

# 從亂七八糟到組織**有序**



高見龍

@eddiekao

迷你挑戰

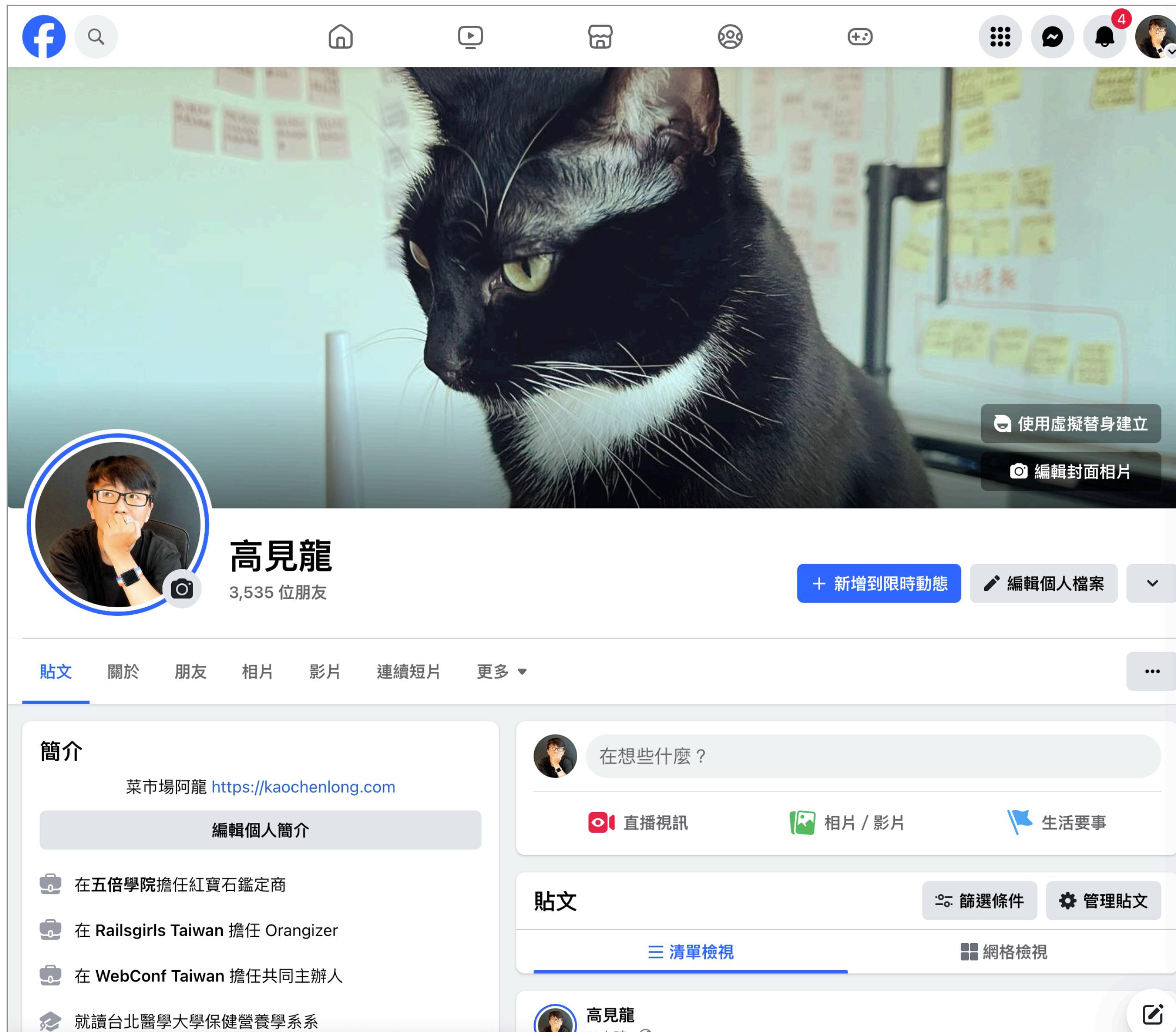
踏遍所有神廟之人

愛玩、愛現，喜歡冷門的玩具

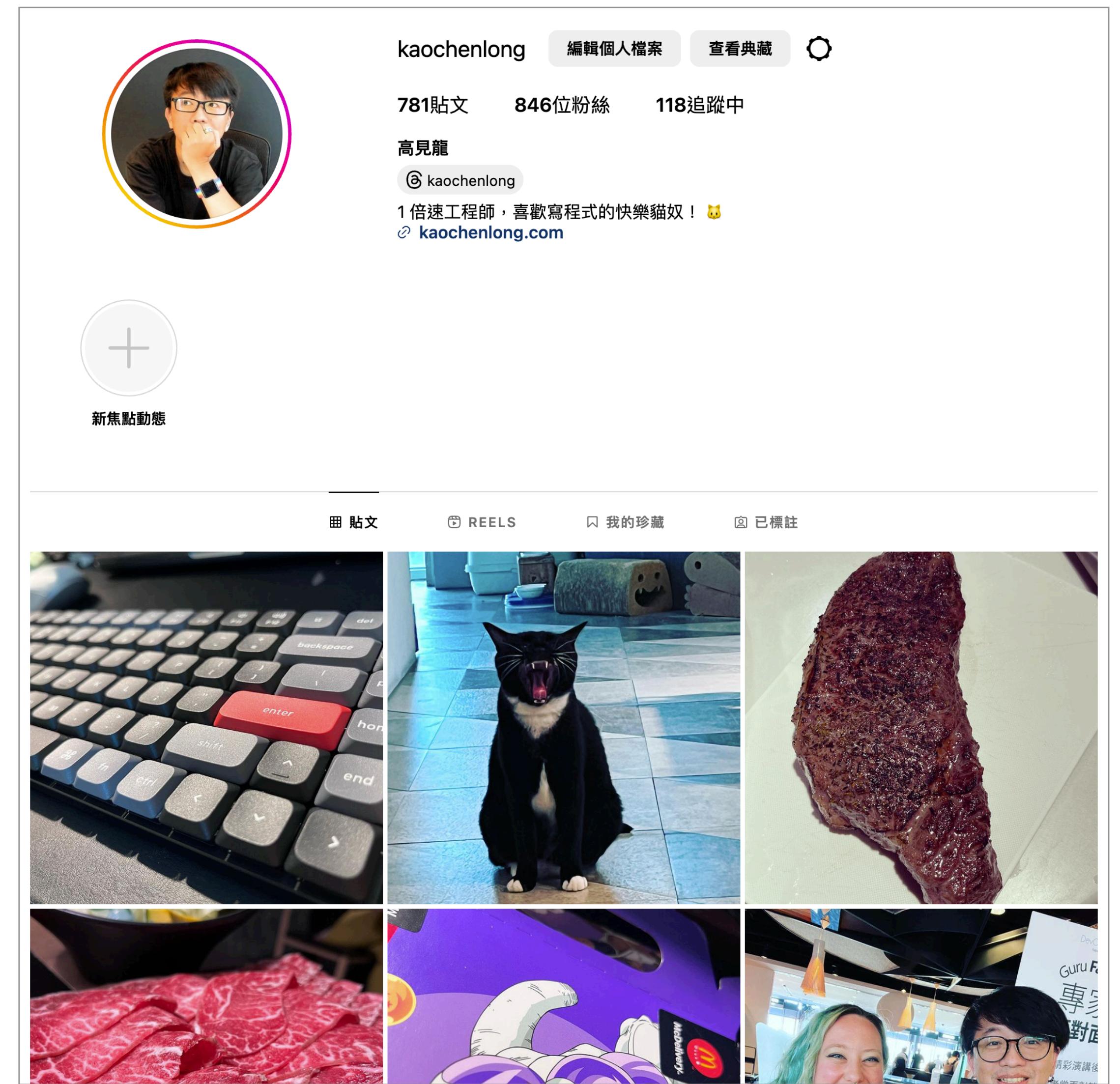
網站開發者、講師、作家

技術推廣、企業訓練、技術諮詢

部落格：[kaochenlong.com](http://kaochenlong.com)



Facebook profile page of Kaochenlong (高見龍). The profile picture is a black and white photo of a black cat with white fur on its chest. The name '高見龍' is displayed in large characters, with '3,535 位朋友' (3,535 friends) below it. The bio section includes a link to '菜市場阿龍 <https://kaochenlong.com>'. The page features a large image of the same black cat in the background. Navigation tabs at the bottom include '貼文' (Posts), '關於' (About), '朋友' (Friends), '相片' (Photos), '影片' (Videos), '連續短片' (Short Videos), and '更多' (More). A '新增到限時動態' (Add to Story) button is visible.



Instagram profile page of Kaochenlong (高見龍). The profile picture is a photo of Kaochenlong, a man with glasses and a black t-shirt. The bio reads: '1倍速工程師，喜歡寫程式的快樂貓奴！' with a cat emoji. The page shows 781 posts, 846 followers, and 118 following. The feed displays a grid of images: a close-up of a keyboard, a black cat yawning on a tiled floor, a large piece of steak, a bowl of raw meat, a purple cartoon character, and a photo of Kaochenlong and a woman with green hair.



# 從亂七八糟到組織**有序**



前端？不就是寫網頁的嘛



# 模組化？



1995 年

JavaScript = 玩具

你知道在最初版本的 JS  
是沒有陣列的嗎？

# 石器時代

# 模組化？



no module

```
<script type="text/javascript">
$( ).ready(function () {
  console.log("MWC 2023");
});
</script>
```



```
<script src="jquery.min.js"></script>

<script type="text/javascript">
$( ).ready(function () {
  console.log("MWC 2023");
});
</script>
```

# 載入的順序很重要

```
