



# Angular: Intermediate Angular 10 Programming

Course ID #: 7000-427-ZZ-Z

Hours: 14

## Course Content

### Course Description:

Intermediate Angular 10 Programming training covers more advanced topics of this next generation of the Angular framework. This Angular 10 Training course is intended for those that already have a basic understanding of the Angular 10 fundamentals and now want to cover more advanced features the Angular 10 framework offers.

This Angular 10 Training course includes advanced topics not covered in our 3-day Introduction to Angular 10 Programming class.

Lab exercises provide essential and practical hands-on experience for each topic.

### Prerequisites:

Students must have some prior understanding of Angular fundamentals in addition to web development using, HTML, CSS and JavaScript. Experience developing with AngularJS or prior versions of Angular is not required.

### Topics:

#### Chapter 1. Advanced HTTP Client

- Request Options
- Returning an HttpResponse Object
- Setting Request Headers
- Creating New Observables
- Creating a Simple Observable
- The Observable.create() Method
- Observable Operators
- The map and filter Operators
- The flatMap() Operator
- The tap() Operator
- The zip() Combinator
- Caching HTTP Response
- Making Sequential HTTP Calls
- Making Parallel Calls
- Customizing Error Object with catchError()
- Error in Pipeline
- Error Recovery
- Summary

#### Chapter 2. Angular Modules

- Why Angular Modules?
- Anatomy of a Module Class
- @NgModule Properties
- Feature Modules
- Example Module Structure
- Create a Domain Module
- Create a Routed/Routing Module Pair
- Create a Service Module
- Creating Common Modules
- Using One Module From Another
- Summary



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## Chapter 3. Advanced Routing

- Routing Enabled Feature Module
- Using the Feature Module
- Lazy Loading the Feature Module
- Creating Links for the Feature Module Components
- More About Lazy Loading
- Preloading Modules
- routerLinkActive binding
- Default Route
- Wildcard Route Path
- redirectTo
- Child Routes
- Defining Child Routes for Child Routes
- Links for Child Routes
- Navigation Guards
- Creating Guard Implementations
- Using Guards in a Route
- Summary

## Chapter 4. Unit Testing Angular Applications

- Unit Testing Angular Artifacts
- Testing Tools
- Typical Testing Steps
- Test Results
- Jasmine Test Suites
- Jasmine Specs (Unit Tests)
- Expectations (Assertions)
- Matchers
- Examples of Using Matchers
- Using the not Property
- Setup and Teardown in Unit Test Suites
- Example of beforeEach and afterEach Functions
- Angular Test Module
- Example Angular Test Module
- Testing a Service
- Injecting a Service Instance
- Test a Synchronous Method
- Test an Asynchronous Method

- Using Mock HTTP Client
- Supplying Canned Response
- Testing a Component
- Component Test Module
- Creating a Component Instance
- The ComponentFixture Class
- Basic Component Tests
- The DebugElement Class
- Simulating User Interaction
- Summary

## Chapter 5. Debugging

- Overview of Angular Debugging
- Viewing TypeScript Code in Debugger
- Using the debugger Keyword
- Debug Logging
- What is Augury?
- Using Augury
- Opening Augury
- Augury - Component Tree
- Augury - Router Tree.
- Catching Syntax Errors
- Summary

## Lab Exercises

Lab 1. Getting Started

Lab 2. Build a Single Page Application (SPA)

Lab 3. Advanced HTTP Client

Lab 4. Using Angular Bootstrap

Lab 5. Lazy Module Loading

Lab 6. Advanced Routing

Lab 7. Introduction to Unit Testing

Lab 8. Debugging Angular Applications