

## Chapter And Unit Tests Levels A And B Prentice Hall Physical Science Concepts In Action With Earth And Space Science

Use the many types of tools required to navigate and maintain a microservice ecosystem. This book examines what is normally a complex system of interconnected services and clarifies them one at a time, first examining theoretical requirements then looking at concrete tools, configuration, and workflows. Building out these systems includes many concerns such as containerization, container orchestration, build pipelines and continuous integration solutions, automated testing, service discovery, logging and analytics. You will examine each of these tools and understand how they can be combined within an organization. You will design an automated build pipeline from Pull Request to container deployment, understand how to achieve High Availability and monitor application health with Service Discovery, and learn how to collaborate with other teams, write documentation, and describe bugs. Covering use of Jenkins, Docker, Kubernetes, the ELK stack (Elasticsearch, Logstash, and Kibana), and StatsD and Grafana for analytics, you will build on your existing knowledge of Service-Oriented Architecture and gain an advanced, practical understanding of everything from infrastructure development to team collaboration. What You'll Learn Design an API to be convenient for developers to consume. Deploy dynamic instances of Microservices and allow them to discover each other. Track the health of a Microservice and be notified in case of degraded performance. Write effective documentation and communicate efficiently with other teams. Who This Book Is For Those who would like a better understanding of System Oriented Architecture. Those who would like to break a monolith into smaller Microservices. Those who are familiar with Microservices and would like a better understanding of peripheral technologies.

Summary BDD in Action teaches you the Behavior-Driven Development model and shows you how to integrate it into your existing development process. First you'll learn how to apply BDD to requirements analysis to define features that focus your development efforts on underlying business goals. Then, you'll discover how to automate acceptance criteria and use tests to guide and report on the development process. Along the way, you'll apply BDD principles at the coding level to write more maintainable and better documented code. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology You can't write good software if you don't understand what it's supposed to do. Behavior-Driven Development (BDD) encourages teams to use conversation and concrete examples to build up a shared understanding of how an application should work and which features really matter. With an emerging body of best practices and sophisticated new tools that assist in requirement analysis and test automation, BDD has become a hot, mainstream practice. About the Book BDD in Action teaches you BDD principles and practices and shows you how to integrate them into your existing development process, no matter what language you use. First, you'll apply BDD to requirements analysis so you can focus your development efforts on underlying business goals. Then, you'll discover how to automate acceptance criteria and use tests to guide and report on the development process. Along the way, you'll apply BDD principles at the coding level to write more maintainable and better documented code. No prior experience with BDD is required. What's Inside BDD theory and practice How BDD will affect your team BDD for acceptance, integration, and unit testing Examples in Java, .NET, JavaScript, and more Reporting and living documentation About the Author John Ferguson Smart is a specialist in BDD, automated testing, and software lifecycle development optimization. Table of Contents PART 1: FIRST STEPS Building software that makes a difference BDD—the whirlwind tour PART 2: WHAT DO I WANT? DEFINING REQUIREMENTS USING BDD Understanding the business goals: Feature Injection and related techniques Defining and illustrating features From examples to executable specifications Automating the scenarios PART 3: HOW DO I BUILD IT? CODING THE BDD WAY From executable specifications to rock-solid automated acceptance tests Automating acceptance criteria for the UI layer Automating acceptance criteria for non-UI requirements BDD and unit testing PART 4: TAKING BDD FURTHER Living Documentation: reporting and project management BDD in the build process Going beyond basic testing Great software testing makes the entire development process more efficient, from understanding your code before you write it to catching bugs in tricky corner cases. Effective Software Testing is a hands-on guide to creating high quality tests, from your first line of code through pre-delivery checks. It's full of techniques drawn from further research in software engineering. You'll learn to efficiently engineer tests specifically for your software and end reliance on generic testing practices that may be right for every project. Effective Software Testing teaches you a systematic approach to software testing. You'll master easy-to-apply techniques to create strong test suites that are specifically engineered for your code. Following real-world use cases and detailed code samples, you'll soon be engineering tests that find the bugs hiding in edge cases and the parts of code you would never think of testing! Along the way, you'll develop an intuition for testing that can save years of learning by trial and error. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Make the best of your test suites by using cutting-edge software architecture patterns in Python Key Features Learn how to create scalable and maintainable applications Build a web system for micro messaging using concepts in the book Use profiling to find bottlenecks and improve the speed of the system Book Description Developing large-scale systems that continuously grow in size and complexity requires a thorough understanding of how software projects should be implemented. Software developers, architects, and technical management teams rely on high-level software design patterns such as microservices architecture, event-driven architecture, and the strategic patterns prescribed by domain-driven design (DDD) to make their work easier. This book covers these proven architecture design patterns with a forward-looking approach to help Python developers manage application complexity—and get the most value out of their test suites. Starting with the initial stages of design, you will learn about the main blocks and mental flow to use at the start of a project. The book covers various architectural patterns like microservices, web services, and event-driven structures and how to choose the one best suited to your project. Establishing a foundation of required concepts, you will progress into development, debugging, and testing to produce high-quality code that is ready for deployment. You will learn about ongoing operations on how to continue the task after the system is deployed to end users, as the software development lifecycle is never finished. By the end of this Python book, you will have developed "architectural thinking": a different way of approaching software design, including making changes to ongoing systems. What you will learn Think like an architect, analyzing software architecture patterns Explore API design, data storage, and data representation methods Investigate the nuances of common architectural structures Utilize and interoperate elements of patterns such as microservices Implement test-driven development to perform quality code testing Recognize chunks of code that can be restructured as packages Maintain backward compatibility and deploy iterative changes Who this book is for This book will help software developers and architects understand the structure of large complex systems and adopt architectural patterns that are scalable. Examples in the book are implemented in Python so a fair grasp of basic Python concepts is expected. Proficiency in any programming languages such as Java or JavaScript is sufficient.

