Angular intro

GFT INTERNAL TRAINING

INNOVATE. TRANSFORM. DELIVER.

Angular

- a **platform** that makes it **easy** to build applications **with the web**

- (since version 2) is a completely rewrite of the previous versions

- used mostly for Single Page Applications

- it's a strategic technology in GFT

https://www.youtube.com/watch?v=O0xx5SvjmnU&list=PLOETEcp3DkCpimyIVKTDe968yNmNIajlR&index=2&t=0s

Angular Team

Developer Relations

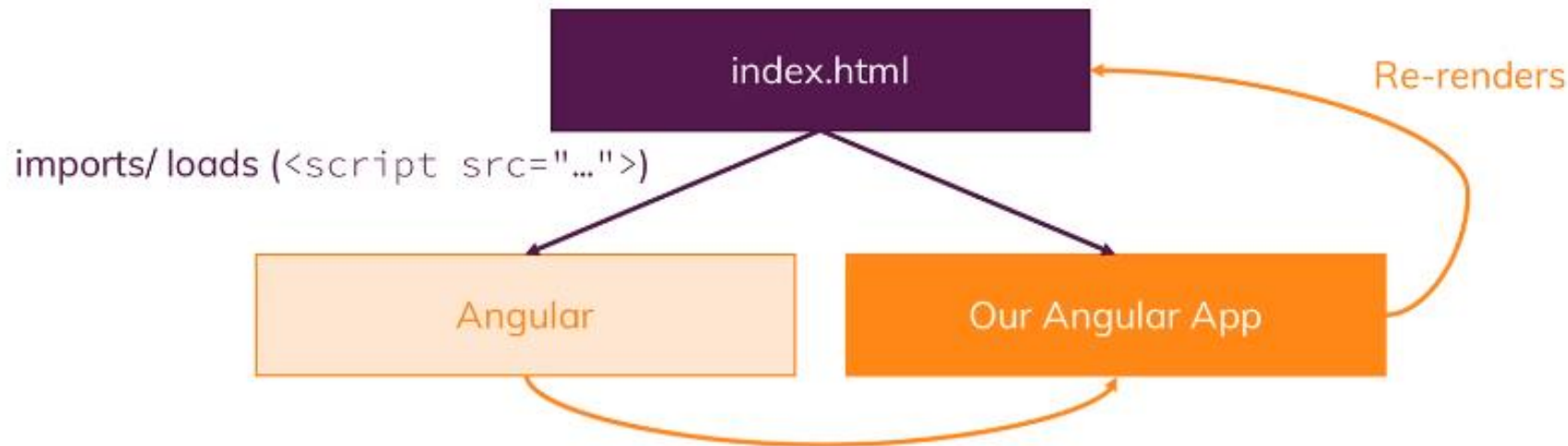**Tooling**

Framework
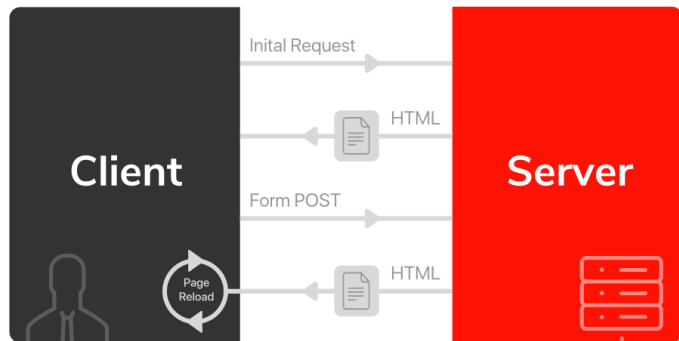
Components

Documentation

Angular used for SPA (Single Page Application**)**

Traditional Page Lifecycle

Client

Inital Request

HTML

Form POST

HTML

Page Reload

Server

SPA Lifecycle

Client

Inital Request

HTML

AJAX

JSON

Server
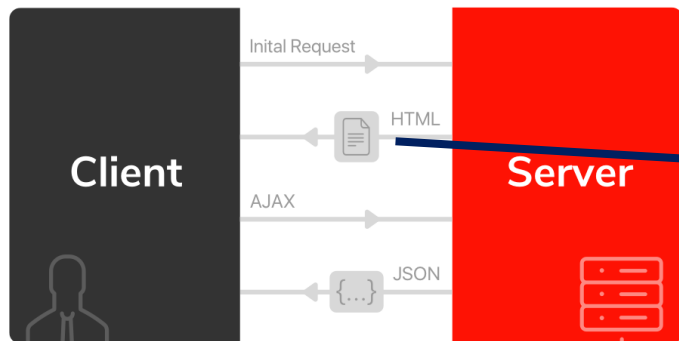
SPA allows instant re-rendering and user feedback so the UI is highly engaging

