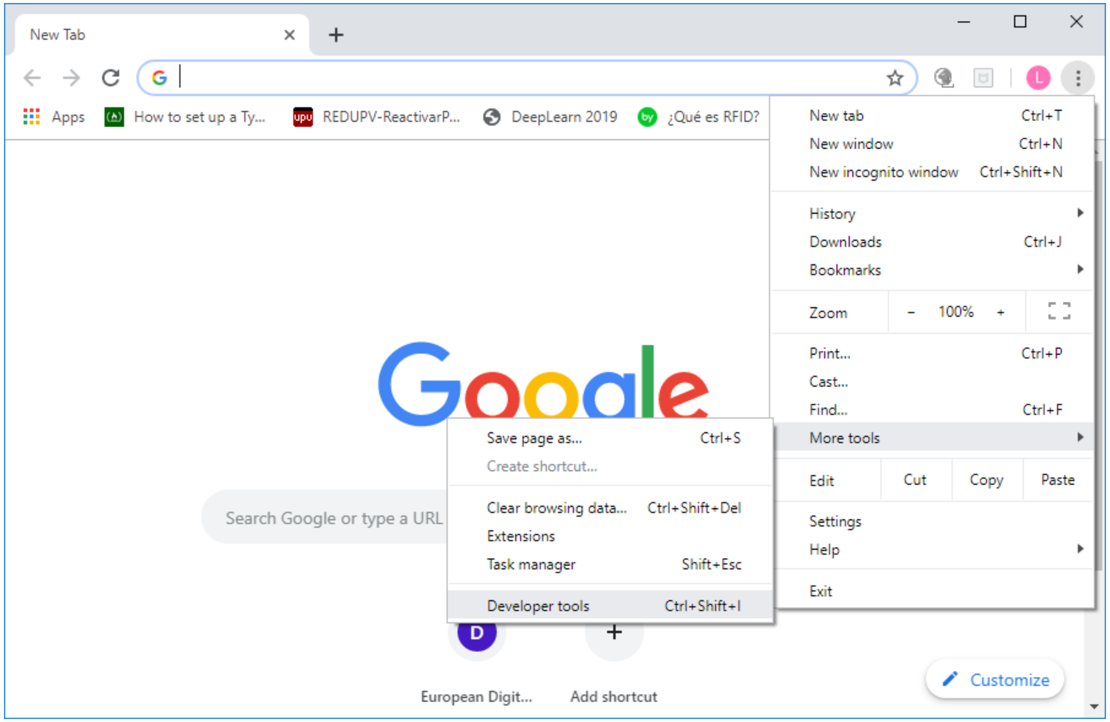
Developer Tools: Web Browser

Developer environment

- Web Server
- Node.js Http Server

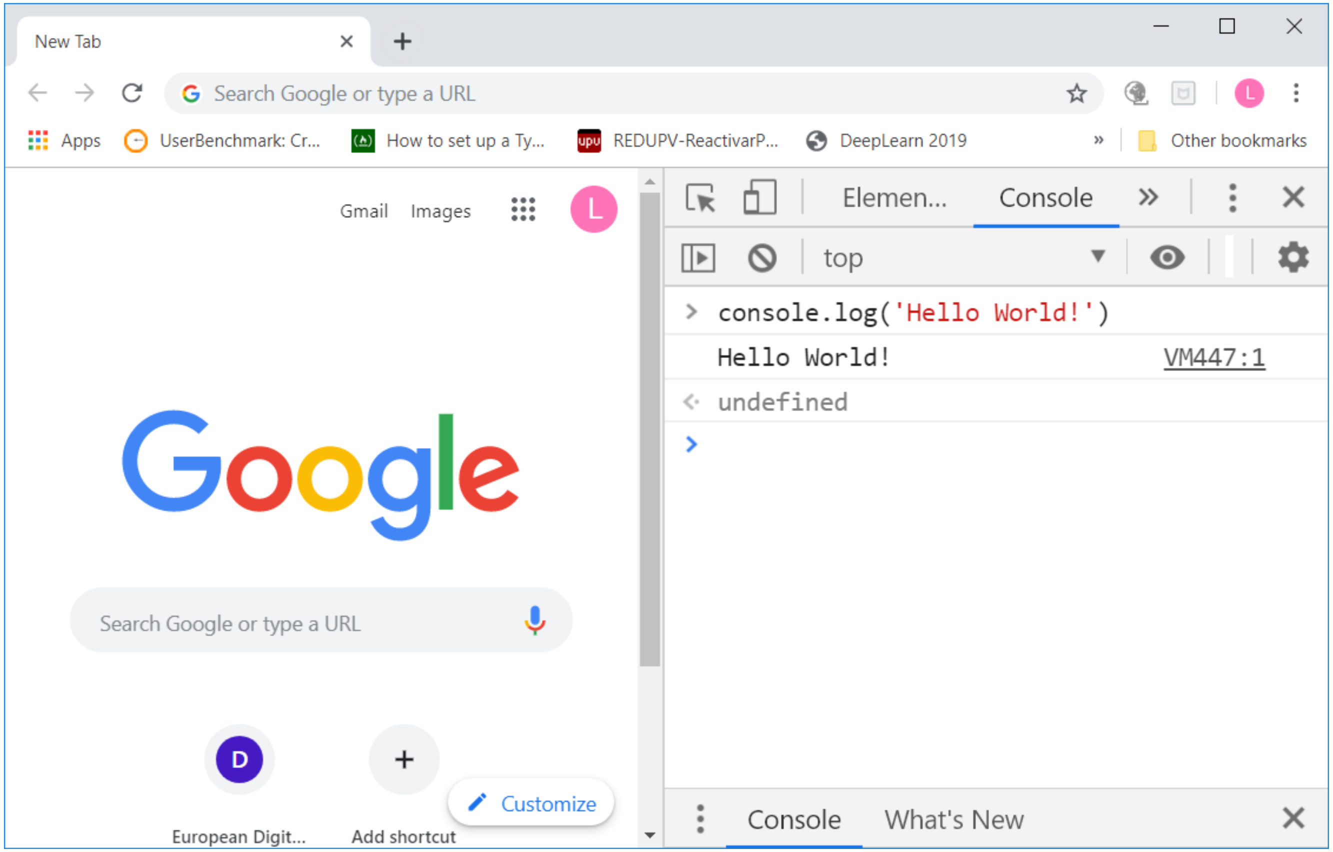
JavaScript Basic Concepts

- The simplest environment that you can use for JavaScript development is a browser.
- Modern browsers (Chrome, Firefox, Safari, and Edge) have a functionality called **DeveloperTools**.
  - Chrome, click on the menu in the upper-right corner, **More Tools | Developer Tools**:



Developer environment: Web Browser

- Inside the console you can write JavaScript code



```
> console.log('Hello World!')
  Hello World!                    VM447:1
< undefined
>
```

Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

Developer environment: Web Server

There are many options:

