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Unit Test Frameworks Unit Testing Principles, Practices, and Patterns The Art of Unit Testing Get Your Hands Dirty on Clean Architecture Unit Testing in Java Testing Angular Applications Testing Java Microservices Service-Oriented Computing - ICSOC 2006 Test and Analysis of Web Services xUnit Test Patterns Googletest in Practice Java Web Services Architecture Angular: Up and Running Python Unit Test Automation Cloud Native Applications with Jakarta EE Building Web Apps with Spring 5 and Angular Service-Oriented and Cloud Computing Agile and Lean Service-Oriented Development: Foundations, Theory, and Practice Hands-On Artificial Intelligence on Amazon Web Services Professional ASP.NET MVC 3 Angular 2 Cookbook TypeScript Microservices On the Move to Meaningful Internet Systems: OTM 2008 Workshops Test-Driven Development with C++ AngularJS: Up and Running Understanding SCA (Service Component Architecture) Service transition Microservices in .NET, Second Edition Grid and Cooperative Computing Service-Oriented Computing – ICSOC 2005 The Art of Agile Development Learning AngularJS Professional ASP.NET MVC 4 Practical Test-Driven Development using C# 7 Testing with JUnit Professional ASP.NET MVC 5 Working Effectively with Unit Tests Testing Java Microservices Pro AngularJS Pro Spring 3

The two-volume set LNCS 3032 and LNCS 3033 constitute the thoroughly refereed post-proceedings of the Second International Workshop on Grid and Cooperative Computing, GCC 2003, held in Shanghai, China in December 2003. The 176 full papers and 173 poster papers presented were carefully selected from a total of over 550 paper submissions during two rounds of reviewing and revision. The papers are organized in topical sections on grid applications; peer-to-peer computing; grid architectures; grid middleware and toolkits; Web security and Web services; resource management, scheduling, and monitoring; network communication and information retrieval; grid QoS; algorithms, economic models, and theoretical models of the grid; semantic grid and knowledge grid; remote data access, storage, and sharing; and computer-supported cooperative work and cooperative middleware. Develop applications for the real world with a thorough software testing approach Key Features Develop a thorough understanding of TDD and how it can help you develop simpler applications with no defects using C# and JavaScript Adapt to the mindset of writing tests before code by incorporating business goals, code manageability, and other factors Make all your software units and modules pass tests by analyzing failed tests and refactoring code as and when required Book Description Test-Driven Development (TDD) is a methodology that helps you to write as little as code as possible to satisfy software requirements, and ensures that what you've written does what it's supposed to do. If you're looking for a practical resource on Test-Driven Development this is the book for you. You've found a practical end-to-end guide that will help you implement Test-Driven Techniques for your software development projects. You will learn from industry standard patterns and practices, and shift from a conventional approach to a modern and efficient software testing approach in C# and JavaScript. This book starts with the basics of TDD and the components of a simple unit test. Then we look at setting up the testing framework so that you can easily run your tests in your development environment. You will then see the importance of defining and testing boundaries, abstracting away third-party code (including the .NET Framework), and working with different types of test double such as spies, mocks, and fakes. Moving on, you will learn how to think like a TDD developer when it comes to application development. Next, you'll focus on writing tests for new/changing requirements and covering newly discovered bugs, along with how to test JavaScript applications and perform integration testing. You'll also learn how to identify code that is inherently un-testable, and identify some of the major problems with legacy applications that weren't written with testability in mind. By the end of the book, you'll have all the TDD skills you'll need and you'll be able to re-enter the world as a TDD expert! What you will learn The core concepts of TDD Testing in action with a real-world case study in C# and JavaScript using React Writing proper Unit Tests and testable code for your application Using different types of test double such as stubs, spies, and mocks Growing an application guided by tests Exploring new developments on a green-field application Mitigating the problems associated with writing tests for legacy applications Modifying a legacy application to make it testable Who this book is for This book is for software developers with a basic knowledge of Test Driven Development (TDD) who want a thorough understanding of how TDD can benefit them and the applications they produce. The examples in this book are in C#, and you will need a basic understanding of C# to work through these examples. Gain insight into how hexagonal architecture can help to keep the cost of development low over the complete lifetime of an application Key FeaturesExplore ways to make your software flexible, extensible, and adaptableLearn new concepts that you can easily blend with your own software development styleDevelop the mindset of building maintainable solutions instead of taking shortcutsBook Description We would all like to build software architecture that yields adaptable and flexible software with low development costs. But, unreasonable deadlines and shortcuts make it very hard to create such an architecture. Get Your Hands Dirty on Clean Architecture starts with a discussion about the conventional layered architecture style and its disadvantages. It also talks about the advantages of the domain-centric architecture styles of Robert C. Martin's Clean Architecture and Alistair Cockburn's Hexagonal Architecture. Then, the book dives into hands-on chapters that show you how to manifest a hexagonal architecture in actual code. You'll learn in detail about different mapping strategies between the layers of a hexagonal architecture and see how to assemble the architecture elements into an application. The later chapters demonstrate how to enforce architecture boundaries. You'll also learn what shortcuts produce what types of technical debt and how, sometimes, it is a good idea to willingly take on those debts. After reading this book, you'll have all the knowledge you need to create applications using the hexagonal architecture style of web development. What you will learnIdentify potential shortcomings of using a layered architectureApply methods to enforce architecture boundariesFind out how potential shortcuts can affect the software architectureProduce arguments for when to use which style of architectureStructure your code according to the architectureApply various types of tests that will cover each element of the architectureWho this book is for This book is for you if you care about the architecture of the software you are building. To get the most out of this book, you must have some experience with web development. The code examples in this book are in Java. If you are not a Java programmer but can read object-oriented code in other languages, you will be fine. In the few places where Java or framework specifics are needed, they are thoroughly explained. Unit test frameworks are a key element of popular development methodologies such as eXtreme Programming (XP) and Agile Development. But unit testing has moved far beyond eXtreme Programming; it is now common in many different types of application development. Unit tests help ensure low-level code correctness, reduce