

# The Latest on TypeScript

Just a few questions...

Who is familiar with TypeScript?

Who has used or is using TypeScript on a project?

What editor(s) do you use?

# Language Overview

Demo

What is TypeScript?

3

TypeScript can be summarized into three things



## #1 Superset of JavaScript

You can start with your existing JavaScript, change the file extension, and you have TypeScript  
TypeScript is not trying to change what makes JavaScript great

## #2 Optional Static Typing

You aren't required to specify types... but you should





## #3 Features from the Future ES6, ES7

Similar to other transpilers like Babel

Allows you to start using new JS language features before the browsers have implemented them

# Launched in October 2012

After 2 years of internal development, TypeScript was publicly launched in October 2012  
Seems like a long time ago, but it's really pretty recent



Here are some things that happened in October 2012

Anybody recognize or remember these?

Disney bought LucasFilm

Lance Armstrong was stripped of his titles

Skyfall was released (in the UK)

# Open Source Project

<https://github.com/Microsoft/TypeScript>

TypeScript is an open source project  
You follow the development on GitHub  
You can contribute to the project

# Anders Hejlsberg

Turbo Pascal, Delphi, C#



Development team was initially lead by Anders

Anders' involvement in the project piqued people's interest



Surprise announcement at ng-conf 2015

Jonathan Turner joined members of the core AngularJS team onstage during the day one keynote to announce that AtScript was merging with TypeScript



## AngularJS 2 & TypeScript

Google using a Microsoft technology to develop their flagship application framework?  
This gave a huge boost to TypeScript

Tooling



Use the Editor of Your Choice

The bottom line is that you get to use the editor of your choice



The TypeScript Language Service makes it possible to support the following across all of these editors

- Static checking
- Symbol-based navigation
- Statement completion
- Code refactoring

## 1.4 & 1.5 Features

tsconfig.json

Eliminates the need for "///reference" statements  
Starting with ASP.NET 5... can be used with VS

```
tsconfig.json
1 {
2   "version": "1.5.3",
3   "compilerOptions": {
4     "target": "es5",
5     "declaration": false,
6     "noImplicitAny": false,
7     "removeComments": true,
8     "noLib": false,
9     "sourceMap": true,
10    "module": "system",
11    "experimentalDecorators": true
12  },
13  "filesGlob": [
14    "**/*.ts",
15    "!./node_modules/**/*.ts"
16  ],
17  "files": [
18    "../backup/lodash.d.ts",
19    "../demos/destructuring.ts",
20    "../demos/for-of.ts",
21    "../demos/let-const.ts",
22    "../demos/union-types-type-guards.ts",
23    "../language-overview/main.ts",
```

Allows you to specify compiler options

# Union Types & Type Guards

Demo

# Template Strings



Demo

let & const

Demo

for..of

Demo

# Destructuring

Demo

# Computed Properties



Demo

# Decorators

# What are decorators?

Similar to .NET attributes

Allow you to decorate class, methods, properties with attributes declaratively to add functionality

Demo

How are decorators  
being used?

```
1. // Annotation section
2. @Component({
3.   selector: 'my-app'
4. })
5. @View({
6.   template: '<h1>Hello {{ name }}</h1>'
7. })
8. // Component controller
9. class MyAppComponent {
10.   name: string;
11.
12.   constructor() {
13.     this.name = 'Alice';
14.   }
15. }
```

# AngularJS 2

<https://angular.io/docs/js/latest/quickstart.html>

```
import {inject} from 'aurelia-framework';
import {HttpClient} from 'aurelia-http-client';

@Inject(HttpClient)
export class Flickr{
  constructor(http){
    this.http = http;
  }
}
```

# Aurelia

<http://eisenbergeffect.bluespire.com/aurelia-update-with-decorators-ie9-and-more/>

# ES6 Modules

TypeScript external modules with a new syntax  
Feature several new export and import declarations



Demo

# Installing TypeScript

VS 2013 Update 2, VS 2015, WebStorm, VS Code... you already have it

Other editors (i.e. Atom, Sublime, Emacs) requires that you install a package, plugin, or extension



# Roadmap

<https://github.com/Microsoft/TypeScript/wiki/Roadmap>

Steady progress is being made... lots of great stuff coming in 1.6 and 2.0  
Including JSX support and async/await

Why Should I Care?

# TypeScript is Just a Tool

It's the second coming of JavaScript or anything like that

That being said... The developers that I know who are using TS really enjoy it and find it useful

Increased Productivity =  
Happier Developers

Higher Quality Solutions =  
Happier Users

Learn JavaScript

A yellow square containing the text "ES6" in a bold, dark blue, sans-serif font.