✓Install only the webserver

✓Install a package that includes a Web Server

Some Web Servers

	WINDOWS	LINUX	Mac
NGINX	X	X	X
Hiawatha	X	X	X
Tomcat	X	X	X
Apache	X	X	X

Some Packages that include a Web Server

	WINDOWS	LINUX	Mac
XAMPP	X	X	X
MAMP	X		X
LAMP		X	

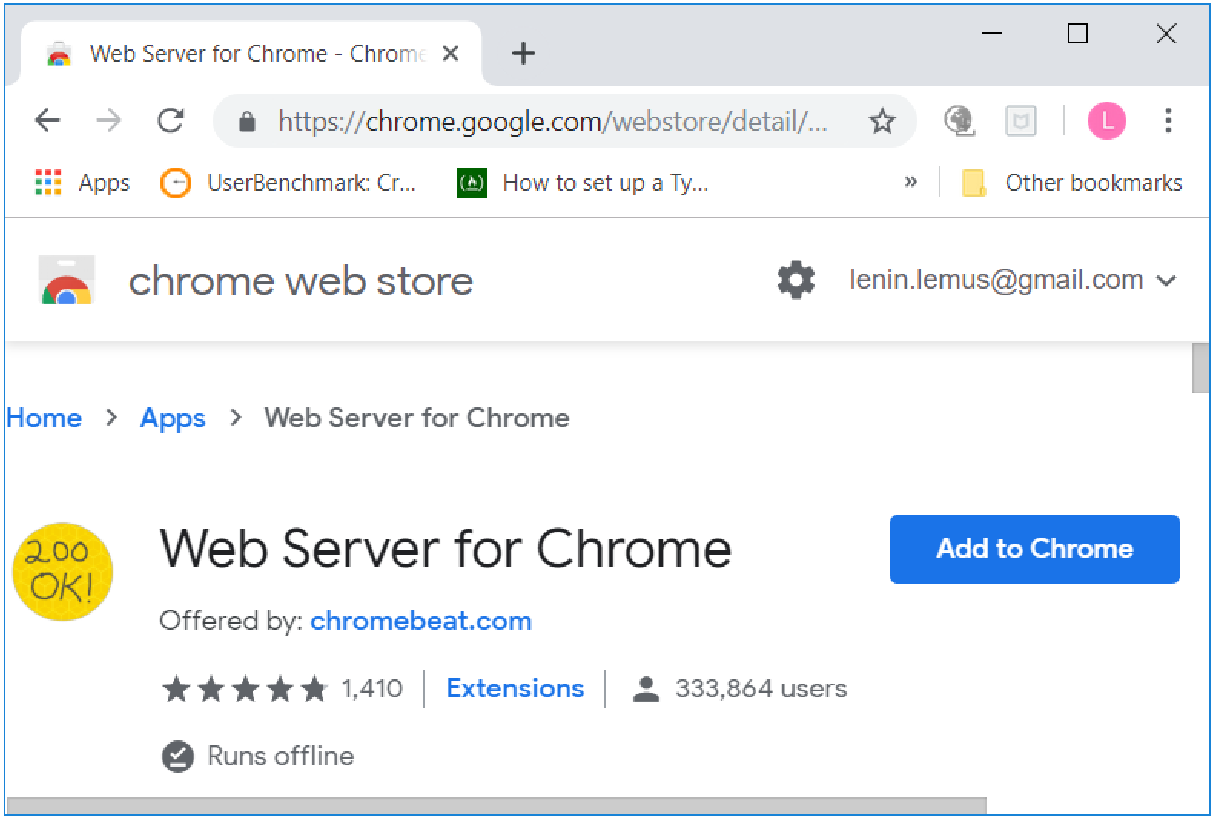
Developer environment: Web Server (cont.)

Even Chrome has a web server!

It is an extension of Chrome, his name is **Web Server for Chrome** extension

It can be be downloaded at http://bit.ly/2LRVyo3.

After installing it, you can access it through the Chrome URL chrome://apps:



Web Server for Chrome - Chrome

https://chrome.google.com/webstore/detail/...

Web Server for Chrome

Add to Chrome

Offered by: chromebeat.com

★★★★★ 1,410 | Extensions | 333,864 users

Runs offline

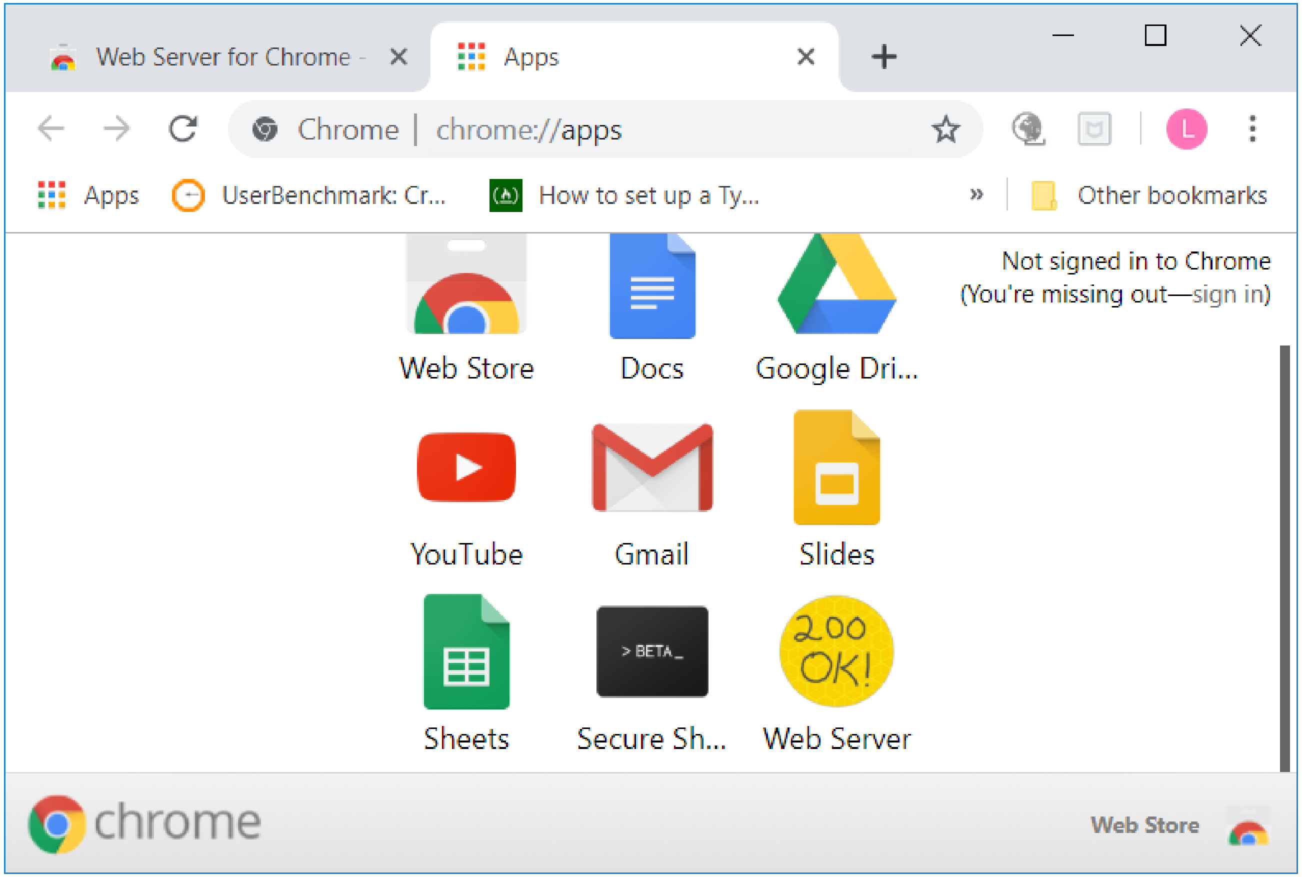
Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

Developer environment: Web Server (cont.)