with the angular app code

https://qarea.com/blog/abcs-single-page-applications
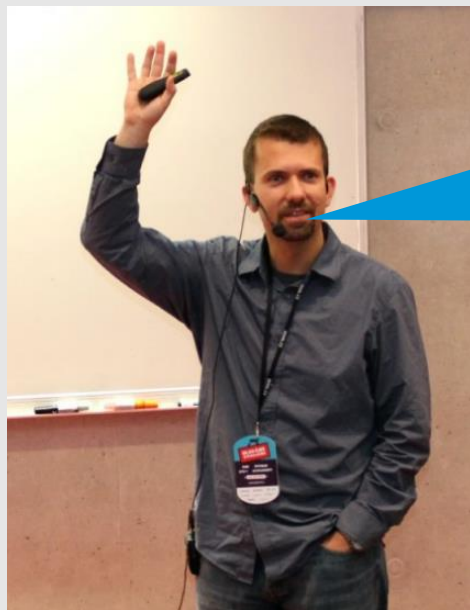
Angular two main dependencies

angular history

Angular history

AngularJS was created as a side project by Misko Hevery in 2009 at Google

I bet you i could rewrite Goggle feedback app
(17,000 lines of code,
6 months by a team)
in 2 weeks!!

He failed: it took him 3 weeks and 1,500 lines of code

angular origin   https://www.youtube.com/watch?v=r1A1VR0ibIQ

Angular

AngularJS

2010	Angular 1.0
2013	Angular 1.2
2014	Angular 1.3
2015 May	Angular 1.4
2016 February	Angular 1.5
2016 December	Angular 1.6
2018	Angular 1.7

→ **with components**

→ **after that any new feature or fix with breaking changes and 3 year of Long Term Support (LTS)**

Angular

2014 Angular 2 announced	

2016 September	Angular 2.0
2017 March	Angular 4.0
2017 November	Angular 5.0
2018 May	Angular 6.0
2018 October	Angular 7.0
2019 May	Angular 8.0
each 6 months	

