



INTRODUCTION TO

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**ANGULAR 2**

# ABOUT ME

- ▶ My name is Sebastian Castaldi
- ▶ Professional life:
  - ▶ Software Engineer with a Masters Degree from USF
  - ▶ 20+ years of experience in Oil Industry, Health Care, Government, Banks, etc
  - ▶ Working experience is mostly with Microsoft stack: WPF, WCF, WebApi, [ASP.Net](#), MicrosoftCRM, SQL/Server.
  - ▶ The last few of years I moved my focus into the open source
  - ▶ Currently working at DATIS, a cloud provider for HR and Payroll
  - ▶ On my spare time I do consulting and custom development at Tampa Software LLC
- ▶ Recreational:
  - ▶ I pretty much live at the YMCA, you can find me swimming, biking at flat woods, and running (don't really like running, but is part of the Triathlons which I do sporadically).
  - ▶ I'm also into martial arts (all my life), right now focusing in Judo
- ▶ You can contact me at:
  - ▶ <https://twitter.com/wwwsebas>
  - ▶ <https://tampasoftware.com/>
  - ▶ [scastaldi@tampasoftware.com](mailto:scastaldi@tampasoftware.com)

# UI FRAMEWORKS

2007

**GWT**

**SO HOT RIGHT  
NOW**

memegenerator.net

2009

**EXTJS**

**SO HOT RIGHT  
NOW**

memegenerator.net

2012

**KNOCKOUT**

**SO HOT RIGHT  
NOW**

memegenerator.net

2013

**BACKBONE**

**SO HOT RIGHT  
NOW**

memegenerator.net

2014

**ANGULAR**

**SO HOT RIGHT  
NOW**

memegenerator.net

2015

**REACT**

**SO HOT RIGHT  
NOW**

memegenerator.net







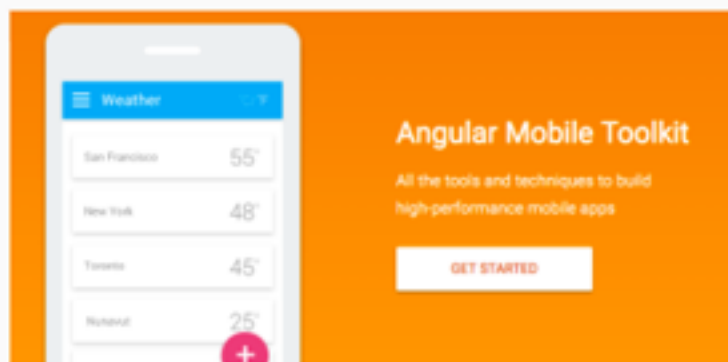
# WHAT IS ANGULAR2

- ▶ Angular 2 is a framework to help us build client applications in HTML and either JavaScript or a language (like Dart or TypeScript) that compiles to JavaScript.
- ▶ Total rewrite of AngularJS
- ▶ Angular 2 is currently in Release Candidate, the final release should be ready anytime now





