



Angular Component 也可以這樣玩



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About Me

- Angular User Group Taiwan 管理員之一
- 線上 Angular 讀書會主持人
- 這一年多來沉迷於 Angular 與 Typescript
- <https://www.facebook.com/CKNotepad/>



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Agenda

📌 了解 Angular 啟動 Component 的方法

📌 使用情境

📌 DEMO

📌 Q&A



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Angular 啟動 Component 的順序

進入點 main.ts，決定要啟動哪一個 Module

```
platformBrowserDynamic().bootstrapModule(AppModule);
```



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Angular 啟動 Component 的順序

AppModule 的 bootstrap 決定要啟動哪一個 component

```
    AppComponent
  ],
  imports: [
    BrowserModule
  ],
  providers: [],
  bootstrap: [AppComponent]
})
```

2 references

```
export class AppModule { }
```



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有些事情讓你知道

- ❖ NgModule 的 bootstrap 允許一次啟動多個 component
- ❖ Index.html 可以使用多個自訂 Element Tag

```
<body>  
  <app-root></app-root>  
  <app-news></app-news>  
</body>
```

```
providers: [],  
bootstrap: [  
  AppComponent,  
  NewsComponent  
]
```



這是秘密

- 要手動啟動的 component 設定於 entryComponents 內
- 新增 ngDoBootstrap 方法

```
    entryComponents: [AppComponent],  
  })  
2 references  
export class AppModule {  
  0 references  
  ngDoBootstrap(appRef: ApplicationRef) {}  
}
```



Angular底層的方法

1 reference

```
private _moduleDoBootstrap(moduleRef: InternalNgModuleRef<any>): void
{
  const appRef = moduleRef.injector.get(ApplicationRef) as
    ApplicationRef;
  if (moduleRef._bootstrapComponents.length > 0) {
    moduleRef._bootstrapComponents.forEach(f => appRef.bootstrap(f));
  } else if (moduleRef.instance.ngDoBootstrap) {
    moduleRef.instance.ngDoBootstrap(appRef);
  } else {
    throw new Error(
      `The module ${stringify(moduleRef.instance.constructor)} was
        bootstrapped, but it does not declare "@NgModule.bootstrap"
        components nor a "ngDoBootstrap" method. ` +
      `Please define one of these.`);
  }
  this._modules.push(moduleRef);
}
```



手動啟動(續)

- ApplicationRef 提供 bootstrap 的方法，可以啟動 component

```
export class AppModule {  
  0 references  
  ngDoBootstrap(appRef: ApplicationRef) {  
    appRef.bootstrap(AppComponent);  
  }  
}
```





知道基本 Component 啟動的方式了

接下來呢？



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使用情境

- ❖ 既有網站，部分區塊希望更換成 Angular Component，提升使用體驗和維護門檻
- ❖ 網站部分需要顯示更新頻率高的內容





實際範例 – NBA.COM

The screenshot shows the NBA.COM website with a focus on the 2017 NBA Finals. The header includes the NBA logo and navigation links like Scores, Schedule, News, Draft, Playoffs, Video, Standings, Stats, Players, and Teams. A prominent banner at the top reads "抽美國 NBA 之旅" (Win a trip to the USA). Below this, there's a section for "2017 NBA CHAMPIONS GEAR" with a "SHOP NOW" button. The main content area features a list of news items: "Report: Sixers looking to trade up for No. 1 pick", "NBA suspends Pistons' Bullock, Pacers' Ellis", "Bucks tab Horst as new general manager", "Shootaround: Ball may talk to other lottery teams", and "Schedule for 2017 Summer League released". To the right, there's a section for "2017 NBA CHAMPIONS" with a "SHOP NOW" button and a "Complete Coverage Of 2017 Draft" link. Below the news items, there's a large image of a crowd celebrating the 2017 NBA Championship, with the text "Warriors, Fans Celebrate 2017 Championship". To the left of the main content, there's a sidebar with "ALL GAMES" and "MY GAMES" tabs. The "ALL GAMES" tab is selected, showing a list of games: "Game 1: GSW leads 1-0", "Game 2: GSW leads 2-0", "Game 3: GSW leads 3-0", and "Game 4: GSW leads 3-1". Each game entry includes the date, league pass status, and the final score. For example, Game 1: GSW leads 1-0, THURSDAY, JUNE 1 - LEAGUE PASS, CLE 91 FINAL GSW 113. The sidebar also includes a "HIDE SCORES" button and a "Live There with Airbnb" link.