<script type="text/javascript">
  $( ).ready( function () {
    console.log("MWC 2023");
  });
</script>
```

```
<script src="jquery.min.js"></script>
```

套件放在 `<head>` 裡，  
自己寫的放 `</body>` 前

# 汙染全域變數

# 使用 IIFE

Immediately Invoked Function Expression

```
const MyApp = MyApp || {}

MyApp.UserModule = (function () {
    // 登入功能
    function login(username, password) {}

    // 登出功能
    function logout() {}

    return { login, logout }
})()
```



模組化!

```
MyApp.UserModule.login("mwc", "2023")
MyApp.UserModule.logout()
```

官方不做，社群做！



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# 戰國時代

# 群魔亂舞 / 群雄割據

CommonJS, AMD/CMD, UMD...etc

# CommonJS

```
// 我是 mwc_mod.js
const MWC = function () {
  console.log("ModernWeb Conference")
}

module.exports.MWC = MWC
```

```
// 我是 main.js
const mod = require("./mwc_mod.js")

console.log(mod) // { MWC: [Function: MWC] }

mod.MWC() // 印出 ModernWeb Conference
```

```
// 我是 mwc_mod.js
const MWC = function () {
  console.log("ModernWeb Conference")
}
```

```
module.exports.MWC = MWC
```



這是什麼?

```
console.log(module)
```

```
// {  
//   id: '.',  
//   path: '/private/tmp/mwc-demo',  
//   exports: { MWC: [Function: MWC] },  
//   filename: '/private/tmp/mwc-demo/m.js',  
//   loaded: 在這裡!  
//   children: [],  
//   paths: [  
//     '/private/tmp/mwc-demo/node_modules',  
//     '/private/tmp/node_modules',  
//     '/private/node_modules',  
//     '/node_modules'  
//   ]  
// }
```

```
console.log(module.exports === exports) // true
```

```
const MWC = function () {  
  console.log("ModernWeb Conference")  
}
```

```
// module.exports.MWC = MWC  
exports.MWC = MWC
```