After installing it, you can access it through the Chrome URL chrome://apps:



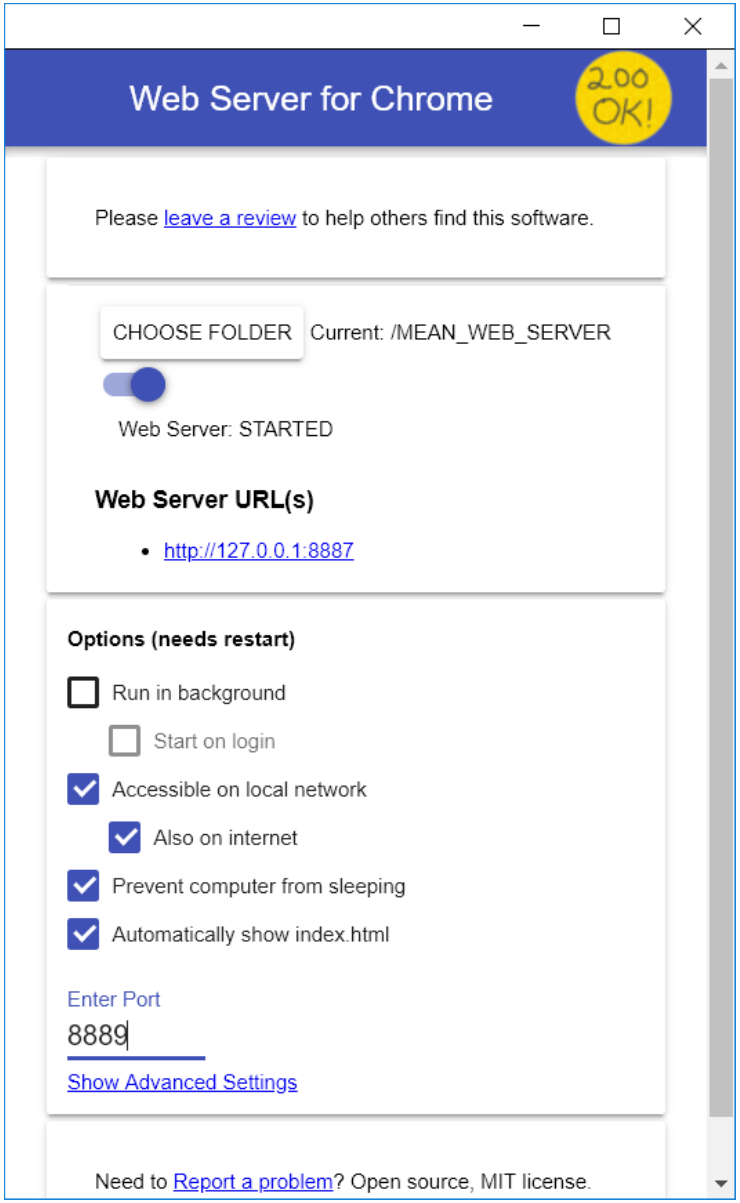
Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

Developer environment: Web Server (cont.)

Configuration:



Please leave a review to help others find this software.

CHOOSE FOLDER Current: /MEAN_WEB_SERVER

Web Server: STARTED

Web Server URL(s)

- http://127.0.0.1:8887

Options (needs restart)

□ Run in background

□ Start on login

☑ Accessible on local network

☑ Also on internet

☑ Prevent computer from sleeping

☑ Automatically show index.html

Enter Port

8889

Show Advanced Settings

Need to Report a problem? Open source, MIT license.

Developer environment

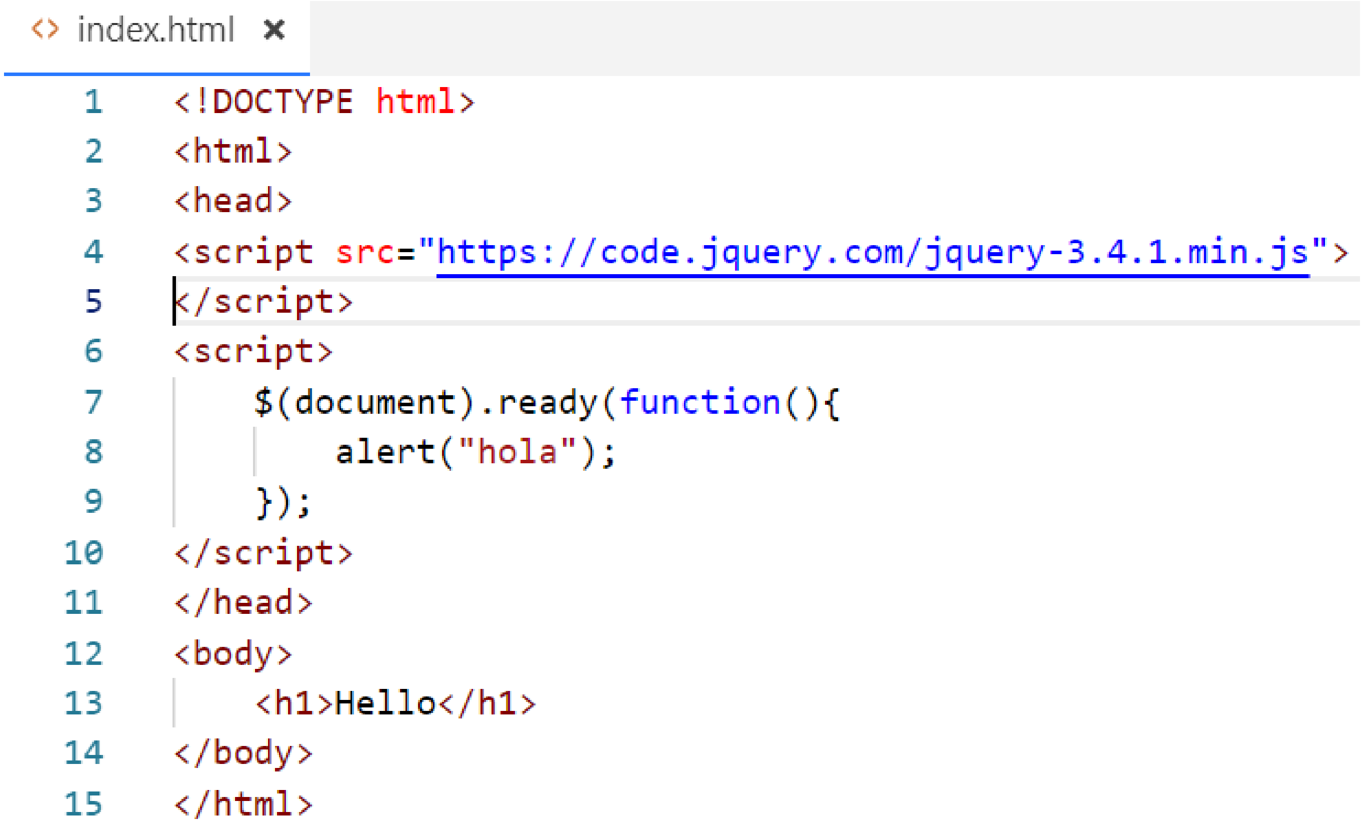
- Web Server
- Node.js Http Server

JavaScript Basic Concepts

Developer environment: Web Server (cont.)

Files stored in f:\MEAN_WEB_SERVER will be served by the Web Server

Example: Create the file f:\MEAN_WEB_SERVER \index.html
And write the following code inside the file



```html
<!DOCTYPE html>
<html>
<head>
<script src="https://code.jquery.com/jquery-3.4.1.min.js">
</script>
<script>
    $(document).ready(function(){
        alert("hola");
    });
</script>
</head>
<body>
    <h1>Hello</h1>
</body>
</html>
```

