TypeScript: The Big Picture

HOW TYPESCRIPT CAN HELP

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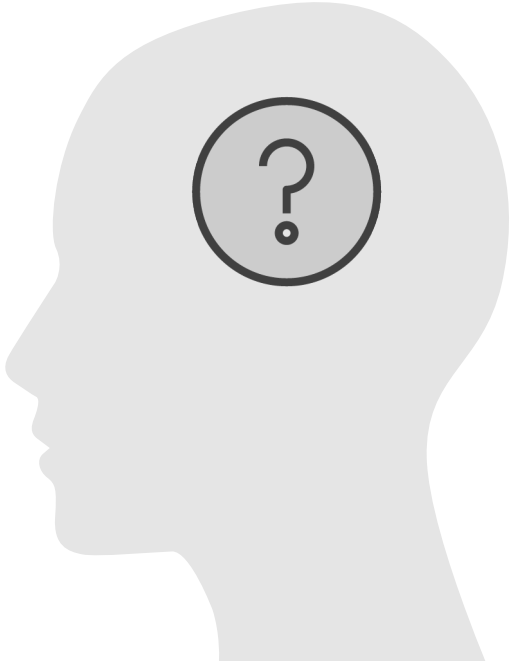
You **Don't** Need To Know

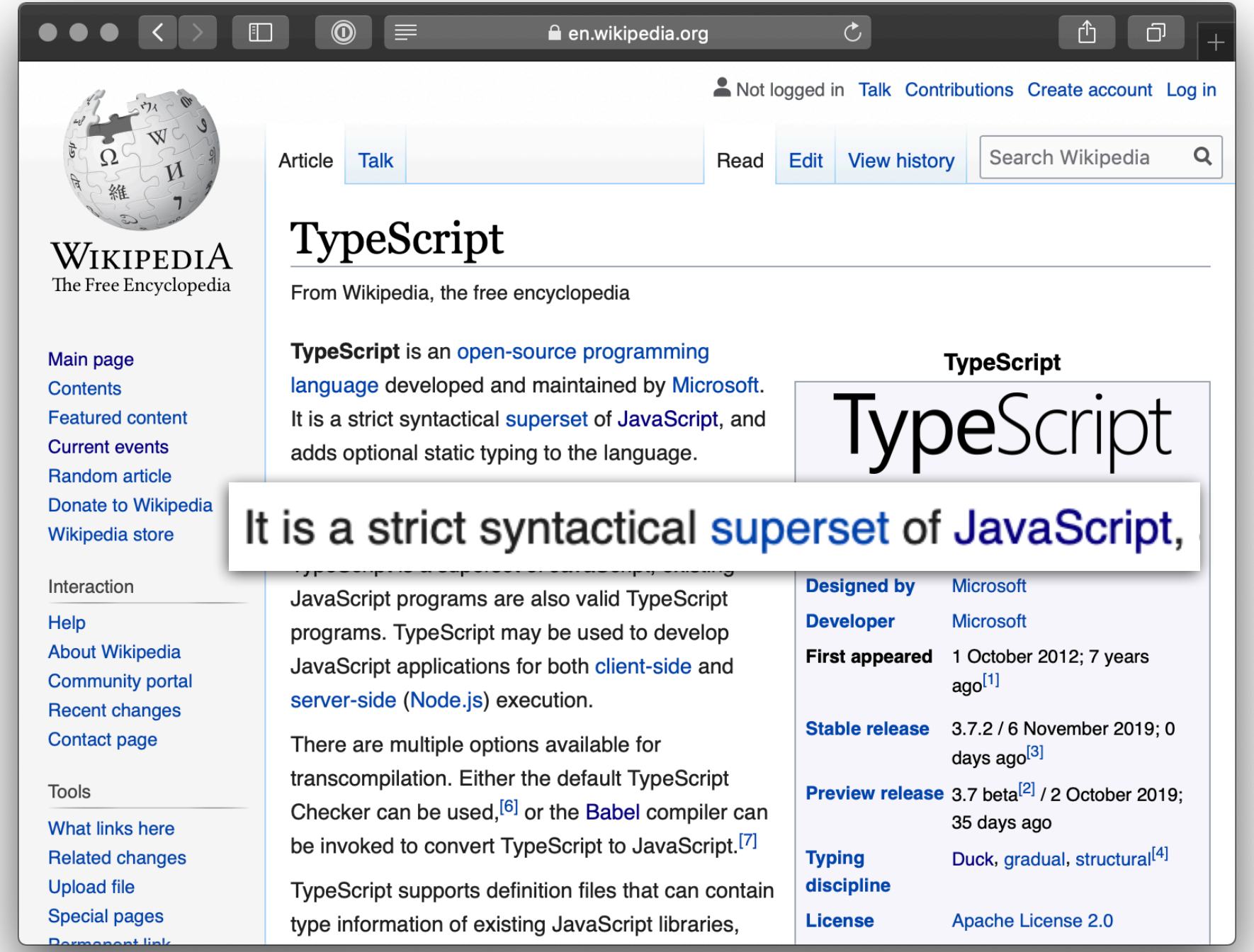
TypeScript

You Need To Know

JavaScript (basics)