"almost automatic" upgrades

AngularJS vs Angular

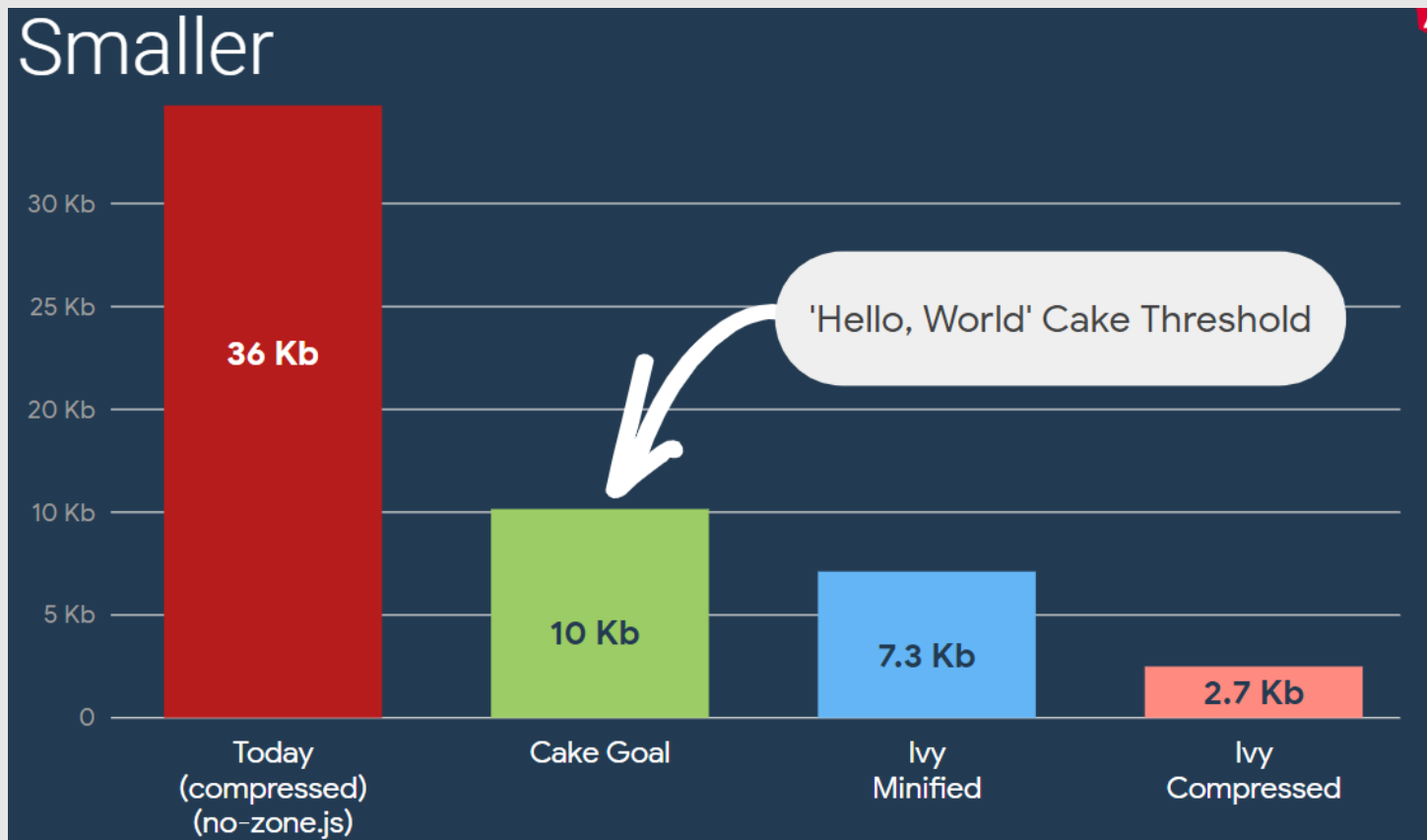
AngularJS
1.7.9

Angular
9.0.1

Last releases as of february 2019

Agenda

1. angular history

2. angular advantages

3. angular as a platform

4. semantic versioning

angular advantages

Smaller

'Hello, World' Cake Threshold

36 Kb	**10 Kb**	**7.3 Kb**	**2.7 Kb**
Today (compressed) (no-zone.js)	Cake Goal	Ivy Minified	Ivy Compressed

http://bit.ly/AngularMix-2018

Mobile Apps Challenge

What do you need?

ng add

@angular/pwa

ng add

@ionic/angular

ng add

@nativescript/schematics

Mobile first

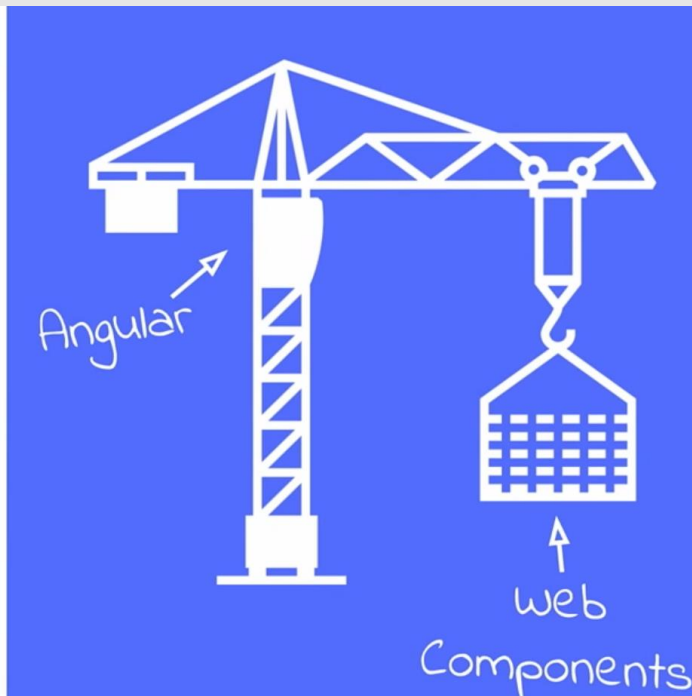Progressive Enhancement (Mobile-First)

Graceful Degradation

Play nice with web components

Angular is great for structuring and orchestrating an application.

