

ng-tw

< Angular 开发技巧 >



多奇數位創意有限公司

技術總監 黃保翕 (Will 保哥)

<http://blog.miniasp.com/>



Will 保哥 (黃保翕)



- 現任多奇數位創意有限公司技術總監
- 台灣 Angular 社群核心成員 (Angular Taiwan)
- 2018 年榮獲 [Angular/Web GDE](#) (谷歌开发者专家)
- 2008 至今連續 11 度獲選 Microsoft MVP
- 每年在台灣約有十幾場演講與數十場培訓課程
- 出版著作有 ASP.NET MVC 2 開發實戰、Windows Phone 開發實戰、ASP.NET MVC 4 開發實戰等書籍。



ng-tw

Angular 開發心法

先擁有觀念，再培養速度



擁有觀念

- Angular 啟動生命週期
- Angular 執行生命週期
- Angular 表單開發技巧
- Angular 狀態管理技巧
- Angular 元件開發觀念
- 熟悉常用第三方元件
- 多頁面路由開發觀念
- 效能調校與變更偵測
- 單元測試與整合測試
- 模組封裝與發行





绝世武功

培養速度

- 培養盲打能力
- 先求準度再談速度
- 務必熟悉開發工具
- 編程的心流模式 (Flow)

ng-tw

Angular CLI

改善前端開發環境的終極武器



使用 Schematics 實現開發自動化

- `ng new demo1 --routing --style css`
- `ng generate component hello`
- `ng update`
- 自訂代碼產生器
 - 以 [Manfred Steyer](#) 的 [angular-crud](#) 為例
 - `ng g angular-crud:crud-module hotel`
- `ng add @angular/elements`
- `ng add @angular/material`
- `ng add @angular/pwa`
- `ng add @clr/angular`
- `ng add @nativescript/schematics`
- `ng add ng-zorro-antd`
- `ng add ngcli-wallaby`



ng new / ng add / ng generate 互動式介面

```
C:\> ng new demo2  
  
G:\Projects>ng new demo2  
? Would you like to add Angular routing? Yes  
? Which stylesheet format would you like to use?  
  CSS  
> SCSS    [ http://sass-lang.com      ]  
  SASS     [ http://sass-lang.com      ]  
  LESS     [ http://lesscss.org        ]  
  Stylus   [ http://stylus-lang.com    ]
```

ng new demo1 --routing --style css



ng add @angular/material

```
G:\Projects\demo1>ng add @angular/material
Installing packages for tooling via npm.
npm WARN @angular/material@7.0.4 requires a peer of @angular/cdk@7.0.4 but none is installed. You must
install peer dependencies yourself.
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@1.2.4 (node_modules\fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@1.2.4: wanted {"os":"da
rwin","arch":"any"} (current: {"os":"win32","arch":"x64"})

+ @angular/material@7.0.4
added 1 package and audited 39135 packages in 19.083s
found 0 vulnerabilities

Installed packages for tooling via npm.
? Choose a prebuilt theme name, or "custom" for a custom theme:
> Indigo/Pink [ Preview: https://material.angular.io?theme=indigo-pink ]
  Deep Purple/Amber [ Preview: https://material.angular.io?theme=deeppurple-amber ]
  Pink/Blue Grey [ Preview: https://material.angular.io?theme=pink-bluegrey ]
  Purple/Green [ Preview: https://material.angular.io?theme=purple-green ]
  Custom
```



自動更新與升級 Angular 應用程式

- <https://update.angular.io/>
- 更新過時的 rxjs 寫法

```
npm install -g rxjs-tslint
rxjs-5-to-6-migrate -p src/tsconfig.app.json
npm uninstall rxjs-compat
```
- 升級到 Angular v7 最新版本

```
npm install @angular/cli
ng update @angular/cli @angular/core
ng update @angular/material
```