同樣效果

```
// 我是 mwc_mod.js
const MWC = function () {
  console.log("ModernWeb Conference")
}
```

```
exports.MWC = MWC
exports = "謝謝你 9527"
```



咦?

```
console.log(exports) // 印出 謝謝你 9527
```

```
console.log(module.exports) // { MWC: [Function: MWC] }
```

# 同步載入

# AMD

## Asynchronous Module Definition

# 非同步



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# require.js



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```
// 我是 hello.js
define(function () {
  const hello = function () {
    console.log("HELLO")
  }

  return {
    hello,
  }
})
```

模組

```
// 我是 world.js
define(function () {
  const world = function () {
    console.log("WORLD")
  }

  return {
    world,
  }
})
```

模組

```
<!DOCTYPE html>
<html>
  <head>
    <script src="require.js" data-main="main"></script>
    <title>MWC 2023</title>
  </head>
  <body></body>
</html>
```

發動!

```
// 我是 main.js
require(["hello", "world"], function (h, w) {
  h.hello()
  w.world()
})
```



載入

# UMD

## Universal Module Definition

```
(function (root, factory) {
  if (typeof define === "function" && define.amd) {
    // 是 AMD !
    define(["deps"], factory)
  } else if (typeof exports === "object") { 檢查
    // 是 CommonJS !
    module.exports = factory(require("deps"))
  } else {
    // 其它，來去全域變數上塞東西 !
    root.MyModule = factory(root)
  }
})(this, function (deps) {
  return {
    MWC: function () {
      console.log("ModernWeb Conference")
    },
    year: "2023",
  }
})
```

IIFE



jQuery

```
10840
10841  if ( typeof define === "function" && define.amd ) {
10842    define( "jquery", [], function() {
10843      return jQuery;
10844    } );
10845  }
10846
```

[首頁](#) > [文章列表](#)

# 閱讀原始碼 - 再戰十年的 jQuery

2022.07.31

這是我在 2022 年 COSCUP 研討會上分享的主題。透過檢視 jQuery 設計架構以及欣賞其中一些有趣的寫法，理解設計原理後，試著復刻一個超陽春版的 jQuery：



2015 年

ESM?

ES Module

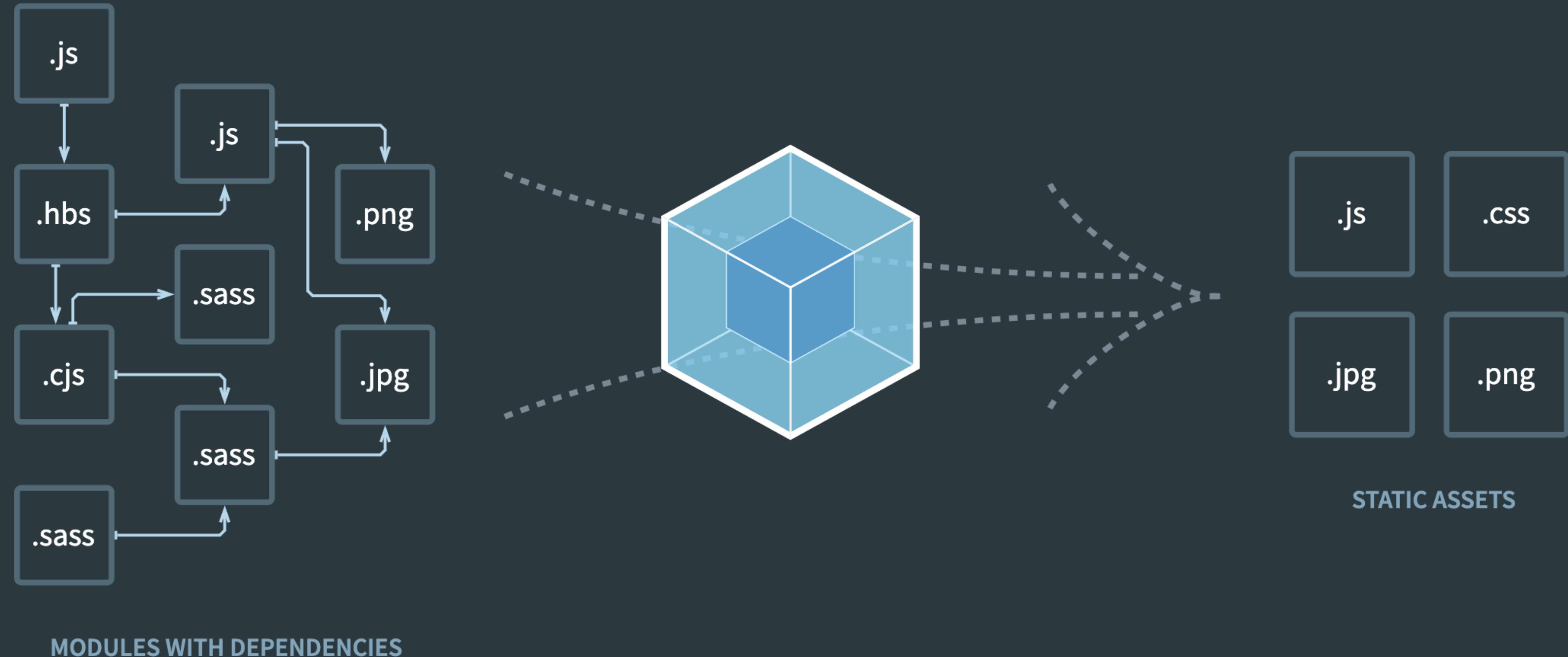
# 工業革命時代

Node = 蒸汽機

轉譯、打包、建置工具！

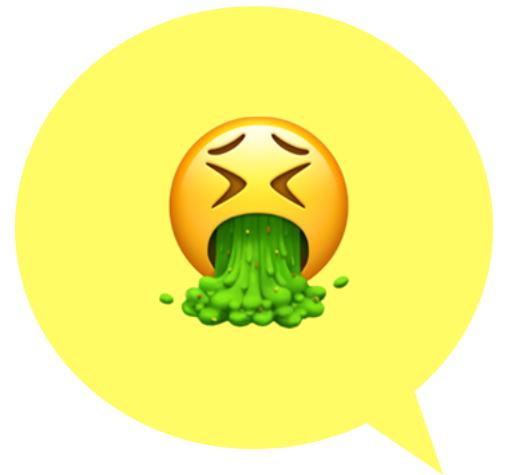


# bundle your assets



# 支援多種模組系統

CommonJS, AMD, ESM...etc



# webpack.config.js



# PARCEL

**The zero configuration  
build tool for the web.**

Parcel combines a great out-of-the-box development experience with a scalable architecture that can take your project from just getting started to massive production application.