**ES6**

TypeScript is not a replacement for learning JS

Understand how scope works

Understand prototype inheritance



# Resources



## Official TypeScript Site

<http://www.typescriptlang.org/>

Free Book!

<http://basarat.gitbooks.io/typescript/>



Core contributor to atom-typescript, DefinitelyTyped, and others



A couple of great JavaScript books

Awesome Portland Community



Andrew Chalkley

<http://blog.teamtreehouse.com/getting-started-typescript>



Adron Hall

<http://compositecode.com/2015/07/26/typescript-up-in-my-webstorm-typescript-editor-shootout-typescriptpdxcopy/>

# Portland TypeScript Meetup

<http://typescripdpdx.com/>

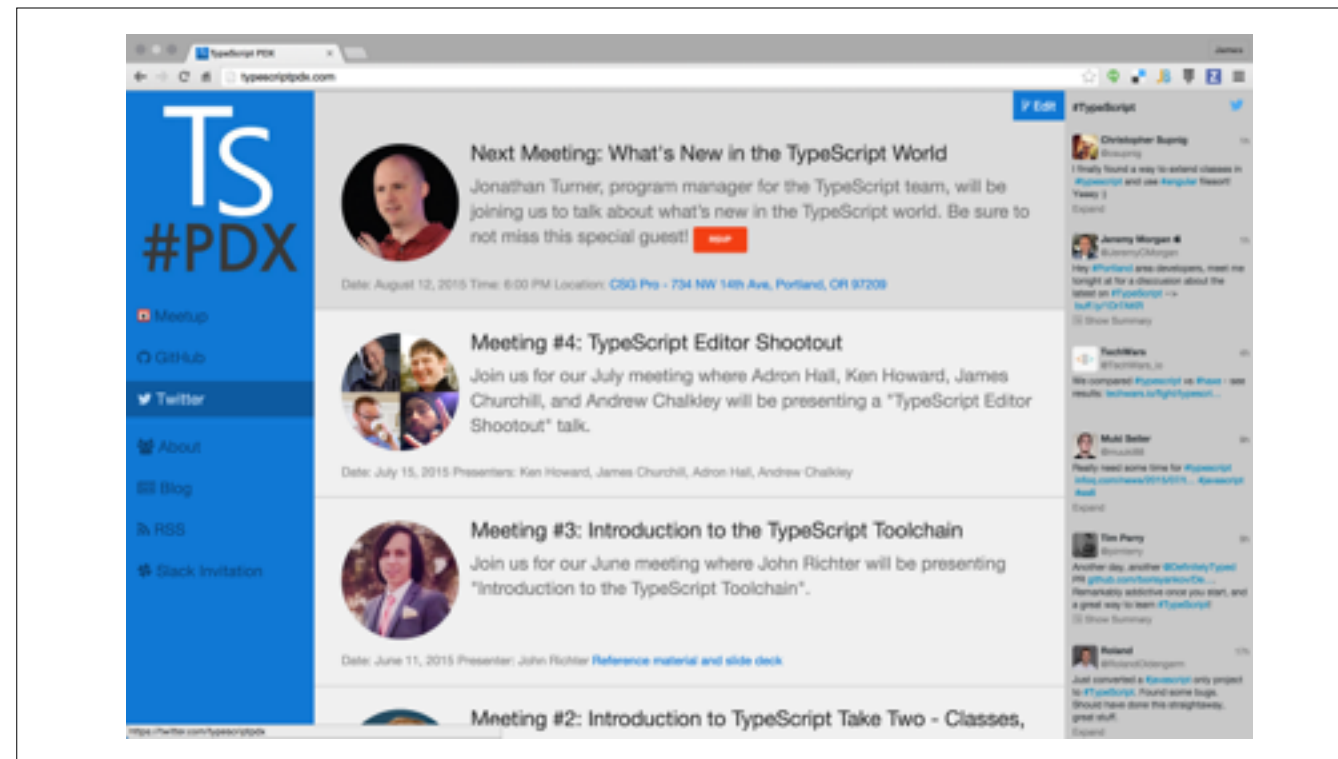


Our next meeting will be on Wednesday August 12th 6-8pm

Hosted at CSG Pro in the Pearl across from REI

Jonathan Turner, TS Program Manager, was scheduled to speak... but he needs to be rescheduled





My co-host, Ken Howard, built us a great website... thanks Ken!

# Thanks!

James Churchill  
Twitter: @SmashDev  
GitHub: smashdevcode

<https://github.com/smashdevcode/the-latest-on-typescript>

All of the presentation content is available on my GitHub account