Web components are great for building reusable UI elements.

Angular

web
Components

https://www.youtube.com/watch?v=Ucq9F-7Xp8I

Progresive Web Apps (PWA) out of the box

- server push notifications
- manifest
- service workers

https://www.youtube.com/watch?v=C8KcW1Nj3Mw

Embeddable in WebWorkers

WebWorkers useful for CPU intense tasks such as:

- parsing a large JSON Data Set

- image/sound processing

- real time analytics

- ....

Differential loading (since Angular 8)
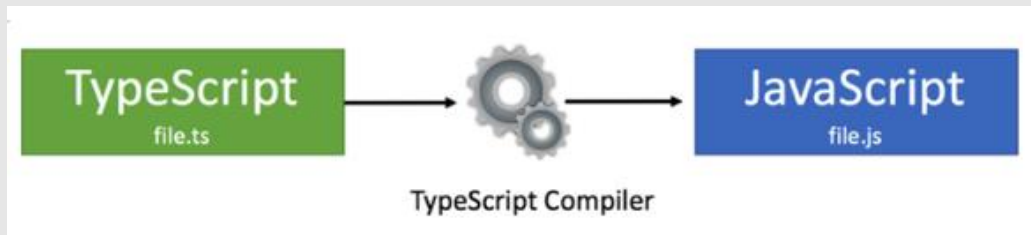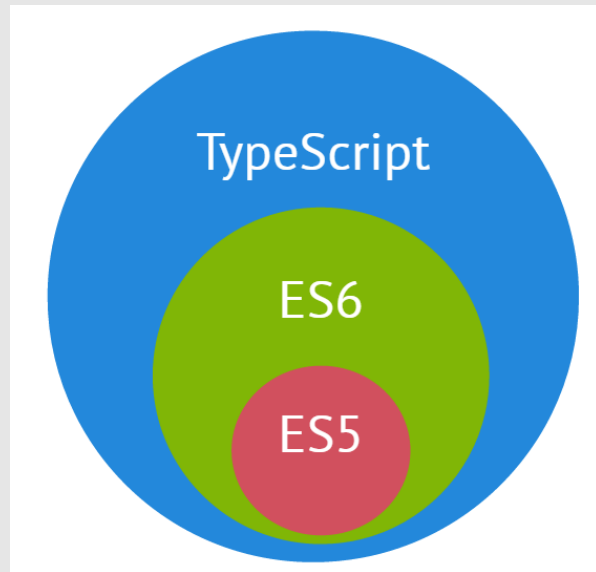
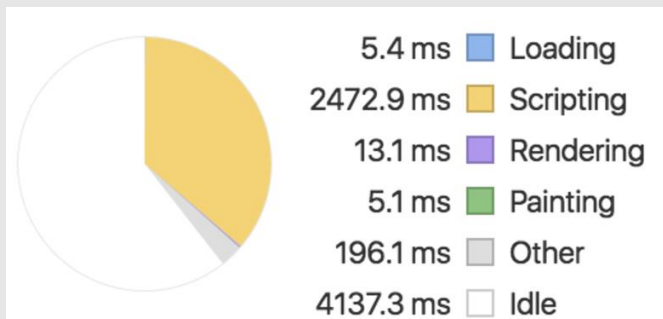# Reactive by default (RxJS)

Being Reactive, my friend

Can write in TypeScript

■better tooling: error checking

■state of the art JS:

- arrow functions

- modules

- classes

■decorators

Compilation (in the server) Angular < 9

initial rendering with JiT
Just in Time compilation

5.4 ms	Loading
2472.9 ms	Scripting
13.1 ms	Rendering
5.1 ms	Painting
196.1 ms	Other
4137.3 ms	Idle