HTML, CSS

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TypeScript
From Wikipedia, the free encyclopedia
TypeScript is an open-source programming language developed and maintained by Microsoft. It is a strict syntactical superset of JavaScript, and adds optional static typing to the language.
It is a strict syntactical superset of JavaScript,
JavaScript programs are also valid TypeScript programs. TypeScript may be used to develop JavaScript applications for both client-side and server-side (Node.js) execution.
There are multiple options available for transcompilation. Either the default TypeScript Checker can be used,[6] or the Babel compiler can be invoked to convert TypeScript to JavaScript.[7]
TypeScript supports definition files that can contain type information of existing JavaScript libraries,
TypeScript
TypeScript
Designed by Microsoft
Developer Microsoft
First appeared 1 October 2012; 7 years ago[1]
Stable release 3.7.2 / 6 November 2019; 0 days ago[3]
Preview release 3.7 beta[2] / 2 October 2019; 35 days ago
Typing discipline Duck, gradual, structural[4]
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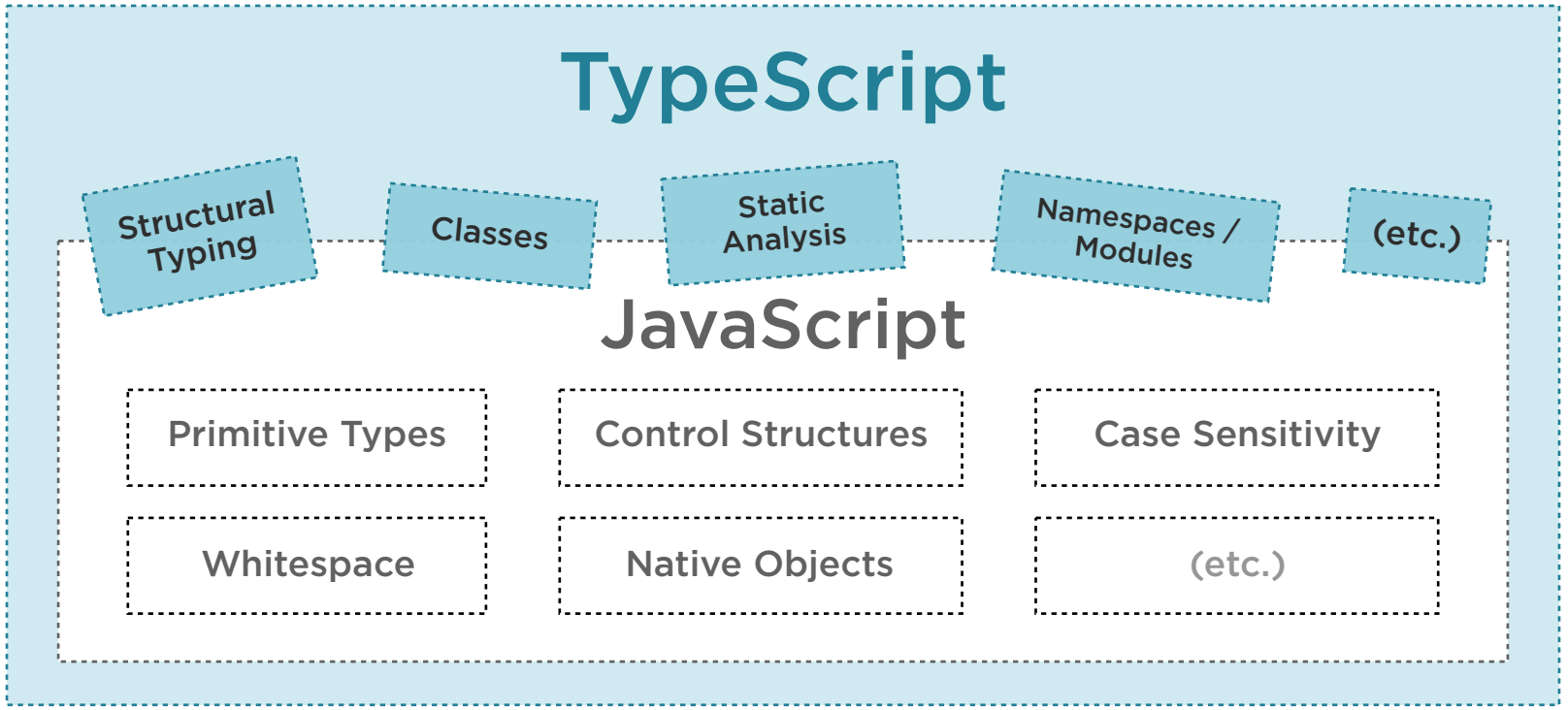
TypeScript
Structural Typing
Classes
Static Analysis
Namespaces / Modules
(etc.)
JavaScript
Primitive Types
Control Structures
Case Sensitivity
Whitespace
Native Objects
(etc.)

