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› Building Large-Scale Web Applications with Angular: Your one-stop guide to building scalable and production-grade Angular web apps

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# Building Large-Scale Web Applications with Angular

Your one-stop guide to building scalable and production-grade Angular web apps

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## INTRODUCTION

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This book serves as a definitive guide to frontend development with Angular, covering the entire process from initial design to final deployment. It aims to equip developers with the knowledge and skills required to build high-quality, production-grade applications using the Angular platform.

The content progresses from fundamental Angular building blocks to advanced concepts, including reactive programming with RxJS, architectural patterns, and continuous integration/deployment strategies on cloud platforms like AWS. By the end of this manual, readers will have a comprehensive understanding of web development using Angular, Swagger, and Docker, along with practical learning patterns for successful enterprise development.

## KEY FEATURES

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- Develop web applications from scratch using Angular and TypeScript.
- Explore reactive programming principles and RxJS to build and test applications efficiently.
- Study continuous integration and deployment on the AWS cloud.

## WHAT YOU WILL LEARN

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- Gain proficiency with Angular by constructing a workout application.
- Understand cross-component communication using Angular events.
- Work with functional programming and asynchronous data streams.
- Test and debug various features of your application.
- Create full-stack web applications utilizing Angular and RESTful APIs.
- Design secure and scalable applications for deployment on AWS.

## Who This Book Is For

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This learning path is intended for JavaScript or frontend developers seeking comprehensive experience in using Angular for end-to-end enterprise-ready applications.

## Getting Started with Angular Development

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To begin your journey with Angular, the book guides you through setting up your development environment and building your first application. This initial phase focuses on understanding the core structure and components of an Angular project, laying the groundwork for more complex applications.

Book Collection

# Learning Path Building Large-Scale Web Applications with Angular

Your one-stop guide to building scalable and production-grade Angular web apps

Chandermani Arora, Kevin Hennessy,  
Christoffer Noring and Doguhan Uluca

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Figure 1: The cover of 'Building Large-Scale Web Applications with Angular', illustrating the book's focus on modern web development.

Key initial topics include:

- Setting up the Angular CLI.
- Creating a new Angular project.
- Understanding basic components and modules.
- Running your first Angular application.

**CORE CONCEPTS AND APPLICATION DEVELOPMENT**

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This section delves into the fundamental concepts necessary for building robust Angular applications. It covers advanced directive building, reactive programming with RxJS, and various architectural patterns to ensure scalability and maintainability.

- **Angular Directives in Depth:** Explore the most fundamental and powerful features of Angular for extending HTML.
- **Functional Reactive Programming:** Understand how to manage asynchronous data streams using RxJS.
- **Router-First Architecture:** Learn a 7-step approach for designing mid-to-large line-of-business applications.
- **Cross-Component Communication:** Master techniques for data flow and event handling between components.

## BEST PRACTICES AND DEPLOYMENT

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Achieving production readiness involves adhering to best practices in development and implementing efficient deployment strategies. This book covers preparing your Angular application for production, continuous integration, API design, and cloud infrastructure.

- **Production Release Preparation:** Optimize your Angular application for performance and security.
- **Continuous Integration and API Design:** Integrate automated build and deployment pipelines.
- **Highly-Available Cloud Infrastructure on AWS:** Deploy and manage your Angular applications on a scalable cloud environment.
- **Authentication and Authorization:** Implement secure user management within your applications.

## COMMON CHALLENGES AND SOLUTIONS

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Developing large-scale applications often presents challenges. This book provides guidance on debugging, testing, and architectural considerations to overcome common hurdles.

- **Testing and Debugging:** Strategies for identifying and resolving issues in Angular applications.
- **Architectural Patterns:** Guidance on structuring applications for maintainability and scalability.
- **Performance Optimization:** Techniques to ensure your Angular applications run efficiently.

## SPECIFICATIONS

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## ABOUT THE AUTHORS

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### Chandermani Arora

Chandermani Arora is a software craftsman with expertise in the web stack. He has extensive experience in architecting, designing, and developing solutions for Microsoft platforms, with a particular passion for Angular. He actively contributes to the Angular community through blogs and StackOverflow, and authored the first edition of this book.

### Kevin Hennessy

Kevin Hennessy is a Senior Software Engineer with Applied Information Sciences, possessing 20 years of experience as a developer, team lead, and solutions architect. He specializes in web-based projects using the Microsoft technology stack and has presented and written about various JavaScript frameworks, including Angular.

### Christoffer Noring

Christoffer Noring is a software developer with over 10 years of experience across diverse industries. He is a Google Developer Expert in web technologies and Angular, and a Telerik Developer Expert in NativeScript. He is passionate about sharing knowledge through speaking engagements, books, and blogs, and is the author and maintainer of the book RxJS Ultimate.

### Doguhan Uluca

Doguhan Uluca is a software development expert at Excella Consulting. He founded Tech Talk DC meetup and created the DC Full Stack Web Summit conference. Doguhan is a published author and speaker at international conferences, known for his contributions to the open-source community in JavaScript, Angular, Node, and MongoDB.

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