JiT used in development
compile faster, initial render slower

initial rendering with AoT
Ahead of Time compilation

5.3 ms	Loading
1348.5 ms	Scripting
10.7 ms	Rendering
4.3 ms	Painting
140.0 ms	Other
4750.9 ms	Idle
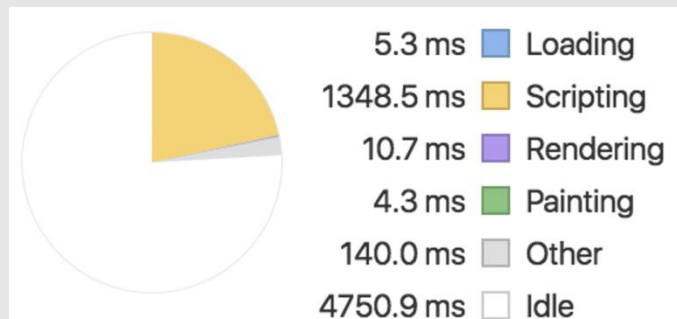
AoT used in production
compile slower, initial render faster

In the future there will be only AoT

times are from angular 2, render is faster in each new version
http://blog.mgechev.com/2016/08/14/ahead-of-time-compilation-angular-offline-precompilation/

Angular 9 (february 2020)

- Ivy by default

- Improved build times, enabling **Ahead-of-Time** compiler by default

- Smaller bundle sizes for large and small apps

- ...

https://blog.angular.io/version-9-of-angular-now-available-project-ivy-has-arrived-23c97b63cfa3

Easy to learn

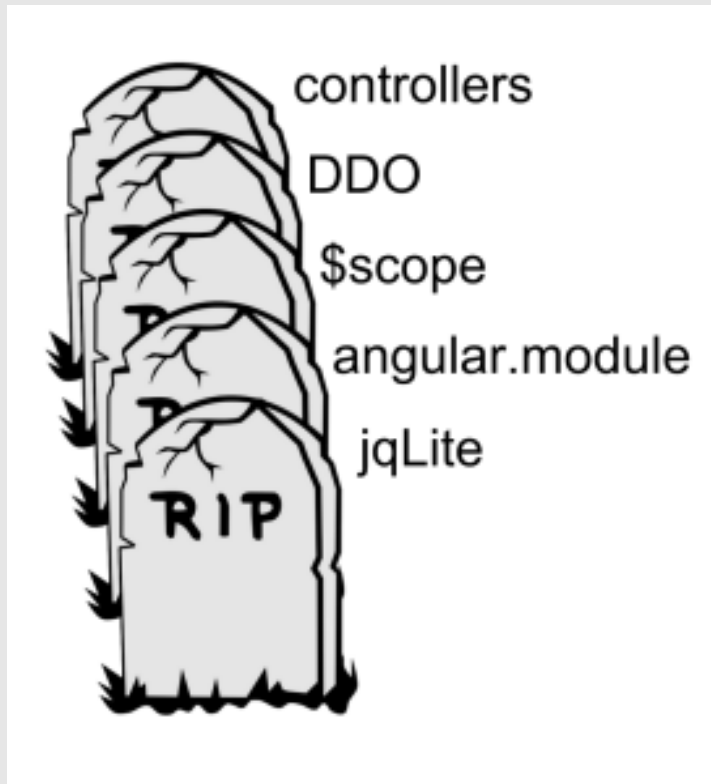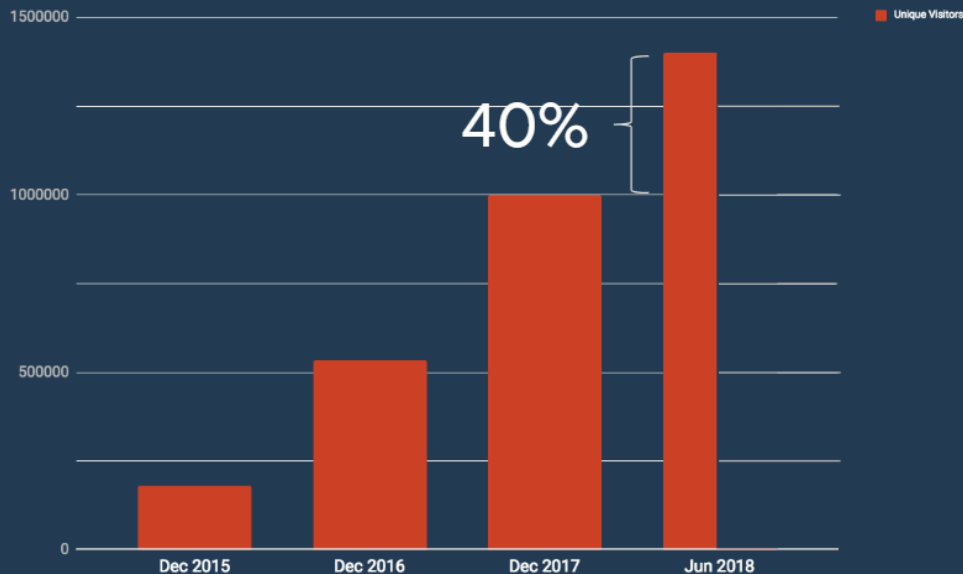controllers
DDO
$scope
angular.module
jqLite

