

WEBTECHNOLOGIES

INTRODUCTION TO TYPESCRIPT

WHY TYPESCRIPT?

- JS is great because of its reach
 - JavaScript is everywhere
- JS is great because of available libraries
 - For server and client
- JS (sometimes) sucks because of missing types
 - Limited editor support (IntelliSense, refactoring)
 - Runtime errors instead of compile-time errors

WHAT IS TYPESCRIPT

- Typescript = JavaScript + Static Typing
 - Superset of JavaScript
 - Valid JavaScript is (mostly) valid TypeScript
- TypeScript compiles into JavaScript
 - Compile time errors instead of Runtime errors
- Great tool support
 - e.g. Visual Studio Code

HOW TO USE TYPESCRIPT

- **Run:** `npm install -g typescript`
 - Installs TypeScript globally
 - Compiler can be executed from every folder
- **Run:** `tsc app.ts --target es6`
 - Compiles the given file to JavaScript (ES6)
 - Result: `app.js`

Basic Types

- `string`, `number`, `boolean`
 - We know those primitives from `typeof` in JS
- `any`
 - Type not known at compile time
- `void`
 - No type at all
 - Used from functions without return value