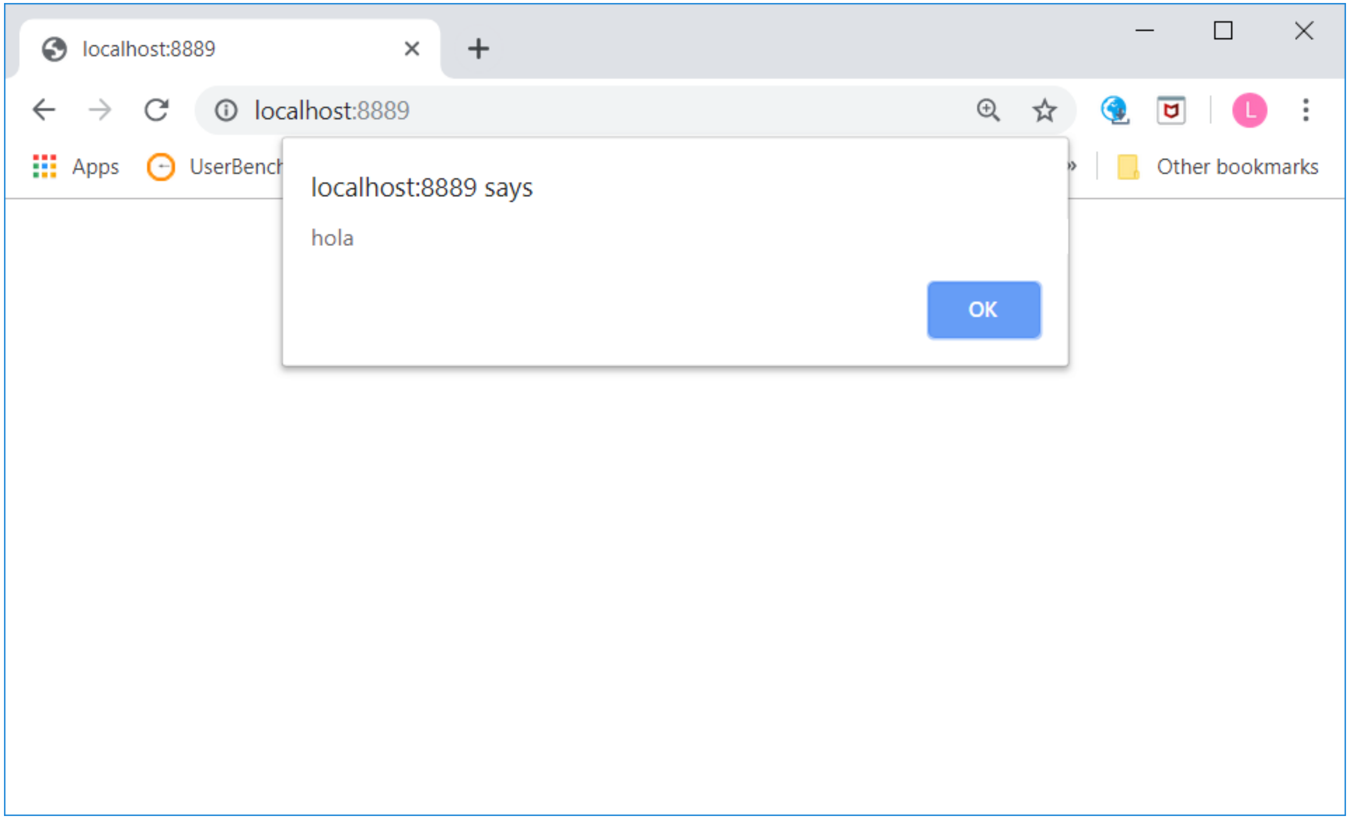
Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

Developer environment: Web Server (cont.)

In a Web browser navigate to the URL: http://localhost:8889/



localhost:8889 says

hola

Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

Developer environment: Node.js http-server

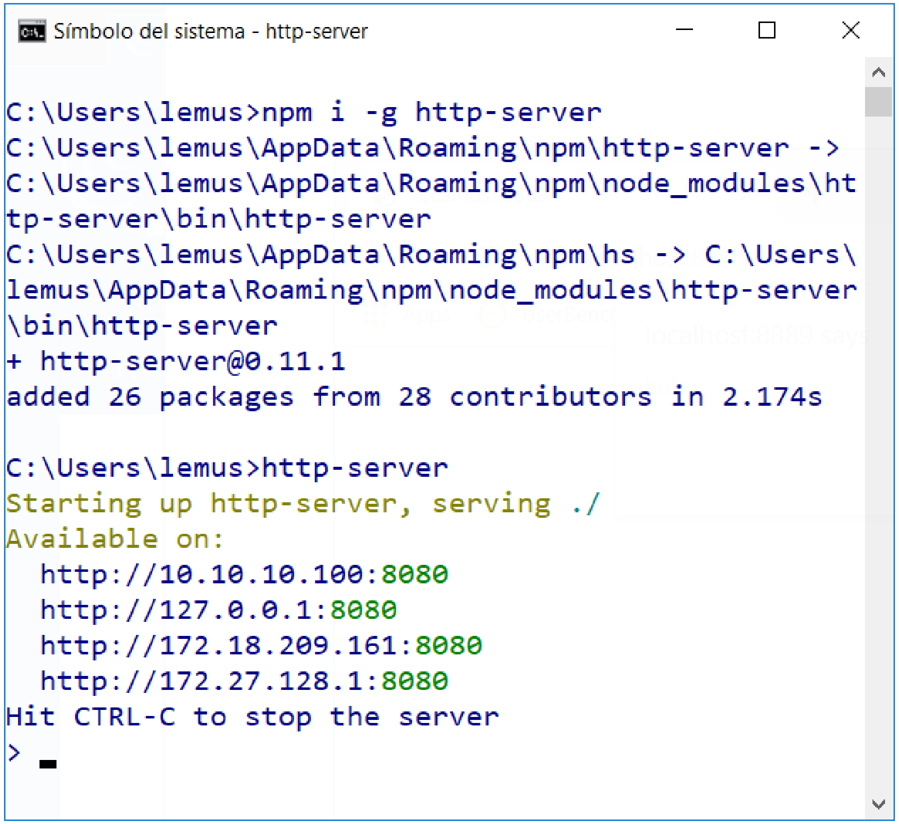
Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

Last but not least important, we can use Node.js http-server
For that purpose, install the module: http-server

Inside a cmd console, execute the command:
npm install -g http-server



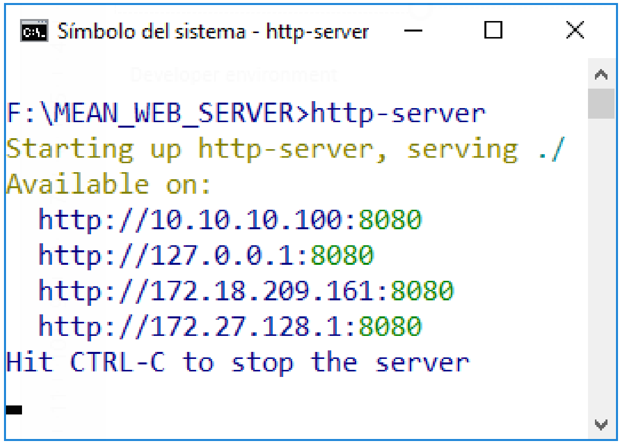
```
C:\Users\lemus>npm i -g http-server
C:\Users\lemus\AppData\Roaming\npm\http-server ->
C:\Users\lemus\AppData\Roaming\npm\node_modules\ht
tp-server\bin\http-server
C:\Users\lemus\AppData\Roaming\npm\hs -> C:\Users\
lemus\AppData\Roaming\npm\node_modules\http-server
\bin\http-server
+ http-server@0.11.1
added 26 packages from 28 contributors in 2.174s

C:\Users\lemus>http-server
Starting up http-server, serving ./
Available on:
  http://10.10.10.100:8080
  http://127.0.0.1:8080
  http://172.18.209.161:8080
  http://172.27.128.1:8080
Hit CTRL-C to stop the server
> _
```

