

Typescript

Introduction

Shadi Lahham - Programmazione web - Frontend - Javascript

Typescript

Typescript - quick overview

- [Angular](#) is written in [Typescript](#)
- Typescript is a [superset of Javascript](#)
- It adds many new features
- Don't need to know all the features to use it in Angular

Basic features

Typescript - installation and basics

Quick setup guide

[Handbook - TypeScript Tooling in 5 minutes](#)

Quick introduction to language features

[Handbook - TypeScript for JavaScript Programmers](#)

Typescript - language features

Important basic features to understand how write better Typescript

Interfaces and types: [Documentation - Object Types](#)

Basic types: [Documentation - Everyday Types](#)

Functions: [Documentation - More on Functions](#)

Configuration

Typescript - configuration

The following articles explain how to configure Typescript with various settings

[Handbook - What is a tsconfig.json](#)

[@tsconfig/recommended](#)

[TSConfig option - target](#)

[TSConfig option - outDir](#)

[TSConfig option - include](#)

[All TSConfig options](#)

Sample tsconfig.json

```
{
  "compilerOptions": {
    "target": "ES5",
    "module": "commonjs",
    "strict": true,
    "esModuleInterop": true,
    "skipLibCheck": true,
    "forceConsistentCasingInFileNames": true,
    "outDir": "dist"
  },
  "$schema": "https://json.schemastore.org/tsconfig",
  "display": "Recommended",
  "include": ["src/**/*"]
}
```

Additional features

Typescript - Enums

Enums are not part of Javascript but an addition in Typescript.

They help to avoid hard coding strings or defining many global constants.

Enums are commonly used in Angular projects.

[Handbook - Enums](#)

[Working with Enums in Angular components](#)

Typescript - additional features

These are additional notions are important after you have some more experience with Typescript and Angular

[Unions and Intersections](#)

[Handbook - Namespaces](#)

[Documentation - Generics](#)

Your turn

1. Experiment

- Create a basic typescript project with
 - src/ dist/ folders
 - a tsconfig.json file
- For each of the topics references in the previous slides
 - Create a sample .ts source file
 - Create an index.html file that links to the compiled .js file in the dist/ folder
 - Compile the .ts into .js and compare the source and resultant file
 - Experiment and make sure you understand how the typescript feature works

2. Rewrite

- Choose any of previous Javascript exercise or project that you have written
- Rewrite it in typescript
- Think where typescript can improve the safety of your code or simplify it
- Compile your code and make sure it works as the original version
- **Bonus:** Guarantee IE11 compatibility