The screenshot shows the AngularJS developer tools interface. The "Component Tree" tab is active, displaying a tree structure of components. The "Scoreboard" component is selected, showing its properties and dependencies. The "Properties" panel on the right shows the "Scoreboard" component's properties, including "Scoreboard (View Source)" and "Change Detection: Default". The "Dependencies" panel shows the component's dependencies, including "DateNav", "div", and "div". The "Router Tree" and "NgModules" tabs are also visible at the top of the developer tools.



實際範例 – NBA.COM











 [Scores](#) [Schedule](#) [News](#) [Draft](#) [Playoffs](#) [Video](#) [Standings](#) [Stats](#) [Players](#) [Teams](#) [NBA LEAGUE PASS](#) [Store](#) [Tickets](#) 

CONF.

DIV.

Eastern Conference

[View Full Standings](#)

ATLANTIC	W	L	WIN%	GB	CONF	DIV	HOME	ROAD	L10	STREAK
1  e - Boston	53	29	.646	-	36 - 16	11 - 5	30 - 11	23 - 18	7 - 3	W 3
2  * - Toronto	51	31	.622	2	34 - 18	14 - 2	28 - 13	23 - 18	8 - 2	W 4
3  o - New York	31	51	.378	22	22 - 30	5 - 11	19 - 22	12 - 29	4 - 6	W 1
4  o - Philadelphia	28	54	.341	25	19 - 33	7 - 9	17 - 24	11 - 30	1 - 9	L 8
5  o - Brooklyn	20	62	.244	33	11 - 41	3 - 13	13 - 28	7 - 34	5 - 5	L 2
CENTRAL	W	L	WIN%	GB	CONF	DIV	HOME	ROAD	L10	STREAK
1  c - Cleveland	51	31	.622	-	35 - 17	8 - 8	31 - 10	20 - 21	4 - 6	L 4
2  * - Milwaukee	42	40	.512	9	27 - 25	10 - 6	23 - 18	19 - 22	5 - 5	L 1
3  * - Indiana	42	40	.512	9	26 - 26	8 - 8	29 - 12	13 - 28	6 - 4	W 5
4  * - Chicago	41	41	.500	10	28 - 24	9 - 7	25 - 16	16 - 25	7 - 3	W 2
5  o - Detroit	37	45	.451	14	21 - 31	5 - 11	24 - 17	13 - 28	3 - 7	L 2

Elements Augury >> 2

Component Tree Router Tree NgModules

Standings

ScoreboardScoreTo

Properties Injector Graph

Standings (View Source)

(\$\$\$ in Console)

Change Detection: Default

State

date: current

ascending: false

order: division

today: Saturday, Jun. 17

▶ _standingsService: StandingsSe

▶ standings: Object

▶ headers: Object

Dependencies

Search components



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動手做看看

DEMO



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範例一

📦 Bootstrap 一個或多個 components

📦 bootstrap:[]



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範例二

📦 根據頁面上的 Element 來決定要啟動那些 component

📦 entryComponents + ngDoBootstrap

📦 [Gist](#)



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範例三

⚠ 動態選擇執行 Module

⚠ 注意: 這模式不適用 AOT 模式

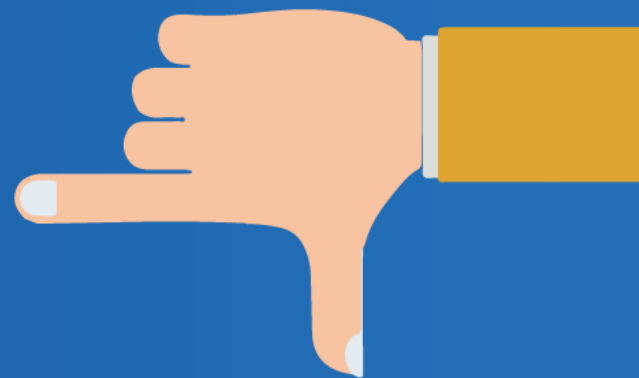
⚠ Gist



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Q&A



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其他資源

🅐 [Facebook 社群頁面](#)

🅐 [Angular 線上讀書會](#)

🅐 [Angular 討論區](#)

🅐 [Angular YouTube 頻道](#)

🅐 [Telegram 頻道 @angulartw](#)

🅐 [How to manually bootstrap an Angular application](#)



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