



Test-Driven Angular 2 Development

Code: ANG-JS-159

5 days

Course Overview

Test-Driven Angular 2 Development training course teaches attendees how to build and test a complete Angular 2 application using test-driven development (TDD) techniques.

Most courses are delivered as private, customized, on-site training at our clients' locations worldwide for groups of 3 or more attendees and are custom tailored to their specific needs. These courses can also be delivered as live, private online classes for groups that are geographically dispersed or wish to save on the instructor's or students' travel expenses. To receive a customized proposal and price quote for private training at your site or online, please contact us.

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Who Needs To Attend

Student looking to build and test a complete Angular 2 application using test-driven development (TDD) techniques.

Course Details

Topics include

All students will:

- Understand the front-end web development problem that Angular 2 solves
- Explore development environment for Angular 2 applications
- Learn the eight building blocks of an Angular 2 application
- Build a complete Angular 2 application (a completed version of the application is available for review before class)
- Develop custom building blocks for an Angular 2 application
- Code Angular 2 applications using test-driven development techniques

Course Outline

1. Introduction

- What is Angular 2, and what problem does it solve?
- Development Environment

2. Hello World

- Build a Simple Hello World Application
- Explore Hello World Architectural Concepts
- Overview of Eight Building Blocks of Angular 2

3. Test Driven Development

- Assertions
- JS Exception Handling
- Jasmine overview
- TDD vs. BDD
- Automated Cross-Browser Testing

4. ES2015 Modules

- Dividing up an Application (will be covered as each building block of Angular 2 is learned)
- Export/Import Syntax
- Library Modules

5. Angular 2 Modules

- Role of a Module
- Creating an AppModule
- Creating an AppComponent
- Bootstrapping an Application
- Setup Modules for Testing

6. Components & Templates

- What is a Component?
- What is a Template?
- Coding Components
- Registering with Angular 2 Modules
- Using Templates
- Unit Testing Components

7. Data Binding

- What is one-time, one way, and two data binding?
- Common coding patterns for data binding.
- How Angular 2 performs data binding.

8. Directives

- What are Directives?
- Components - Views
- Structural - Adding/Removing/Modifying DOM Elements
- Attribute - Changing the Appearance or Behavior of a DOM Elements

9. Pipes

- Using Pipes: Date, Currency, Json, UpperCase, LowerCase, etc...
- Custom Pipes

- Stateful Pipes
- Async Pipes
- Registering Pipes with Angular 2 Modules
- Unit Testing Custom Pipes

10. Routing

- What problem does Routing solve?
- Using the Router Module
- Common patterns for implementing client-side routing.
- Configuring Route Definitions
- Adding Routing to an Application
- RouterLink & RouterOutlet Directives
- Unit Testing Routing

11. Forms

- Benefits of Angular 2 Forms
- Using the Forms Module
- Working with Common HTML Form Elements
- Data Binding with ngModel
- Tracking Control State and Validity with ngControl
- Using ngForm and ngSubmit
- Using CSS and Control Object Model to Display Validation Messages
- Unit Testing Forms

12. Services

- What problem do Services solve?
- Dependency Injection
- Registering Services with Modules
- Injectable Classes
- Using the Http Class to connect to a REST Service
- Practical Applications of Injectable Classes
- Hierarchical Injectors
- Unit Testing Services

13. Component Lifecycle

- What is the Component Lifecycle?
- Two Phases of Angular Applications
- Examine each stage of the Lifecycle
- Compiling and the Dynamic Component Loader

14. Custom Attribute Directives

- Purpose of Attribute Directives
- Registering Custom Directives with Modules
- Using the Renderer
- Creating Attribute Directives
- Unit Testing Custom Attribute Directives

15. Custom Structural Directives

- Purpose of Structural Directives

- Difference between display none, and removing elements.
- Purpose of the asterisk and the template tag when using structural directives.
- Creating Structural Directives
- Unit Testing Custom Structural Directives

16. Conclusion

- Review application built in class with Angular 2 Building Blocks
- Review Eight Building Blocks of Angular 2
- Review the purpose of each Angular 2 building block
- Review when and how to build custom building blocks

Prerequisites

All attendees must have substantial prior experience developing with JavaScript. If attendees will not have prior JavaScript experience, we would be delighted to precede this class with a one- or two-day intensive JavaScript primer.