KOENIG SOLUTIONS · COURSE OUTLINE

Angular Unit Testing with Jasmine Framework

Learn to write and run unit and integration tests for Angular applications using Jasmine and Karma.

5
MODULES

81
TOPICS

COURSE OVERVIEW

This course covers the fundamentals of software testing and the test pyramid before introducing Jasmine and Karma within Angular, including test suites, specs, assertions and matchers. It then examines Jasmine configuration, covering setup and teardown, nested test suites, custom matchers and disabling suites or specs. Further modules address testing Angular components, pipes and services, followed by DOM testing with TestBed and ComponentFixture, routing tests and code coverage. The course concludes with integration testing, covering spies, dependency injection and mocks.

WHO THIS COURSE IS FOR

- **Angular Developers**
- **Front-End Developers**
- **QA Engineers**
- **Test Automation Engineers**
- **Software Developers**

LEARNING OBJECTIVES

- Explain software testing types and the test pyramid
- Describe Jasmine and Karma concepts such as suites and specs
- Apply setup and teardown in nested test suites
- Implement custom matchers for Jasmine specs
- Test Angular components, pipes and services
- Select DOM elements using NativeElement and DebugElement
- Implement routing tests and interpret code coverage reports
- Apply spies and mocks for integration testing

COURSE SYLLABUS

5 Modules, 81 Topics

01

Unit Testing in Jasmine

TOPICS

- Software Testing
- Types of Tests
- Test Pyramid
- Unit Tests
- Jasmine, Karma and Angular
- Jasmine
- Karma
- Basic Terminology
- Test Suite
- Spec
- Assertion
- Matchers
- Setup and Teardown
- A Test Suite
- Auto-Generated Angular Test Suites
- Run a Test
- Summary

02

Jasmine Configuration

TOPICS

- Setup and Teardown
- Setup/Teardown Example
- Order of Execution
- Nested Test Suites
- Nested Test Suites Order of Execution
- Nested Setup/Teardown Order of Execution
- Custom Matchers
- Interface
- Matcher Factory
- Use the Matcher
- Run the Tests
- Disabling Suites and Specs
- The this Keyword
- Summary

03

Testing - Components, Pipes and Services

TOPICS

- Testing Components
- Testing the Class Only
- Example Component
- Test Component Class
- Test Component Class Example
- Test Component
- Test Component Example
- TypeScript async/await
- Change Detection
- DOM Element(s)
- Testing Pipes
- Pipe Class Example
- Pipe Spec Example
- Testing Services
- Service Class Example
- Service Spec Example
- Expecting an Error
- Summary

04

Testing - DOM, Routing and Code Coverage

TOPICS

- Testing in Angular
- Components
- Testing the DOM
- DOM Testing vs End-to-End Testing
- TestBed
- TestBed Use Cases
- Using TestBed
- ComponentFixture
- Get the Component and DOM Element
- Selecting DOM Elements with NativeElement
- Selecting DOM Elements with DebugElement
- Selection Examples
- Accessing Text
- Button Clicks
- Routing
- Routing Test Setup
- Routing Spec
- Code Coverage
- Detailed Coverage Summary
- Details
- Summary

05

Integration Testing

TOPICS

- Integration Testing
- Spies
- Service Class Example
- Spec
- Using a Spy to Return a Fixed Value
- Using a Spy to Return a Dynamic Value
- Injection
- Injection Example
- Injection in a Test Suite
- Mocks
- Summary

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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