```
$ parcel index.html
Server running at http://localhost:1234
Built in 48ms
```

Get started

GitHub

\$ yarn add parcel 

# esbuild



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天下武功，唯快不破

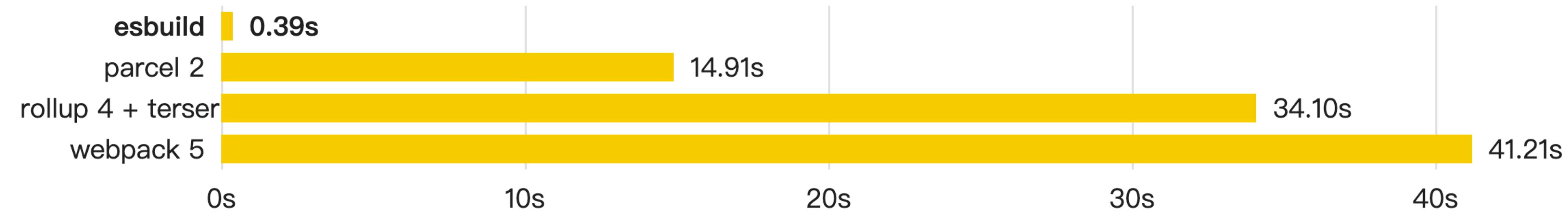


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# esbuild

*An extremely fast bundler for the web*



# 為什麼這麼快？



# Go



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<https://bun.sh/>

 **Bun**

Bun v1.0.11 is now available →

# Bun is a fast JavaScript runtime

Develop, test, run, and bundle JavaScript & TypeScript projects—all with Bun. Bun is an all-in-one JavaScript runtime & toolkit designed for speed, complete with a bundler, test runner, and Node.js-compatible package manager.

**Install Bun v1.0.11**

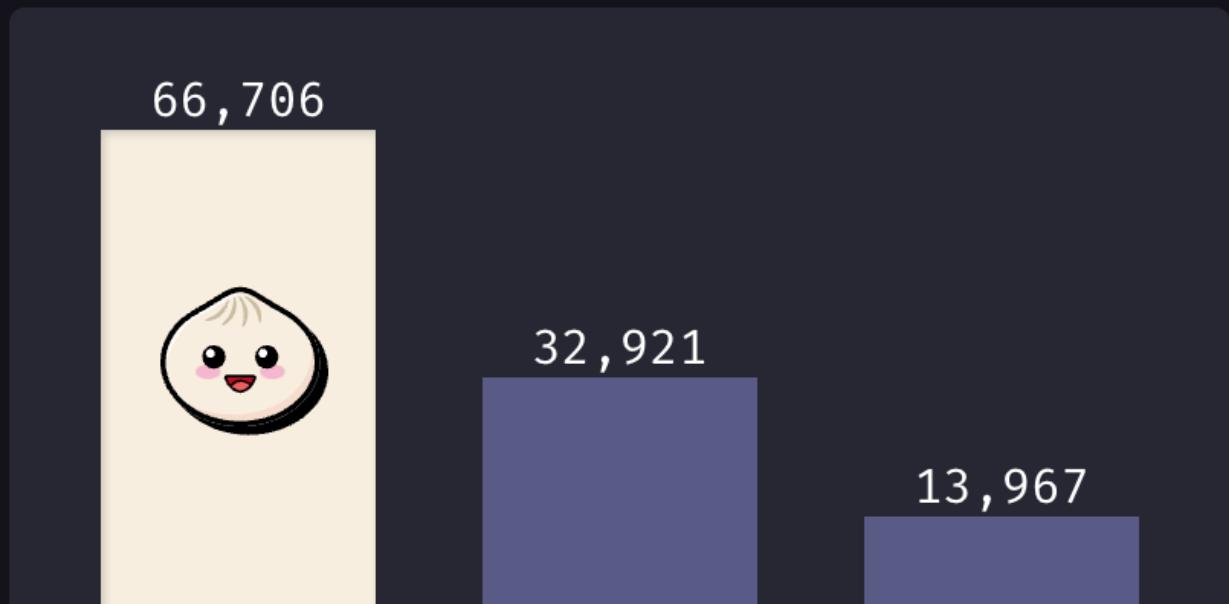
```
$ curl -fsSL https://bun.sh/install | bash
```

Supported on macOS, Linux, and WSL

View source

Bun.serve()   WebSocket   bun:sqlite

Server-side rendering React  
HTTP requests per second (Linux x64)



Runtime	HTTP requests per second (Linux x64)
Bun	66,706
Deno.serve()	32,921
Node.js	13,967

Bun v1.0   Deno.serve() v1.36.2   Node.js 20.5.0

[View benchmark](#)

# Zig



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# 大內捲時代

# rollup.js

## The JavaScript module bundler

Compile small pieces of code into something larger and more complex



Get Started

View on GitHub



### The Web, Node ...

Rollup supports many output formats: ES modules, CommonJS, UMD, SystemJS and more. Bundle not only for the web but for many other platforms as well.

[See all formats →](#)



### Tree-shaking

Superior dead code elimination based on deep execution path analysis with the tool that brought tree-shaking to the JavaScript world.

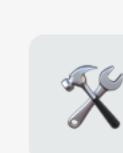
[Learn about tree-shaking →](#)



### Code-splitting without overhead

Split code based on different entry points and dynamic imports by just using the import mechanism of the output format instead of customer loader code.

[How to use code-splitting →](#)



# Tree-Shaking

除屑優化



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```
// 我是 extra_fish.js
const 工具人 = "🔧🔧🔧"

function 多餘() {
  console.log("不是多了塊魚🐟，是多餘，你呀，你根本就是多餘呀你")
}

function MWC(year) {
  return `ModernWeb Conference ${year}`
}

console.log(MWC(2023))
```



