

Course name: Building applications based on Angular 2

Course code: ANGULAR-2

Introduction

Angular 2 is a web framework for modern web apps. Whether you are Javascript and Angular 1 developers, you will learn a lot of new concepts of Angular 2. Workshop will provide a broad approach to learning Angular 2 concepts and you will understand how the pieces play together even you're brand new to Angular. This workshop introduce the core concepts that will allow to you build end-to-end application. You will go through several example applications and you will be provided with the code, as you learn how to build apps using Angular 2.

Participant profile

- JavaScript developers (beginners, advanced).
- Javascript developers with some experience with single page applications
- Angular 1 developers.

Goal description

Aim of this workshop is to explore the core concepts of Angular2 that will help you to start on Angular 2. You will learn how to start building quick and efficient Angular 2 applications with tools that allow to automate tasks.

Course duration and form

- 21 hours (3 days x 7 hours), including lectures and exercises.

Course plan

1. Introduction
 - a. Prerequisites Review
 - b. Student Background & Expectations
2. Javascript Review
 - a. Functions
 - b. Object Oriented
 - c. Dynamic typing
 - d. Scopes
 - e. Closures
 - f. Contexts
3. What is a SPA? Introduction to Angular
 - a. Single Page Apps vs Conventional Web Applications
 - b. Where should we use Angular
4. Starting with Angular 2
 - a. Example of Angular 2 application
5. Introduction to TypeScript
 - a. Introduction to TypeScript
 - b. The TypeScript Module System
 - c. Angular 2 with TypeScript and Modules
 - d. TypeScript decorators
6. Introduction to Angular 2 Components
 - a. Build a trival and nested components
7. Angular 2 Component Model. Binding and Events.
 - a. Templates

- b. Filters
 - c. Bindings
 - d. Event Bindings
 - e. Two-way Binding
 - f. Class and Style Bindings
 - g. Built-in Directives
 - h. Component Data Binding
 - i. Component Events
 - j. Ng-model
8. Forms
- a. Controls
 - b. Control groups
 - c. FormBuilder
9. Pipes
- a. Using Pipes
 - b. Creating Pipes
10. CSS Styling
- a. Component CSS
 - b. CSS Scoping
11. Dependency Injection
- a. Why Dependency Injection?
 - b. Injection API
 - c. Component Multi Providers
 - d. Injection Multi Providers
12. HTTP, Promises, and Observables
- a. Promises
 - b. Send Request to REST API via HTTP
 - c. Introduction to Observables
 - d. Observable Bindings
 - e. Observables Operators
 - f. Send Request to REST API via Observables
13. Routing
- a. Introduction to Routing
 - b. Nested Routing
 - c. Auxiliary Routes
 - d. "Resolve"- check components lifecycle
14. Directives
- a. Introduction and Examples
 - b. ng-content ("transclusion")
 - c. Multiple ng-content
 - d. Directive Example
15. Example Applications
16. Upgrading and JS Versions
- a. Using Angular 2 with ES5
 - b. Migration from Angular 1 with ngUpgrade
 - c. How to upgrade from Angular 1.x to Angular 2
17. The Multi Threaded Web
- a. web-workers
18. Building and Tools
- a. Yeoman
 - b. Grunt and Gulp
 - c. Bower