Developer environment: Node.js http-server

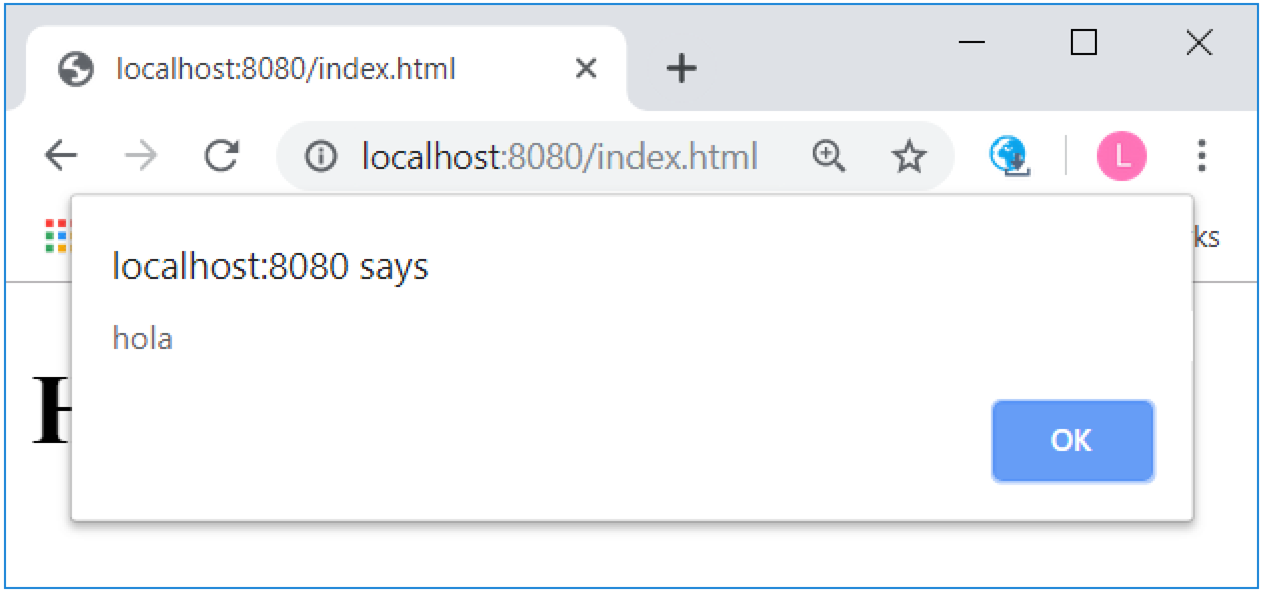
Inside a cmd console Go to the directory MEAN_WEB_SERVER

And execute the command:

F:\MEAN_WEB_SERVER>http-server



```
F:\MEAN_WEB_SERVER>http-server
Starting up http-server, serving ./
Available on:
  http://10.10.10.100:8080
  http://127.0.0.1:8080
  http://172.18.209.161:8080
  http://172.27.128.1:8080
Hit CTRL-C to stop the server
```



localhost:8080 says

hola

Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

JavaScript Basic Concepts

Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

Arithmetic operator	Description
+	Addition
-	Subtraction
*	Multiplication
/	Division
%	Modulus (remainder of a division operation)
++	Increment
--	Decrement

JavaScript Basic Concepts

Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

Assignment operator	Description
=	Assignment
+=	Addition assignment (x += y) == (x = x + y)
-=	Subtraction assignment (x -= y) == (x = x - y)
*=	Multiplication assignment (x *= y) == (x = x * y)
/=	Division assignment (x /= y) == (x = x / y)
%=	Remainder assignment (x %= y) == (x = x % y)

JavaScript Basic Concepts

Assignment operator	Description
==	Equal to
===	Equal to (both value and object type)
!=	Not equal to
>	Greater than
>=	Greater than or equal to
<	Less than
<=	Less than or equal to

JavaScript Basic Concepts

Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

Logical operator	Description
&&	And
||	Or
!	Not

JavaScript Basic Concepts

Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

Bitwise operator	Description
&	Equal to
|	Equal to (both value and object type)
~	Not equal to
^	Greater than
<<	Greater than or equal to
>>	Less than

Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

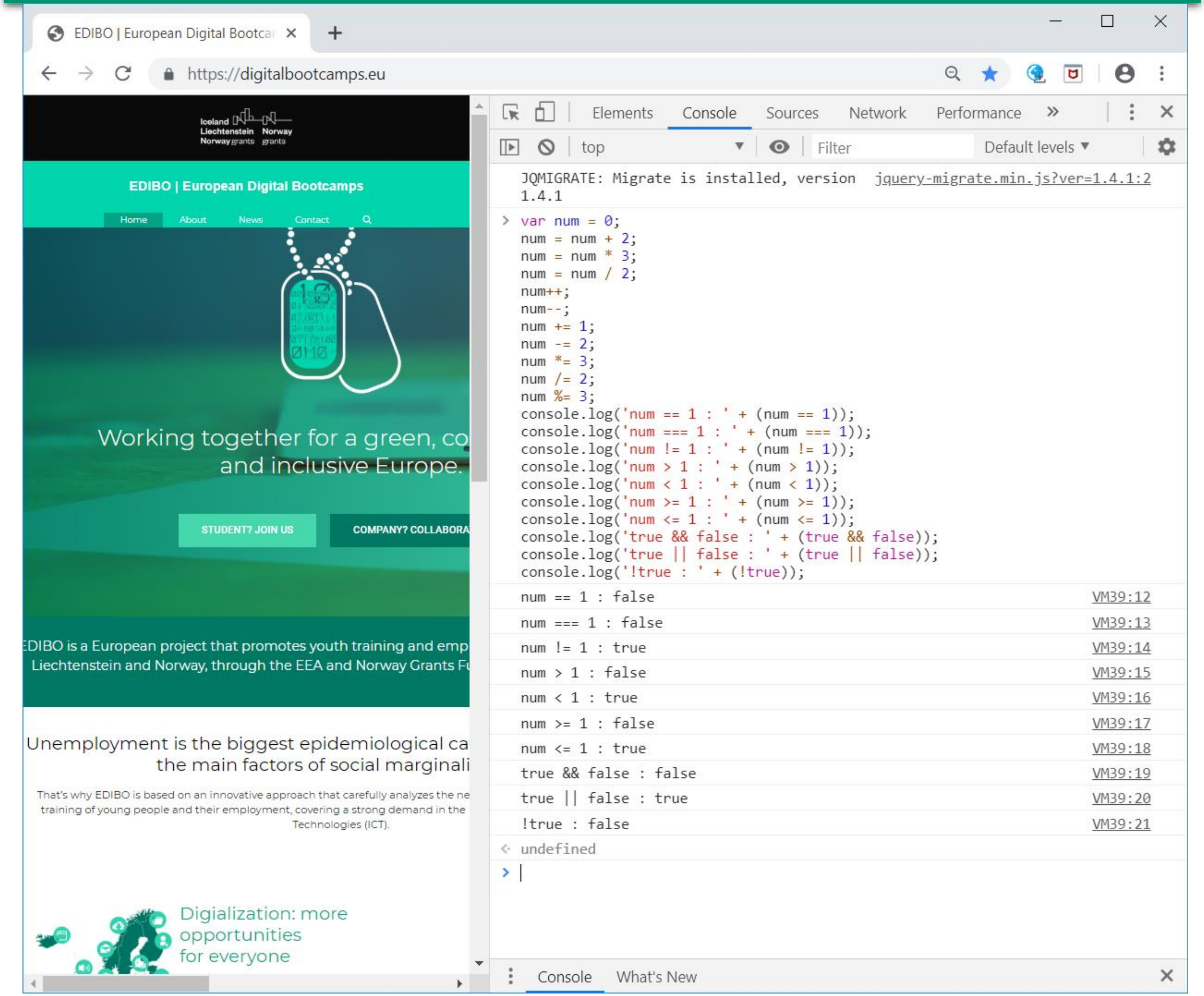
JavaScript Basic Concepts

```
var num = 0;
num = num + 2;
num = num * 3;
num = num / 2;
num++;
num--;
num += 1;
num -= 2;
num *= 3;
num /= 2;
num %= 3;
console.log(‘num == 1 : ' + (num == 1));
console.log(‘num === 1 : ' + (num === 1));
console.log(‘num != 1 : ' + (num != 1));
console.log(‘num > 1 : ' + (num > 1));
console.log(‘num < 1 : ' + (num < 1));
console.log(‘num >= 1 : ' + (num >= 1));
console.log(‘num <= 1 : ' + (num <= 1));
console.log('true && false : ' + (true && false));
console.log('true || false : ' + (true || false));
console.log('!true : ' + (!true));
```

JavaScript Basic Concepts

Developer environment

JavaScript Basic Concepts



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and inclusive Europe.

