

Ecma International es una organización internacional basada en membresías de estándares para la comunicación y la información.

Algunas especificaciones importantes **ECMA-262** especificación del lenguaje de programación ECMAScript.

JavaScript fue inventado por Brendan Eich en 1995 y se convirtió en un estándar ECMA en 1997.

ECMAScript es el nombre oficial del lenguaje.

A partir de 2015 se nombra ECMAScript (ECMAScript 2015)

```
//ES6 funcion fecha y landa
factorial = (num) =>{
  if (num<=0) return 1
  else return (num * factorial(num-1))
}
console.log(factorial(6));

//ES6 numerico
const tipo_cambio = new Number('6.96');
console.log(tipo_cambio*2);

//ES6 Objetos
const alumno= {
  nombre:'Marcelo',
  apellido:'Moscoso',
  func:()=>{return 'hola mundo'},
};
console.log(alumno.nombre)
console.log(alumno.apellido)
console.log(alumno.func());

//ES6 boolean
const val = new Boolean('true');
if(val) console.log('es verdadera');

//ES6 String
const descripcion = new String('porcentaje 10%');
console.log(descripcion.toUpperCase());

//ES6 plantillas
const mensaje = () => {return 'plantilla' };
const parametro = '10%';
console.log(` el parametro es ${parametro} de la ${mensaje()} `);
```

```
//ES6 array
const cursos = ['nodejs', 'angular', 'react', 'mongodb', 'sql'];
cursos.splice(2, 0, 'postgres'); //agrega
console.log(cursos);

const eliminado = cursos.splice(3, 1); //elimina
console.log(`${cursos} elemento eliminado: ${eliminado}`);

cursos.push('ms-sqlserver'); //agrega al final
console.log(cursos);

const curso = cursos.find(elem=>elem==='mongodb');
if(curso) console.log(`curso encontrado ${curso}`);

for(let i in cursos) {
  console.log(cursos[i])
}

cursos.forEach(curso => {
  console.log(curso);
});

cursos.map((curso,index)=>{
  console.log(index,curso);
});

const cursosSinSql = cursos.filter(curso => curso !== 'sql');
console.log(cursosSinSql);

//ES6 Colecciones
const roles = new Map([
  ['r1', 'Usuario'],
  ['r2', 'Invitado'],
  ['r3', 'AdminAdministrador'],
]);
console.log(roles.get('r2'));

const horarios = new Map();
horarios.set('0001',{curso:'nodejs',horario:'19:00-22:00'});
horarios.set('0002',{curso:'angular',horario:'07:00-09:00'});
horarios.set('0003',{curso:'react',horario:'12:00-14:00'});
console.log(horarios.get('0002'));
```

```
horarios.forEach(hora=>{
    console.log(hora);
});

//ES6 control de excepciones
let a = 100;
let b = 0;
try {
    if (b == 0 ) {
        throw('Divide by zero error. ');
    } else {
        let c = a / b;
    }
}
catch( e ) {
    console.log(`Error ${e} `);
}

//ES sintaxis extendida o sintáxis spread
sum= (x, y, z) => {
    return x + y + z;
}
const numbers = [1, 2, 3];
console.log(sum(...numbers));





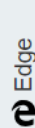
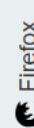
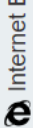
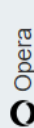
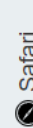

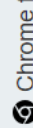




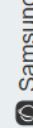

const arr = [1, 2, 3];
const arr1 = [...arr];
arr1.push(4);
console.log(arr1);

const arr2 = [0, 1, 2];
const arr3 = [3, 4, 5];
arr2.push(...arr3);
console.log(arr2);
```

https://developer.mozilla.org/es/docs/Web/JavaScript/Referencia/Objetos_globales/Map

Compatibilidad con Navegadores

 [Update compatibility data on GitHub](#)

														
	 Chrome	 Edge	 Firefox	 Internet Explorer	 Opera	 Safari	 Android webview	 Chrome for Android	 Edge Mobile	 Firefox for Android	 Opera for Android	 Safari on iOS	 Samsung Internet	 Node.js
Soporte básico	38	12	13	11	25	8	38	38	12	14	25	8	Si	0.12
Map (ES6)	38	12	13	No	25	0	38	38	12	14	25	0	Si	0.12

</laboratorio>

```
C:\WINDOWS\system32\cmd.exe

D:\marcelomos\laboratorios>mkdir es6-nodejs

D:\marcelomos\laboratorios>cd es6-nodejs

D:\marcelomos\laboratorios\es6-nodejs>npm init --yes
Wrote to D:\marcelomos\laboratorios\es6-nodejs\package.json:

{
  "name": "es6-nodejs",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "keywords": [],
  "author": "",
  "license": "ISC"
}

D:\marcelomos\laboratorios\es6-nodejs>mkdir src

D:\marcelomos\laboratorios\es6-nodejs>code .
```