- ۹(不曾\*) ➤ rollup extra\_fish.js

`extra_fish.js → stdout...`

`// 我是 extra_fish.js`

```
function MWC(year) {  
  return `ModernWeb Conference ${year}`  
}
```

```
console.log(MWC(2023));
```

# 現代



# 瀏覽器原生支援 ESM!

import vue from 'react'

# 瀏覽器相容性

[Report problems with this compatibility data on GitHub](#)



The screenshot shows a compatibility grid for the 'import' statement across various browsers and platforms. The columns represent different environments, and the rows represent different browser versions. The 'import' statement is supported in all listed environments, with version numbers indicating the earliest version it was introduced.

	Chrome	Edge	Firefox	Opera	Safari	Chrome Android	Firefox for Android	Opera Android	Safari on iOS	Samsung Internet	WebView Android	Deno	Node.js
import	✓ 61	✓ 16	✓ 60	✓ 48	✓ 10.1	✓ 61	✓ 60	✓ 45	✓ 10.3	✓ 8.0	✓ 61	✓ 1.0	✓ 13.2.0
												*	

<https://developer.mozilla.org/zh-TW/docs/Web/JavaScript/Reference/Statements/import>

```
<script type="module">  
</script>
```

```
<!DOCTYPE html>
<html>
  <head>
    <title>MWC 2023</title>
    <script type="module">
      import has from "lodash-es/has.js"
    </script>
  </head>
  <body></body>
</html>
```

主控台 > × 1

筛選 預設層級 ▾

沒有問題

✖ Uncaught TypeError: [index.html:1](#)  
Failed to resolve module specifier  
"lodash-es/has.js". Relative  
references must start with either  
"/", "./", or "../".

```
<!DOCTYPE html>
<html>
  <head>
    <title>MWC 2023</title>
    <script type="module">
      import has from "./node_modules/lodash-es/has.js"
    </script>
  </head>
  <body></body>
</html>
```



```
<!DOCTYPE html>
<html>
  <head>
    <title>MWC 2023</title>
    <script type="module">
      import day from "./node_modules/dayjs/dayjs.min.js"
    </script>
  </head>
  <body></body>
</html>
```

主控台 > 1 | 設定 | ⋮ | 關閉

篩選 預設層級 ▾

沒有問題

✖ Uncaught SyntaxError: [index.html:6](#)  
The requested module  
'./node\_modules/dayjs/dayjs.min.js'  
does not provide an export named  
'default' (at [index.html:6:14](#))