RIP

Image from Angular 2.0 Core presentation by Igor Minar & Tobias Bosch at ng-europe 2014

Strong, Steady Community Growth

30-day active visitors to angular.io

40%

Angular grows much faster than AngularJS

Strong community

790+ Worldwide Meetups

angular.meetup.com

t⤾ Brad Green Retweeted

ngGirls @AngularGirls · Feb 21

ngGirls is coming to Galicia, Spain! 🎉 one day #Angular workshop introducing women to the tech world - March 9th, Vigo. Application is open and looking for #mentors! ng-girls.org/galicia/ Thanks @galstech_ and @GDGVigo for the support, and @AnaCidre_ for organizing! ❤️

ngGirls @ Galicia

ngGirls is an organization that aims to increase diversity in Tech

ng-girls.org

Awesome community

Awesome community

ngSpain 2019

Angular Community Conference

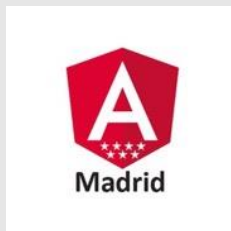☐ OCTOBER 18-20 2019
📍 CAMPUS MADRID, SPAIN

https://www.ngspain.com/

Madrid

Angular Valencia
COMMUNITY

**Angular and beers Barcelona
(not very active)**

Angular as a platform

Angular as a platform

Fully supported, fully integrated

Angular	Protractor	Forms	PWA	Augury	Language Services	Router	Elements	CDK
Universal	Karma	Labs	Compiler	i18n	Http	Material	Animations	CLI

http://bit.ly/AngularMix-2018

Angular Material

Material Design components for Angular

MATERIAL   COMPONENTS   GUIDES   GITHUB

GET STARTED

https://material.angular.io/
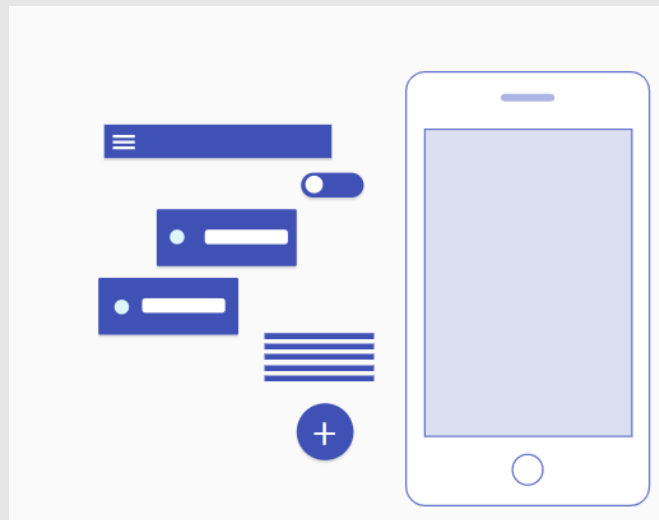
Angular language services