TypeScript Compiles to JavaScript

TypeScript
Source Code

JavaScript
Source Code

Benefits of TypeScript: Overview

Static Types

variables, parameters,
return types, etc.

1

Benefits of TypeScript: Overview

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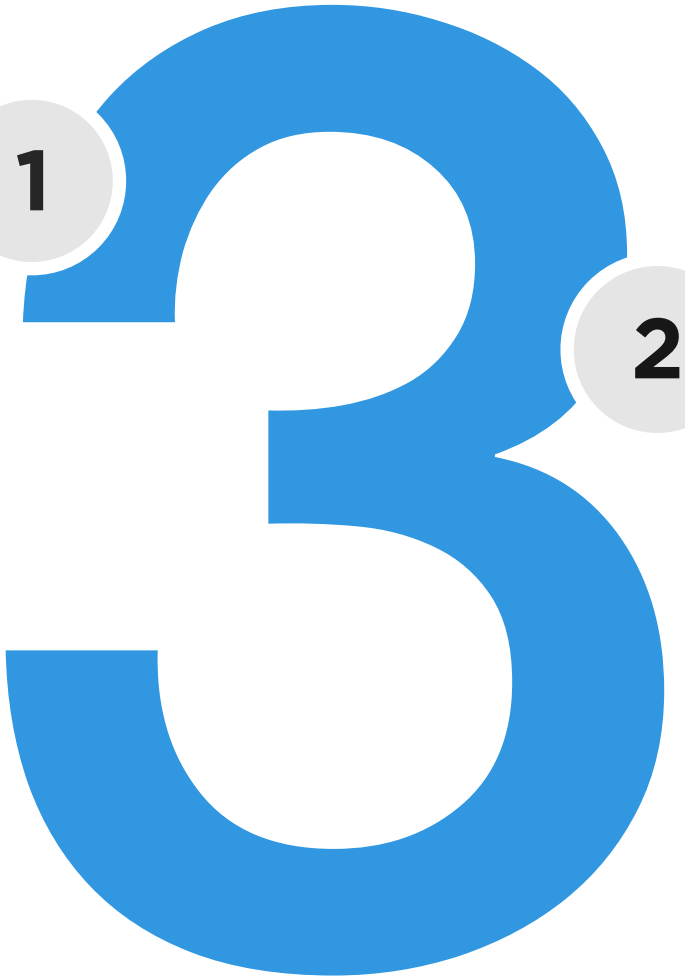
1



2

Organization

2

Organization

Making it easier to manage a large codebase

classes

namespaces

modules

interfaces

TypeScript Classes

```
class Customer {

    name: string;
    isActive: boolean;


    announce() {
        return "Hello, my name is " + this.name;
    }
}
```

Classes

On this Page

- Defining classes
- Class body and method de
- Sub classing with `extend`
- Species
- Super class calls with `super`
- Mix-ins
- Specifications
- Browser compatibility
- Running in Scratchpad
- See also

JavaScript classes, introduced in ECMAScript 2015, are primarily syntactical sugar over JavaScript's existing prototype-based inheritance. The class syntax *does not* introduce a new object-oriented inheritance model to JavaScript.

Defining classes

Classes are in fact "special functions", and just as you can define function expressions and function declarations, the class syntax has two components: class expressions and class declarations.

