# Angular 12

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| Length: | 5 Days |
| Type: | Course |
| Delivery Method: | Instructor-led (classroom) |

## About

Angular's newest version is smaller, faster, and easier to use, and enables the transition of the Angular ecosystem to the Ivy compiler. In this course learn all the core concepts and guides you to build a full Angular data-centric business application, including the role of TypeScript, project setup, code structure, style guide, using the Angular CLI, data binding, async requests to a REST API through services, observables, and routing.

## Course Objectives

- Learn the concepts of typescript that are well used in the development of an Angular application.
- Learn to create and use components such as CLI and decompose monolithic UI into smaller components.
- Learn and understand the process behind developing template driven and reactive forms.
- Learn how to implement navigation and protect routes. Also, learn how to consume remote services.
- Understand and learn how to use angular elements to implement the web components.
- Learn how to unit test Angular applications using jasmine, angular testing utilities and karma.

## Public

- Anyone who has just completed the HTML, CSS, and JavaScript and want to extent their skills in JavaScript
- Anyone who is willing to build their own JavaScript based project
- Anyone who wants to learn angular

## Prerequisites

- Basic HTML and CSS
- Basic JavaScript
- Basics of Bootstrap

## Course Content

**Module 1: Writing Your First Angular Web Application**

- Introduction to Single Page Application
- What do we need Angular for?
- Setting up the Development Environment
- Angular Application Architecture
- First Angular App
- Bootstrapping crash course

**Module 2: TypeScript**

- Angular is built in TypeScript
- What do we get with TypeScript?
- Built-in types
- Classes
- Utilities

**Module 3: Angular Components**

- Angular Components and the @Component Decorator
- Creating an Angular Component using the Angular CLI
- Component Decorator Metadata
- Data Binding - String Interpolation - {{ }}
- Property Binding - []
- Event Binding - ()
- @Input and @Output Property Decorators
- Two-way Data Binding - [()]
- Attribute Binding - [attr.]
- Class Binding - [class.]
- Style Bindings - [style.]

**Module 4: Angular Directive and Pipes**

- Introduction to Directives
- Built in Structural Directives
- Built in Attribute Directives
- Building custom Attribute Directives
- Building Custom Structural Directives
- Introduction to Pipes in Angular
- Using Built In Pipes
- Creating Custom Pipes in Angular
- Pure and Impure Pipes in Angular

**Module 5: Angular Forms**

- Types of Form in Angular
- Reactive form in Angular
- Dynamically Adding or Removing Form Control(s) or Form Group(s) using Form Array(s)
- Validations to your Reactive Form
- Resetting the value of a form

**Module 6: Angular Routing with Guards**

- Why Do We Need Routing?
- How client-side routing works
- Components of Angular routing
- Putting all together
- Implementing Child Routes
- Introduction to Route Guards in Angular
- CanActivate and CanActivateChild Guards in Angular
- CanDeactivate Guard in Angular
- Prefetching Data for a Component using Resolve

**Module 7: HTTP, Observables**

- Dependency Injection
- Hierarchical Dependency Injection
- Introduction to Services in Angular
- GET data from a Rest API using HttpClient
- CRUD Operations using HttpClient, HttpParams and HttpHeaders
- Observables and Operators in Observables - Map, Retry, Catch
- Custom HTTP Headers

**Module 8: Data Architecture in Angular**

- Details are not available.

**Module 9: Introduction to Redux with TypeScript**

- Redux
- Storing our state
- Setting up Redux

**Module 10: Intermediate Redux in Angular**

- Details are not available.

**Module 11: Advance Component**

- Styling
- Lifecycle Hooks
- Advance Templates
- Change Detection

**Module 12: Testing**

- End to end testing
- Unit testing
- Testing Services and component