

TypeScript Fundamentals

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What is TypeScript?

- Superset of JavaScript
- Compiles to JavaScript
- Higher (than JS) level language with concepts such as
 - Type System
 - Interfaces
 - Classes
 - Generics
 - Modules
- All features are optional, but should be used to take full advantage of TypeScript

What does TypeScript do?

- Design / compile time language. JavaScript is used at run time
- At compile time TS performs tests to ensure the code complies with declared intents
- Robust IntelliSense support
- Developers (at least I do) make fewer errors than in JavaScript

What about external libraries?

- TypeScript has concept of definition files. Those contain just interfaces.
- You can add a definition file to an existing JS library, including yours.
- There is a project on GitHub that contains definition files for many, many common JS libraries
 - <https://github.com/borisyankov/DefinitelyTyped>

Tooling

- Visual Studio
 - Plugin for 2013
 - Part of 2015
 - Project options
- Other editors

Demo

- Modules
- Types System
- Enumerations
- Interfaces
- Classes with inheritance
- Property getter/setter
- Export (Public)
- Import (aka using in C#)
- Functions (with and without parameters, including optional, and return values)
- Constructors
- Constructors with public or private properties
- Generics
- Debugging

More Information

- <http://www.typescriptlang.org/>
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- <http://DotNetSpeak.com>