software development cycle time, improve developer productivity, and produce more robust software.Until now, there was little documentation available on unit testing, and most sources addressed specific frameworks and specific languages, rather than explaining the use of unit testing as a language-independent, standalone development methodology. This invaluable new book covers the theory and background of unit test frameworks, offers step-by-step instruction in basic unit test development, provides useful code examples in both Java and C++, and includes details on some of the most commonly used frameworks today from the XUnit family, including JUnit for Java, CppUnit for C++, and NUnit for .NET.Unit Test Frameworks includes clear, concise, and detailed descriptions of: The theory and design of unit test frameworks Examples of unit tests and frameworks Different types of unit tests Popular unit test frameworks And more It also includes the complete source code for CppUnit for C++, and NUnit for .NET. Master high quality software development driven by unit tests About This Book Design and implement robust system components by means of the de facto unit testing standard in Java Reduce defect rate and maintenance effort, plus simultaneously increase code quality and development pace Follow a step-by-step tutorial imparting the essential techniques based on real-world scenarios and code walkthroughs Who This Book Is For No matter what your specific background as a Java developer, whether you're simply interested in building up a safety net to reduce regressions of your desktop application or in improving your server-side reliability based on robust and reusable components, unit testing is the way to go. This book provides you with a comprehensive but concise entrance advancing your knowledge step-wise to a professional level. What You Will Learn Organize your test infrastructure and resources reasonably Understand and write well structured tests Decompose your requirements into small and independently testable units Increase your testing efficiency with on-the-fly generated stand-in components and deal with the particularities of exceptional flow Employ runners to adjust to specific test demands Use rules to increase testing safety and reduce boilerplate Use third party supplements to improve the expressiveness of your verification statements In Detail JUnit has matured to become the most important tool when it comes to automated developer tests in Java. Supported by all IDEs and build systems, it empowers programmers to deliver software features reliably and efficiently. However, writing good unit tests is a skill that needs to be learned; otherwise it's all too easy to end up in gridlocked development due to messed up production and testing code. Acquiring the best practices for unit testing will help you to prevent such problems and lead your projects to success with respect to quality and costs. This book explains JUnit concepts and best practices applied to the test first approach, a foundation for high quality Java components delivered in time and budget. From the beginning you'll

be guided continuously through a practically relevant example and pick up background knowledge and development techniques step by step. Starting with the basics of tests organization you'll soon comprehend the necessity of well structured tests and delve into the relationship of requirement decomposition and the many-faceted world of test double usage. In conjunction with third-party tools you'll be trained in writing your tests efficiently, adapt your test case environment to particular demands and increase the expressiveness of your verification statements. Finally, you'll experience continuous integration as the perfect complement to support short feedback cycles and quality related reports for your whole team. The tutorial gives a profound entry point in the essentials of unit testing with JUnit and prepares you for test-related daily work challenges. Style and approach This is an intelligible tutorial based on an ongoing and non-trivial development example. Profound introductions of concepts and techniques are provided stepwise as the programming challenges evolve. This allows you to reproduce and practice the individual skills thoroughly. Deploy serverless and scalable cloud-native applications with Jakarta EE KEY FEATURES ? Example-driven approach crafted specially for developers and architects. ? Covers all core areas for cloud-native development. ? Step-by-step implementation of core concepts, including application scalability and security, serverless, and containerization. DESCRIPTION The book helps readers to get a basic understanding of features provided by the cloud and core concepts of cloud native development. A hands-on approach makes sure that after reading the book, one can straight away implement the concepts in their daily design and development activities. The book starts with the basics of cloud computing and moves on to understanding the core concepts to create a production-ready cloud-native application. The book helps readers to develop a code that is testable and maintainable to support Agile cloud native development. This book also talks about the security and scalability aspects of applications which are the backbone of any large-scale application. The book covers advanced cloud-native application development approaches using containers and serverless approaches. The book will help readers to get ready for a cloud-native development journey. Whether one is creating a small application or a large-scale application, core concepts explained in this book remain relevant and will work as a guiding light for developers and architects. WHAT YOU WILL LEARN ? Explains the core features that are part of cloud computing. ? Build applications that are fast to market due to testability and maintainability. ? Build applications that are secured against vulnerabilities. ? Build applications that are easy to scale. WHO THIS BOOK IS FOR The book is meant for software developers, architects, and technical readers who want to learn about Cloud-based application development. Basic knowledge of the Java programming language or Jakarta EE platform is expected to understand code examples used in the book. TABLE OF CONTENTS 1. Introduction to Cloud Computing 2. Design for Cloud 3. Major Players in Cloud Computing 4. Sample Application Using Jakarta EE 5. Testing Cloud-Native Applications 6. Continuous Integration and Continuous Delivery 7. Securing Cloud-Based Applications 8. Scalability 9. Monitoring, Alerting, and Reporting 10. Containers 11. Serverless Computing 12. Best Practices for Developing Cloud-Native Applications This book constitutes the refereed proceedings of the First European Conference on Service-Oriented and Cloud Computing, ESOCC, held in Bertinoro, Italy, in September 2012. The 12 full papers, 3 short papers and 3 poster papers were carefully reviewed and selected from 57 submissions. The volume also contains 7 papers from the industrial track. The papers cover the following topics: cloud computing; service quality and analysis; service composition and evolution; composition; security; modeling; adaption. With AngularJS, you can quickly build client-side applications that run well on any desktop or mobile platform, using REST web services for backend processes. You may have heard that the learning curve for this JavaScript MVC framework is too steep, but that’s not the case. This practical guide provides a hands-on approach to learning AngularJS that will have you building high-quality applications and websites in no time. Along with a conceptual understanding of the framework, you’ll also gain direct experience with AngularJS by building a sample application throughout the book. If you’re familiar with