# Angular ♥ Mobile



<https://mobile.angular.io>



<http://ionicframework.com/docs/v2/>



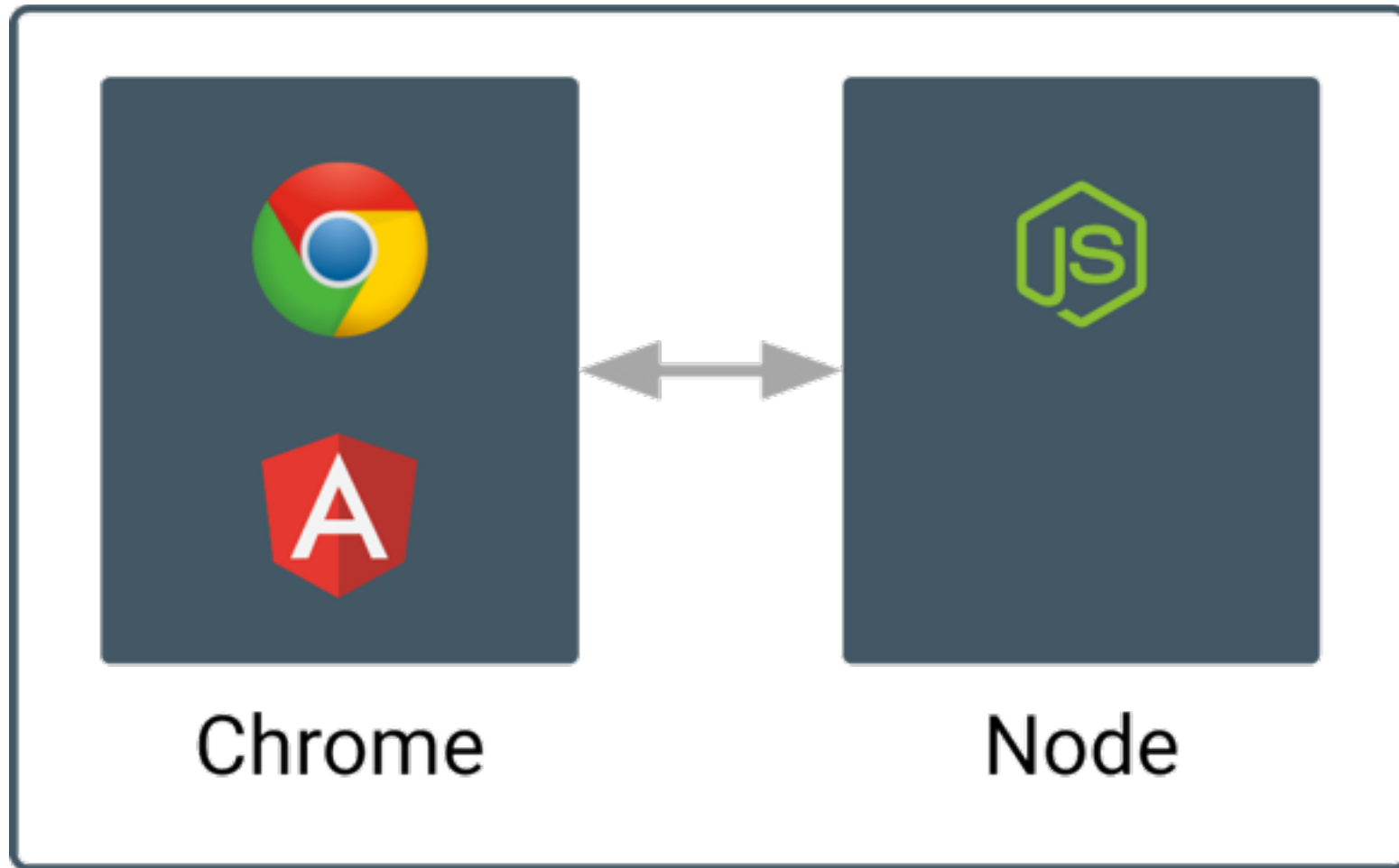
<https://www.nativescript.org/>



<https://facebook.github.io/react-native/>







Electron

HTML + JS

Win/Mac/Linux

Menus,  
notifications, etc.





## Angular Universal

Server-side Rendering for Angular 2 apps

GET STARTED

- Better Perceived Performance
- Optimized for Search Engines
- Site Preview

<https://universal.angular.io>

Node.js

ASP.NET

Others...





# WHAT IS TYPESCRIPT AND WHY SHOULD I CARE ANYWAYS?

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ES5

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ES5

## ES5

Very flexible (maybe too flexible), need good practices or the code will quickly be unmaintainable:

- 'option strict'
- IIFEs
- Closures
- Unit Testing

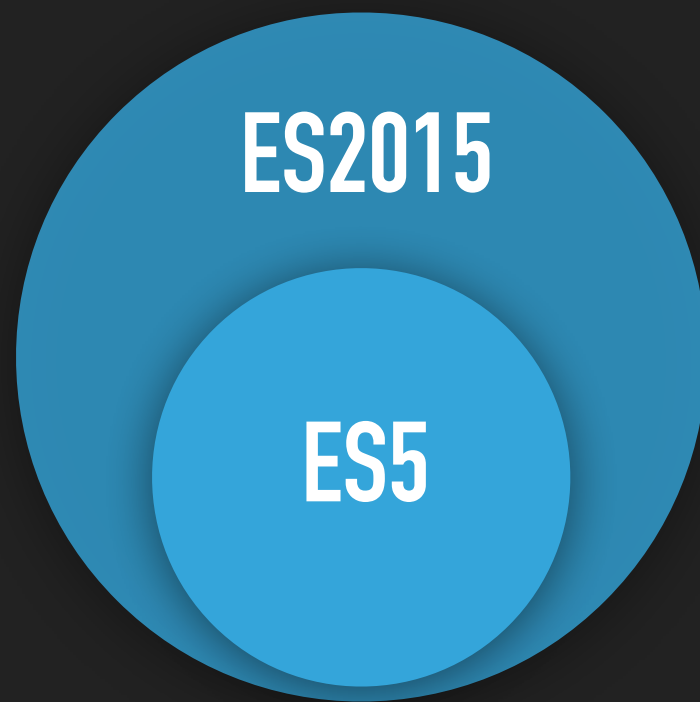


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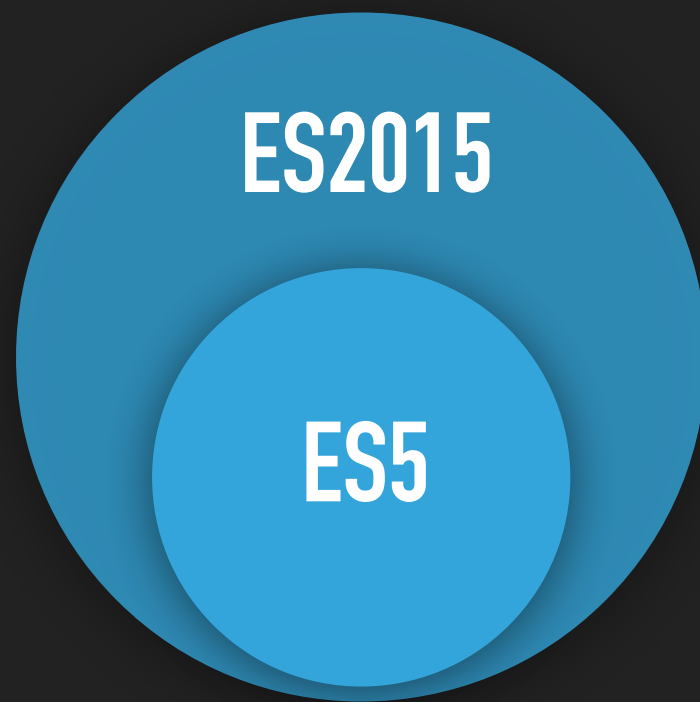