善用 Angular CLI v7 的 Bundle Budgets 功能

```
30     "configurations": {  
31       "production": {  
32         "fileReplacements": [  
33           {  
34             "replace": "src/environments/environment.ts",  
35             "with": "src/environments/environment.prod.ts"  
36           }  
37         ],  
38         "optimization": true,  
39         "outputPath": "dist",  
40         "sourceMap": false,  
41         "vendorChunk": true,  
42         "webpack": true,  
43         "extractCss": true,  
44         "namedChunks": false,  
45         "aot": true,  
46         "namedInlinedChunks": true,  
47       "budgets": [  
48         {  
49           "type": "initial",  
50           "maximumWarning": "2mb",  
51           "maximumError": "5mb"  
52         }  
53       ]  
54     }  
55   }
```

angular.json



包的預算警示 200kB / 錯誤 500kB

```
G:\Projects\demo1>ng build --prod
```

```
Date: 2018-11-14T17:16:41.799Z
```

```
Hash: 805dbba822221ef429c0
```

```
Time: 20184ms
```

```
chunk {0} runtime.ec2944dd8b20ec099bf3.js (runtime) 1.41 kB [entry] [rendered]
```

```
chunk {1} main.03731d229824b993b278.js (main) 253 kB [initial] [rendered]
```

```
chunk {2} polyfills.c6871e56cb80756a5498.js (polyfills) 37.5 kB [initial] [rendered]
```

```
chunk {3} styles.3bb2a9d4949b7dc120a9.css (styles) 0 bytes [initial] [rendered]
```

```
WARNING in budgets, maximum exceeded for initial. Budget 200 kB was exceeded by 92.1 kB.
```



包的預算警示 200kB / 錯誤 250kB

```
G:\Projects\demo1>ng build --prod
```

```
Date: 2018-11-14T17:16:41.799Z
```

```
Hash: 805dbba822221ef429c0
```

```
Time: 20184ms
```

```
chunk {0} runtime.ec2944dd8b20ec099bf3.js (runtime) 1.41 kB [entry] [rendered]
```

```
chunk {1} main.03731d229824b993b278.js (main) 253 kB [initial] [rendered]
```

```
chunk {2} polyfills.c6871e56cb80756a5498.js (polyfills) 37.5 kB [initial] [rendered]
```

```
chunk {3} styles.3bb2a9d4949b7dc120a9.css (styles) 0 bytes [initial] [rendered]
```

```
WARNING in budgets, maximum exceeded for initial. Budget 200 kB was exceeded by 92.1 kB.
```

```
ERROR in budgets, maximum exceeded for initial. Budget 250 kB was exceeded by 42.1 kB.
```