JavaScript, web development, and software design concepts and patterns, this book is the perfect way to get started. Understand how AngularJS differs from other MVC frameworks Learn about AngularJS controllers, views, and models by diving into the book’s sample project Connect your working application to public REST services Build the application’s security layer with non-REST AngularJS services Explore the basics of building and testing AngularJS directives Use AngularJS as part of the MEAN stack (MongoDB, ExpressJS, AngularJS, and Node.js) Discover how search engine optimization relates to AngularJS applications and sites Annotation Develop smaller, lighter web apps that are simple to create and easy to test, extend, and maintain as they grow. This hands-on guide introduces you to AngularJS, the open source JavaScript framework that uses model-view-controller (MVC) architecture, data binding, client-side templates and dependency injection to create a much-needed structure for building web apps. Discover over 70 recipes that provide the solutions you need to know to face every challenge in Angular 2 head on About This Book A first-rate reference guide with a clear structure and intuitive index that gives you as a developer exactly the information you want in exactly the way you want it Covers no legacy material from the outdated Angular release candidates; it is up-to-date with the latest release of Angular 2.4 All the code in the book is explicitly written out, and every piece of code shown is a step towards building a simple working example Who This Book Is For This book is for developers who are competent with JavaScript and are looking to dive headfirst into the TypeScript edition of Angular 2. This book is also geared towards developers with experience in Angular 1 who are looking to make the transition. What You Will Learn Understand how to best move an Angular 1 application to Angular 2 Build a solid foundational understanding of the core elements of Angular 2 such as components, forms, and services Gain an ability to wield complex topics such as Observables and Promises Properly implement applications utilizing advanced topics such as dependency injection Know how to maximize the performance of Angular 2 applications Understand the best ways to take an Angular 2 application from TypeScript in a code editor to a fully function application served on your site Get to know the best practices when organizing and testing a large Angular 2 application In Detail Angular 2 introduces an entirely new way to build applications. It wholly embraces all the newest concepts that are built into the next generation of browsers, and it cuts away all the fat and bloat from Angular 1. This book plunges directly into the heart of all the most important Angular 2 concepts for you to conquer. In addition to covering all the Angular 2 fundamentals, such as components, forms, and services, it demonstrates how the framework embraces a range of new web technologies such as ES6 and TypeScript syntax, Promises, Observables, and Web Workers, among many others. This book covers all the most complicated Angular concepts and at the same time introduces the best practices with which to wield these powerful tools. It also covers in detail all the concepts you'll need to get you building applications faster. Oft-neglected topics such as testing and performance optimization are widely covered as well. A developer that reads through all the content in this book will have a broad and deep understanding of all the major topics in the Angular 2 universe. Style and approach This book follows a cookbook approach—each recipe presents a unique problem to which the solution is presented in a clear, concise, and manner step-by-step manner. With practical hands-on guidance in each and every recipe, you'll be able to get to grips with the concepts. This volume constitutes the refereed proceedings of 13 international workshops held as part of OTM 2008 in Monterrey, Mexico, in November 2008. The 106 revised full papers presented were carefully reviewed and selected from a total of 171 submissions to the workshops. The volume starts with 19 additional revised poster papers of the OTM 2008 main conferences CoopIS and ODBASE. Topics of the workshop papers are ambient data integration (ADI 2008), agents and web services merging in distributed environment (AWeSoMe 2008), community-based evolution of knowledge-intensive systems (COMBEK 2008), enterprise integration, interoperability and networking (EI2N 2008), system/software architectures (IWSSA 2008), mobile and networking technologies for social applications (MONET 2008), ontology content and evaluation in enterprise & quantitative semantic methods for the internet (OnToContent and QSI 2008), object-role modeling (ORM 2008), pervasive systems (PerSys 2008), reliability in decentralized distributed systems (RDDS 2008), semantic extensions to middleware enabling large scale knowledge (SEMELS 2008), and semantic Web and Web semantics (SWWS 2008). Happy testing with googletest!! Contents 1. Understanding Concepts of Tests and Unit Tests __1.1 What Does "Test" Mean? __1.2 What Does "Unit Test" Mean? __1.3 What Does "xUnit" Mean? 2. Building an Environment __2.1 Introduction __2.2 Using googletest on Ubuntu __2.3 Using googletest on Windows 3. Using Googletest __3.1 Introduction __3.2 Using Assertions __3.3 Using Test Fixtures __3.4 How to Apply Various Test Data to Test Fixtures 4. Using gMock __4.1 Introduction __4.2 Difficulties with First-Time Use __4.3 Implementation Method According to the Type of Target Function 5. Specifying Expectations Through Expectations __5.1 Introduction __5.2 Expectation and Clause __5.3 Various Actions __5.4 Various Matchers 6. Understanding Compilers and Linkers for Unit Tests __6.1 Introduction __6.2 Translation Unit __6.3 Storage-class Specifier __6.4 Declaration and Definition __6.5 Linkage __6.6 ODR 7. Case Study __7.1 Introduction __7.2 IPC - Luna Service API #1 __7.3 C++ Standard File I/O __7.4 IPC - Luna Service API #2 __7.5 Testing Asynchronous Operations ASP.NET MVC insiders cover the latest updates to the technology in this popular Wrox reference MVC 5 is the newest update to the popular Microsoft technology that enables you to build dynamic, data-driven websites. Like previous versions, this guide shows you step-by-step techniques on using MVC to best advantage, with plenty of practical tutorials to illustrate the concepts. It covers controllers, views, and models; forms and HTML helpers; data annotation and validation; membership, authorization, and security. MVC 5, the latest version of MVC, adds sophisticated features such as single page applications, mobile optimization, and adaptive rendering A team of top Microsoft MVP experts, along with visionaries in the field, provide practical advice on basic and advanced MVC topics Covers controllers, views, models, forms, data annotations, authorization and security, Ajax, routing, ASP.NET web API, dependency injection, unit testing, real-world application, and much more Professional ASP.NET MVC 5 is the comprehensive resource you need to make the best use of the updated Model-View-Controller technology. Perform cloud-based machine learning and deep learning using Amazon Web