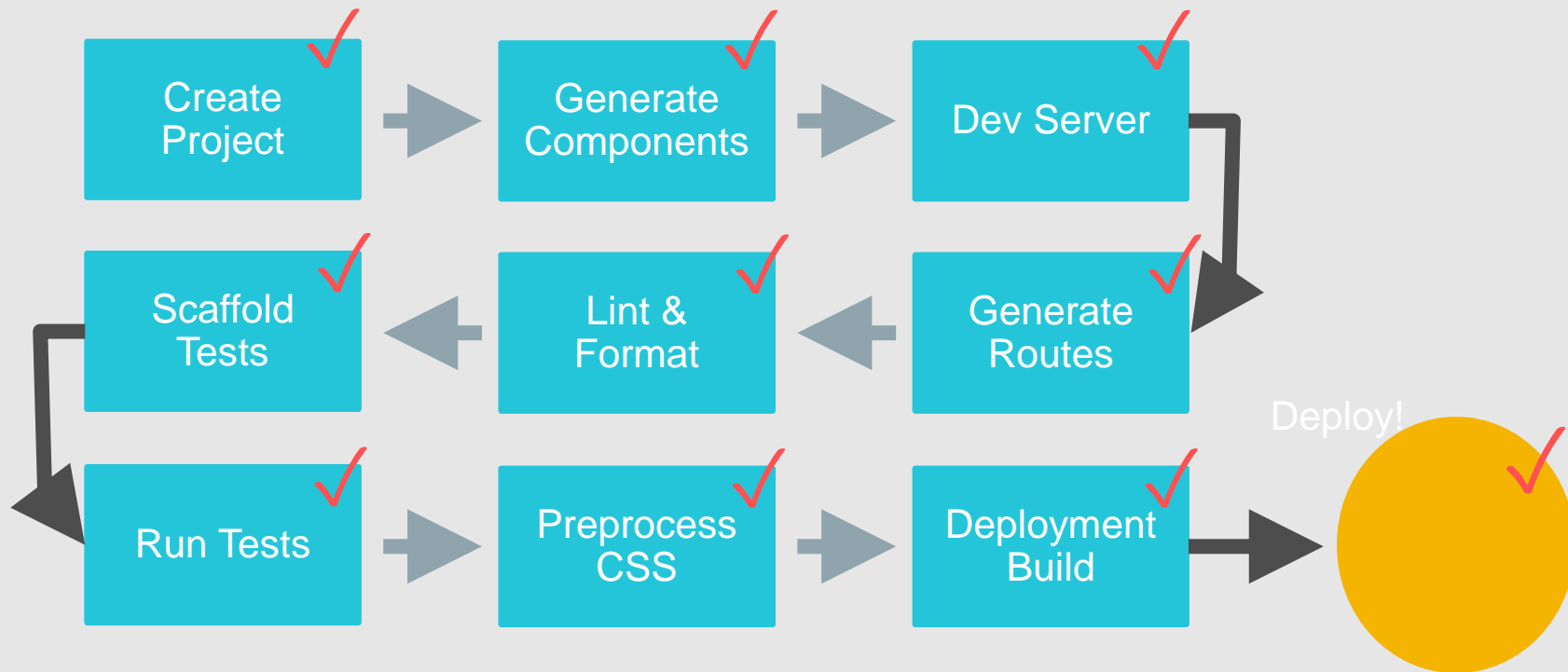allows in IDE`s

- hinting
- code completion
- error reporting

https://angular.io/guide/language-service

Angular CLI

A command line interface for Angular
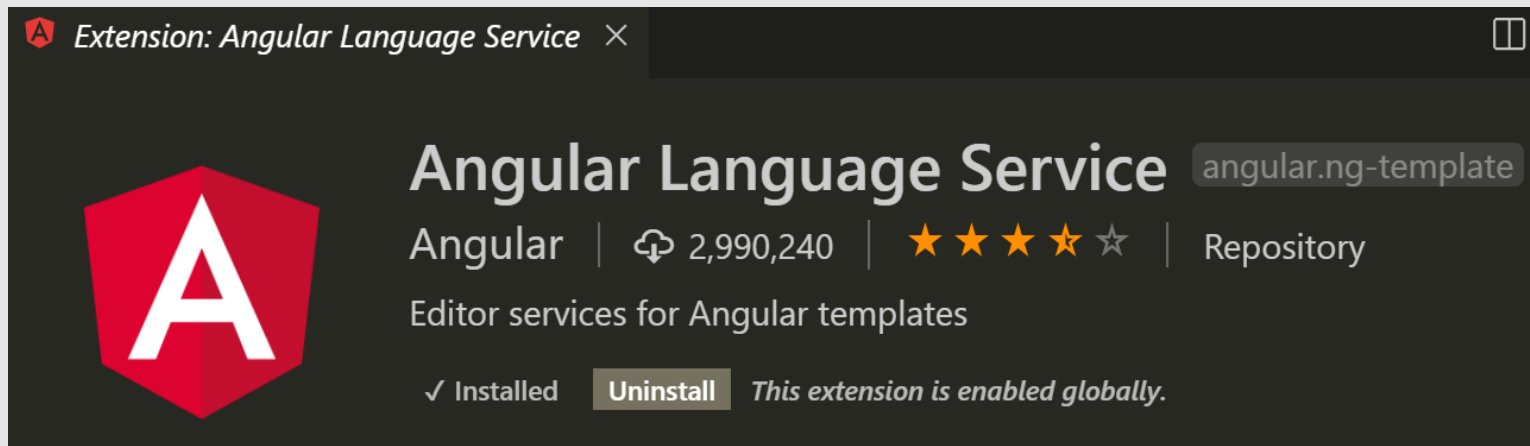
```
> npm install –g @angular/cli

> ng new my-dream-app

> cd my-dream-app

> ng serve
```

