plain concepts

¡El loco, loco, loco mundo de JavaScript!

Ander Conal

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VIRTUAL COFFEE

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Ander Conal

SOFTWARE DEVELOPER

Cuando no estoy trabajando, lo más posible es que me encuentres haciendo boxeo, paseando con mis 2 perros y el resto de mi familia, jugando un poco a la Switch o quitando el polvo a los vinilos de mi época como promotor de eventos y DJ. En la actualidad, trabajo en Plain Concepts Bilbao donde, además de programar, doy charlas y formaciones.

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Agenda completa

1. ES2019
   - Array.flat()
   - Array.flatMap()
   - Object.fromEntries()
   - String.trimStart()
   - String.trimEnd()
   - Function.toString()
   - Object Key Order
2. ES2020
   - Big int
   - Nullish coalescing
   - Optional Chaining
   - promise.allSettled
   - Dynamic import
   - string.matchAll(regex)
   - string.replaceAll
   - globalThis
   - Module Namespace Exports
   - Navigator.share() API
   - Async Hooks
   - Pipline Operator
   - Top Level Await

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ES2019

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Array.flat()

```
const arr1 = [1, 2, [3, 4]];
arr1.flat();
// [1, 2, 3, 4]

const arr2 = [1, 2, [3, 4, [5, 6]]];
arr2.flat();
// [1, 2, 3, 4, [5, 6]]

const arr3 = [1, 2, [3, 4, [5, 6]]];
arr3.flat(2);
// [1, 2, 3, 4, 5, 6]

const arr4 = [1, 2, [3, 4, [5, 6, [7, 8, [9, 10]]]]];
arr4.flat(Infinity);
// [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
```

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Array.flatMap()

```
let arr1 = [1, 2, 3, 4];

arr1.map(x => [x * 2]);
// [[2], [4], [6], [8]]

arr1.flatMap(x => [x * 2]);
// [2, 4, 6, 8]

// only one level is flattened
arr1.flatMap(x => [[x * 2]]);
// [[2], [4], [6], [8]]
```

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Object.fromEntries()

```
const entries = [
  ['foo', 'bar'],
  ['baz', 42]
];

const obj = Object.fromEntries(entries);

console.log(obj);
// expected output: Object { foo: "bar", baz: 42 }
```

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String.trimStart()

```
const greeting = '   Hello world!   ‘;

console.log(greeting);
// expected output: "   Hello world!   ";

console.log(greeting.trimStart());
// expected output: "Hello world!   ";


console.log(greeting.trimLeft());
// expected output: "Hello world!   ";
```

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String.trimEnd()

```
const greeting = '   Hello world!   ‘;

console.log(greeting);
// expected output: "   Hello world!   ";

console.log(greeting.trimEnd());
// expected output: “   Hello world!";


console.log(greeting.trimRight());
// expected output: “   Hello world!";
```

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Function.toString()

```
function sum(a, b) {
  // This comment was not shown with Function.toString
  return a + b;
}

console.log(sum.toString());
// expected output:

"function sum(a, b) {
  // This comment was not shown with Function.toString
  return a + b;
 }“
```

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Object key order

```
const obj = {
  'ander': 'conal',
  2: 'plain',
  '1': 'concepts',
  7: 'virtual coffee',
  'loco': 'loco, loco mundo de JavaScript’
}

console.log(Object.keys(obj));
// expected output:  [ "1", "2", "7", "ander", "loco" ]
```

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ES2020

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BigInt

```
const theBiggestInt = 9007199254740991n

const alsoHuge = BigInt(9007199254740991)
// ↪ 9007199254740991n

const hugeString = BigInt("9007199254740991")
// ↪ 9007199254740991n

const hugeHex = BigInt("0x1fffffffffffff")
// ↪ 9007199254740991n

const hugeBin = BigInt("0b11111111111111111111111111111111111111111111111111111")
// ↪ 9007199254740991n
```

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Nullish coalescing operator (??)

```
const foo = null ?? 'default string';

console.log(foo);
// expected output: "default string“

const baz = 0 ?? 42;

console.log(baz);
// expected output: 0
```

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Optional chaining (?.)

```
const adventurer = {
  name: 'Alice',
  cat:
    {
      name: 'Dinah'
    }
};

const dogName = adventurer.dog?.name;

console.log(dogName);
// expected output: undefined

console.log(adventurer.someNonExistentMethod?.());
// expected output: undefined
```

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Promise.allSettled()

```
const promise1 = Promise.resolve(3);
const promise2 = new Promise((resolve, reject) => setTimeout(reject, 100, 'foo'));
const promises = [promise1, promise2];

Promise.allSettled(promises)
  .then((results) => results.forEach((result) => console.log(result.status)));

// expected output:// "fulfilled"// "rejected"
```

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Dynamic Imports

```
// let module = await import('/modules/my-module.js');

const main = document.querySelector("main");
for (const link of document.querySelectorAll("nav > a")) {
  link.addEventListener("click", e => {
    e.preventDefault();

    import('/modules/my-module.js')
      .then(module => {
        module.loadPageInto(main);
      })
      .catch(err => {
        main.textContent = err.message;
      });
  });
}
```