Services such as SageMaker, Lex, Comprehend, Translate, and Polly Key FeaturesExplore popular machine learning and deep learning services with their underlying algorithmsDiscover readily available artificial intelligence(AI) APIs on AWS like Vision and Language ServicesDesign robust architectures to enable experimentation, extensibility, and maintainability of AI appsBook Description From data wrangling through to translating text, you can accomplish this and more with the artificial intelligence and machine learning services available on AWS. With this book, you'll work through hands-on exercises and learn to use these services to solve real-world problems. You'll even design, develop, monitor, and maintain machine and deep learning models on AWS. The book starts with an introduction to AI and its applications in different industries, along with an overview of AWS artificial intelligence and machine learning services. You'll then get to grips with detecting and translating text with Amazon Rekognition and Amazon Translate. The book will assist you in performing speech-to-text with Amazon Transcribe and Amazon Polly. Later, you'll discover the use of Amazon Comprehend for extracting information from text, and Amazon Lex for building voice chatbots. You will also understand the key capabilities of Amazon SageMaker such as wrangling big data, discovering topics in text collections, and classifying images. Finally, you'll cover sales forecasting with deep learning and autoregression, before exploring the importance of a feedback loop in machine learning. By the end of this book, you will have the skills you need to implement AI in AWS through hands-on exercises that cover all aspects of the ML model life cycle. What you will learnGain useful insights into different machine and deep learning modelsBuild and deploy robust deep learning systems to productionTrain machine and deep learning models with diverse infrastructure specificationsScale AI apps without dealing with the complexity of managing the underlying infrastructureMonitor and Manage AI experiments efficientlyCreate AI apps using AWS pre-trained AI servicesWho this book is for This book is for data scientists, machine learning developers, deep learning researchers, and artificial intelligence enthusiasts who want to harness the power of AWS to implement powerful artificial intelligence solutions. A basic understanding of machine learning concepts is expected. The agile, lightweight, open-source Spring Framework continues to be the de facto leading enterprise Java application development framework for today's Java programmers and developers. It works with other leading open-source, agile and lightweight Java technologies like Hibernate, Groovy, MyBatis, and more. Spring now also works with Java EE and JPA 2 as well. Pro Spring 3 updates the bestselling Pro Spring with the latest that the Spring Framework has to offer: version 3.1. At 1000 pages, this is by far the most comprehensive Spring book available, thoroughly exploring the power of Spring. With Pro Spring 3, you'll learn Spring basics and core topics, and gain access to the authors' insights and real–world experiences with remoting, Hibernate, and EJB. Beyond the basics, you'll learn how to leverage the Spring Framework to build various tiers or parts of an enterprise Java application like transactions, the web and presentations tiers, deployment, and much more. A full sample application allows you to apply many of the technologies and techniques covered in this book and see how they work together. After reading this definitive book, you'll be armed with the power of Spring to build complex Spring applications, top to bottom. New edition of the top book on MVC from the top ASP.NET experts at Microsoft! MVC 3.0 is the latest update to Microsoft's Model-View-Controller technology, which enables developers to build dynamic, data-driven web sites. This in-depth book shows you step by step how to use MVC 3.0. Written by top ASP.NET MVC experts at Microsoft, the latest edition of this popular book covers new and updated features such as the new View engine, Razor, NuGet, and much more. The book's practical tutorials reinforce concepts and allow you create real-world applications. Topics include controllers and actions, forms and HTML helpers, Ajax, unit testing, and much more. Shows developers and programmers how to use ASP.NET MVC 3.0, Microsoft's new version of its Model-View-Controller technology for developing dynamic, data-driven web sites Features an expert author team?all are members of Microsoft's ASP.NET team Uses a step-by-step approach to explain all major features and functionalities and provides practical tutorials to allow you to create real-world applications Goes into theory as well as practical application and covers such topics as Razor, NuGet (PowerShell inside Visual Studio 2010), and new layout features Move your development skills to the next level with MVC 3.0 and Professional ASP.NET MVC 3.0. This book constitutes the refereed proceedings of the 4th International Conference on Service-Oriented Computing, ICSOC 2006, held in Chicago, IL, USA, December 2006. Coverage in this volume includes service mediation, grid services and scheduling, mobile and P2P services, adaptive services, data intensive services, XML processing, service modeling, service assembly, experience with deployed SOA, and early adoption of SOA technology. Microservices in .NET Core, Second Edition is a comprehensive guide to building microservice applications using the .NET stack. After a crystal-clear introduction to the microservices architectural style, it teaches you practical microservices development skills using MVC Core and ASP.NET Core. This second edition of the bestselling original has been revised with up-to-date tools for the .NET ecosystem, and more new coverage of scoping microservices and deploying to Kubernetes. about the technology Microservice applications are built by connecting single-capability, autonomous components that communicate via APIs. Microservice architectures boost productivity, support Agile workflows, and decrease the risks of catastrophic failures. However, they can be a big challenge to develop, as they demand clearly defined interfaces and reliable infrastructure. Luckily for developers, Microsoft''s own MVC Core and ASP.NET Core frameworks help manage the tricky API and simplify the task of building microservice-based applications. about the book Microservices in .NET Core, Second Edition provides a complete guide to building microservice applications. You''ll start by getting to grips with the unique architectural style of microservices, explained in a way that''s clear and accessible. You''ll move on quickly to practical development skills for building your own microservices using MVC Core and ASP.NET Core, working on real-world projects such as an ecommerce shopping cart. You''ll design and build individual services in C# and learn how to compose them into a simple but functional application back end. In brand-new coverage for the second edition, you''ll also learn about scoping microservices and how to handle the complexities of deploying to Kubernetes. Along the way, you''ll address production and operations concerns like monitoring, logging, and security. what''s inside Build scalable microservices that are reliable in production Optimized microservices for continuous delivery Design event-based collaboration between microservices Deploy microservices to Kubernetes Set up Kubernetes in Azure about the reader This book is written for C# developers. No previous experience with microservices required. about the author Christian Horsdal is an independent consultant with 20 years of experience building systems from large scale microservice systems to tiny embedded systems--and lots of stuff in between. He is a .NET expert, author of the books Microservices in .NET Core and Instant Nancy Web Development, a trainer, and an occasional open source contributor. This book constitutes the refereed proceedings of the Third International Conference on Service-Oriented Computing, ICSOC 2005, held in Amsterdam, The Netherlands in December 2005. The 32 revised full papers and 14 short papers presented together with 8 industrial and demo papers were carefully reviewed and selected from over 200 submissions. The papers are organized in