

## Modern Web Developer SkillJourney

# Introduction to Angular 18 Essentials (TT4165)

Get Started with Angular! Learn How to Construct Robust, Scalable, and Feature-Rich Web Applications using Angular 18

### Course Snapshot

- **Course: Introduction to Angular 18 Essentials (TT4165)**
- **Duration:** 3 days
- **Skill-Level:** This introduction to Angular is for experienced Web Developers. Solid hands-on incoming experience with HTML5, CSS3 and JavaScript is required. This can be adjusted for dedicated course deliveries. Please inquire for details.
- **Format / Hands-on:** This course combines engaging instructor-led presentations and practical demonstrations with hands-on programming exercises, challenge labs, use case exploration and engaging group activities. Student machines are required.
- **Flexible Delivery Options:** This course can be delivered for your team or organization **online-live (virtual), onsite in-person, self-paced** or across our immersive **blended learning experience platform (LXP)**.
- **Public Schedule:** This course is currently available on our Public Open Enrollment Schedule.
- **Customizable:** We're flexible! This course agenda, topics, labs, hours and delivery modalities can be adjusted to target your specific training skills objectives, tools and learning goals. Please ask for details.

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### Description

Geared for experienced web developers, **Introduction to Angular 18 Essentials** is a three-day hands-on program that explores the latest features and benefits Angular has to offer. It provides you with the practical “real-world” foundational and advanced Angular skills required to solve the usual challenges you might face when developing modern web applications with JavaScript. You'll leave the course equipped with basic skills required to construct robust, scalable, and feature-rich web applications using the latest stable editions of Angular.

Kicking off with an in-depth introduction to Angular CLI and TypeScript, the course propels you into the world of component-driven development, touching on vital topics like data-binding, and directives. As you advance through the curriculum, you'll explore SPA routing, and forms.

By the end of this course, you'll have built a comprehensive application that brings together all these elements: website structuring through components, dynamic interactivity via directives, and custom pipes for content refinement. You'll know how to employ reactive forms for active user engagement and SPA routing for fluid navigation.

You'll leave the course equipped to construct basic scalable, feature-rich web applications using Angular 18.

NOTE: For additional topics, labs and skills coverage beyond the basics you might consider our **TT4168 Mastering Angular 18 Boot Camp** five-day superset of this course as an alternative. These courses are also available for prior editions of Angular. Please inquire for details and options.

### Learning Objectives

The course includes plenty of hands-on lab work designed to immerse you in the skills required to get you up and running with Angular right away. Guided by our engaging, highly-experienced instructor, you will:

- **Understand Angular Basics and Architecture:** Grasp the fundamentals of Angular's architecture, including component creation and dependency injection, to build foundational web applications.
- **Get Started with TypeScript and Angular CLI:** Learn the essentials of TypeScript and use Angular CLI to set up and manage Angular projects efficiently.
- **Create Interactive Interfaces with Data Binding and Directives:** Develop interactive user interfaces using basic data binding techniques and directives for dynamic content updates.
- **Implement Simple SPA Navigation:** Configure basic Single Page Application (SPA) routing to enable smooth and intuitive

navigation within Angular applications.

- **Build and Validate Basic Reactive Forms:** Learn to create and manage basic reactive forms in Angular, ensuring user input is handled effectively and validation is in place.

## Audience

The content is appropriate for experienced web developers new to Angular. In order to be successful in the course, you should have solid, current hands-on experience developing basic web applications, and be well versed in HTML5, CSS3 and JavaScript.

NOTE: For additional topics, labs and skills coverage beyond the basics you might consider our **TT4168 Mastering Angular 15 Boot Camp** five-day superset of this course as an alternative.

## Pre-Requisites

**Take Before:** Attendees should have experience with the topics in the following courses, or should have recently attended these as a pre-requisite:

- TT4003 Introduction to HTML5, CSS3 & JavaScript - 3 days

## Related Courses

The following is a small subset of related courses. We offer many additional courses and topics on modern web, mobile and full stack development. Please see the online catalog for a complete list of courses and learning paths.

- TT4002 Introduction to HTML5 / CSS3 - 2 days
- TT4003 Introduction to HTML5, CSS3 & JavaScript - 3 days
- TT4110 Introduction to Modern JavaScript – 3 days
- TT4165 Introduction to Angular Essentials - 3-days
- TT4168 Mastering Angular Boot Camp - 5 days (superset of the TT4165)
- TT4169 Intermediate Angular
- TT4190 Getting Started with React Essentials – 3 days
- TT4195 Mastering React Boot Camp | With Redux, Flux, Unit Testing, JSX & More – 5 days (TT4190 superset)

**Enhanced Learning Services:** Please also ask about our robust Learning Experience Platform (LXP), Skills Assessment & Skills Prep Services, Skills Immersion Programs & Camps, Coaching and Mentoring Services and Extended Learning Support programs.

