



What's new in Angular 6

Angular Athens Meetup - Aristeidis Bampakos

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Who am I



- Front End Web Developer @**Plex.Earth** team.
- Early adopter of AngularJS (2012).
- Active contributor @**github** (Angular-based projects, map visualization libraries).
- Blogging @**medium**.
- Gaming console enthusiast, free diving.



Agenda

- Toolchain improvements (Angular CLI)
- Angular Material
- Tree shakable providers
- RxJS 6
- Angular Elements
- Ivy (Next Generation Angular Renderer)
- Framework Releases



ng update

Recommends updates based on the **package.json** file

We analyzed your package.json, there are some packages to update:

Name	Version	Command to update

@angular/cli	6.0.3 -> 6.0.8	ng update @angular/cli
@angular/core	6.0.3 -> 6.0.5	ng update @angular/core
@angular/material	6.1.0 -> 6.2.1	ng update @angular/material
rxjs	6.2.0 -> 6.2.1	ng update rxjs

There might be additional packages that are outdated.
Or run `ng update --all` to try to update all at the same time.



ng update

- **ng update --all**

Brave choice - tries to update all dependencies in **package.json** file.

```
Package "karma-jasmine-html-reporter" has a missing peer dependency of "jasmine" @ ">=3".
Package "@angular/compiler-cli" has an incompatible peer dependency to "typescript" (requires ">=2.7.2 <2.8", would install "2.9.2")
Package "@angular/compiler-cli" has an incompatible peer dependency to "typescript" (requires ">=2.7.2 <2.8", would install "2.9.2").
Incompatible peer dependencies found. See above.
```

- **ng update @angular/core**

Safe choice - updates all Angular packages, Typescript and RxJS.

- **ng update @angular/<package>**

Rarely used - updates each package individually.



ng update

Updates packages and applies necessary changes through schematics

Angular Material 5

```
<mat-select (change)="onFoodChange()">
  <mat-option *ngFor="let food of foods" [value]="food">
    {{food}}
  </mat-option>
</mat-select>
```

Angular Material 6

```
<mat-select (selectionChange)="onFoodChange()">
  <mat-option *ngFor="let food of foods" [value]="food">
    {{food}}
  </mat-option>
</mat-select>
```



ng add

Installs and configures 3rd party libraries to your project

Eliminates boilerplate

Angular Material 5

1. Install Angular Material from npm.
2. Import Angular animations module in the AppModule.
3. Include a Material theme.
4. Optionally, add Material icons pack.

Angular Material 6

```
ng add @angular/material
```



ng add

- **ng add @angular/pwa**

Convert your application to a Progressive Web App (PWA).

- **ng add @angular/elements**

Register your components as custom web elements.

- **ng add @ng-bootstrap/schematics**

Add **ng-bootstrap** widgets.

- **ng add @clr/angular@next**

Add and configure **Clarity Design System**.



Workspaces

- Support for multiple projects per workspace

```
└─ projects
  └─ admin-panel
  └─ b2c
  └─ carousel
  └─ mobile-orders
```

- Library support

```
ng generate library carousel
```



Angular Material | New components

✓ Applications :

Calendar : app

Chrome : app

Webstorm : app

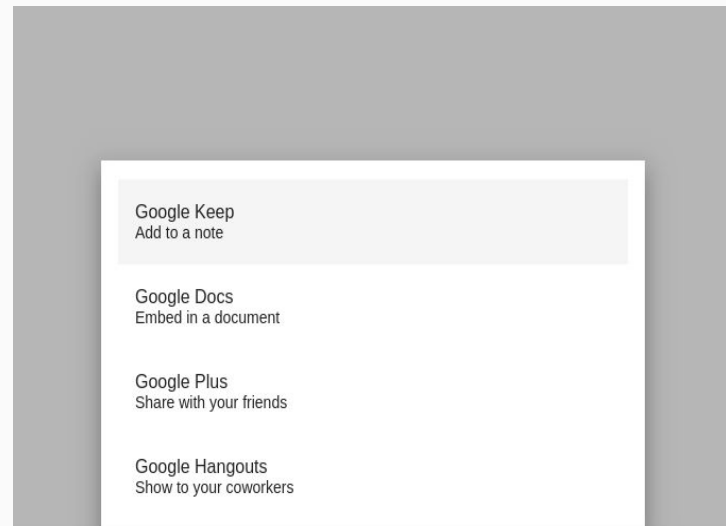
✓ Documents :

> angular :

> material2 :

> Downloads :

> Pictures :



Inbox ⁴



Angular Material | Dashboard

```
ng generate @angular/material:material-dashboard --name=my-dashboard
```

Dashboard

Card 1

Card Content Here



Card 2

Card Content Here



Card 3

Card Content Here





Angular Material | Sidenav

```
ng generate @angular/material:material-nav --name=my-nav
```

Menu	Application Title
Link 1	
Link 2	
Link 3	



Angular Material | Data Table

```
ng generate @angular/material:material-table --name=my-table
```

Id	Name
1	Hydrogen
2	Helium
3	Lithium
4	Beryllium
5	Boron
6	Carbon
7	Nitrogen
8	Oxygen
9	Fluorine
10	Neon
11	Sodium
12	Magnesium



Tree Shakable Providers

Angular 5 - Provide the service in a module

```
import { Injectable } from '@angular/core';

@Injectable()
export class CharacterService {
  constructor() {}
}
```

```
import { NgModule } from '@angular/core';

import { CharacterService } from './characters.service';

@NgModule({
  providers: [CharacterService]
})
export class CharacterModule {}
```



Tree Shakable Providers

Angular 6 - No need to reference the service in a module

Compiler tree shakes services that are not used

```
import { Injectable } from '@angular/core';

@Injectable({
  providedIn: 'root'
})
export class CharacterService {
  constructor() {}
}
```

Register the service with the application root injector

```
import { Injectable } from '@angular/core';
import { CharacterModule } from './characters.module';

@Injectable({
  providedIn: CharacterModule
})
export class CharacterService {
  constructor() {}
}
```

Register the service with a particular module. Not working yet for lazy load modules !