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String.matchAll()

```
const regexp = RegExp('foo[a-z]*','g');
const str = 'table football, foosball';
const matches = str.matchAll(regexp);

for (const match of matches) {
  console.log(` Found ${match[0]} start=${match.index} end=${match.index +
match[0].length}.`);
}
// expected output: "Found football start=6 end=14."
// expected output: "Found foosball start=16 end=24."

// matches iterator is exhausted after the for..of iteration
// Call matchAll again to create a new iterator
Array.from(str.matchAll(regexp), m => m[0]);
// Array [ "football", "foosball" ]
```

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String.replaceAll()

```
const p = 'The quick brown fox jumps over the lazy dog. If the dog reacted, was it really lazy?';

const regex = /dog/gi;

console.log(p.replaceAll(regex, 'ferret'));
// expected output: "The quick brown fox jumps over the lazy ferret. If the ferret reacted, was it really lazy?"

console.log(p.replaceAll('dog', 'monkey'));
// expected output: "The quick brown fox jumps over the lazy monkey. If the monkey reacted, was it really lazy?"
```

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globalThis

```
if (typeof globalThis.setTimeout !== 'function') {
  // no setTimeout in this environment!
}
```

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Module namespace exports

```
// Importing a namespace exotic object (existing):

import * as ns from "mod";

// Exporting that name (existing):

import * as ns from "mod";
export {ns};

// Symmetric "export from" (new):

export * as ns from "mod";
```

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Web Share API

```
const shareData = {
  title: 'MDN',
  text: 'Learn web development on MDN!',
  url: 'https://developer.mozilla.org',
}

const btn = document.querySelector('button');
const resultPara = document.querySelector('.result');

// Must be triggered some kind of "user activation"
btn.addEventListener('click', async () => {
  try {
    await navigator.share(shareData)
    resultPara.textContent = 'MDN shared successfully'
  } catch(err) {
    resultPara.textContent = 'Error: ' + err
  }
});
```

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Async Hooks

```
const fs = require('fs');
const async_hooks = require('async_hooks');
async_hooks.createHook({
  init(asyncId, type, triggerAsyncId) {
    fs.writeSync(1, `Init ${type} resource: asyncId: ${asyncId} trigger: ${triggerAsyncId}\n`);
  },
  destroy(asyncId) {
    const eid = async_hooks.executionAsyncId();
    fs.writeSync(1, `Destroy resource: execution: ${eid} asyncId: ${asyncId}\n`);
 }
}).enable();


const eid = async_hooks.executionAsyncId();
fs.writeSync(1, `Calling setTimeout: execution: ${eid}\n`);
setTimeout(() => {
  const eid = async_hooks.executionAsyncId();
  fs.writeSync(1, `Inside setTimeout: execution: ${eid}\n`);
}, 0);
```

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Async Hooks

```
Calling setTimeout: execution: 1
Init Timeout resource: asyncId: 6 trigger: 1
Init TIMERWRAP resource: asyncId: 7 trigger: 1
Inside setTimeout: execution: 6
Destroy resource: execution: 0 asyncId: 6
Destroy resource: execution: 0 asyncId: 7
```

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Pipeline operator (|>)

```
const url = "%21" |> decodeURI;

const url = decodeUri("%21“);

const double = (n) => n * 2;
const increment = (n) => n + 1;

// without pipeline operator
double(increment(double(double(5)))); // 42

// with pipeline operator
5 |> double |> double |> increment |> double; // 42
```

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Top level await

```
// Before Top level await

await Promise.resolve(console.log('🥕'));
// → SyntaxError: await is only valid in async function

(async function() {
  await Promise.resolve(console.log('🥕'));
  // → 🥕
}());


// After Top level await
await Promise.resolve(console.log('🥕'));
// → 🥕
```

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Top level await

```
// Dynamic dependency pathing
const strings = await import(`/i18n/${navigator.language}`);

// Resource initialization
const connection = await dbConnector();

// Dependency fallbacks
let jQuery;
try {
  jQuery = await import('https://cdn-a.example.com/jQuery');
} catch {
  jQuery = await import('https://cdn-b.example.com/jQuery');
}
```

Thank you

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SPAIN

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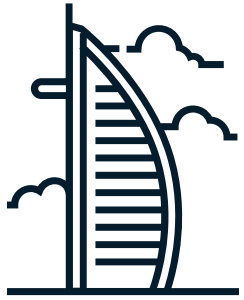
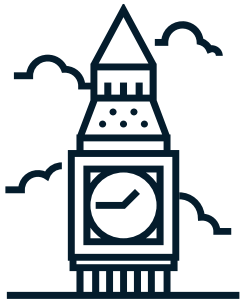


UAE



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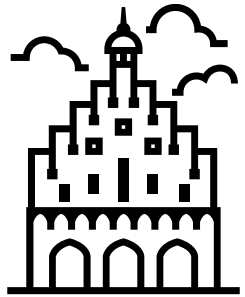

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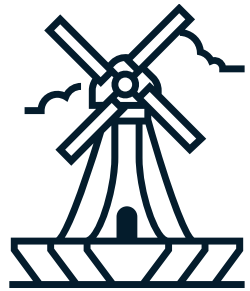

NETHERLANDS

www.plainconcepts.com

For further information

info@plainconcepts.com