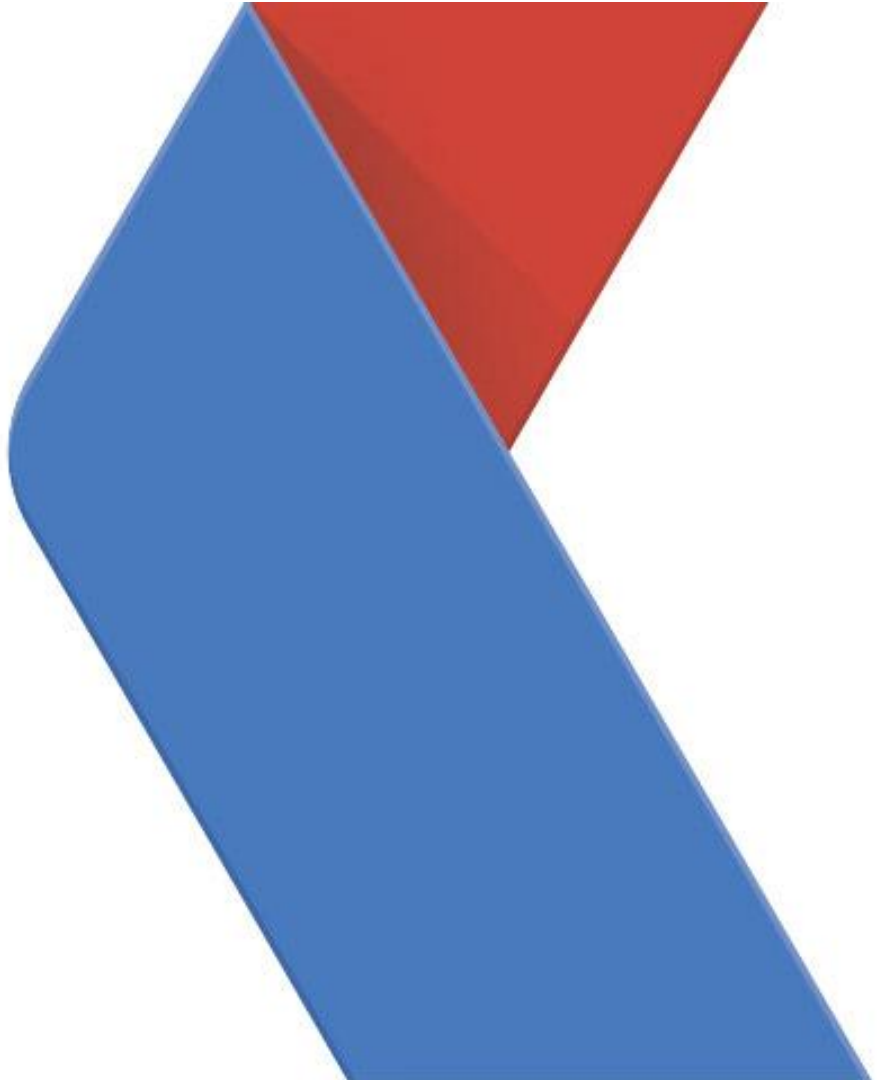
TypeScript:

Superheroic Power In Angular

2016.12



Outline

Why TypeScript?

