JAVASCRIPT MODULES

ES6 Modules

One of the major challenges when building a **web-app** is how quickly you can **scale and respond** to the market needs

demand (requirements) increases, the capabilities (features) increase too

is important to have a **solid architectural structure** so that the app **grows**

JavaScript has **had modules** for a long time.

implemented via **libraries**

ES6 *is the* *first time* *that JavaScript has built-in* *modules*

IE	Edge*	Firefox	Chrome	Safari	Opera	iOS Safari*	Opera Mini*	Android Browser*
	12-14							
	[1][6] 15 🏳	2-53	4-59	3.1-10	10-46	3.2-10.2		
	[6] 16-18	[2] 54-59 🏳	[1] 60 🏳	[4][5] 10.1	[1] 47 🏳	[4][5] 10.3		
6-10	79-86	60-82	61-86	11-13.1	48-71	11-13.7		2.1-4.4.4
11	87	83	87	14	72	14.2	all	81
		84-85	88-90	TP				

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Why ES6 modules are needed

1—Don't reinvent the wheel

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2— Knowledge barrier

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2— Knowledge barrier
3— Unexpected behavior

we need **ES6 modules** in order to effectively **reuse**, **maintain**, **separate** and **encapsulate** internal behaviour from external behaviour

load the scripts right before the </body> element

```html
<!DOCTYPE html>
<head>
</head>
<body>

  <!--HTML content goes here-->

  <script src="js/jquery.js"></script>
  <script src="js/script2.js"></script>
  <script src="js/script3.js"></script>
  <script src="js/script4.js"></script>
</body>
</html>
```

ES5 Module Pattern

```javascript
var scoreboard = function() {
    var message = 'Welcome to the game!';
    function printMessage() {
        console.log(message);
    }
    function updateMessage(newMessage) {
        message = newMessage;
    }
    //return an object that represents our new module
    return {
        showMessage: printMessage,
        updateMessage: updateMessage
    }
}(); //← This is called a immediately invoked function definition,
    // or IIFE
```

ES6

```
// exports a function declared earlier
export { myFunction };
// exports a constant
export const foo = Math.sqrt(2);

// import
import { jquery } from './js/jquery.js';
import { script2 } from './js/script2.js';

//HTML
 <script type="module" src="js/app.js"></script>
```