<https://restcountries.eu/rest/v2/all>

```
restcountries.eu x + v
https://restcountries.eu/rest/v2/all

[{"name": "Afghanistan", "topLevelDomain": [".af"], "alpha2Code": "AF", "alpha3Code": "AFG", "callingCodes": [93], "capital": "Kabul", "altSpellings": ["AF", "Afgānistān"], "region": "Asia", "subregion": "Southern Asia", "population": 27657145, "latlng": [33.0, 65.0], "demonym": "Afghan", "area": 652230.0, "gini": 27.8, "timezones": ["UTC+04:30"], "borders": ["IRN", "PAK", "TKM", "UZB", "TJK", "CHN"], "nativeName": "افغانستان", "numericCode": "004", "currencies": [{"code": "AFN", "name": "Afghan afghani", "symbol": "ؑ"}], "languages": [{"iso639_1": "ps", "iso639_2": "pus", "name": "Pashto", "nativeName": "پښتو"}, {"iso639_1": "uz", "iso639_2": "uzb", "name": "Uzbek", "nativeName": "O'zbek"}, {"iso639_1": "tk", "iso639_2": "tuk", "name": "Turkmen", "nativeName": "Türkmen"}], "translations": {"de": "Afghanistan", "es": "Afganistán", "fr": "Afghanistan", "ja": "アフガニスタン", "it": "Afghanistan", "br": "Afganistão", "pt": "Afganistão", "nl": "Afghanistan", "hr": "Afganistan", "fa": "افغانستان"}, "flag": "https://restcountries.eu/data/afg.svg", "regionalBlocs": [{"acronym": "SAARC", "name": "South Asian Association for Regional Cooperation", "otherAcronyms": [], "otherNames": []}], "cioc": "AFG"}, {"name": "Åland Islands", "topLevelDomain": [".ax"], "alpha2Code": "AX", "alpha3Code": "ALA", "callingCodes": ["358"], "capital": "Mariehamn", "altSpellings": ["AX", "Aaland", "Åland", "Ahvenanmaa"], "region": "Europe", "subregion": "Northern Europe", "population": 28875, "latlng": [60.116667, 19.9], "demonym": "Ålandish", "area": 1580.0, "gini": null, "timezones": ["UTC+02:00"], "borders": [], "nativeName": "Åland", "numericCode": "248", "currencies": [{"code": "EUR", "name": "Euro", "symbol": "€"}], "languages": [{"iso639_1": "sv", "iso639_2": "swe", "name": "Swedish", "nativeName": "svenska"}], "translations": {"de": "Åland", "es": "Alandia", "fr": "Åland", "ja": "オーランド諸島", "it": "Isole Åland", "br": "Ilhas de Åland", "pt": "Ilhas de Åland", "nl": "Ålandeilanden", "hr": "Ålandski otoci", "fa": "جزایر الند", "flag": "https://restcountries.eu/data/ala.svg", "regionalBlocs": [{"acronym": "EU", "name": "European Union", "otherAcronyms": [], "otherNames": []}], "cioc": ""}, {"name": "Albania", "topLevelDomain": [".al"], "alpha2Code": "AL", "alpha3Code": "ALB", "callingCodes": ["355"], "capital": "Tirana", "altSpellings": ["AL", "Shqipëri", "Shqipëria", "Shqipëria"], "region": "Europe", "subregion": "Southern Europe", "population": 2872000, "latlng": [40.5, 20.0], "demonym": "Albanian", "area": 28748.0, "gini": 35.8, "timezones": ["UTC+01:00"], "borders": ["BUL", "CHE", "GRC", "MNE", "MKD", "SRB", "TUR"], "nativeName": "Shqipëria", "numericCode": "008", "currencies": [{"code": "ALL", "name": "Albanian lek", "symbol": "L"}], "languages": [{"iso639_1": "sq", "iso639_2": "sq", "name": "Albanian", "nativeName": "shqip"}], "translations": {"de": "Albanien", "es": "Albania", "fr": "Albanie", "ja": "アルバニア", "it": "Albania", "br": "Albânia", "pt": "Albânia", "nl": "Albanië", "hr": "Albanija", "fa": "آلبانی"}, "flag": "https://restcountries.eu/data/alb.svg", "regionalBlocs": [{"acronym": "EU", "name": "European Union", "otherAcronyms": [], "otherNames": []}], "cioc": "ALB"}]
```