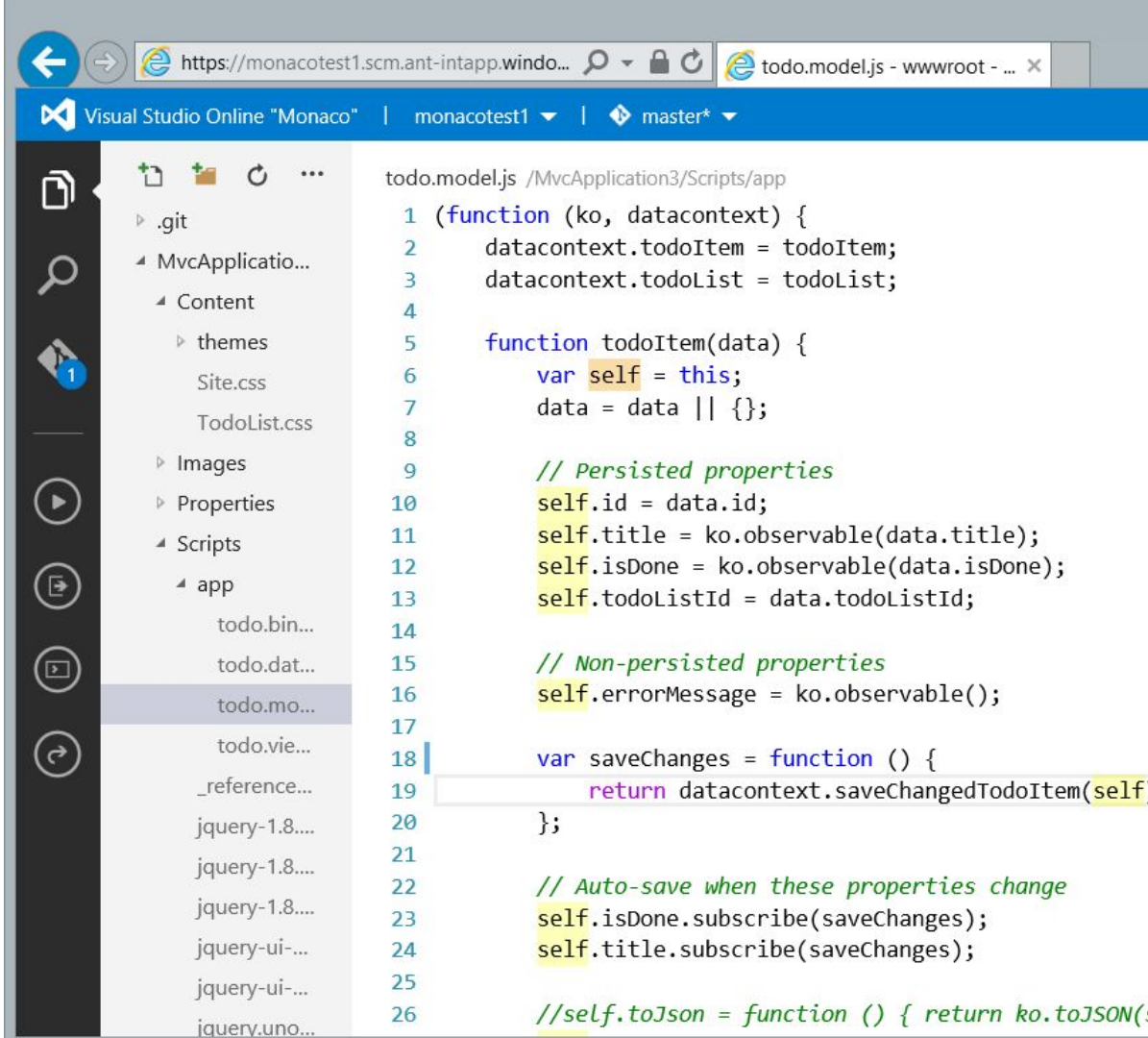
Getting Started with TypeScript + Angular

Why TypeScript?

Big JavaScript apps are **hard**.

Monaco
(Visual Studio Code)

