

Lesson: TypeScript

June 19, 2018



Pre-requisites

- Basic JavaScript Knowledge
- Understanding of OOP
- Understanding of Node JS as runtime is good to have.
- Laptop with min 8GB RAM with NodeJS and Visual Studio Code Editor installed.

Objective

To learn TypeScript from Basics to Advanced level so that you can use it, not just in Angular 2 but in React JS also.

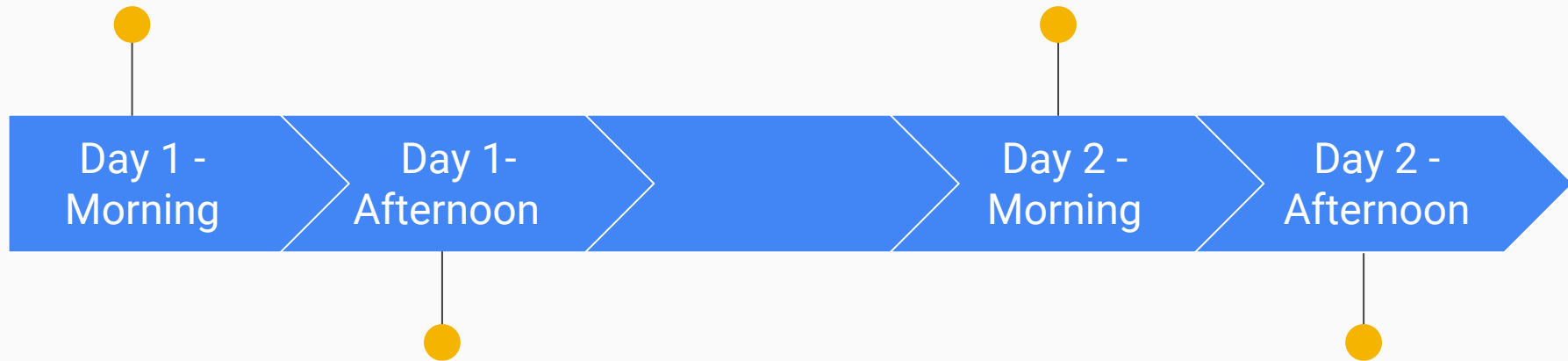
Course Outline

- Introduction
- Typings
- Variables and Scoping
- Functions
- Classes
- Modules
- Namespaces
- Decorators
- Interfaces

Course Plan

Intro to TS,
Typings, Variables
and Scoping

Classes



ES6, Objects,
Functions

Advanced TS

NodeJS - Ecosystem

NodeJS

Let's learn about NodeJS Runtime and NPM

Let's jump into TS

JavaScript

Before ECMAScript 2015

(ES2015 or ES6)

1. It was not Object Oriented
2. Didn't have Class, Modules

After ECMAScript 2015

(ES2015 or ES6)

1. It is Object Oriented
2. Has Class, Modules and many more features

What is TypeScript?

TypeScript is a typed, object oriented language that compiles to plain JavaScript.

Ref: <https://www.typescriptlang.org/>

Why TS?

- Provide an optional type system for JavaScript.
- Provide planned features from future JavaScript editions to current JavaScript engines.
- One of the main selling points of TypeScript is that it allows you to use a bunch of features from ES6

Installing TS

NodeJS should be installed. If not go to <https://nodejs.org/> to install.

1. Launch Command Prompt
2. Try this command

```
npm install -g typescript
```

Ref: <https://www.typescriptlang.org/#download-links>

First Example

Let's go to Playground Page in Official TypeScript Website

<https://www.typescriptlang.org/play/index.html>

Setting up Local Workspace

1. Launch Command Prompt
2. Locate the folder and type the following command

```
tsc --init
```

3. tsconfig.json will be created.

Types

- TypeScript is Strongly Typed Language
- It deals with data type of the variable.

Example:

```
let x: number = 10;
```



Data Type is number

Examples

Ref: `typescript folder`

Ref:

`typescript/12_es6.html`

Some References:

1. [How to dynamically assign props to Obj?](#)
2. [number vs Number?](#)
3. [Typescript Do's and Don'ts](#)

1. How to configure jQuery in a TypeScript Project? [[Ans for Angular 4+](#)]

declare var \$

(you need to load the jquery and plugin files first)

How to use TS in React JS?

Ref:

<https://github.com/Microsoft/TypeScript-React-Starter#typescript-react-starter>

How to use TS in Angular 2+ app?

Ref: <https://angular.io/guide/quickstart>

Further Readings

- <https://basarat.gitbooks.io/typescript/>
- <https://leanpub.com/understandings6/read/>

Thank You!