ng-tw

Visual Studio Code

最貼心的 Angular 開發工具



導航程式碼的利器

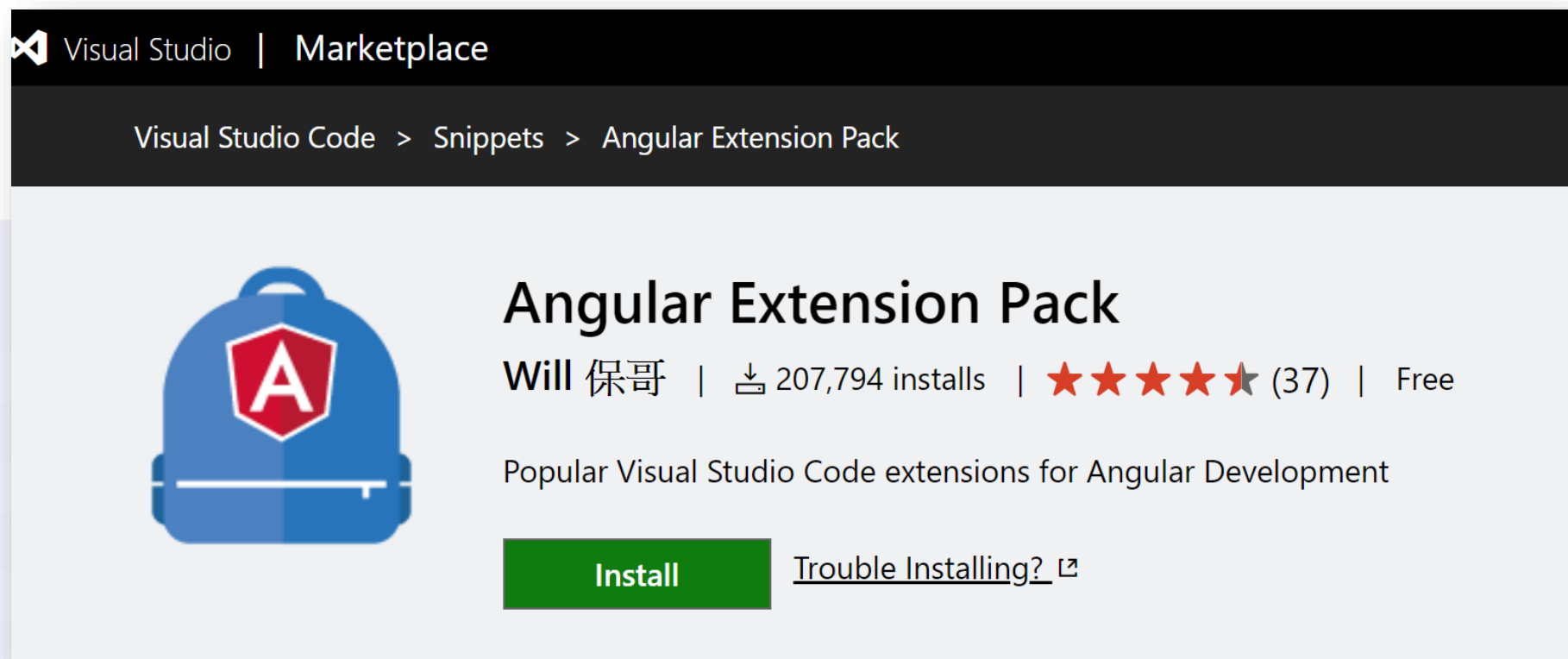
- 不要使用 VSCode 資源管理器 (EXPLORER)
- 一律使用 **Ctrl+E** 快捷鍵查找檔案 (命令: `workbench.action.quickOpen`)
 - 善加利用模糊比對機制 (Fuzzy matching)
- 快速開啟最近檔案
 - 後退：**Alt+←** (命令: `workbench.action.navigateBack`)
 - 前進：**Alt+→** (命令: `workbench.action.navigateForward`)
- 編輯器上方的導航路徑 (Breadcrumbs)
 - 啟動導航：**Ctrl+Shift+.** (命令: `breadcrumbs.toggleToOn`)
 - 向左移動：**Ctrl+←** (命令: `breadcrumbs.focusPrevious`)
 - 向右移動：**Ctrl+→** (命令: `breadcrumbs.focusNext`)



Angular Extension Pack

請認明 **Will 保哥** 出品


- 請安裝 [Angular Extension Pack](#) 擴充套件



The screenshot shows the Visual Studio Marketplace interface. At the top, the breadcrumb navigation reads 'Visual Studio Code > Snippets > Angular Extension Pack'. The main content area features the 'Angular Extension Pack' by 'Will 保哥'. The extension's icon is a blue hard hat with a red shield and a white 'A' on it. To the right of the icon, the title 'Angular Extension Pack' is displayed in large black font. Below the title, the author 'Will 保哥' is listed, followed by '207,794 installs', a 4.5-star rating from 37 reviews, and the word 'Free'. A description below states 'Popular Visual Studio Code extensions for Angular Development'. At the bottom of the card, there is a green 'Install' button and a link for 'Trouble Installing?' with an external link icon.