ES5

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## ES6-ES2015

Arrow Functions

Promises

Classes

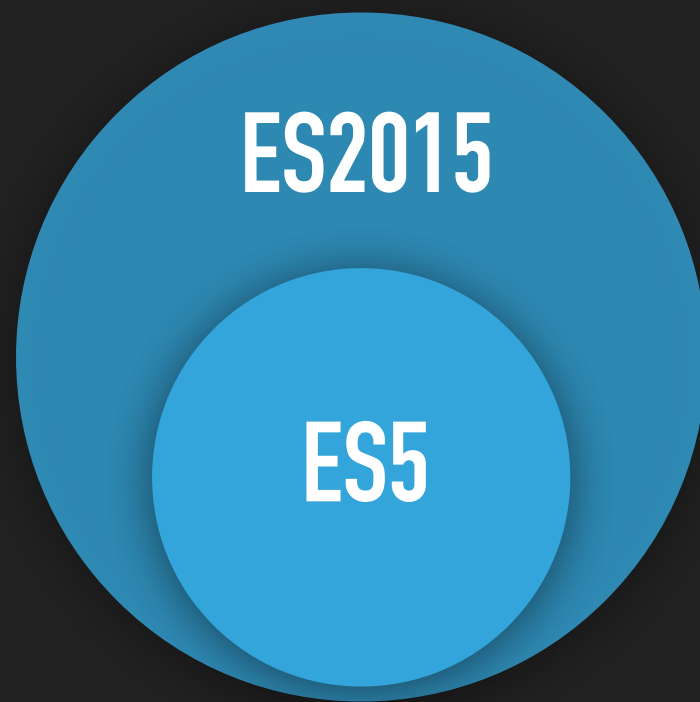
Modules

Default Parameters

Template Literals

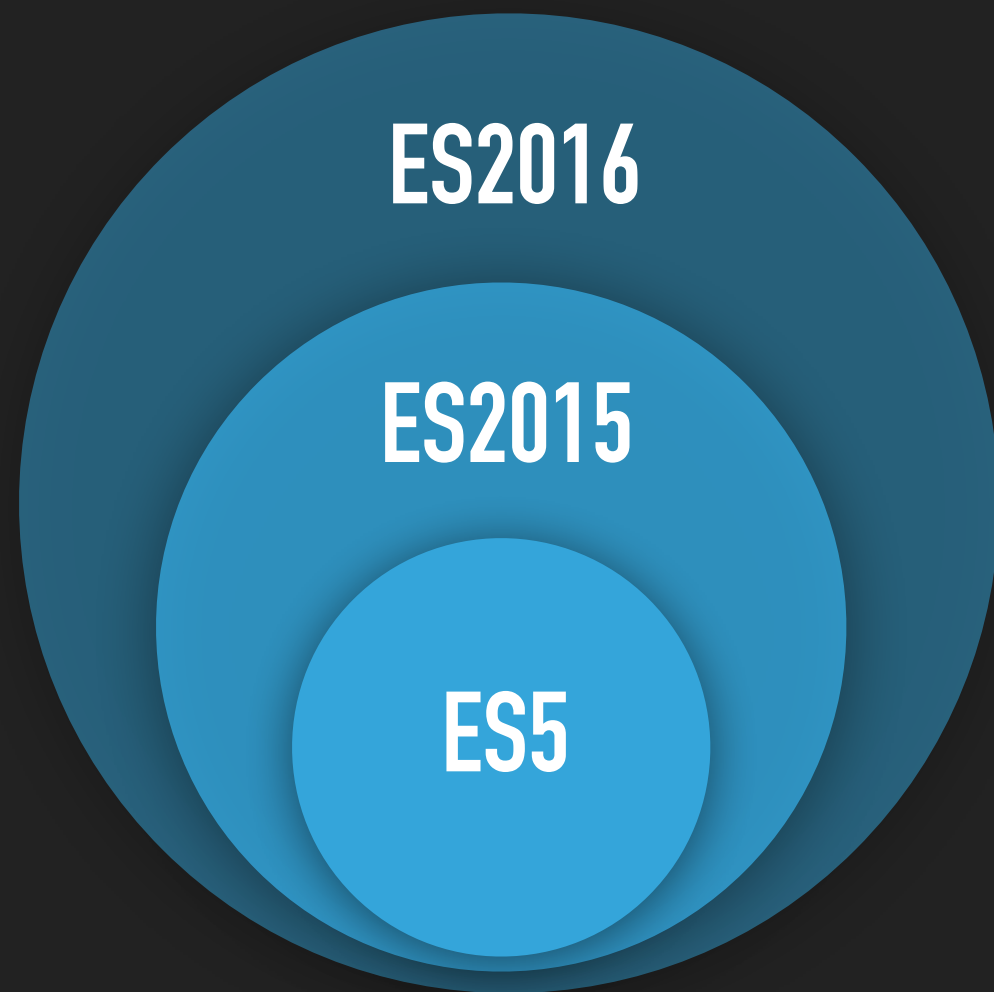
Multi-line Strings

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## ES7-ES2016

Array.prototype.includes

```
> ['a', 'b', 'c'].includes('a')
```

true

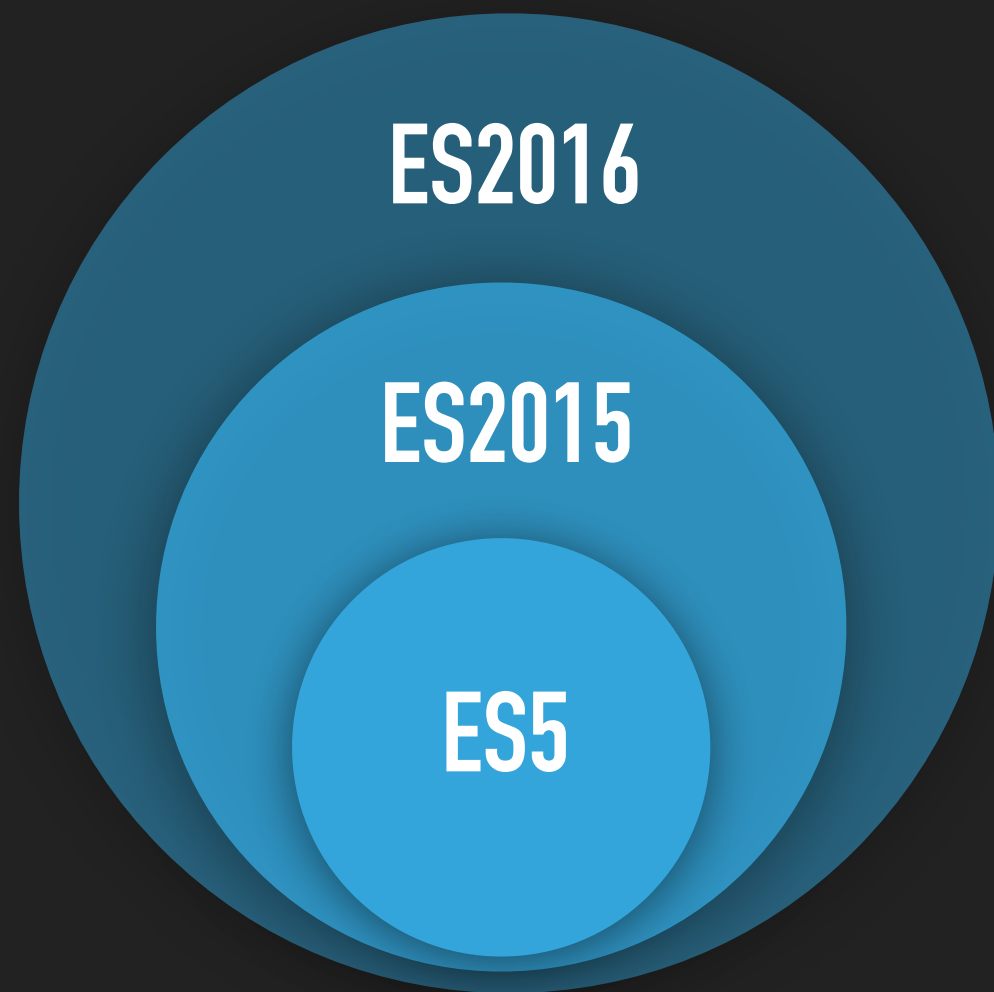
```
> ['a', 'b', 'c'].includes('d')
```

false