/src/data/países.json

```
[
  {
    "name": "Afghanistan",
    "topLevelDomain": [ ".af" ],
    "alpha2Code": "AF",
    "alpha3Code": "AFG",
    "callingCodes": [ "93" ],
    "capital": "Kabul",
    "altSpellings": [ "AF", "Afġānistān" ],
    "region": "Asia",
    "subregion": "Southern Asia",
    "population": 27657145,
    "latlng": [ 33.0, 65.0 ],
    "demonym": "Afghan",
    "area": 652230.0,
    "gini": 27.8,
    "timezones": [ "UTC+04:30" ],
    "borders": [ "IRN", "PAK", "TKM", "UZB", "TJK", "CHN" ],
    "nativeName": "افغانستان",
    "numericCode": "004",
    "currencies": [ { "code": "AFN", "name": "Afghan afghani", "symbol": "ؑ" } ],
    "languages": [ { "iso639_1": "ps", "iso639_2": "pus", "name": "Pashto", "nativeName": "پښتو" },
      { "iso639_1": "uz", "iso639_2": "uzb", "name": "Uzbek", "nativeName": "Oʻzbek" },
      { "iso639_1": "tk", "iso639_2": "tuk", "name": "Turkmen", "nativeName": "Türkmen" }
    ],
    "translations": { "de": "Afghanistan", "es": "Afganistán", "fr": "Afghanistan",
      "ja": "アフガニスタン", "it": "Afghanistan", "br": "Afeganistão",
      "pt": "Afeganistão", "nl": "Afghanistan", "hr": "Afganistan", "fa": "افغانستان"
    },
    "flag": "https://restcountries.eu/data/afg.svg",
    "regionalBlocs": [
      { "acronym": "SAARC", "name": "South Asian Association for Regional Cooperation",
        "otherAcronyms": [], "otherNames": [] }
    ],
    "cioc": "AFG"
  }
]
```

/src/index.js

```
const fs = require('fs');
const paises = JSON.parse(fs.readFileSync('./src/data/paises.json', 'utf8'));

//numero de paises
console.log(` numero de registros : ${paises.length} `);
```

```
//filtro por subregion
const subAmerica = paises.filter((pais) => {
  return pais.subregion === 'South America';
});
```

```
//lista de paises
subAmerica.forEach(pais => {
  console.log(pais.name);
});
```

```
let poblaciones = [];

//lista de paises
subAmerica.forEach(pais => {
  poblaciones.push({
    nombre : pais.name,
    capital : pais.capital,
    poblacion : pais.population})
});

console.log(poblaciones);
```

```
const bolivia = paises.find(pais => pais.nativeName === 'Bolivia' );
console.log(bolivia);
```


<https://developer.mozilla.org/es/docs/Web/JavaScript/Referencia/Classes>

```
// ES6 get and set
class Persona {

  constructor(nombre, apellido) {
    this._nombre = nombre;
    this._apellido = apellido;
  }

  get genero() {
    return this._genero;
  }

  set genero(genero) {
    this._genero = genero;
  }

  nombreCompleto() {
    return `${this._nombre} ${this._apellido}`;
  }
}

let persona = new Persona('Marcelo', 'Moscoso');
persona.genero = 'masculino';

console.log(persona.nombreCompleto());
console.log(persona.genero);
```

```
class Empleado extends Persona {  
  
    get cargo(){  
        return this._cargo;  
    }  
  
    set cargo(cargo){  
        this._cargo = cargo;  
    }  
}  
  
let empleado = new Empleado('Marcelo', 'Moscoso');  
empleado.cargo = 'Programador';  
  
console.log(empleado.nombreCompleto());  
console.log(empleado.cargo);
```

Browser Support for ES5 (2009)

Browser	Version	From Date
Chrome	23	Sep 2012
Firefox	21	Apr 2013
IE	9*	Mar 2011
IE / Edge	10	Sep 2012
Safari	6	Jul 2012
Opera	15	Jul 2013

* Internet Explorer 9 does not support ECMAScript 5 "use strict".

Browser Support for ES6 (ECMAScript 2015)

Browser	Version	Date
Chrome	58	Apr 2017
Firefox	54	Jun 2017
Edge	14	Aug 2016
Safari	10	Sep 2016
Opera	55	Aug 2017

Internet Explorer does not support ECMAScript 2015.

Can I use... Support tabl × +

← → ↻ 🏠 <https://caniuse.com/#search=spread> 📖 ☆ ⚙️ 🔍 📄 ...

Can I use **spread** ? ⚙️ Settings

2 results found

ECMAScript 2015 (ES6) 📄 - OTHER Usage % of all users ?

Global 89.42% + 6.08% = 95.5%

Support for the ECMAScript 2015 specification. Features include Promises, Modules, Classes, Template Literals, Arrow Functions, Let and Const, Default Parameters, Generators, Destructuring Assignment, Rest & Spread, Map/Set & WeakMap/WeakSet and many more.

Current aligned Usage relative Date relative Apply filters Show all ?

IE	Edge *	Firefox	Chrome	Safari	Opera	iOS Safari *	Opera Mini *	Android Browser *	Blackberry Browser	Opera Mobile *	Chrome for Android
	12-14	2-5 6-53	4-20 21-50	3.1-7 7.1-9.1	10-12.1 15-37	3.2-6.1 7-9.3		2.1-4.3			