>

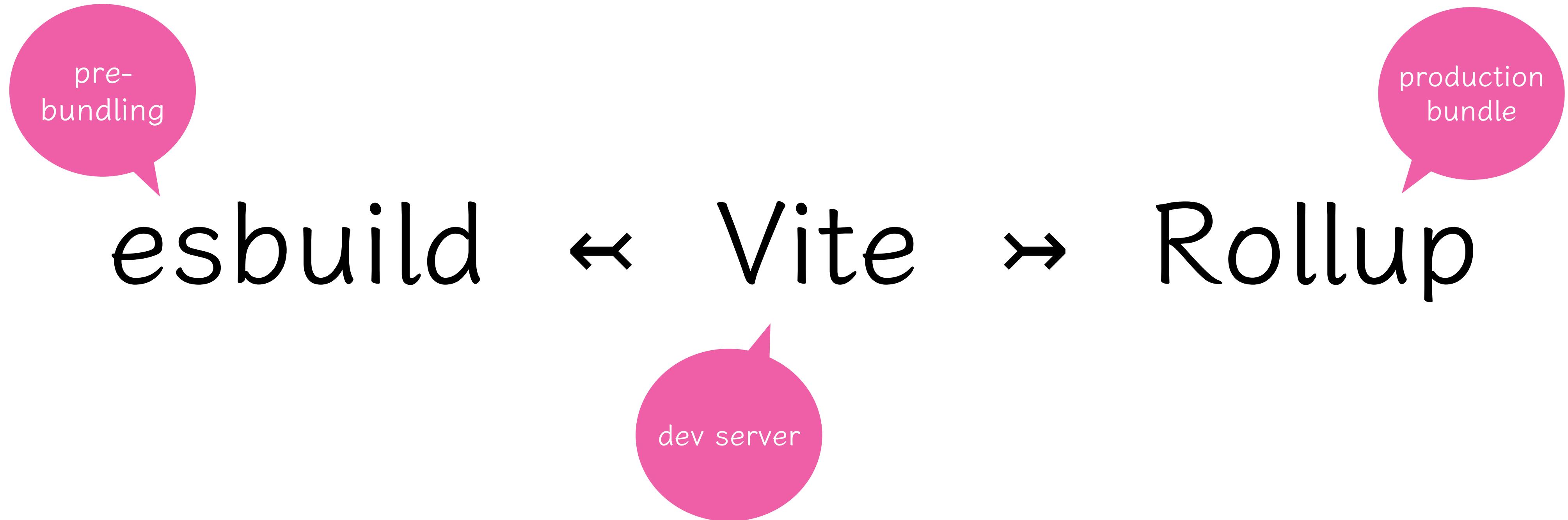
Vite /vit/

# Vite 不是 Vue 的專武！



# Vite 不是打包工具





# HMR



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# Vite 原始碼解讀

2023.10.16



今年的 [iTHome 鐵人賽](#)我挑選的主題之一，是應該沒辦法用來開課賺錢的「Vite 原始碼解讀」。

選擇這個題目的原因是今年八月份我在 [{LaravelxVue} Conf](#) 研討會上分享的主題「被 Vue 框架所耽誤的建置工具：Vite」，可惜只有短短的 40 分鐘的時間，沒辦法介紹太細節的內容。所以我決定在這次鐵人賽活動，30 天分期付款地慢慢跟大家一起研究 Vite 的原始碼，看看能不能發現什麼有趣的東西。



Evan You  
@youyuxi

...

The cat is out of the bag: we are working on Rolldown, a rust port of Rollup. 🦀

- Focus: performance with best-effort compatibility with Rollup
- Goal: replace esbuild and Rollup in Vite with minimal impact on end users

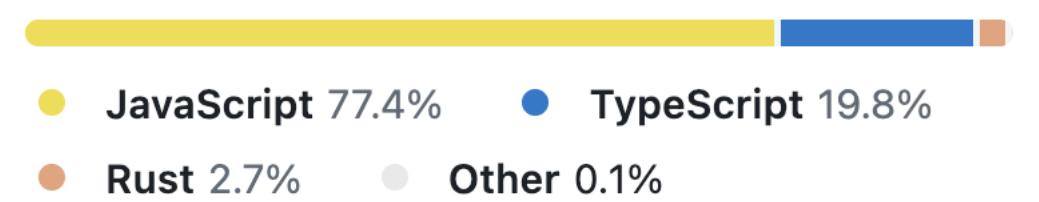
ポストを翻訳

午後10:46 · 2023年10月5日 · 32.7万 件の表示

<https://twitter.com/youyuxi/status/1709943106215530867>

# Rollup ↨ Rolldown

Languages



# Rust



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<https://5xcamp.us/ithome-rust>



高見龍 (aquarianboy)  
IT邦研究生 5 級 · 點數 1690  
五倍學院負責人

個人背景 0 發問 269 文章 0 回答 1 邀請回答 0 最佳解答

94560 累計瀏覽數 429 人 在追蹤 [設定](#)

### 鐵人檔案

• 2023 iThome 鐵人賽 [回列表](#)

Software Development

#### 為你自己學 Rust 系列

如其標題，學習不需要為公司、長官或同事，不需要為別人，只為你自己。只是這回不是我自己最喜歡 & 最熟悉的程式語言 Ruby，而是跟它同樣都是 Rii 關係的 Rust !

[展開 ↴](#)

鐵人鍊成 | 共 30 篇文章 | 65 人訂閱 [RSS 系列文](#)

4 Like 0 留言 621 瀏覽 DAY 1

#### [為你自己學 Rust] 前言

本文同步刊載於 [為你自己學 Rust] 前言 嘿，各位好！我平常的工作主要是教學、企業訓練以及網站專案開發，所以這二十多年來大部份的技術堆疊、工作圈以...

2023-09-16 · 由 [高見龍](#) 分享

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3 Like 0 留言 406 瀏覽 DAY 2

#### [為你自己學 Rust] 哈囉，Rust !

本文同步刊載於 [為你自己學 Rust] 哈囉，Rust ! 據說，在很早很早以前，有某位美國貝爾實驗室的大大在他們內部的技術文件的範例程式碼裡提到了 He...

2023-09-17 · 由 [高見龍](#) 分享

### 高見龍的鐵人檔案

- ☆ 高見龍的收藏
- ♡ 高見龍的追蹤
- 👍 高見龍的Like
- 👤 高見龍的紀錄
- 🔗 高見龍的訂閱列表
- 🔒 封鎖清單



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# importmap



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```
<script type="module">  
</script>
```

```
<script type="importmap">  
</script>
```

```
<!DOCTYPE html>
<html>
  <head>
    <title>MWC 2023</title>
    <script type="importmap">
      {
        "imports": {
          "dayjs": "https://ga.jspm.io/npm:dayjs@1.11.7/dayjs.min.js"
        }
      }
    </script>
  </head>
  <body></body>
</html>
```

這不就 CDN 嗎？

```
<!DOCTYPE html>
<html>
  <head>
    <title>MWC 2023</title>
    <script type="importmap">
      {
        "imports": {
          "dayjs": "https://ga.jspm.io/npm:dayjs@1.11.7/dayjs.min.js",
          "mwc-day": "https://ga.jspm.io/npm:dayjs@1.11.7/dayjs.min.js"
        }
      }
    </script>
    <script type="module">
      import day from "dayjs"
      import d from "mwc-day"
    </script>
  </head>
  <body></body>
</html>
```

no bundle

這樣效能好嗎？CDN 穩定嗎？

優惠特價

# 坐上 Git 時光機 版本控制課程

## 坐上 Git 時光機 - 版本控制 (初階 + 進階)

活動期間：自 11/03 起到 11/26 止

活動促銷

NT\$5,850

實體課程

# 坐上 Git 時光機 版本控制課程

高見龍

優惠特價

Rails 開發者的  
進階實戰課程

開發必學的  
需求分析法

開發者的需求分析與進階實戰

活動期間：自 11/06 起到 12/10 止

活動促銷 NT\$6,750

實體課程

坐上 Git 時光機  
版本控制課程

高見龍

