Angular Training

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Trainer Introduction

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Trainer Introduction

- 20+ Years of Experience
- Educational Background : MCA
- Experience with Software Development and Training on different technologies.
- As SDET2 : VS 2008, IE8, Bing, MS Dynamics
- MCTS certified
- Key Skills : UI Technologies, MEAN/MERN, DotNet Fullstack
- Given valued added trainings for corporate clients.
- Recent Clients :   Aggne, Josys, Salesforce, Sunlife, Deloitte, Wipro, Prolifics, Ness Tech, Cognizant, Godrej, Pega Systems, FIS Global, Aptean, CitusTech etc..

Schedule for Angular Training

Day#	Date	Topic
Day-1	**21-Feb-2024**	• **Introduction to Angular, Components**
Day-2	24-Feb-2024	• Templates • Template Driven & Reactive Forms
Day-3	25-Feb-2024	• Services & Dependency Injection • Pipes & Data Formatting
Day-4	26-Feb-2024	• Angular Routing • Angular Modules
Day-5	27-Feb-2024	• HTTP Client • Observables & RxJS Library
Day-6	28-Feb-2024	• Recap Angular and Q & A • Case Study

Day-1
ES6 and TypeScript and Angular

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Index – Day1

1. TypeScript & ES6
2. Angular
3. Components

Day-1
1. ES6 and TypeScript

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What is ES6?

- ES stands for ECMA Script
- ECMA - European Computer Manufacturers Association
- Provides standards for scripting languages
- ES6/ES7 - Latest standards
- JavaScript implements ES6/ES7 standards

What is ES6?

- Block Level Variables
- String Literals
- Constants
- Default Parameters
- Unlimited Parameters
- Arrow Functions

Introduction to TypeScript

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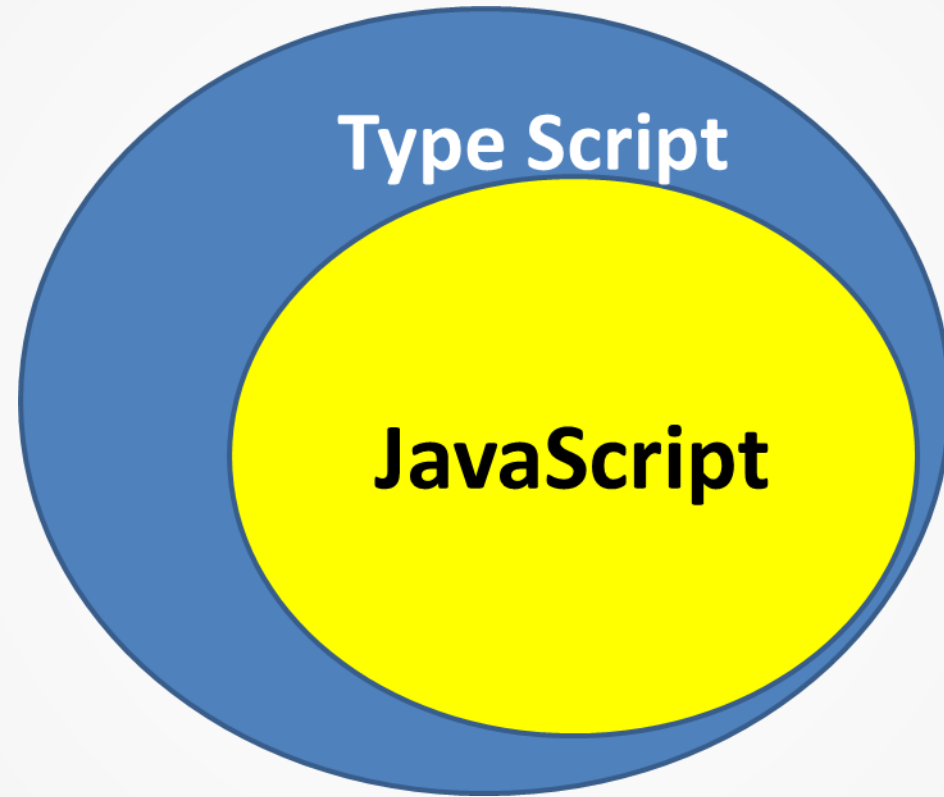
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Why TypeScript?

- The popular JavaScript framework **Angular 2.0** is written in TypeScript.

- TypeScript is a strongly typed, object oriented, compiled language.

- Object oriented with classes, interfaces and strictly typed like C# / Java.

What is TypeScript ?