https://angular.io/cli

Workflow Automation: Angular CLI

```
Create          Generate          Dev Server
Project    →    Components    →
                                        ↓
Scaffold   ←    Lint &       ←    Generate
Tests           Format            Routes
  ↓
Run Tests  →    Preprocess   →    Deployment   →   Deploy!
                CSS               Build
```

https://universal.angular.io/

- Better perceived performance
- SEO friendly
- GFT early adopter for apps already in production

https://augury.rangle.io/

Semantic versioning

Semantic versioning http://semver.org/

Given a version number MAJOR.MINOR.PATCH, increment the:

1. MAJOR version when you make incompatible API changes,
2. MINOR version when you add functionality in a backwards-compatible manner, and
3. PATCH version when you make backwards-compatible bug fixes.

Additional labels for pre-release and build metadata are available as extensions to the MAJOR.MINOR.PATCH format.

Angular semantic versioning

Patch: **4.0.1**
  – Just fixes
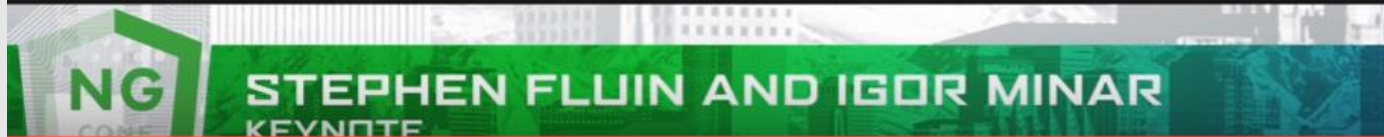
Minor: 4.**1.0**
  – New Features, Automated updates

Major: **5.0.0**
  – New Features, Simple updates

https://www.youtube.com/watch?v=anzsE2TbCyk

Time-based releases

Angular apps in google
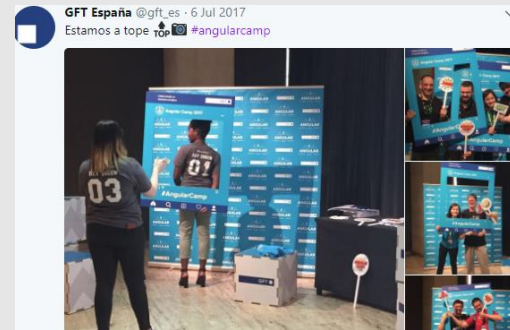
Angular in GFT

Angular in GFT

- Strategic technology

- AngularJS used in projects

- Angular in recent and future projects

- Active in the community (sponsor, speaker)

- Angular internal training available since 2017

These training materials were made with collaboration and supervision of GFT Modern UI Practice

We are specially thankful for Sema's support

José Manuel García García

Javascript Architect
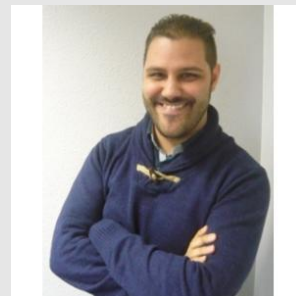
Shaping the future of digital business

GFT Internal Technical Training

Eduardo García Ibaseta

eduardo.garcia-ibaseta@gft.com
+34 935 639476

GFT IT Consulting, S.L.
Av. Alcalde Barnils, 69-71
08174 Sant Cugat del Vallès (BARCELONA)