Million lines of JavaScript code



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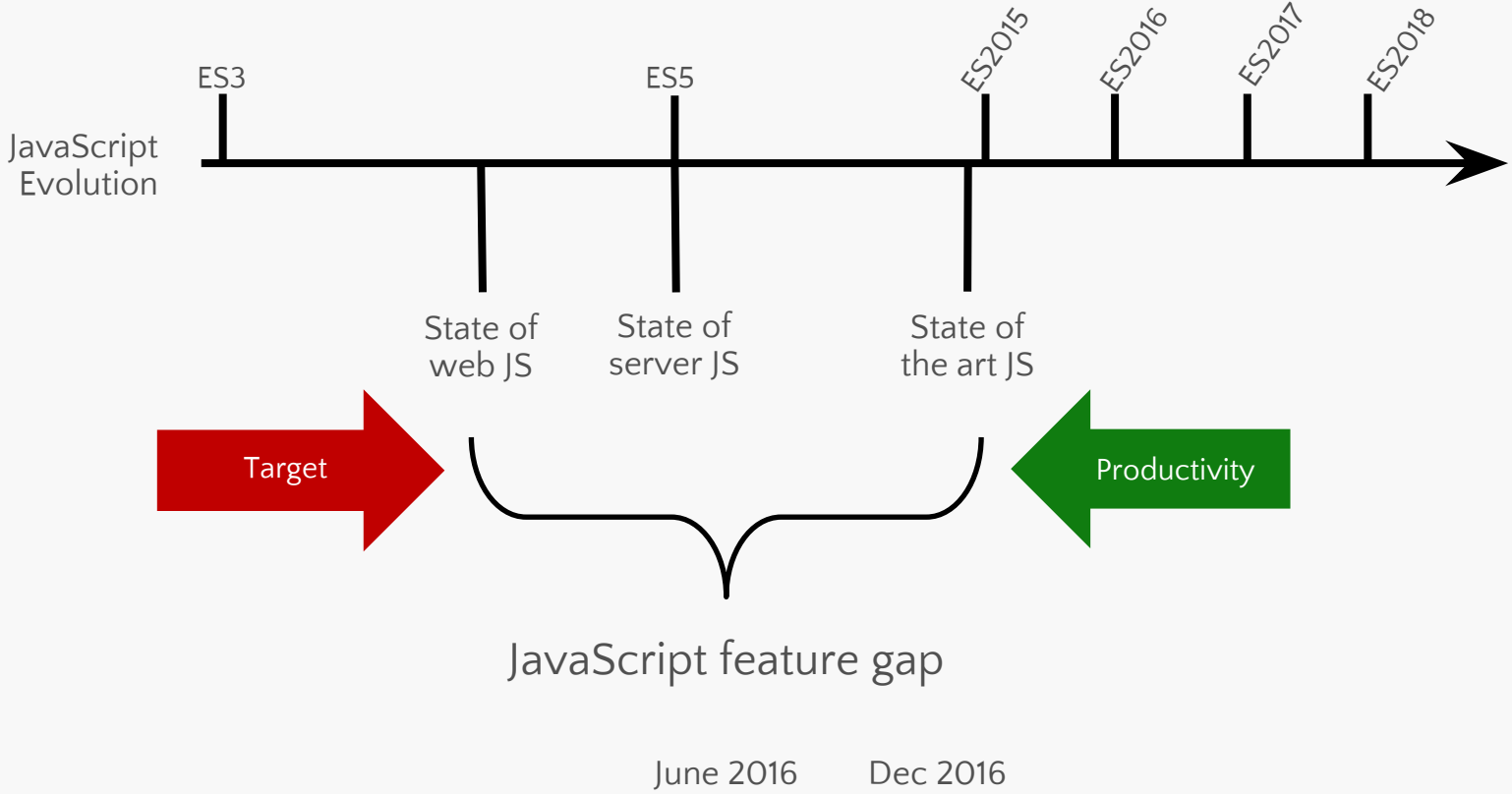
JavaScript alone is **not enough**.