```
1 <!DOCTYPE html>
2 <html lang="zh-TW">
3   <head>
4     <title>五倍紅寶石 · 五倍學院 | 線上課程、網站架設、跨領域轉職</title>
5   <meta name="description" content="五倍紅寶石 · 五倍學院擁有業界強大師資群，程式課程多元，提供實體、線上課程選擇，由20年業界經驗的高見龍領軍，經驗值滿點"
6   <meta property="og:title" content="五倍紅寶石 · 五倍學院 | 線上課程、網站架設、跨領域轉職">
7   <meta property="og:type" content="website">
8   <meta property="og:site_name" content="五倍學院">
9   <meta property="og:url" content="https://5xcampus.com/">
10  <meta property="og:image" content="/images/default-og-image.jpeg">
11  <meta property="og:description" content="五倍紅寶石 · 五倍學院擁有業界強大師資群，程式課程多元，提供實體、線上課程選擇，由20年業界經驗的高見龍領軍，經驗值滿點"
12    <meta name="viewport" content="width=device-width,initial-scale=1">
13    <link rel="icon" type="image/x-icon" href="https://dmh6legpso131.cloudfront.net/favicon.ico" />
14    <meta name="csrf-param" content="authenticity_token" />
15  <meta name="csrf-token" content="bUPKwtUrxA1znpw1DomnhhUTis00si-_CRN47FcB_5yJdNTh6DlBwQky3Md86zLJvAyeMI19-Uq5RFAwZLdFnQ" />
16
17    <link rel="stylesheet" href="https://dmh6legpso131.cloudfront.net/assets/tailwind-e60eaeecc3f41aaa637e0bca56b6036e54b81dc850685e.css" />
18  <link rel="stylesheet" href="https://dmh6legpso131.cloudfront.net/assets/inter-font-8c3e82affb176f4bca9616b838d906343d1251adc8408ef.css" />
19    <link rel="stylesheet" href="https://dmh6legpso131.cloudfront.net/assets/frontend/application-3f2bf9057aa57dfc519511faec08df62dc.css" />
20    <script type="importmap" data-turbo-track="reload">{
21   "imports": {
22     "application": "https://dmh6legpso131.cloudfront.net/assets/application-38a73f68db5995d9ae340b071bc8a06aa0268ac909a22566ee49dc20.css",
23     "@hotwired/turbo-rails": "https://dmh6legpso131.cloudfront.net/assets/turbo.min-f309baafa3ae5ad6ccee3e7362118b87678d792db8e8ab46.css",
24     "@hotwired/stimulus": "https://dmh6legpso131.cloudfront.net/assets/stimulus.min-d03cf1dff41d6c5698ec2c5d6a501615a7a33754dbeef8d.css",
25     "@hotwired/stimulus-loading": "https://dmh6legpso131.cloudfront.net/assets/stimulus-loading-1fc59770fb1654500044af3f5f6d7d0080.css",
26     "fontawesome": "https://kit.fontawesome.com/91870b523f.js",
27     "choices.js": "https://ga.jspm.io/npm:choices.js@10.1.0/public/assets/scripts/choices.js",
28     "sortablejs": "https://ga.jspm.io/npm:sortablejs@1.15.0/modular/sortable.esm.js",
29     "@rails/request.js": "https://ga.jspm.io/npm:@rails/request.js@0.0.6/src/index.js",
30     "@rails/activestorage": "https://ga.jspm.io/npm:@rails/activestorage@6.0.5/app/assets/javascripts/activestorage.js",
31     "easymde": "https://ga.jspm.io/npm:easymde@2.16.1/src/js/easymde.js",
32     "codemirror": "https://ga.jspm.io/npm:codemirror@5.65.2/lib/codemirror.js",
33     "codemirror-spell-checker": "https://ga.jspm.io/npm:codemirror-spell-checker@1.1.2/src/js/spell-checker.js",
34     "codemirror/addon/display/autorefresh.js": "https://ga.jspm.io/npm:codemirror@5.65.2/addon/display/autorefresh.js",