topical sections on vision papers, service specification and modelling, service design and validation, service selection and discovery, service composition and aggregation, service monitoring, service management, semantic Web and grid services, as well as security, exception handling, and SLAs. Build robust microservice-based applications that are distributed, fault tolerant, and always available Key Features Learn to build message-driven services for effective communication Design microservices API using Reactive programming design patterns Deploy, scale and monitor microservices for consistent high performance Book Description In the last few years or so, microservices have achieved the rock star status and right now are one of the most tangible solutions in enterprises to make quick, effective, and scalable applications. The apparent rise of Typescript and long evolution from ES5 to ES6 has seen lots of big companies move to ES6 stack. If you want to learn how to leverage the power of microservices to build robust architecture using reactive programming and Typescript in Node.js, then this book is for you. Typescript Microservices is an end-to-end guide that shows you the implementation of microservices from scratch; right from starting the project to hardening and securing your services. We will begin with a brief introduction to microservices before learning to break your monolith applications into microservices. From here, you will learn reactive programming patterns and how to build APIs for microservices. The next set of topics will take you through the microservice architecture with TypeScript and communication between services. Further, you will learn to test and deploy your TypeScript microservices using the latest tools and implement continuous integration. Finally, you will learn to secure and harden your microservice. By the end of the book, you will be able to build production-ready, scalable, and maintainable microservices using Node.js and Typescript. What you will learn Get acquainted with the fundamentals behind microservices. Explore the behavioral changes needed for moving from monolithic to microservices. Dive into reactive programming, Typescript and Node.js to learn its fundamentals in microservices Understand and design a service gateway and service registry for your microservices. Maintain the state of microservice and handle dependencies. Perfect your microservice with unit testing and Integration testing Develop a microservice, secure it, deploy it, and then scale it Who this book is for This book is for JavaScript developers seeking to utilize their Node.js and Typescript skills to build microservices and move away from the monolithic architecture. Prior knowledge of TypeScript and Node.js is assumed. This book details Jay Fields' strong opinions on the best way to test, while acknowledging alternative styles and various contexts in which tests are written. Whether you prefer Jay Fields' style or not, this book will help you write better Unit Tests. From the Preface: Over a dozen years ago I read Refactoring for the first time; it immediately became my bible. While Refactoring isn't about testing, it explicitly states: If you want to refactor, the essential precondition is having solid tests. At that time, if Refactoring deemed it necessary, I unquestionably complied. That was the beginning of my quest to create productive unit tests. Throughout the 12+ years that followed reading Refactoring I made many mistakes, learned countless lessons, and developed a set of guidelines that I believe make unit testing a productive use of programmer time. This book provides a single place to examine those mistakes, pass on

the lessons learned, and provide direction for those that want to test in a way that I've found to be the most productive. The book does touch on some theory and definition, but the main purpose is to show you how to take tests that are causing you pain and turn them into tests that you're happy to work with. Most companies developing software employ something they call "Agile." But there's widespread misunderstanding of what Agile is and how to use it. If you want to improve your software development team's agility, this comprehensive guidebook's clear, concrete, and detailed guidance explains what to do and why, and when to make trade-offs. In this thorough update of the classic Agile how-to guide, James Shore provides no-nonsense advice on Agile adoption, planning, development, delivery, and management taken from over two decades of Agile experience. He brings the latest ideas from Extreme Programming, Scrum, Lean, DevOps, and more into a cohesive whole. Learn how to successfully bring Agile development to your team and organization--or discover why Agile might not be for you. This book explains how to: Improve agility: create the conditions necessary for Agile to succeed and scale in your organization Focus on value: work as a team, understand priorities, provide visibility, and improve continuously Deliver software reliably: share ownership, decrease development costs, evolve designs, and deploy continuously Optimize value: take ownership of product plans, budgets, and experiments--and produce market-leading software AngularJS is the leading framework for building dynamic JavaScript applications that take advantage of the capabilities of modern browsers and devices. AngularJS, which is maintained by Google, brings the power of the Model-View-Controller (MVC) pattern to the client, providing the foundation for complex and rich web apps. It allows you to build applications that are smaller, faster, and with a lighter resource footprint than ever before. Best-selling author Adam Freeman explains how to get the most from AngularJS. He begins by describing the MVC pattern and the many benefits that can be gained from separating your logic and presentation code. He then shows how you can use AngularJS's features within in your projects to produce professional-quality results. Starting from the nuts-and-bolts and building up to the most advanced and sophisticated features AngularJS is carefully unwrapped, going in-depth to give you the knowledge you need. Each topic is covered clearly and concisely and is packed with the details you need to learn to be truly effective. The most important features are given a no-nonsense in-depth treatment and chapters include common problems and details of how to avoid them. Summary Testing Java Microservices teaches you to implement unit and integration tests for microservice systems running on the JVM. You'll work with a microservice environment built using Java EE, WildFly Swarm, and Docker. You'll learn how to increase your test coverage and productivity, and gain confidence that your system will work as you expect. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Microservice applications present special testing challenges. Even simple services need to handle unpredictable loads, and distributed message-based designs pose unique security and performance concerns. These challenges increase when you throw in asynchronous communication and containers. About the Book Testing Java Microservices teaches you to implement unit and integration tests for microservice systems running on the JVM. You'll work with a microservice environment built using Java EE, WildFly Swarm, and Docker. You'll advance from writing simple unit tests for individual services to more-advanced practices like chaos or integration tests. As you move towards a continuous-delivery pipeline, you'll also master live system testing using technologies like the Arquillian, Wiremock, and Mockito frameworks, along with techniques like contract testing and over-the-wire service virtualization. Master these microservice-specific practices and tools and you'll greatly increase your test coverage and productivity, and gain confidence that your system will work as you expect. What's Inside Test automation Integration testing microservice systems Testing container-centric systems Service virtualization About the Reader Written for Java developers familiar with Java EE, EE4J, Spring, or Spring Boot. About the Authors Alex Soto Bueno and Jason Porter are Arquillian team members. Andy Gumbrecht is an Apache TomEE developer and PMC. They all have extensive enterprise-testing experience. Table of Contents An introduction to microservices Application under test Unit-testing microservices Component-testing microservices Integration-testing microservices Contract tests End-to-end testing Docker and testing Service virtualization Continuous delivery in microservices Automated testing is a cornerstone of agile development. An effective testing strategy will deliver new functionality more aggressively, accelerate user feedback, and improve quality. However, for many developers, creating effective automated tests is a unique and unfamiliar challenge. xUnit Test Patterns is the definitive guide to writing automated tests using xUnit, the most popular unit testing framework in use today. Agile coach and test automation expert Gerard Meszaros describes 68 proven patterns for making tests easier to write, understand, and maintain. He then shows you how to make them more robust and repeatable--and far more cost-effective. Loaded with information, this book feels like three books in one. The first part is a detailed tutorial on test automation that covers everything from test strategy to in-depth test coding. The second part, a catalog of 18 frequently encountered "test smells," provides trouble-shooting guidelines to help you determine the root cause of problems and the most applicable patterns. The third part contains detailed descriptions of each pattern, including refactoring instructions illustrated by extensive code samples in multiple programming languages. Challenges in unpredictable markets, changing customer requirements, and advancing information technologies have lead to progression towards service oriented engineering and agile and lean software development. These prevailing approaches to software systems provide solutions to challenges in demanding business environments. Agile and Lean Service-Oriented Development: Foundations, Theory and Practice explores the groundwork of service-oriented and agile and lean development and the conceptual basis and experimental evidences for the combination of the two approaches. Highlighting the best tools and guidelines for these developments in practice, this book is essential for researchers and practitioners in the software development and service computing fields. Radically improve your testing practice and software quality with new testing styles, good patterns, and reliable automation. Key Features A practical and results-driven approach to unit testing Refine your existing unit tests by implementing modern best practices Learn the four pillars of a good unit test Safely automate your testing process to save time and money Spot which tests need refactoring, and which need to be deleted entirely Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Great testing practices maximize your project quality and delivery speed by identifying bad code early in the development process. Wrong tests will break your code, multiply bugs, and increase time and costs. You owe it to yourself—and your projects—to learn how to do excellent unit testing. Unit Testing Principles, Patterns and Practices teaches you to design and write tests that target key areas of your code including the domain model. In this clearly written guide, you learn to develop professional-quality tests and test suites and integrate testing throughout the application life cycle. As you adopt a testing mindset, you'll be amazed at how better tests cause you to write better code. What You Will Learn Universal guidelines to assess any unit test Testing to identify and avoid anti-patterns Refactoring tests along with the production code Using integration tests to verify the whole system This Book Is Written For For readers who know the basics of unit testing. Examples are written in C# and can easily be applied to any language. About the Author Vladimir Khorikov is an author, blogger, and Microsoft MVP. He has mentored numerous teams on the ins and outs of unit testing. Table of Contents: PART 1 THE BIGGER PICTURE 1 ¦ The goal of unit testing 2 ¦ What is a unit test? 3 ¦ The anatomy of a unit test PART 2 MAKING YOUR TESTS WORK FOR YOU 4 ¦ The four pillars of a good unit test 5 ¦ Mocks and test fragility 6 ¦ Styles of unit testing 7 ¦ Refactoring toward valuable unit tests PART 3 INTEGRATION TESTING 8 ¦ Why integration testing? 9 ¦ Mocking best practices 10 ¦ Testing the database PART 4 UNIT TESTING ANTI-PATTERNS 11 ¦ Unit testing anti-patterns Written by industry thought leaders, Java Web Services Architecture is a no-nonsense guide to web services technologies including SOAP, WSDL, UDDI and the JAX APIs. This book is useful for systems architects and provides many of the practical considerations for implementing web services including authorization, encryption, transactions and the future of Web Services. Covers all the standards, the JAX APIs, transactions, security, and more. Summary Testing Angular Applications is an example-rich, hands-on guide that gives you the real-world techniques you need to thoroughly test all parts of your Angular applications. By the end of this book, you'll be able to confidently write unit and end-to-end tests for Angular applications in TypeScript. Foreword by Brad Green, Google. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Don't leave the success of your mission-critical Angular apps to chance. Proper testing improves code quality, reduces maintenance costs, and rewards you with happy users. New tools and best practices can streamline and automate all aspects of testing web apps, both in development and in production. This book gets you started. About the Book Testing Angular Applications teaches you how to make testing an essential part of your development and production processes. You'll start by setting up a simple unit testing system as you learn the fundamental practices. Then, you'll fine-tune it as you discover the best tests for Angular components, directives, pipes, services, and routing. Finally, you'll explore end-to-end testing, mastering the Protractor framework, and inserting Angular apps into your continuous integration pipeline. What's inside Getting to know TypeScript Writing and debugging unit tests Writing and debugging end-to-end tests with Protractor Building continuous integration for your entire test suite About the Reader This book is for readers with intermediate JavaScript skills. About the Author Jesse Palmer is a senior engineering manager at Handshake. Corinna Cohn is a single-page web application specialist. Mike Giambalvo and Craig Nishina are engineers at Google. Table of Contents Introduction to testing Angular applicationsPART 1 - Unit testing Creating your first tests Testing components Testing directives Testing pipes Testing services Testing the router PART 2 - End-to-end testing Getting started with Protractor Understanding timeouts Advanced Protractor topics PART 3 - Continuous integration Continuous integration Appendix A - Setting up the sample project Appendix B - Additional resources Summary Testing Java Microservices teaches you to implement unit and integration tests for microservice systems running on the JVM. You'll work with a microservice environment built using Java EE, WildFly

