WEB-204

# Angular: Practical Front End Application Development

# Angular: Practical Front End Application Development

## OVERVIEW

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|---|---|---|
| Skill Level | : | Intermediate |
| Suitable for | : | Experienced developers who want to learn how to build readily testable front-end applications with the latest version of Angular. |
| Duration | : | 5 Days |

Angular is one of the fastest and most popular open-source UI frameworks today. Knowing how to use it is essential for devs. This course presents a battle-tested, practical approach to building modern frontend applications with Angular. You'll learn to create components, databinding, routing, templates, Observables, Reactive extensions and more.

Through progressive elaboration of worked code examples, course participants will create a full frontend application using the latest version of Angular, integrated with a fully functioning REST API. Note: a runnable server-side API application is provided as part of course materials; development of such an API is not in scope for this particular course.

The course begins with a one-day prelude, covering key concepts in core JavaScript; participants do not need to have prior experience coding in JavaScript (although the ability to code in some other language is still necessary).

Adopting a Component based UI approach, we next demonstrate how to structure user interface elements according to the Atomic Design System. Participants will learn how to iterate UI designs within a cross-functional team using Storybook, for ease of visual testing (i.e.. designer/developer workflow). Further, we teach how to use SaSS to

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3rd Floor, CJV Building
108 Aguirre Street, Legaspi Village
Makati City, Philippines 1229

Telephone: +63 2 8894-3415

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generate parameterized, namespaced CSS stylesheets, matching the Atomic Design components described in the project's Storybook assets.

Ultimately, these techniques are combined in detailed, practical lessons in correct usage of Angular to produce a working frontend application, integrated with a typical REST API.

## PREREQUISITES

WEB-101 — Web Development Fundamentals (or equivalent experience/training).

## COURSE OUTLINE

### Core JavaScript

- Introduction
- Variables and Data Types
- Operators
- Functions
- Conditional Statements
- Loop Statements
- Data Structures
- Arrays
- Object and Inheritance
- Higher-order functions

### HTML DOM

- DOM Document
- DOM Selectors
- DOM Events and Handlers
- DOM Manipulation

### Component-based UI Development

- Introduction to Design Systems
- Atomic Design concepts
- Implementing Atomic Design using Storybook
- Structuring SaSS for Angular UIs with Atomic Design namespacing

### Setup

- Toolchain
- Environment setup (node and NPM)
- Angular CLI
- A basic setup for an Angular app (ng generate)
- Installing an Angular app (ng build)
- Running an Angular app (ng serve)

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- Modules

## Introduction to Components

- Typescript syntax and usage
- The component class
- Metadata and the decorator

## Templates, Interpolation, and Directives

- Building a template
- Building a component
- Using a component as directive
- Binding with interpolation
- Adding logic with directives

## Data binding and pipes

- Property binding
- Handling events with event binding
- How to transform data with pipes

## Components

- Interfaces
- Encapsulating components styles
- Lifecycle hooks
- Building custom pipes
- Filtering a list

## Nested Components

- Services and Dependency Injection
- Building a service
- Registering a service
- Injecting a service

## HTTP

- Observables and Reactive extensions
- Sending an HTTP request
- Exception Handling
- Subscribing to an Observable

## Navigation and Routing

- Overview Generating code and Handling undefined
- How routing works
- Configuring routes
- Tying routes to Actions
- Placing the views
- Passing parameters to a route
- Activating a route with code
- Protecting routes with Guards

## Angular Modules

- Bootstrap array
- Declarations array
- Exports array
- Providers array
- Imports array
- Exports array
- Feature modules

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Enquiries

+63 2 5322 2307

training-sales@orangeandbronze.com