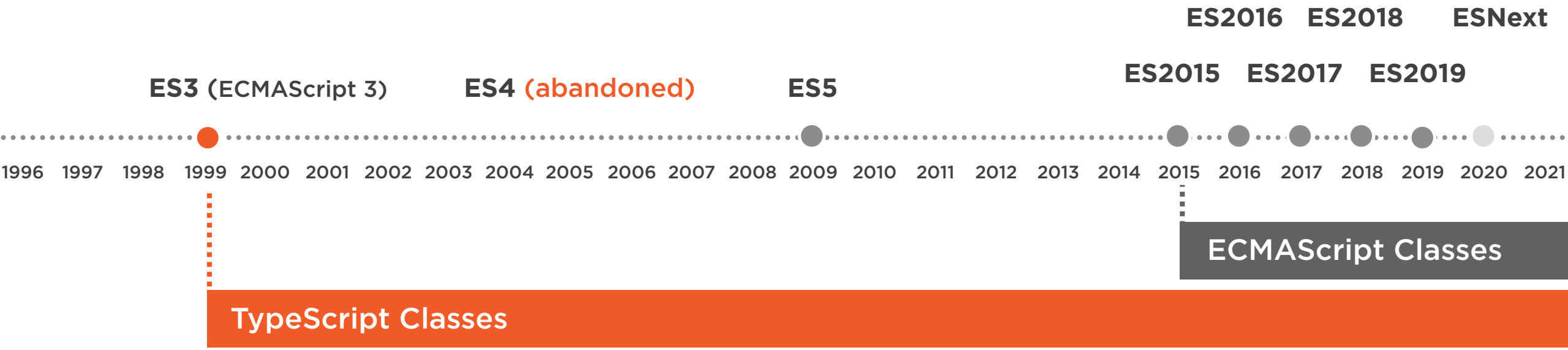
Class declarations

One way to define a class is using a **class declaration**. To declare a class, you use the `class`

Related Topics

JavaScript

TypeScript vs ECMAScript Class Compatibility

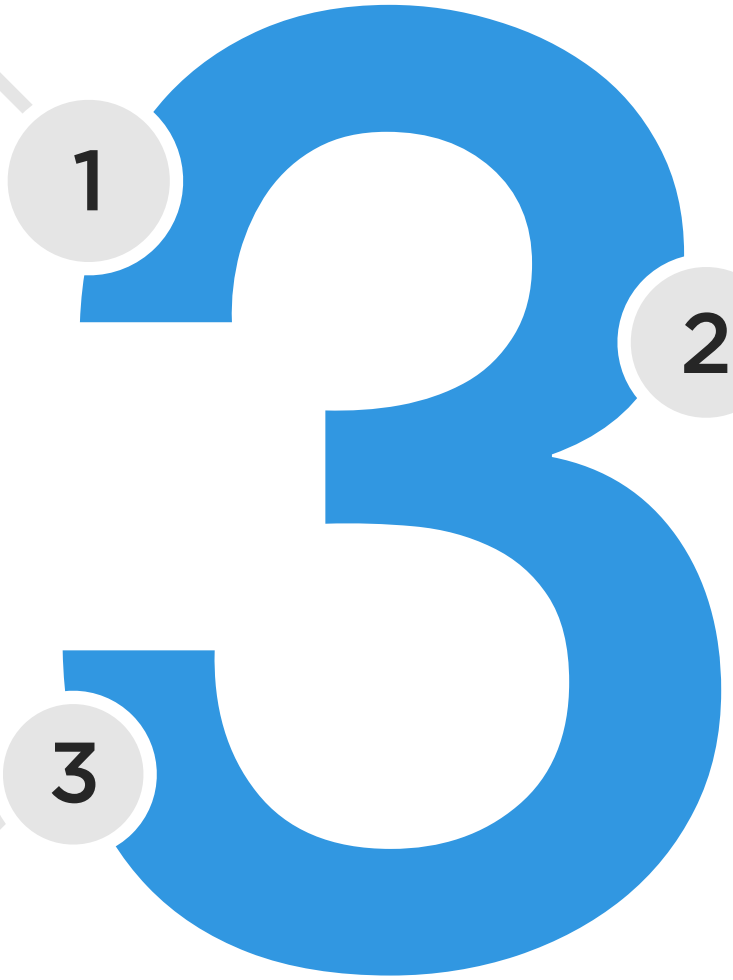


TypeScript Interfaces

```
interface MediaAsset {
    name: string;
    size: number;
    location: string;

    play(): void;
}
```

Benefits of TypeScript: Overview



1. **Static Types**
   variables, parameters, return types, etc.
2. **Organization**
   classes, modules, namespaces, interfaces
3. **Tooling**

3

Tooling

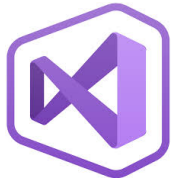
static type analysis

many "instant" errors

detect unused data / unreachable code

source maps — debug directly in TypeScript

TypeScript IDE Support



Visual Studio

Eclipse

Atom

Sublime Text

Emacs

Vim