The Feature Gap



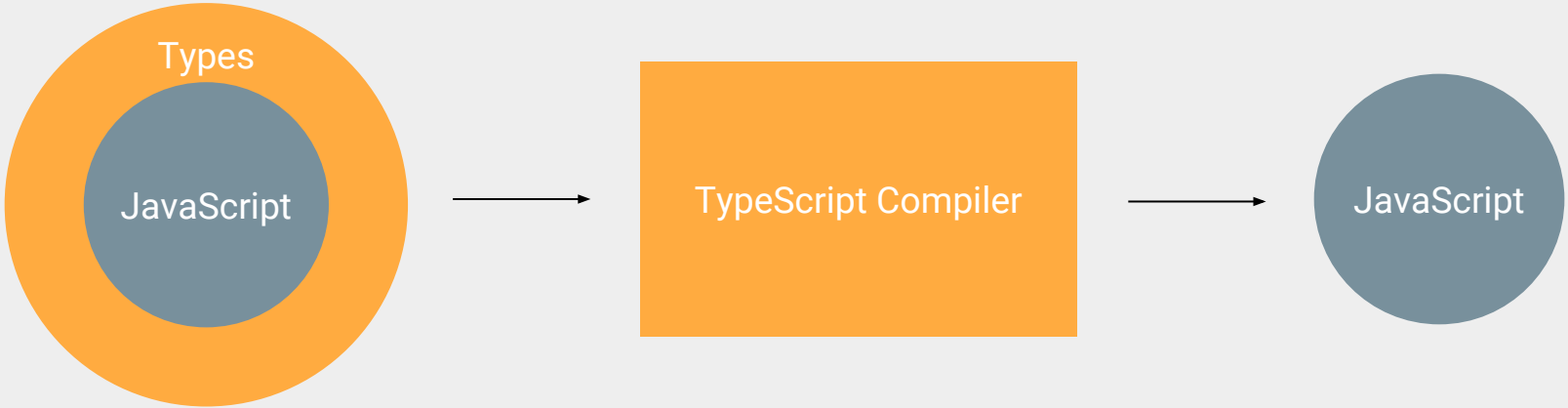
TypeScript:

A typed superset of JavaScript that compiles to plain JavaScript

Any browser. Any host. Any OS.

Open Source.

The TypeScript Language



Demo:

JavaScript to TypeScript

Demo Recap

Benefits from TypeScript today

Compile time type checking

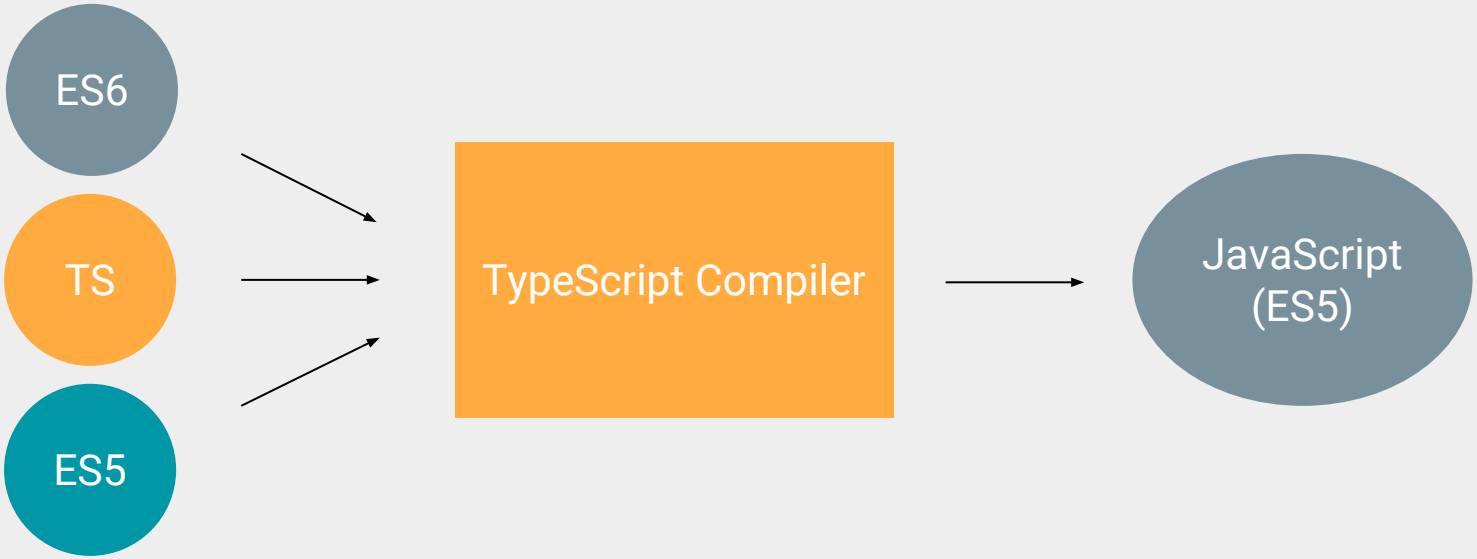
Consume JavaScript file with `--allowJs`