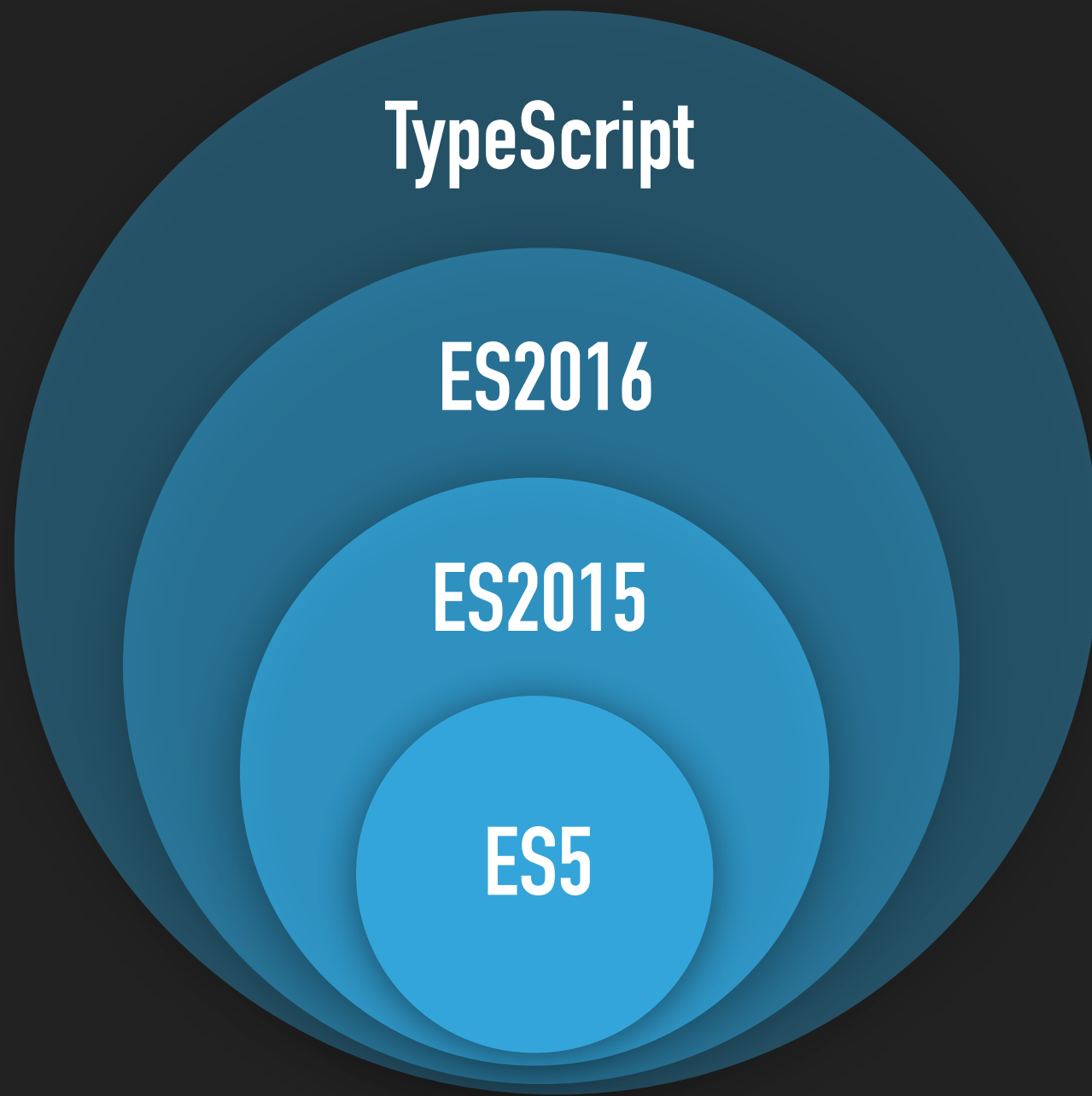
Exponentiation operator

```
x ** y
```

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- ▶ Static checking and code refactoring

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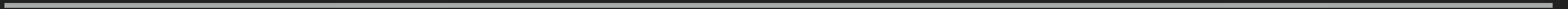
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- ▶ Angular2 is written entirely in TypeScript





# BUILD FOR SPEED



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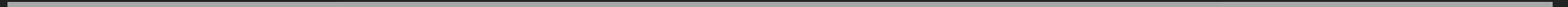
**ANGULAR 1X**