35     "codemirror/addon/display/fullscreen.js": "https://ga.jspm.io/npm:codemirror@5.65.2/addon/display/fullscreen.js",
36     "codemirror/addon/display/placeholder.js": "https://ga.jspm.io/npm:codemirror@5.65.2/addon/display/placeholder.js",
37     "codemirror/addon/edit/continuelist.js": "https://ga.jspm.io/npm:codemirror@5.65.2/addon/edit/continuelist.js",
38     "codemirror/addon/mode/overlay.js": "https://ga.jspm.io/npm:codemirror@5.65.2/addon/mode/overlay.js",
39     "codemirror/addon/search/searchcursor.js": "https://ga.jspm.io/npm:codemirror@5.65.2/addon/search/searchcursor.js",
40     "codemirror/addon/selection/mark-selection.js": "https://ga.jspm.io/npm:codemirror@5.65.2/addon/selection/mark-selection.js",
41     "codemirror/mode/gfm.js": "https://ga.jspm.io/npm:codemirror@5.65.2/mode/gfm/gfm.js",
42     "codemirror/mode/markdown/markdown.js": "https://ga.jspm.io/npm:codemirror@5.65.2/mode/markdown/markdown.js",
43     "codemirror/mode/xml/xml.js": "https://ga.jspm.io/npm:codemirror@5.65.2/mode/xml/xml.js",
44     "fs": "https://ga.jspm.io/npm:@jspm/core@2.0.0-beta.21/nodelibs/browser/fs.js",
45     "marked": "https://ga.jspm.io/npm:marked@4.0.12/lib/marked.cjs",
46     "typo-js": "https://ga.jspm.io/npm:typo-js@2.1.2/typo.js",
47     "highlight.js": "https://ga.jspm.io/npm:highlight.js@11.5.0/es/index.js",
48     "stimulus-use": "https://ga.jspm.io/npm:stimulus-use@0.50.0-2/dist/index.js",
49     "hotkeys-js": "https://ga.jspm.io/npm:hotkeys-js@3.9.0/dist/hotkeys.esm.js",
50     "notyf": "https://ga.jspm.io/npm:notyf@3.10.0/notyf.es.js",
51     "tus-js-client": "https://ga.jspm.io/npm:tus-js-client@2.3.1/lib.esm/browser/index.js",
52     "js-base64": "https://ga.jspm.io/npm:js-base64@2.6.4/base64.js",
53     "querystringify": "https://ga.jspm.io/npm:querystringify@2.2.0/index.js",
54     "requires-port": "https://ga.jspm.io/npm:requires-port@1.0.0/index.js",
55     "url-parse": "https://ga.jspm.io/npm:url-parse@1.5.10/index.js",
56     "video.js": "https://ga.jspm.io/npm:video.js@7.18.1/dist/video.es.js",
57     "@babel/runtime/helpers/assertThisInitialized": "https://ga.jspm.io/npm:@babel/runtime@7.18.6/helpers/esm/assertThisInitialized",
58     "@babel/runtime/helpers/construct": "https://ga.jspm.io/npm:@babel/runtime@7.18.6/helpers/esm/construct.js",
59   }
60 }
```



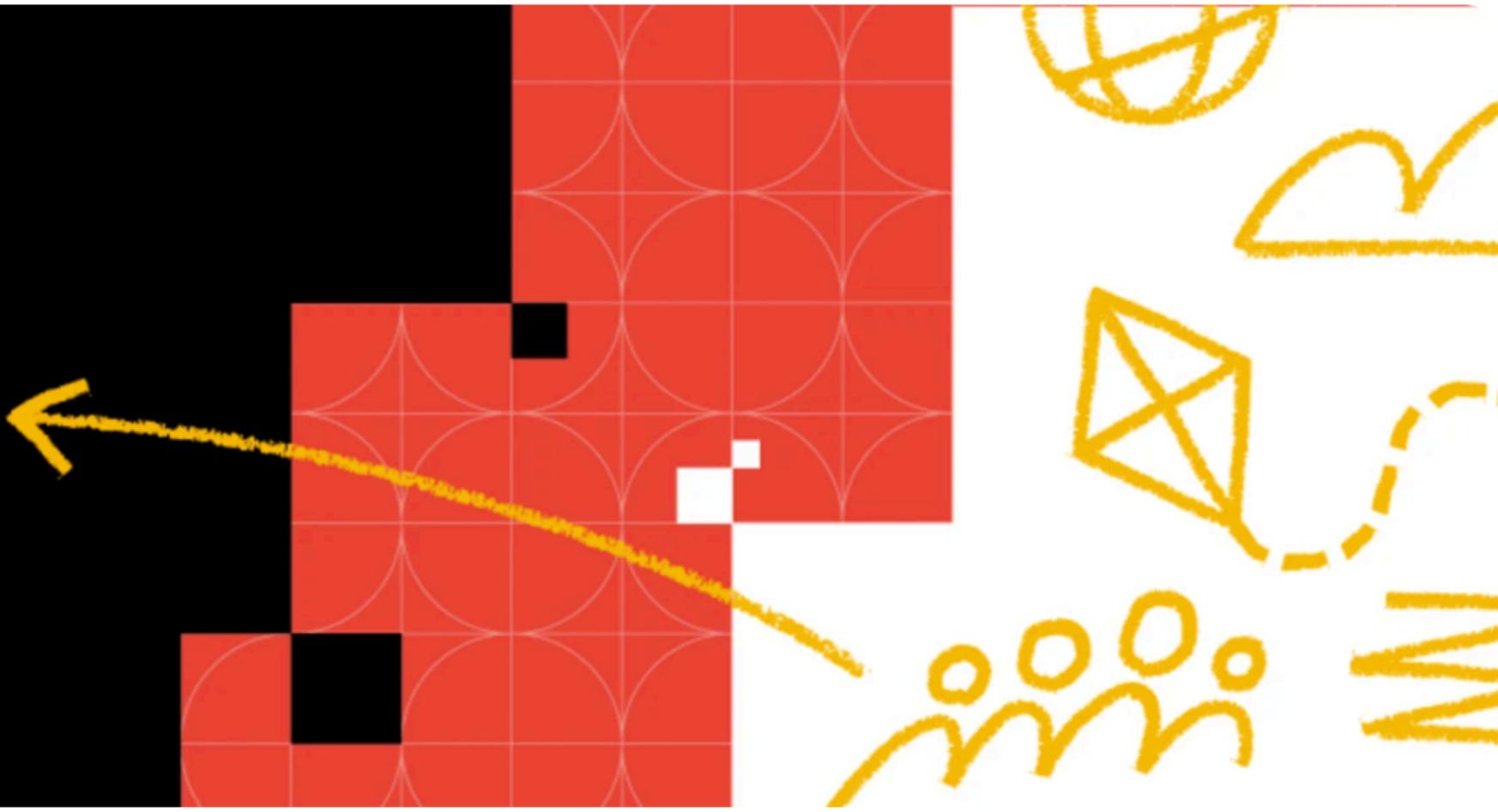
# 擺脫 node\_modules!

更多關於 importmap

```
t context) {  
  
    n(Color color, IconData icon,  
  
    isSize.min,  
    mainAxisAlignment.center,  
  
    color),  
  
    paddingInsets.only(top: 8),  
  
    height.w400,
```

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# devfest



## DevFest Taipei 2023

國立臺灣大學共同教學館, 羅斯福路四段, 台北市, 106

[GDG Taipei](#)

DevFest 是由 Google 開發者社群 (GDG) 主辦的年度技術大會。DevFest 是全球性的活動，每年在全球各地舉辦，涵蓋的技術領域廣泛，包括 Android、Web、雲端、機器學習等。DevFest 的目的在於促進開發者交流和分享，幫助開發者學習新技術、建立人脈，並了解 Google 最新的開發者工具和技術。  
講者募集中，可至 <https://gdg.tw/link/UdTb> 投稿

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