EDIBO is a European project that promotes youth training and emp
Liechtenstein and Norway, through the EEA and Norway Grants F

Unemployment is the biggest epidemiological ca
the main factors of social marginali

That's why EDIBO is based on an innovative approach that carefully analyzes the ne
training of young people and their employment, covering a strong demand in the
Technologies (ICT).

Digialization: more
opportunities
for everyone

```
JQMIGRATE: Migrate is installed, version   jquery-migrate.min.js?ver=1.4.1:2
1.4.1
> var num = 0;
  num = num + 2;
  num = num * 3;
  num = num / 2;
  num++;
  num--;
  num += 1;
  num -= 2;
  num *= 3;
  num /= 2;
  num %= 3;
  console.log('num == 1 : ' + (num == 1));
  console.log('num === 1 : ' + (num === 1));
  console.log('num != 1 : ' + (num != 1));
  console.log('num > 1 : ' + (num > 1));
  console.log('num < 1 : ' + (num < 1));
  console.log('num >= 1 : ' + (num >= 1));
  console.log('num <= 1 : ' + (num <= 1));
  console.log('true && false : ' + (true && false));
  console.log('true || false : ' + (true || false));
  console.log('!true : ' + (!true));
  num == 1 : false                                            VM39:12
  num === 1 : false                                           VM39:13
  num != 1 : true                                             VM39:14
  num > 1 : false                                             VM39:15
  num < 1 : true                                              VM39:16
  num >= 1 : false                                            VM39:17
  num <= 1 : true                                             VM39:18
  true && false : false                                       VM39:19
  true || false : true                                        VM39:20
  !true : false                                               VM39:21
< undefined
> |
```

Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

JavaScript Basic Concepts

```
var num = 0;
num = num + 2;
num = num * 3;
num = num / 2;
num++;
num--;
num += 1;
num -= 2;
num *= 3;
num /= 2;
num %= 3;
console.log(‘num == 1 : ' + (num == 1));
console.log(‘num === 1 : ' + (num === 1));
console.log(‘num != 1 : ' + (num != 1));
console.log(‘num > 1 : ' + (num > 1));
console.log(‘num < 1 : ' + (num < 1));
console.log(‘num >= 1 : ' + (num >= 1));
console.log(‘num <= 1 : ' + (num <= 1));
console.log(‘true && false : ' + (true && false));
console.log(‘true || false : ' + (true || false));
console.log('!true : ' + (!true));
```

JavaScript Basic Concepts

Developer environment

- Web Server
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JavaScript Basic Concepts

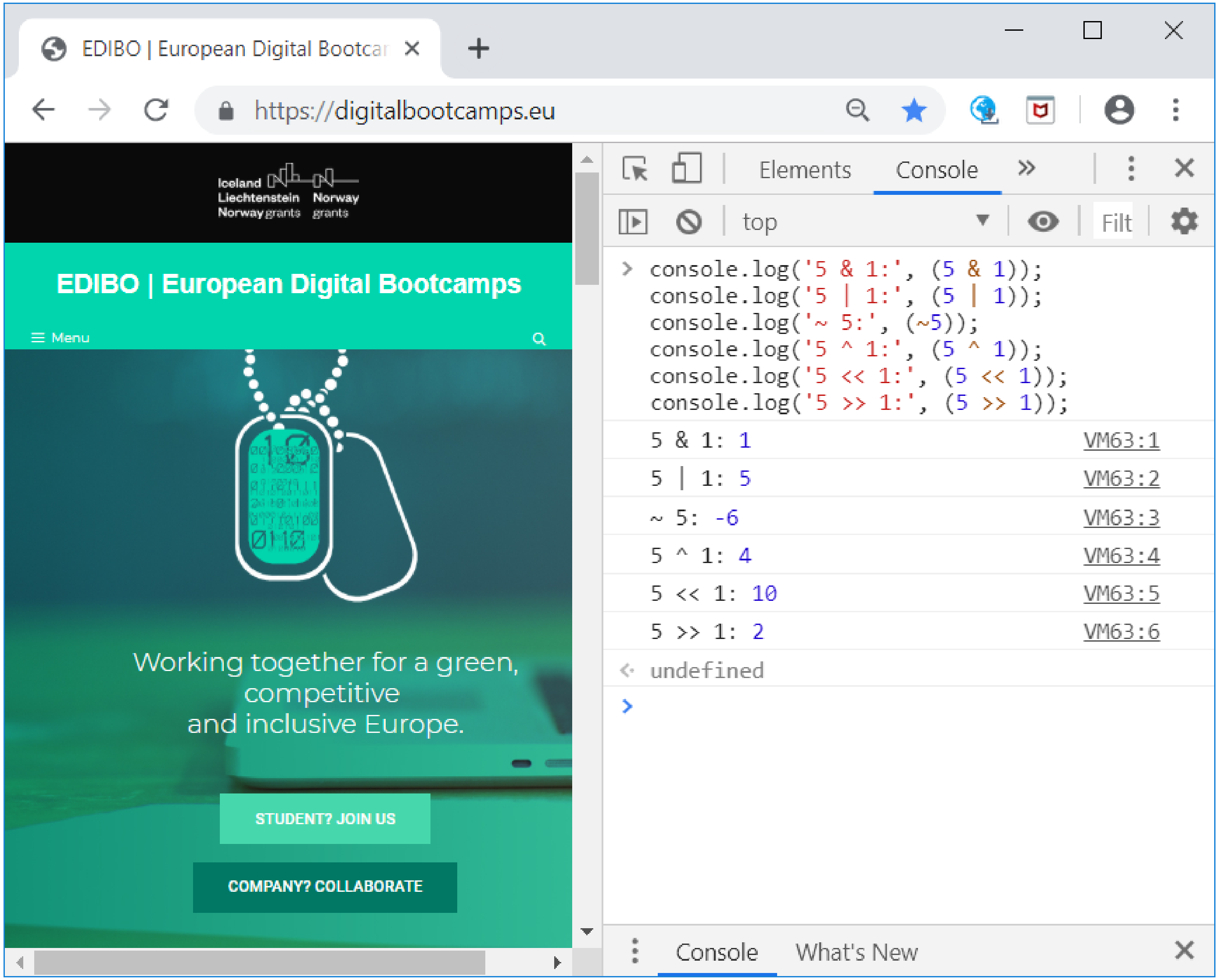
```
//Bitwise operations
console.log('5 & 1:', (5 & 1));
console.log('5 | 1:', (5 | 1));
console.log('~ 5:', (~5));
console.log('5 ^ 1:', (5 ^ 1));
console.log('5 << 1:', (5 << 1));
console.log('5 >> 1:', (5 >> 1));
```

JavaScript Basic Concepts

Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts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https://digitalbootcamps.eu
Iceland Liechtenstein Norway grants
Norway grants
EDIBO | European Digital Bootcamps
Menu
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STUDENT? JOIN US
COMPANY? COLLABORATE
Elements
Console
top
Filt
Console
What's New

```
> console.log('5 & 1:', (5 & 1));
  console.log('5 | 1:', (5 | 1));
  console.log('~ 5:', (~5));
  console.log('5 ^ 1:', (5 ^ 1));
  console.log('5 << 1:', (5 << 1));
  console.log('5 >> 1:', (5 >> 1));
  5 & 1: 1                                        VM63:1
  5 | 1: 5                                        VM63:2
  ~ 5: -6                                         VM63:3
  5 ^ 1: 4                                        VM63:4
  5 << 1: 10                                      VM63:5
  5 >> 1: 2                                       VM63:6
< undefined
>
```