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# BUILD FOR SPEED

**ANGULAR 1X**

**ANGULAR 2**

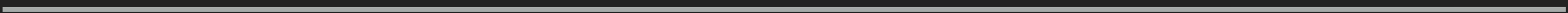


# BUILD FOR SPEED

**ANGULAR 1X**

**43 DIRECTIVES**

**ANGULAR 2**



# BUILD FOR SPEED

**ANGULAR 1X**

**43 DIRECTIVES**

**ANGULAR 2**

**[]()**

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# BUILD FOR SPEED

## ANGULAR 1X

43 DIRECTIVES

CONTROLLERS \$SCOPE

## ANGULAR 2

[]()

# BUILD FOR SPEED

## ANGULAR 1X

43 DIRECTIVES

CONTROLLERS \$SCOPE

## ANGULAR 2

[]()

COMPONENTS

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# BUILD FOR SPEED

## ANGULAR 1X

43 DIRECTIVES

CONTROLLERS \$SCOPE

TWO WAY DATA BINDING

## ANGULAR 2

[]()

COMPONENTS

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# BUILD FOR SPEED

## ANGULAR 1X

43 DIRECTIVES

CONTROLLERS \$SCOPE

TWO WAY DATA BINDING

## ANGULAR 2

[]()

COMPONENTS

UNIDIRECTIONAL DATA FLOW

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# BUILD FOR SPEED

## ANGULAR 1X

43 DIRECTIVES

CONTROLLERS \$SCOPE

TWO WAY DATA BINDING

## ANGULAR 2

[]()