<https://github.com/angular/angular/issues/23715>



RxJS 6

Import location changed for better tree shaking

RxJS 5

```
import { Observable } from 'rxjs/Observable';  
import { of } from 'rxjs/observable/of';  
import { Subject } from 'rxjs/Subject';
```

rxjs-tslint

rxjs-compat

RxJS 6

```
import { Observable, Subject, of } from 'rxjs';
```




Angular Elements

Register components as custom web elements (framework agnostic)

```
import { Injector, NgModule } from '@angular/core';
import { createCustomElement } from '@angular/elements';
import { BrowserModule } from '@angular/platform-browser';
import { AppComponent } from './app.component';

@NgModule({
  declarations: [AppComponent],
  imports: [BrowserModule],
  entryComponents: [AppComponent]
})
export class AppModule {
  constructor(private injector: Injector) {}

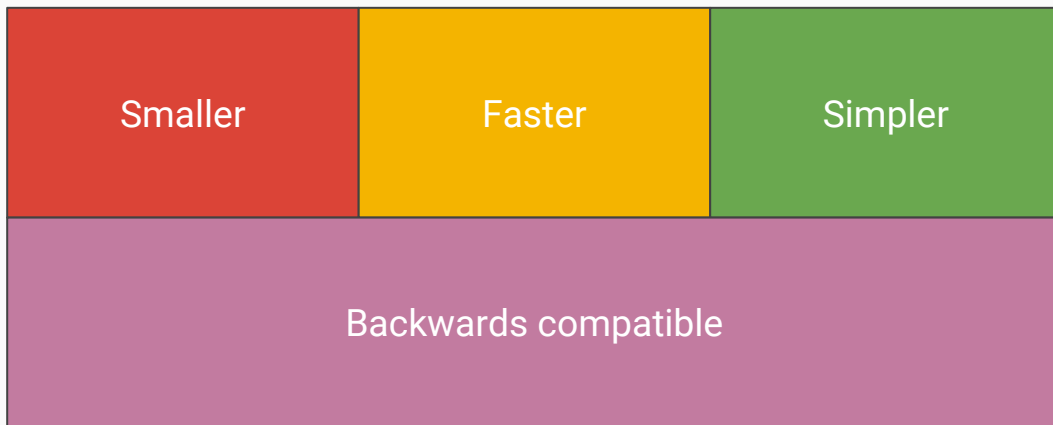
  ngDoBootstrap() {
    const AppElement = createCustomElement(AppComponent, { injector: this.injector });
    customElements.define('my-custom-element', AppElement);
  }
}
```

<https://github.com/Developer-Plexscape/ol-zoom-level>



Ivy

Next generation Angular renderer



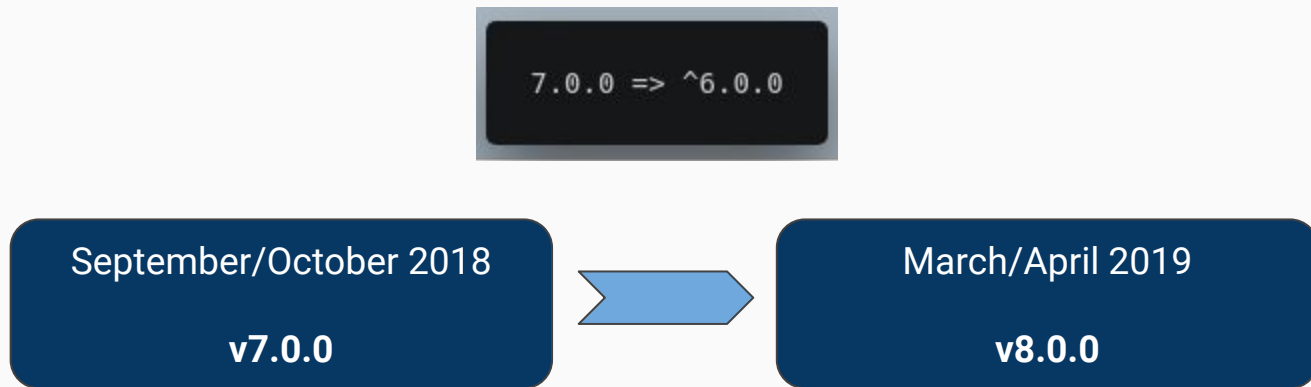
2.7 kb

Hello World, compressed



Framework Releases

- Major releases are supported for 18 months.
- Backwards compatible with the previous most recent major version.



- Align major releases





How to update

<https://update.angular.io/>



Thank you!

Slides | <https://bit.ly/2ILFODk>



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