JavaScript Basic Concepts

Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts

Typeof operator returns the type of the variable or expression. Take a look at the following code:

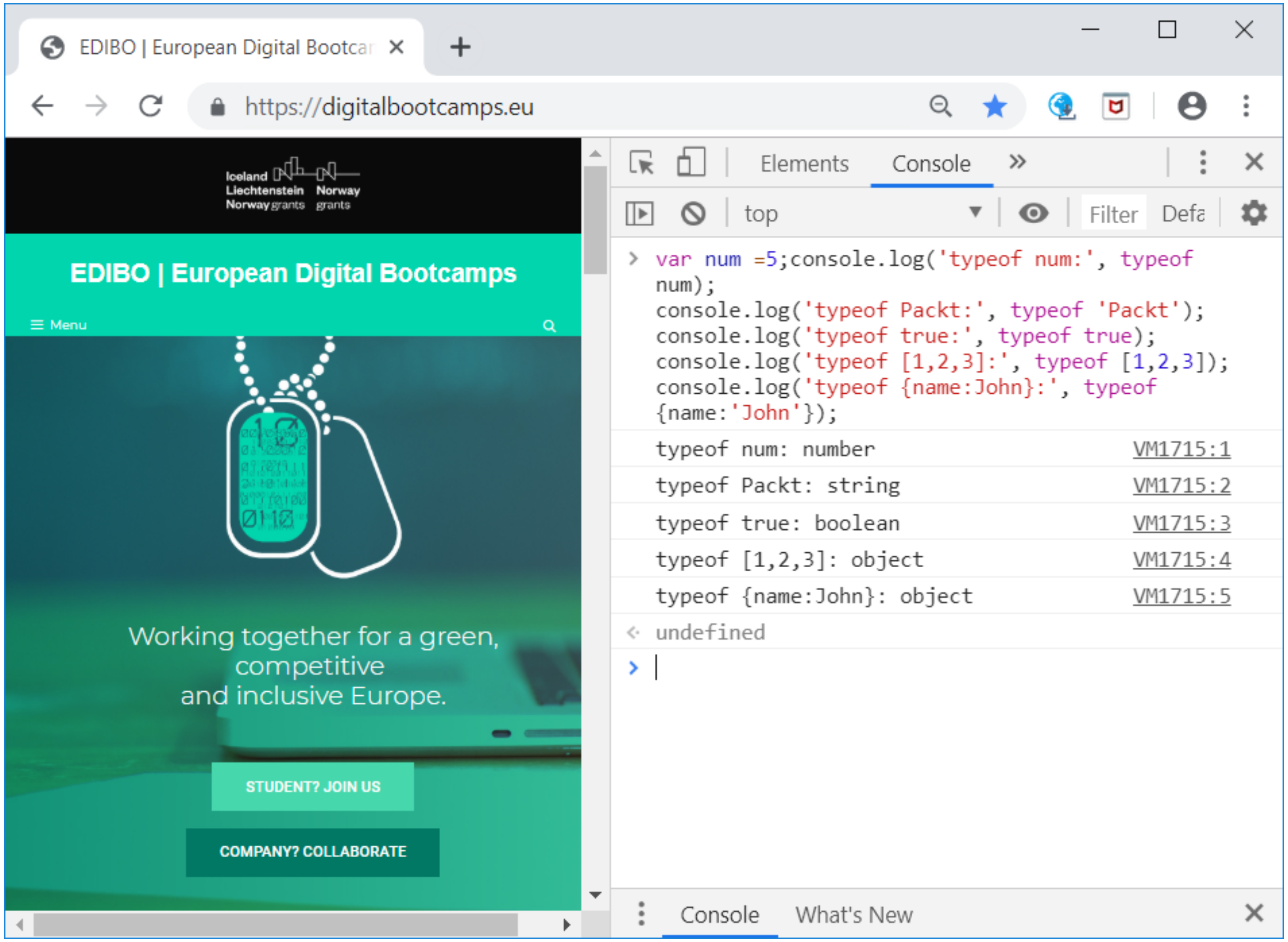
```
var num=5;
console.log('typeof num:', typeof num);
console.log('typeof Packt:', typeof 'Packt');
console.log('typeof true:', typeof true);
console.log('typeof [1,2,3]:', typeof [1,2,3]);
console.log('typeof {name:John}:', typeof {name:'John'});
```

JavaScript Basic Concepts

Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts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top
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Defa
Console
What's New

```
> var num =5;console.log('typeof num:', typeof
  num);
  console.log('typeof Packt:', typeof 'Packt');
  console.log('typeof true:', typeof true);
  console.log('typeof [1,2,3]:', typeof [1,2,3]);
  console.log('typeof {name:John}:', typeof
  {name:'John'});
  typeof num: number                    VM1715:1
  typeof Packt: string                  VM1715:2
  typeof true: boolean                  VM1715:3
  typeof [1,2,3]: object                VM1715:4
  typeof {name:John}: object            VM1715:5
< undefined
>
```

Developer environment

- Web Server
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JavaScript Basic Concepts

JavaScript Basic Concepts

According to the specification, there are two data types in JavaScript:

1. **Primitive data types**:
   - Null
   - Undefined
   - String
   - Number
   - boolean,
   - symbol
2. **Derived data types/objects**:
   - JavaScript objects, including functions
   - Arrays
   - Regular expressions

Developer environment

- Web Server
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JavaScript Basic Concepts

JavaScript Basic Concepts

JavaScript also supports the delete operator, which deletes a property from an object:

```
var myObj = {name: 'John', age: 21};
delete myObj.age;
console.log(myObj); //outputs Object {name: "John"}
```

JavaScript Basic Concepts: Truthy and Falsy

In JavaScript, true and false are a little bit tricky.
In most languages, the boolean values true and false represent the true/false results.

In JavaScript, a string such as ‘EDIBO’ evaluates to true.

Value Type	Result
undefined	false
null	false
Boolean	true is true and false is false
Number	The result is false for +0, -0, or NaN; otherwise, the result is true
String	The result is false if the string is empty (length is 0); otherwise, the result is true (length >= 1)
Object	true