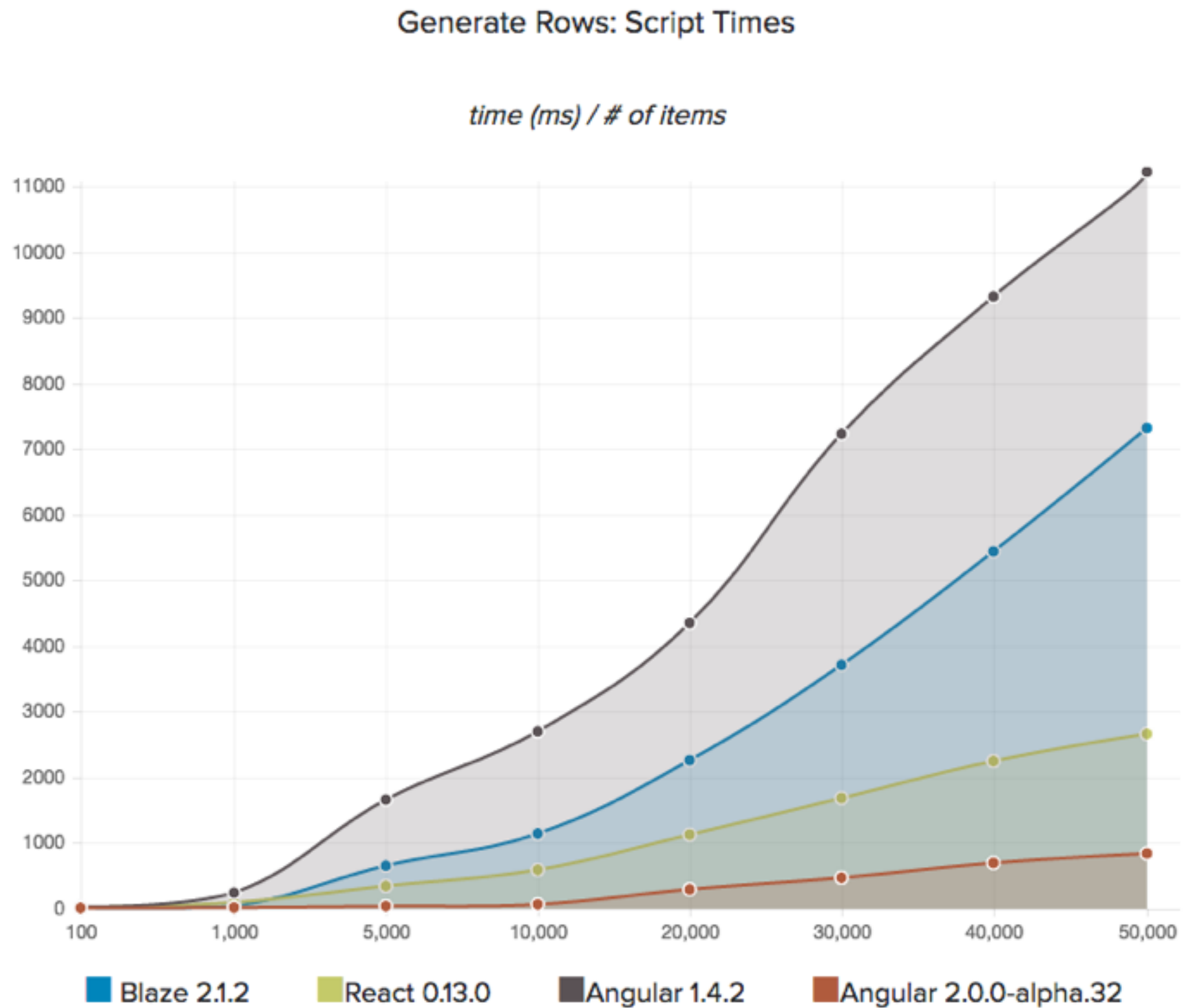
COMPONENTS

UNIDIRECTIONAL DATA FLOW

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COMPARING PERFORMANCE OF BLAZE, REACT,  
ANGULAR AND ANGULAR 2 WITH METEOR