Opt-in gradual type system

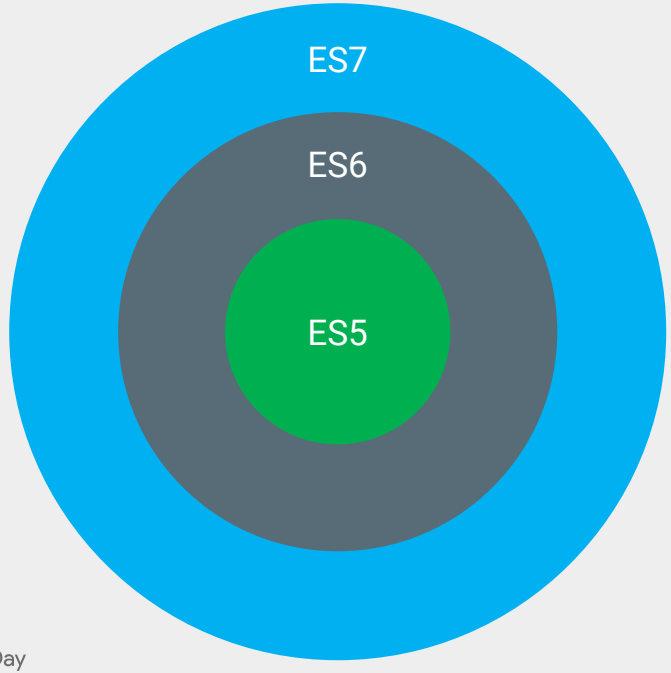
Use future JavaScript feature now

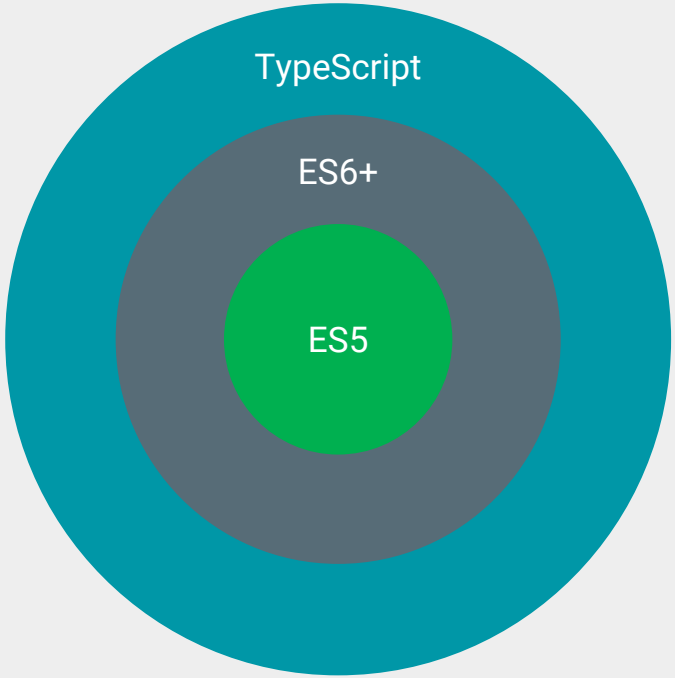
JavaScript **IS** TypeScript