Developer environment

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JavaScript Basic Concepts

Developer environment

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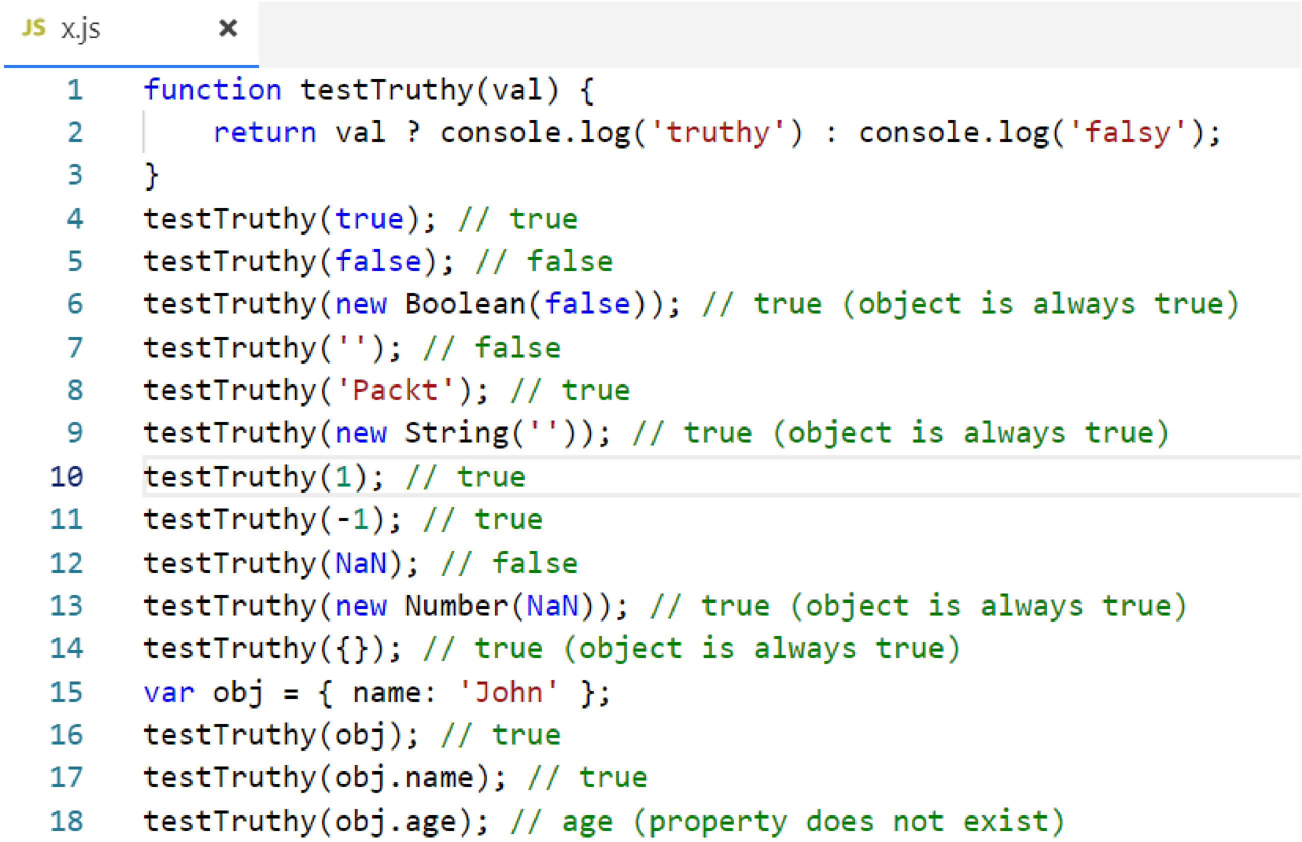
JavaScript Basic Concepts



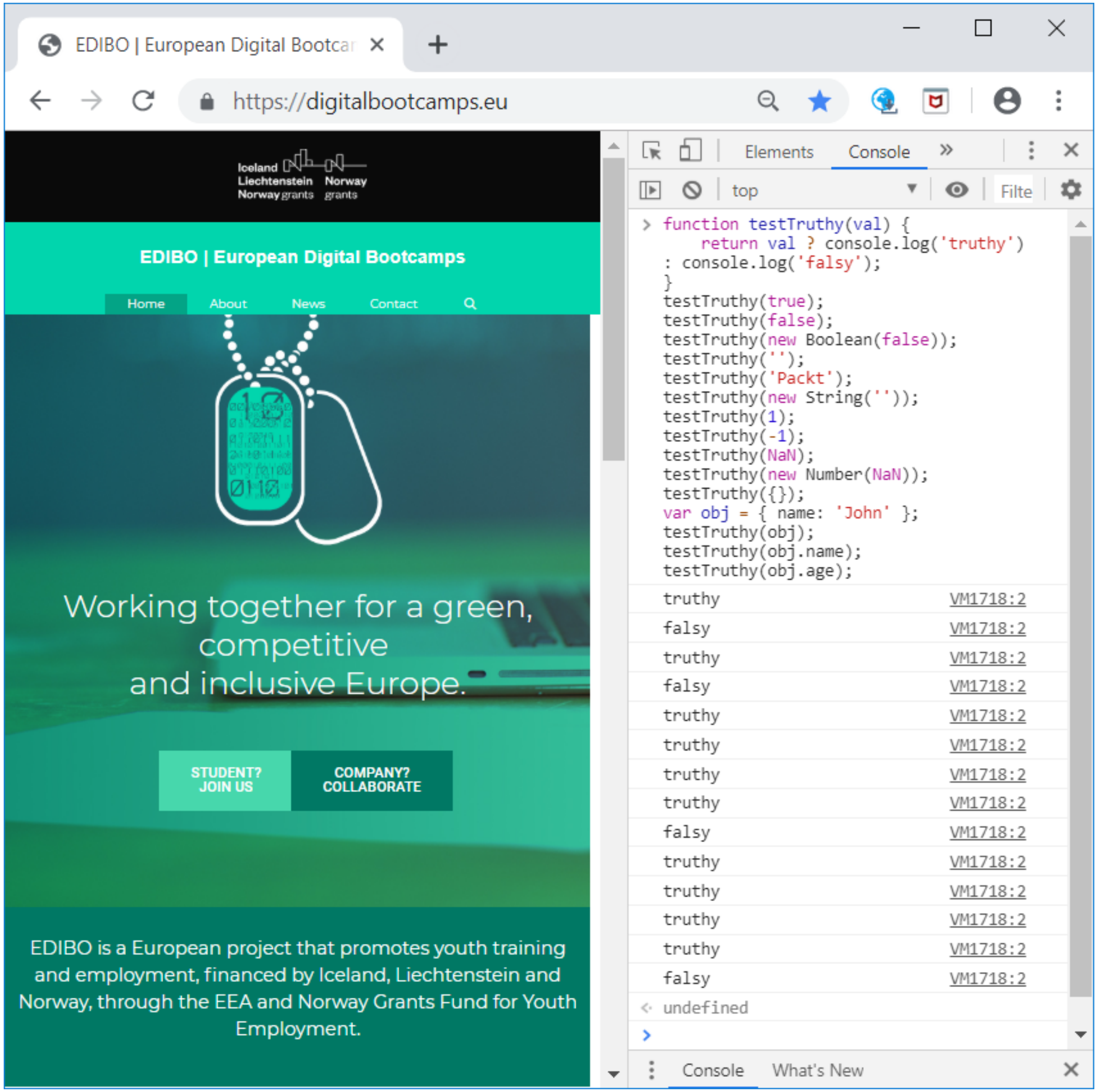
x.js

```
function testTruthy(val) {
    return val ? console.log('truthy') : console.log('falsy');
}
testTruthy(true); // true
testTruthy(false); // false
testTruthy(new Boolean(false)); // true (object is always true)
testTruthy(''); // false
testTruthy('Packt'); // true
testTruthy(new String('')); // true (object is always true)
testTruthy(1); // true
testTruthy(-1); // true
testTruthy(NaN); // false
testTruthy(new Number(NaN)); // true (object is always true)
testTruthy({}); // true (object is always true)
var obj = { name: 'John' };
testTruthy(obj); // true
testTruthy(obj.name); // true
testTruthy(obj.age); // age (property does not exist)
```

Developer environment

- Web Server
- Node.js Http Server

JavaScript Basic Concepts



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```
> function testTruthy(val) {
      return val ? console.log('truthy')
  : console.log('falsy');
  }
  testTruthy(true);
  testTruthy(false);
  testTruthy(new Boolean(false));
  testTruthy('');
  testTruthy('Packt');
  testTruthy(new String(''));
  testTruthy(1);
  testTruthy(-1);
  testTruthy(NaN);
  testTruthy(new Number(NaN));
  testTruthy({});
  var obj = { name: 'John' };
  testTruthy(obj);
  testTruthy(obj.name);
  testTruthy(obj.age);
  truthy                                   VM1718:2
  falsy                                    VM1718:2
  truthy                                   VM1718:2
  falsy                                    VM1718:2
  truthy                                   VM1718:2
  truthy                                   VM1718:2
  truthy                                   VM1718:2
  truthy                                   VM1718:2
  falsy                                    VM1718:2
  truthy                                   VM1718:2
  truthy                                   VM1718:2
  truthy                                   VM1718:2
  truthy                                   VM1718:2
  falsy                                    VM1718:2
< undefined
>
```