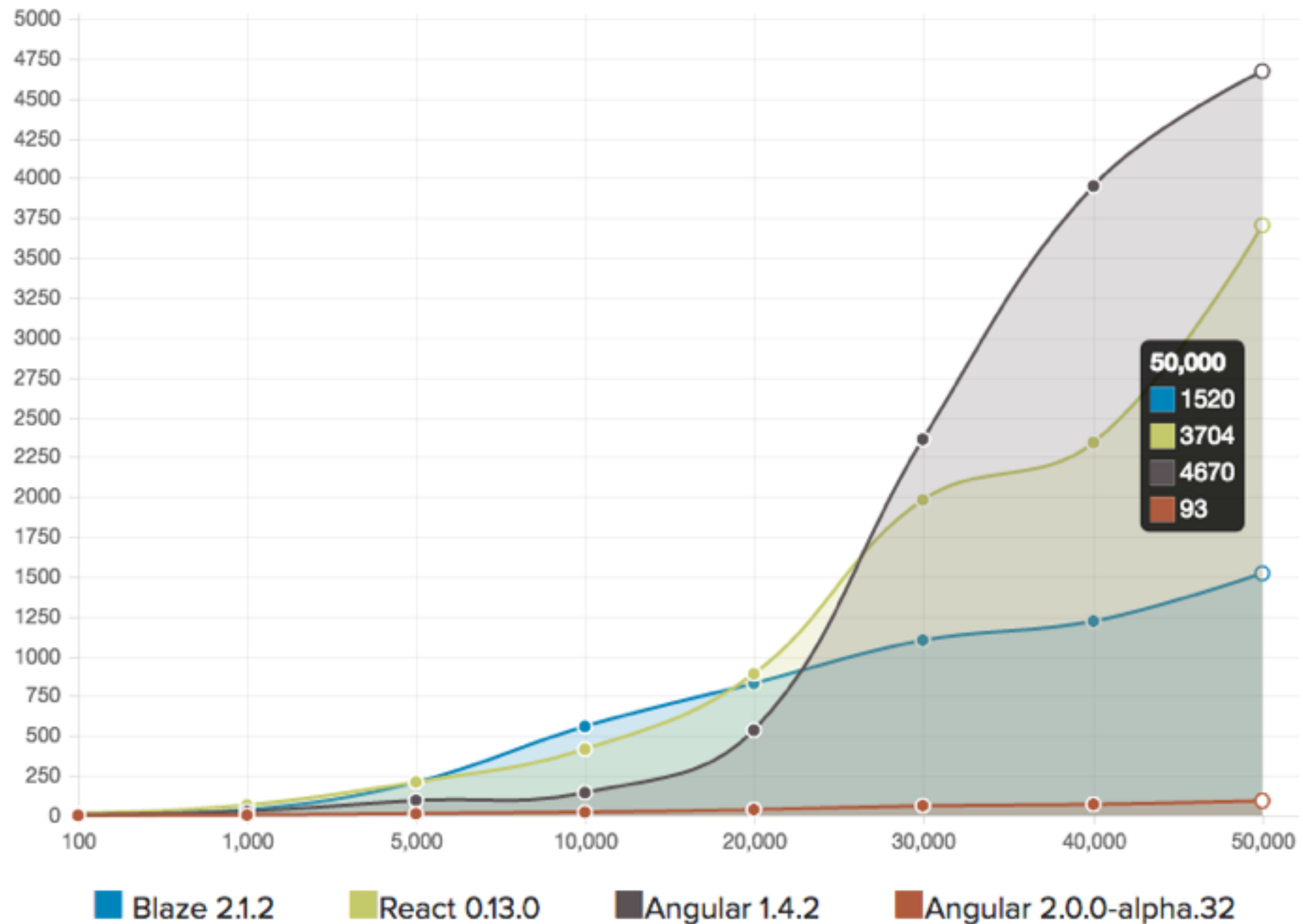
# RENDERING SCRIPT TIMES

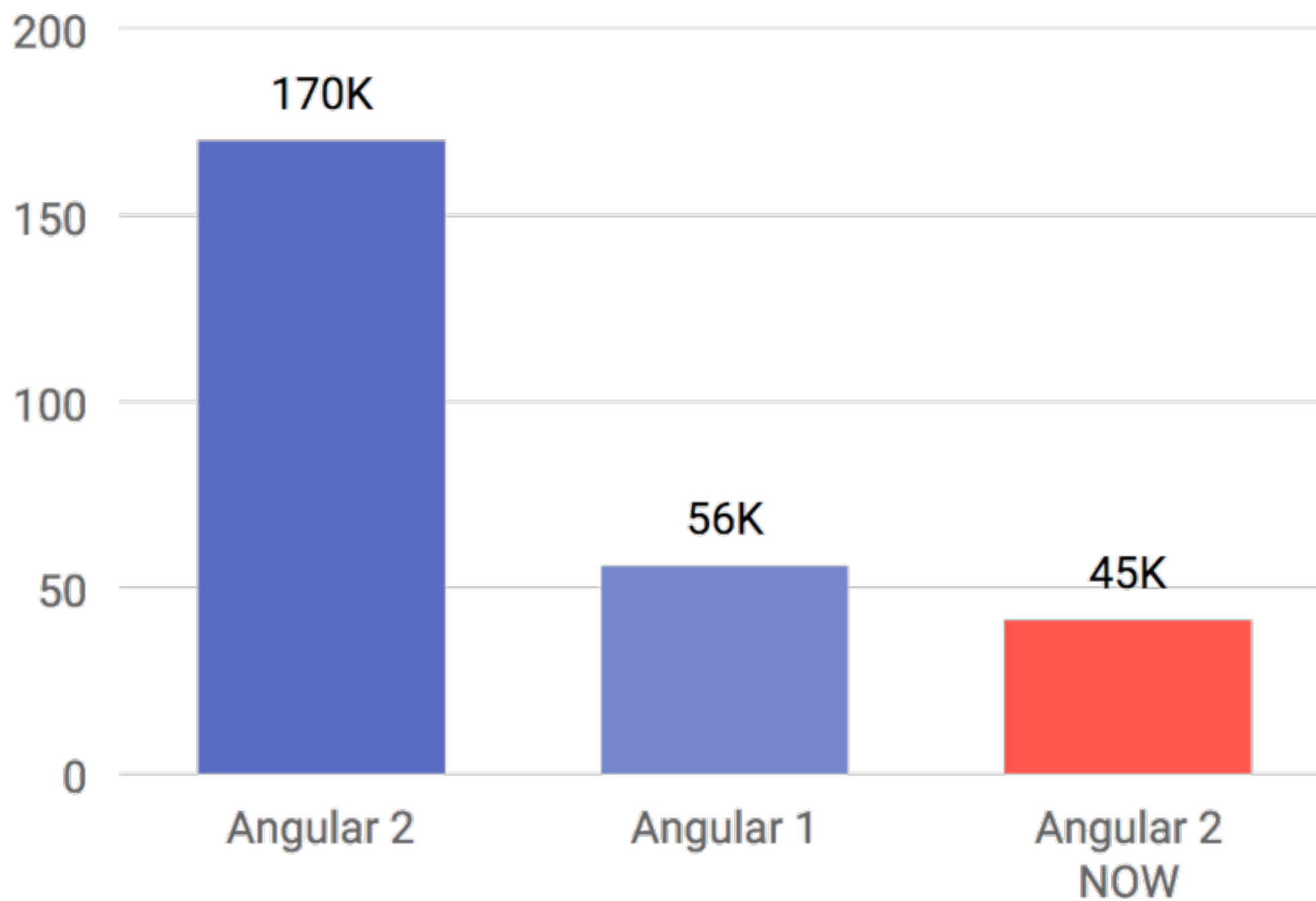


# RE-RENDERING SCRIPT TIMES ON CHANGES

Changes: Script Time

*time (ms) / # of items*





# DO NOT TAKE MY WORD FOR IT

- ▶ Meteor Website:

<https://www.meteor.com/>

- ▶ Download the code and try it yourself:

<https://github.com/ShMcK/Framework-Performance-Tests-with-Meteor>

**DEMO**

# LEARNING RESOURCES

## ► Websites

- <https://angular.io/docs/ts/latest/quickstart.html>
- <https://angular.io/docs/ts/latest/tutorial/>
- <https://angular.io/styleguide>
- <https://angular-university.io/>

## ► Online classes

- <https://www.pluralsight.com/>
- <https://egghead.io/>
- <https://www.udemy.com/>



# YOU CAN ACCESS THE PRESENTATION AND CODE IN GITHUB

► <https://github.com/scastaldi/tampacc-intro-angular2>

**QUESTIONS?**

**THANK YOU!**