Visual Studio | Marketplace

Visual Studio Code > Snippets > Angular Extension Pack



Angular Extension Pack

Will 保哥 | 207,794 installs | ★★★★★ (37) | Free

Popular Visual Studio Code extensions for Angular Development

[Install](#) [Trouble Installing?](#)



Angular Language Service

- 提供元件範本中所有必要的 IntelliSense 支援
- 提供 AOT 診斷訊息
- 提供 Directives 相關信息
- 轉到定義 (Go to definition)



快速切換元件內的不同檔案

- 快速切換至元件範本 (*.html)
 - 快速鍵：**alt+o** (Windows) / **shift+alt+o** (macOS)
- 快速切換至元件樣式 (*.css)
 - 快速鍵：**alt+i** (Windows) / **shift+alt+i** (macOS)
- 快速切換至元件類 (*.ts)
 - 快速鍵：**alt+u** (Windows) / **shift+alt+u** (macOS)
- 快速切換至元件 Spec 檔 (*.spec.ts)
 - 快速鍵：**alt+p** (Windows) / **shift+alt+p** (macOS)



養成使用代碼片段的習慣

- 大量利用 Code Snippets 完成代碼
 - `ng-import-*` 導入常見的 Angular 模組與服務元件
 - `a-*` Angular v7 Snippets
 - `ng-*` Angular Snippets
 - `ngrx-*` Angular NgRx Snippets
 - `ngxs-*` Angular Ngxs Snippets
 - `m-*` Angular Material Design Snippets
 - `rx-*` RxJS Snippets for both TypeScript and JavaScript



使用 TSLint 優化代碼品質

- 內建命令
 - TSLint: Fix all auto-fixable problems (命令: tslint.fixAllProblems)
- 用戶設置
 - **"tslint.autoFixOnSave": true**
- [TSLint core rules](#) (tslint.json)
 - **import-blacklist**
 - **prefer-const**



多利用 TypeScript 重構功能 (Refactoring)

- Code Actions = Quick Fixes
 - `Ctrl+.`
- Rename symbol
 - `F2`
- Change All Occurrences
 - `Ctrl+F2` / `CMD+F2`
- Move TS
 - Move TypeScript files and update relative imports
- Refactoring actions
 - Extract Method
 - Extract Variable
 - Extract function
 - Extract constant
 - Suggestion Code Action (...)
 - Generate 'get' and 'set' accessors
 - Move to new file
 - Convert to async function
 - Convert between named imports and namespace imports



活用 TypeScript 型別宣告

- [JSON to TS](#)

- **Ctrl+Alt+V** 從剪貼簿中的 JSON 字串轉換為 TypeScript 介面
- **Ctrl+Alt+S** 從選取的 JSON 字串轉換為 TypeScript 介面

- [Paste JSON as Code](#)

- 支持 TypeScript, Python, Go, Ruby, C#, Java, Swift, Rust, Kotlin, C++, Flow, Objective-C, JavaScript, Elm, and JSON Schema 等程式語言。
- 先選取語言模式，再執行 Paste JSON as Code/Type 命令
- Paste JSON as Code (命令: `quicktype.pasteJSONAsTypesAndSerialization`)
- Paste JSON as Type (命令: `quicktype.pasteJSONAsTypes`)



自動產生代碼文檔

- Document This
 - 連按 **Ctrl+Alt+D** 兩次就會自動產生註解範本！



遵循 Angular Style Guide 指引方針

- <https://angular.io/guide/styleguide>
 - 每個檔案只放一個元件
 - 每個檔案不超過 400 行，每個函式不超過 75 行
 - 命名不要用 dash 也不要偷懶用縮寫
 -
- 有空就認真看一遍
- 沒空就用 Angular CLI
 - `ng generate` 產生程式碼骨架
 - `ng lint` 檢查程式碼撰寫風格 ([codelyzer](#))
 - 搭配 TSLint 自動進行風格檢查



相關連結

- [Version 7 of Angular — CLI Prompts, Virtual Scroll, Drag and Drop and more](#)
- [How Did Angular CLI Budgets Save My Day And How They Can Save Yours](#)
- [Angular Extension Pack - Visual Studio Marketplace](#)
- [Angular CLI Command Reference](#)
- [Angular Update Guide](#)
- [Angular Style Guide](#)



< THANK YOU >



2018 ngChina 开发者大会