- Superset of JavaScript

- Microsoft Language

- Powerful Programming features

- Comfortable for all developers

- Released in October 2012

- Developed by Anders Hejlsberg

TypeScript Introduction

Environment Setup and the context

1. Install NodeJS (npm)
2. Install TypeScript

   npm install --g typescript

3. Visual Studio Code (editor)

TypeScript Syntax

```
var uname = "Scott";
var age = 25;
var isValidUser = true;
```
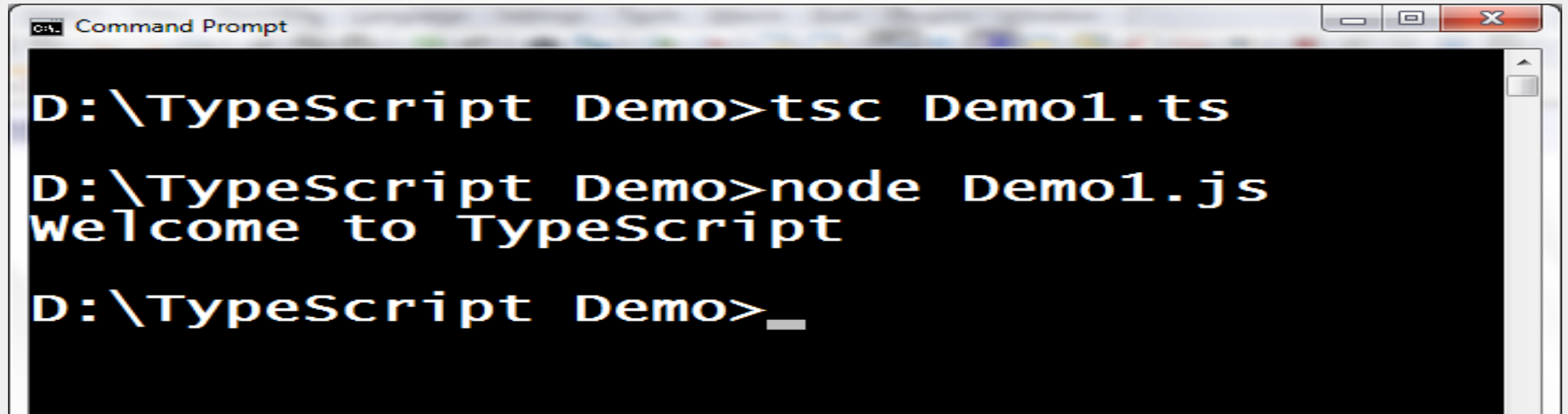JS

```
var uname: string = "Scott";
var age: number = 25;
var isValidUser: boolean = true;
```
TS

Type System and Types

1. number

2. string

3. boolean

4. any

TypeScript Transpilation

Functions in TS

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Function Parameters and Return Values

function showData(uname:string) : void

function add(x:number, y:number) : number

Function Parameters and Return Values

Optional

```
function showDetails(name:string, course:string,
    age?:number) : void
```

Default

```
function getTotal( price:number, qty:number=1) : void
```

Rest

```
function  sum(...ar:number[]) : void
```

Question

1. What is map() method in Arrays in JavaScript?

2. Study the map() method usage?

Callback Functions

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Why TypeScript?

- A callback function is a function passed into another function as an argument, which is then invoked inside the outer function to complete some kind of action

- Implementation:
  - Named Functions
  - Anonymous Function
  - Arrow Functions

Study the following methods:

1. find()
2. findIndex()
3. filter()

Object Oriented Concepts in TS

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Working with Classes

```
class Student
{
    public sid: number  = 0;
    public sname: string  = "";


  public  showDetails():void
  {
        console.log( this.sid );
        console.log( this.sname );
  }
}
```

```
var  obj:Student  = new Student();
var obj  = new Student();
```

```
var  obj:Student  = new Student();
obj.sid  = 54545;
obj.sname  = "Scott";
obj.showDetails();
```

Working with Classes - Constructor

```
class Student {
    public sid: number  = 0;
    public sname: string  = "";


    constructor (sid: number, sname : string)
    {
            this.sid  =  sid;
            this.sname  = sname;
    }
}
```

var s1 = new Student(1023, "Scott");

Inheritance Classes

```
class Person
 {

     // Person Class Members

 }


class Employee  extends  Person
 {

     // Employee Class Members

 }
```

Abstract Classes

```
abstract class  Person
 {

     // rules (member declarations)

 }


class  Employee  extends  Person
 {

     // implement rules

 }
```

Interfaces

```
interface IDemo
{
    // rules (member declarations)

}


class Test implements IDemo
{
    // implement rules

}
```

Practice Hands-Ons

Modules in TypeScript

- In TypeScript any file containing a top-level **import** or **export** is considered a module.

- Modules are executed within their own scope, not in the global scope.

- This means that variables, functions, classes, etc. declared in a module are not visible outside the module unless they are explicitly exported using one of the export forms.

Modules in TypeScript

```
export class Employee { …. .}              // File1.ts
```

```
import  {Employee} from './File1';         // File2.ts
```

Introduction to Angular

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What is Anguar?

- Angular is an open-source framework for building dynamic web applications. It's written in TypeScript and maintained by Google.

- What Angular is used for Building single-page web applications (SPAs), Developing mobile applications, and Creating user interfaces (front-ends).

Features of Angular

Features of Angular Framework

- Component Based

- TypeScript Language

- HTML Template

- Data Binding

- Routing

Environment Setup

- **Install Node JS**

- **Install typescript**

- **Install Angular CLI**

  npm   install   –g   @angular/cli@16.1.0

Create angular project

- **ng new my-project --standalone=false**

- **cd my-project**

- **ng   s   -o**

http://localhost:4200