Swarm, and Docker. You'll learn how to increase your test coverage and productivity, and gain confidence that your system will work as you expect. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Microservice applications present special testing challenges. Even simple services need to handle unpredictable loads, and distributed message-based designs pose unique security and performance concerns. These challenges increase when you throw in asynchronous communication and containers. About the Book Testing Java Microservices teaches you to implement unit and integration tests for microservice systems running on the JVM. You'll work with a microservice environment built using Java EE, WildFly Swarm, and Docker. You'll advance from writing simple unit tests for individual services to more-advanced practices like chaos or integration tests. As you move towards a continuous-delivery pipeline, you'll also master live system testing using technologies like the Arquillian, Wiremock, and Mockito frameworks, along with techniques like contract testing and over-the-wire service virtualization. Master these microservice-specific practices and tools and you'll greatly increase your test coverage and productivity, and gain confidence that your system will work as you expect. What's Inside Test automation Integration testing microservice systems Testing container-centric systems Service virtualization About the Reader Written for Java developers familiar with Java EE, EE4J, Spring, or Spring Boot. About the Authors Alex Soto Bueno and Jason Porter are Arquillian team members. Andy Gumbrecht is an Apache TomEE developer and PMC. They all have extensive enterprise-testing experience. Table of Contents An introduction to microservices Application under test Unit-testing microservices Component-testing microservices Integration-testing microservices Contract tests End-to-end testing Docker and testing Service virtualization Continuous delivery in microservices This book will demystify Angular as a framework, as well as provide clear instructions and examples on how to get started with writing scalable Angular applications. Angular: Up & Running covers most of the major pieces of Angular, but in a structured manner that is generally used in hands-on training. Each chapter takes one concept, and use examples to cover how it works. Problems to work on (with solutions) at the end of each chapter reinforce the learnings of each chapter and allow readers to really get hands-on with Angular. A complete guide to build robust and scalable web applications with Spring and Angular. About This Book This hands on guide will teach you how to build an end-to-end modern web application using Spring and Angular. It is easy to read and will benefit Java developers who have been used to develop the back-end part of web application while front-end (UI) has been left for UI developers. Learn the core aspects involved in developing the backend and the UI, right from designing to integrating and deploying. Who This Book Is For This book is targeted towards Java Web Developers with a basic knowledge of Spring who want to build complete web applications in a fast and effective way. They will want to gain a stronghold on both frontend and backend development to advance in their careers. What You Will Learn Set up development environment for Spring Web App and Angular app. Process web request and response and build REST API endpoints. Create data access components using Spring Web MVC framework and Hibernate Use Junit 5 to test your application Learn the fundamental concepts around building Angular Configure and use Routes and Components. Protect Angular app content from common web vulnerabilities and attacks. Integrate Angular apps with Spring Boot Web API endpoints Deploy the web application based on CI and CD using Jenkins and Docker containers In Detail Spring is the most popular application development framework being adopted by millions of developers around the world to create high performing, easily testable, reusable code. Its lightweight nature and extensibility helps you write robust and highly-scalable server-side web applications. Coupled with the power and efficiency of Angular, creating web applications has never been easier. If you want build end-to-end modern web application using Spring and Angular, then this book is for you. The book directly heads to show you how to create the backend with Spring, showing you how to configure the Spring MVC and handle Web requests. It will take you through the key aspects such as building REST API endpoints, using Hibernate, working with Junit 5 etc. Once you have secured and tested the backend, we will go ahead and start working on the front end with Angular. You will learn about fundamentals of Angular and Typescript and create an SPA using components, routing etc. Finally, you will see how to integrate both the applications with REST protocol and deploy the application using tools such as Jenkins and Docker. Style and approach This is a straightforward guide that shows how to build a complete web application in Angular and Spring. The authors have here put together the first reference on all aspects of testing and validating service-oriented architectures. With contributions by leading academic and industrial research groups it offers detailed guidelines for the actual validation process. Readers will find a comprehensive survey of state-of-the-art approaches as well as techniques and tools to improve the quality of service-oriented applications. It also includes references and scenarios for future research and development. An outstanding author team presents the ultimate Wrox guide to ASP.NET MVC 4 Microsoft insiders join giants of the software development community to offer this in-depth guide to ASP.NET MVC, an essential web development technology. Experienced .NET and ASP.NET developers will find all the important information they need to build dynamic, data-driven websites with ASP.NET and the newest release of Microsoft's Model-View-Controller technology. Featuring step-by-step guidance and lots of code samples, this guide gets you started and moves all the way to advanced topics, using plenty of examples. Designed to give experienced .NET and ASP.NET programmers everything needed to work with the newest version of MVC technology Expert author team includes Microsoft ASP.NET MVC insiders as well as leaders of the programming community Covers controllers, views, models, forms and HTML helpers, data annotation and validation, membership, authorization, security, and routing Includes essential topics such as Ajax and jQuery, NuGet, dependency injection, unit testing, extending MVC, and Razor Includes additional real-world coverage requested by readers of the previous edition as well as a new case study example chapter Learn how to write a simple testing framework and extend it to drive the design of your logging library Key Features Learn how to solve various challenges when testing in C++ with the help of effective solutions Develop a logging library with enhancements Drive better code designs with effective tests Book Description Modern, standard C++ is all that is needed to create a small and practical testing framework that will improve the design of any project. This allows you to think about how the code will be used, which is the first step in designing intuitive interfaces. TDD is a modern balanced software development approach that helps to create maintainable applications, provide modularity in design, and write minimal code that drastically reduces defects. With the help of this book, you'll be able to continue adding value when designs need to change by ensuring that the changes don't break existing tests. In this book, developers working with test-driven development (TDD) will be able to put their knowledge to work by writing a simple testing framework and then using it to drive the design of a logging library. The book