## Course Topics / Agenda

*Please note that this list of topics is based on our standard course offering, evolved from typical industry uses and trends. We'll work with you to tune this course and level of coverage to target the skills you need most. Topics, agenda and labs are subject to change, and may adjust during live delivery based on audience skill level, interests and participation.*

### Getting Started with Angular

#### 1. Overview of Angular Architecture

- Angular Versioning
- Data Binding
- Component Architecture
  - Show concepts: how to render the content in the browser
- Components and Dependency Injection
- Services and Events
- Common Component Lifecycles and Hooks

#### 2. TypeScript

- Angular, ES6 and TypeScript
- Typing and Classes
- Abstract Classes and Interfaces
- Interface patterns
- Annotations
- Generics
- Optional Chaining
- Nullish coalescing
- Decorators
- Functional vs Procedural JavaScript
- Functional Approach

- **Lab:** Angular and TypeScript – Enhanced lab

#### 3. Bootstrapping with Angular CLI

- Angular CLI Overview
- New Projects with CLI
- Testing and Generating with CLI

#### 4. Angular Basics

- Configuration Files
- Working with angular.json
- Top-Level Directories
- Contents of app folder
- Angular DevTools
- ng build

- **Lab:** Creating Projects with Angular CLI

### Working with Angular

#### 5. Components and Events

- Data Binding and Components
- Event Binding
- Custom Events
- Parent/Child Events
- EventEmitter/emit()
- New Input/Output function
- **Lab:** Nested Components –

#### 6. Standalone Components

- Project Setup and Configuration
- Folder Structure
- Components
- Services
- Routing
- Versus non-standalone components
- Versus modules

#### 7. Third Party Libraries

- Angular and the Need for Libraries
- Options for adding Libraries
- Working with npm install
- **Lab:** Third-Party Libraries

#### 8. Dynamic Views - Directives

- View Encapsulation
- Structural/Attribute Directives
- Conditional Styling
- @if/@else

- @for
- @defer
- **Lab:** Working with Directives

#### 9. Pipes

- Overview of Pipes
- Built-in Pipes
- Formatting and Conversions
- Parameterizing Pipes
- Pure vs. Impure Pipes
- Customizing Pipes
- **Lab:** Built-in and Custom Pipes

#### 10. Signals and State

- What are Signals?
- How to read the value of a signal?
- How to modify the value of a signal?
- The update signal API
- Read-only signals
- The computed() Signal API
- How do we subscribe to a signal?
- Using effects

### Angular Forms

#### 11. Forms and the Forms API – focus on Reactive Forms

- Template Forms – Overview
- User Input/Interactions
- Model-Driven Reactive Forms
- FormBuilder API
- Reactive Form Validation
- Form's new control state

change events

- **Lab:** Reactive Forms

### Single Page Applications and Routes

#### 12. SPA - Routing

- Overview of the SPA Concept
- Routing for Page Display
- Working with ActivatedRoute
- Location Strategies
- Nested Routes
- Route redirects as functions
- **Lab:** Routing

### Bonus Content / Time Permitting

#### 13. Services (Dependency Injection)

- Angular's DI Framework
- Components and Injectables
- Tree-shakeable providers
- Services Architecture
- Service Interfaces and DI
- Constructor Injection
- Inject function
- Scenarios for use
- **Lab:** Services

#### 14. Modules

- Overview of Modules
- Feature Modules
- Feature Module Routing
- Shared Modules
- **Lab:** Modules

### Setup Made Simple! Learning Experience Platform (LXP)

All applicable course software, digital courseware files or course notes, labs, data sets and solutions, live coaching support channels, CodeCoach.AI anytime tutor access, and rich extended learning and post training resources are provided for you in our “easy access, single source, no install required” online **Learning Experience Platform (LXP)**, remote lab and content environment. Access periods vary by course. We'll collaborate with you to ensure your team is set up and ready to go well in advance of the class. Please inquire about set up details and options for your specific course of interest.

### For More Information

For more information about our training services (instructor-led, self-paced or blended), collaborative coaching services, robust Learning Experience Platform (LXP), Career Experiences, public course schedule, partner programs, courseware licensing options or to see our complete list of course offerings, solutions and special offers, please visit us at [www.triveratech.com](http://www.triveratech.com), email [Info@triveratech.com](mailto:Info@triveratech.com) or call us toll free at **844-475-4559**.

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