Downlevel Compilation

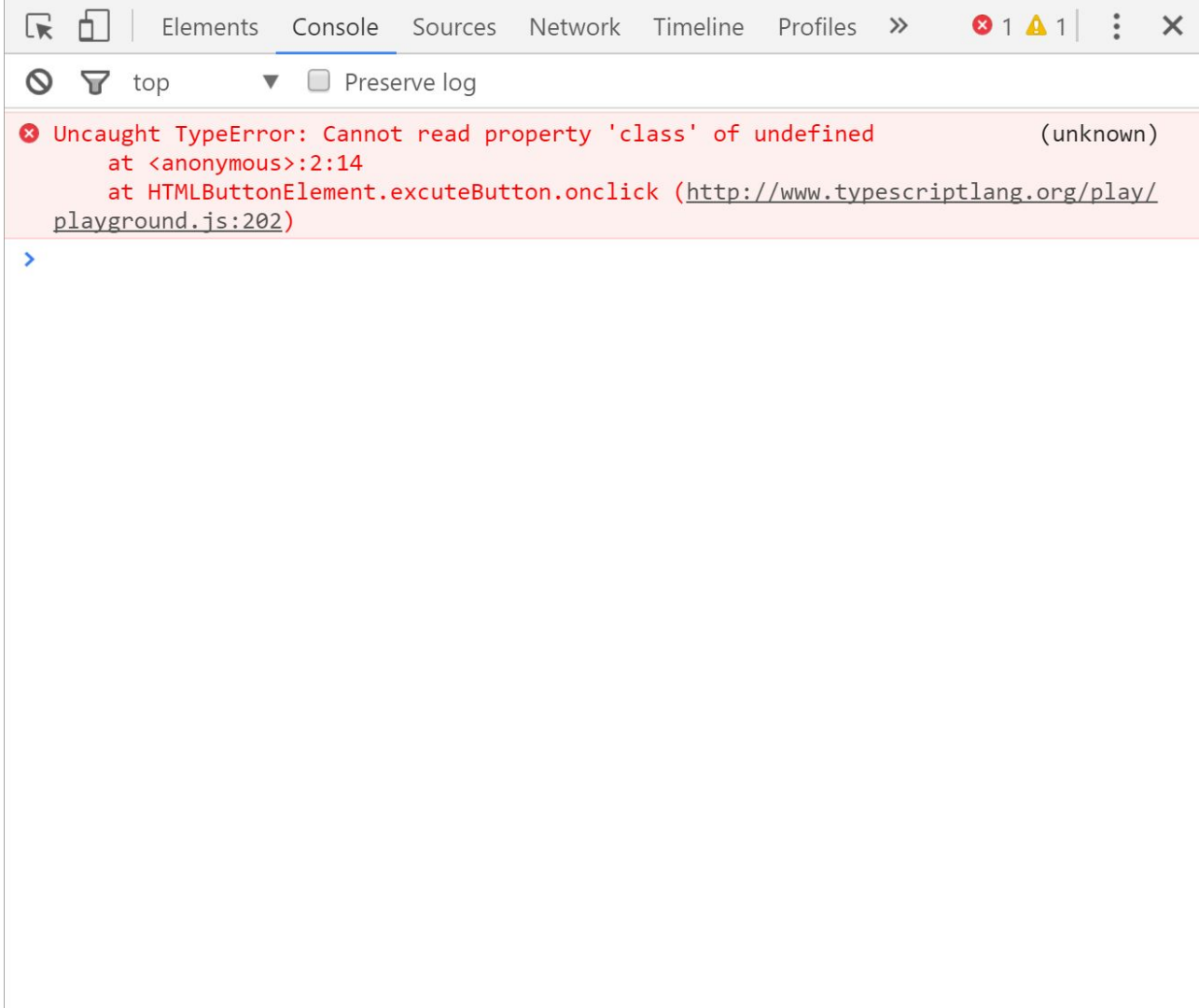


JavaScript **IS** TypeScript





JavaScript's Billion Dollar Mistake



Demo:

Type checking in action

Demo Recap

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Type Checking in Action

Managing nullability in JS is error-prone

Non-nullable types provide `null`/`undefined` coverage

Control flow analysis traces flow for you

Getting Started with TypeScript + Angular

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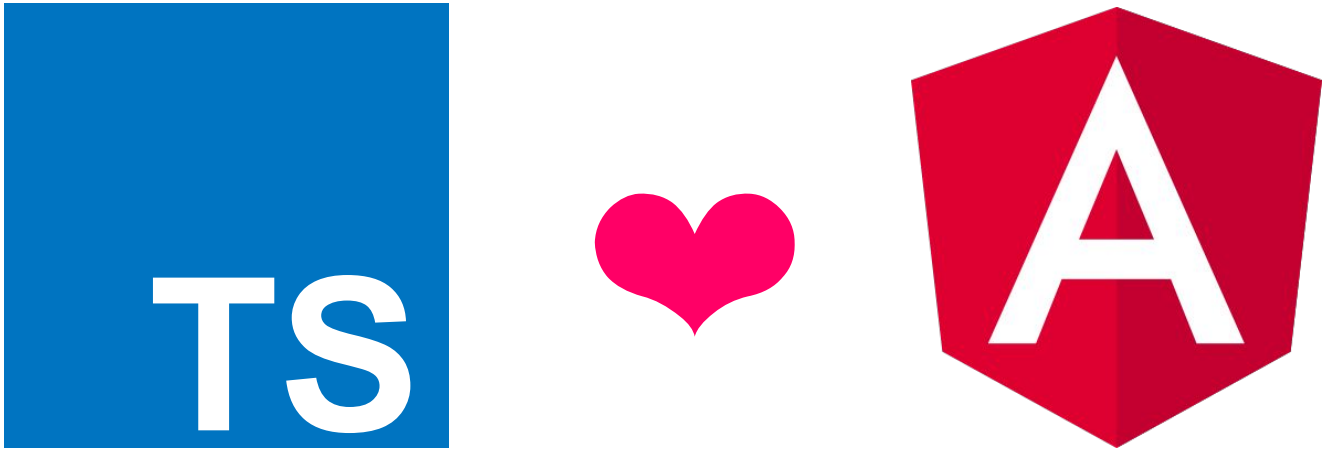
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Demo:

Migration from Angular 1

Angular 2 and TypeScript

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Angular 2 ergonomics are great with TypeScript

Demo:

Angular 2 and TypeScript

Demo Recap

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Angular 2 + TypeScript

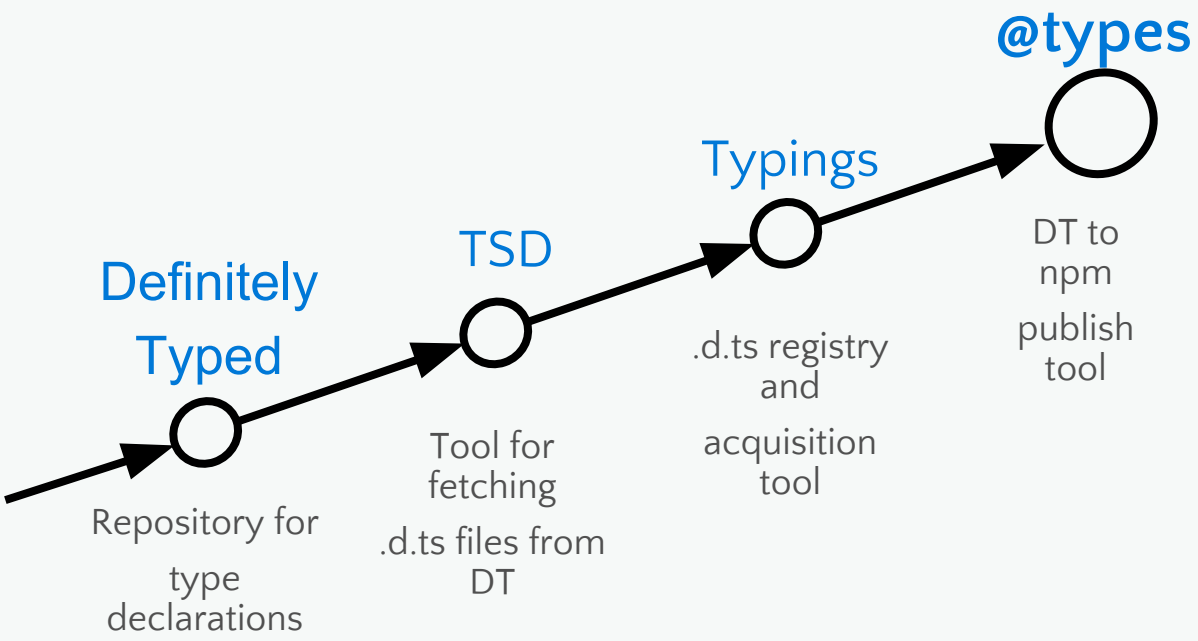
ES6 features make code more readable

Decorators separate framework from user code

Dependency injection makes use of types

Using 3rd Party Libraries?