will help you enhance your software development skills with test cases. You'll understand how to design and implement test cases. The chapters will also show you how to utilize the TDD approach to be more productive in software development than attempting to code in large unstructured steps. By the end of this book, you'll have gained knowledge of TDD and testing and also built a working logging library. What you will learn Understand how to develop software using TDD Keep the code for the system as error-free as possible Refactor and redesign code confidently Communicate the requirements and behaviors of the code with your team Understand the differences between unit tests and integration tests Use TDD to create a minimal viable testing framework Who this book is for This book is for C++ developers already familiar with and using C++ for daily tasks who want to improve their skillset. You don't need to be an expert but you should already have some knowledge of modern C++ and how to use templates to get the most out of this book. Quickly learn how to automate unit testing of Python 3 code with Python 3 automation libraries, such as doctest, unittest, nose, nose2, and pytest. This book explores the important concepts in software testing and their implementation in Python 3 and shows you how to automate, organize, and execute unit tests for this language. This knowledge is often acquired by reading source code, manuals, and posting questions on community forums, which tends to be a slow and painful process. Python Unit Test Automation will allow you to quickly ramp up your understanding of unit test libraries for Python 3 through the practical use of code examples and exercises. All of which makes this book a great resource for software developers and testers who want to get started with unit test automation in Python 3 and compare the differences with Python 2. This short work is your must-have quick start guide to mastering the essential concepts of software testing in Python. What You'll Learn: Essential concepts in software testing Various test automation libraries for Python, such as doctest, unittest, nose, nose2, and pytest Test-driven development and best practices for test automation in Python Code examples and exercises Who This Book Is For: Python developers, software testers, open source enthusiasts, and contributors to the Python community Summary The Art of Unit Testing, Second Edition guides you step by step from writing your first simple tests to developing robust test sets that are maintainable, readable, and trustworthy. You'll master the foundational ideas and quickly move to high-value subjects like mocks, stubs, and isolation, including frameworks such as Moq, FakeItEasy, and Typemock Isolator. You'll explore test patterns and organization, working with legacy code, and even "untestable" code. Along the way, you'll learn about integration testing and techniques and tools for testing databases and other technologies. About this Book You know you should be unit testing, so why aren't you doing it? If you're new to unit testing, if you find unit testing tedious, or if you're just not getting enough payoff for the effort you put into it, keep reading. The Art of Unit Testing, Second Edition guides you step by step from writing your first simple unit tests to building complete test sets that are maintainable, readable, and trustworthy. You'll move quickly to more complicated subjects like mocks and stubs, while learning to use isolation (mocking) frameworks like Moq, FakeItEasy, and Typemock Isolator. You'll explore test patterns and organization, refactor code applications, and learn how to test "untestable" code. Along the way, you'll learn about integration testing and techniques for testing with databases. The examples in the book use C#, but will benefit anyone using a statically typed language such as Java or C++. Purchase of the print book includes a free eBook in PDF,

Kindle, and ePub formats from Manning Publications. What's Inside Create readable, maintainable, trustworthy tests Fakes, stubs, mock objects, and isolation (mocking) frameworks Simple dependency injection techniques Refactoring legacy code About the Author Roy Osherove has been coding for over 15 years, and he consults and trains teams worldwide on the gentle art of unit testing and test-driven development. His blog is at ArtOfUnitTesting.com. Table of Contents PART 1 GETTING STARTED The basics of unit testing A first unit test PART 2 CORE TECHNIQUES Using stubs to break dependencies Interaction testing using mock objects Isolation (mocking) frameworks Digging deeper into isolation frameworks PART 3 THE TEST CODE Test hierarchies and organization The pillars of good unit tests PART 4 DESIGN AND PROCESS Integrating unit testing into the organization Working with legacy code Design and testability Use SCA to Simplify the Development and Delivery of Service-Based Applications Service Component Architecture (SCA) is a new programming model that enables developers to build distributed applications more efficiently and effectively than previous technologies. In Understanding SCA (Service Component Architecture), two leading experts offer the first complete and independent guide to SCA. Drawing on extensive experience both developing the SCA standards and implementing large-scale SCA applications, Jim Marino and Michael Rowley provide an insider's perspective for developers and technical managers tasked with architecting and implementing enterprise systems. Rather than simply providing a technology overview, the authors draw on their practical experiences with SCA, explaining The full history behind SCA How SCA fits with other enterprise technologies such as JEE, .NET, Web Services, and BPEL All the major SCA concepts including composition, policy, wires, and bindings Best practices for designing SCA applications Using SCA with Web Services, Message-Oriented Middleware, BPEL, JPA, and Servlets Understanding SCA (Service Component Architecture) provides the background necessary to make informed decisions about when and how to best use SCA to build enterprise applications. This publication offers guidance on managing service transition from design specification, change configuration, test, release and deployment. Service transition requires effective management of knowledge, organisational culture and transition in difficult circumstances. The volume is derived form decades of IT service management experience and is applicable to all sizes and types of organisations. Software testing is indispensable and is one of the most discussed topics in software development today. Many companies address this issue by assigning a dedicated software testing phase towards the end of their development cycle. However, quality cannot be tested into a buggy application. Early and continuous unit testing has been shown to be crucial for high quality software and low defect rates. Yet current books on testing ignore the developer's point of view and give little guidance on how to bring the overwhelming amount of testing theory into practice. Unit Testing in Java represents a practical introduction to unit testing for software developers. It introduces the basic test-first approach and then discusses a large number of special issues and problem cases. The book instructs developers through each step and motivates them to explore further. Shows how the discovery and avoidance of software errors is a demanding and creative activity in its own right and can build confidence early in a project. Demonstrates how automated tests can detect the unwanted effects of small changes in code within the entire system. Discusses how testing works with persistency, concurrency, distribution, and web applications. Includes a discussion of testing with C++ and Smalltalk.