Hands-on Workshop "Web Development with Angular and TypeScript"

Participants of this workshop will gain practical skills while exploring the best practices and principles of developing Angular applications and get familiar with multiple sample applications illustrating solutions for real-world challenges. During this course we'll cover all the latest APIs (routing, dependency injection, forms). Participants will get a detailed code review of a front end part of a sample application "Online Auction".

We offer this training as a 3 or 4 days workshop. The 4-day version of this workshop includes the full day of the hands-on work in the classroom.

By the end of this hands-on course, participants will understand:

- How to jump-start a new Angular project
- How to arrange the client-side navigation in single-page applications
- How to communicate with servers using HTTP and WebSocket protocols

And they'll be able to:

- Write code in TypeScript with the Angular framework and deploy it in any modern web browser
- Unit test the router, services, and components
- Automate the building and deployment processes using the Webpack bundler and npm scripts

This workshop will take place from 9:00AM to 5:00PM with 45 minute break for lunch and two more 15 minute breaks. This workshop consists of 60% lectures and 40% of the hands-on work. Participants will receive the PDFs of all slides and all code samples covered in this course.

The Instructor

Yakov Fain is co-author of the Amazon bestseller "Angular 2 Development with TypeScript" as well as a number of other technical books on programming. Yakov works as a software architect at the IT consultancy Farata Systems and develops software products for the insurance industry. A Java Champion, he has taught multiple classes and workshops on web and Java-related technologies, presented at international conferences, and published more than a thousand blog posts at

Prerequisites

To gain the most from this class attendees should understand the syntax of JavaScript and HTML. No prior experience of working with AngularJS framework is required.

Your organization has provide computers for participants, a meeting room, and a projector.

Course Outline (Day 1-3)

Unit 1. Getting familiar with Angular

- Project structure
- Angular modules and components
- Package managers: npm and Yarn
- Getting started with Angular CLI
- Intro to TypeScript
- Intro to templates and bindings

Unit 2. Client-side navigation with the router

- Location strategies
- Main router elements
- Configuring routes
- Passing data to routes
- Child routes
- Multiple router outlets
- Guarding routes
- Lazy loading of modules

Unit 3. Dependency injection

- Benefits of dependency injection
- Injectors and providers
- Hierarchies of injectors
- Injecting using factories and values
- Back to the router: resolvers

Hands-on. Participants work on the first version of the auction app (1 hour)

Unit 4. Inter-component communications

- @Input() and @Output() annotations
- Using a parent component as a mediator
- Using an injectable service as a mediator
- Projection of HTML fragments
- Component lifecycle

Unit 5. Working with Forms API

- Template-driven forms
- Model-driven forms
- Form validation
- Creating custom validators
- Asynchronous validators

Unit 6. Reactive programming in Angular

- Introduction to reactive programming with RxJS
- Events as observables
- Observable HTTP requests
- Observables in the router
- Sharing the observable
- Async pipe

Hands-on. Participants work on the second version of the auction app (1 hour)

Unit 7. Communicating with a web server

- Developing a simple Node.js server
- Working with the Angular Http object
- Deploying apps on the server with Angular CLI
- Adding custom npm scripts

Unit 8. Unit testing and deployment

- Using the Jasmine framework
- Using the Karma test runner
- Bundling apps for dev and prod using Angular CLI
- Building and deploying the auction

Unit 9 Introduction to Angular Material 2

- Creating a modern-looking UI with Angular Material 2
- Overview of Angular Material components

Hands-on. Participants work on the third version of the auction app that uses Angular Material 2 (1 hour)

Day 4

Under the instructor's guidance, participants will work on the front end of the online store application. This app uses the library of UI components Angular Material 2. By the end of the day, the online store app will look like this one.

For information about Farata Systems visit www.faratasystems.com. For pricing call us at +1 (732) 598-4027. You can email your inquiry at training@faratasystems.com.