Evolution of Type Acquisition




```
npm install -S @types/lodash
```

Demo:

Type acquisition

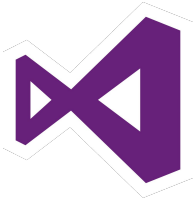
Demo Recap

Type Acquisition

npm is all you need

Contribute to DefinitelyTyped!

TypeScript Editors



Visual Studio

Sublime Text

Atom

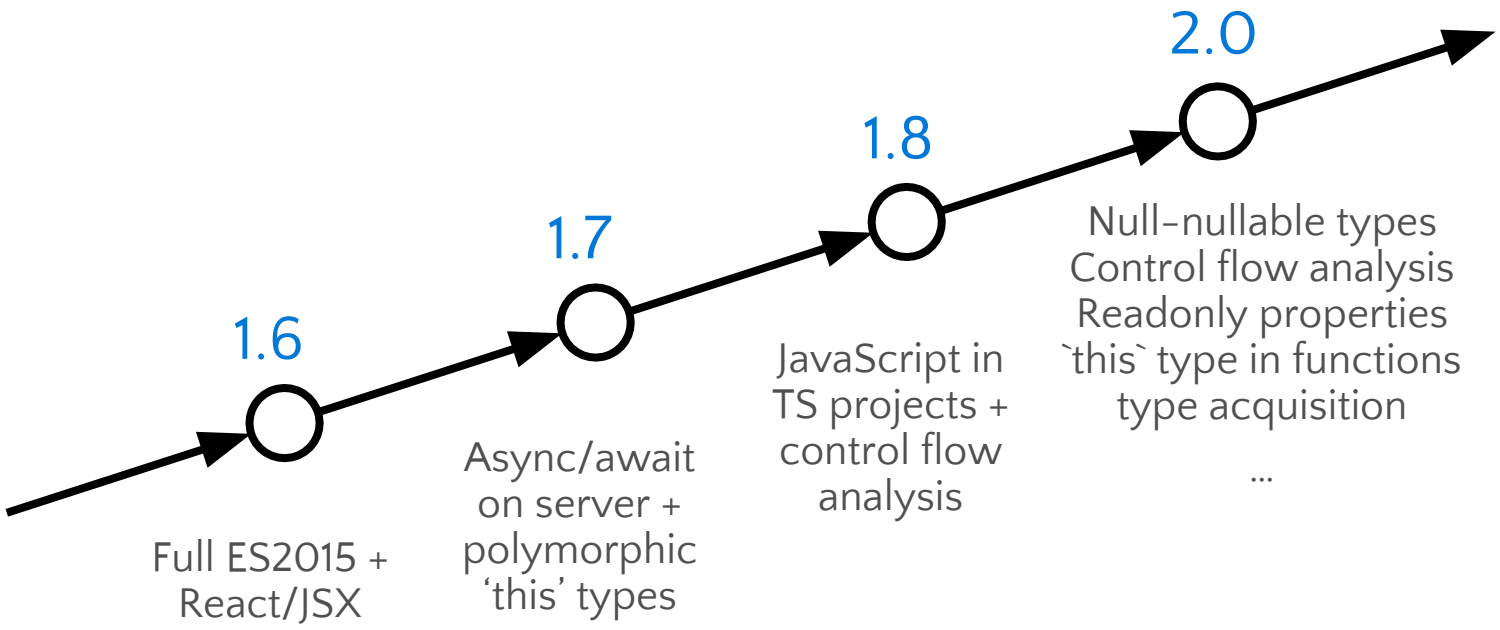
WebStorm

Visual Studio Code

Eclipse

Emacs

Four Releases in One Year



Advanced TypeScript

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TypeScript has powerful type features

Demo:

Advanced TypeScript

Demo Recap

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Advanced TypeScript

async / await for handling promises

Mapped types for all your dynamic JS patterns

In Review: Session Takeaways

Why TypeScript?

Getting started with TypeScript is easier than ever

TypeScript and Angular together is awesome

The Future

Get in touch!

- We’re on GitHub! (https://github.com/Microsoft/TypeScript)
- And Twitter! (@typescriptlang)
- And Gitter! (https://gitter.im/Microsoft/TypeScript)
- Demo code will be posted at https://github.com/zhengbli/ng-china-2016

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