Continuous Delivery and DevOps – A Quickstart Guide

Teaching Middle Level Social Studies

Testable JavaScript

Test Smarter, Not Harder

BDD in Action

A Developer's Guide

Design Driven Testing

Take your Python skills to the next level to develop scalable, real-world applications for local as well as cloud deployment Key FeaturesAll code examples have been tested with Python 3.7 and Python 3.8 and are expected to work with any future 3.x releaseLearn how to build modular and object-oriented applications in PythonDiscover how to use advanced Python techniques for the cloud and clustersBook Description Python is a multipurpose language that can be used for multiple use cases. Python for Geeks will teach you how to advance in your career with the help of expert tips and tricks. You'll start by exploring the different ways of using Python optimally, both from the design and implementation point of view. Next, you'll understand the life cycle of a large-scale Python project. As you advance, you'll focus on different ways of creating an elegant design by modularizing a Python project and learn best practices and design patterns for using Python. You'll also discover how to scale out Python beyond a single thread and how to implement multiprocessing and multithreading in Python. In addition to this, you'll understand how you can not only use Python to deploy on a single machine but also use clusters in private as well as in public cloud computing environments. You'll then explore data processing techniques, focus on reusable, scalable data pipelines, and learn how to use these advanced techniques for network automation, serverless functions, and machine learning. Finally, you'll focus on strategizing web development design using the techniques and best practices covered in the book. By the end of this Python book, you'll be able to do some serious Python programming for large-scale complex projects. What you will learnUnderstand how to design and manage complex Python projectsStrategize test-driven development (TDD) in PythonExplore multithreading and multiprocessing in PythonUse Python for data processing with Apache Spark and Google Cloud Platform (GCP)Deploy serverless programs on public clouds such as GCPUse Python to build web applications and application programming interfacesApply Python for network automation and serverless functionsGet to grips with Python for data analysis and machine learningWho this book is for This book is for intermediate-level Python developers in any field who are looking to build their skills to develop and manage large-scale complex projects. Developers who want to create reusable modules and Python libraries and cloud developers building applications for cloud deployment will also find this book useful. Prior experience with Python will help you get the most out of this book.

Based on the needs of the educational community, and the software professional, this book takes a unique approach to teaching software testing. It introduces testing concepts that are managerial, technical, and process oriented, using the Testing Maturity Model (TMM) as a guiding framework. The TMM levels and goals support a structured presentation of fundamental and advanced test-related concepts to the reader. In this context, the interrelationships between theoretical, technical, and managerial concepts become more apparent. In addition, relationships between the testing process, maturity goals, and such key players as managers, testers and client groups are introduced. Topics and features: - Process/engineering-oriented text - Promotes the growth and value of software testing as a profession - Introduces both technical and managerial aspects of testing in a clear and precise style - Uses the TMM framework to introduce testing concepts in a systematic, evolutionary way to facilitate understanding - Describes the role of testing tools and measurements, and how to integrate them into the testing process Graduate students and industry professionals will benefit from the book, which is designed for a graduate course in software testing, software quality assurance, or software validation and verification Moreover, the number of universities with graduate courses that cover this material will grow, given the evolution in software development as an engineering discipline and the creation of degree programs in software engineering.

Master Spring basics and core topics, and share the authors' insights and real-world experiences with removing, Hibernate, and EJB. Beyond the basics, you'll learn how to leverage the Spring Framework to build the various tiers and parts of an enterprise Java application: transactions, web and presentation tiers, deployment, and much more. A full sample application allows you to apply many of the technologies and techniques covered in Pro Spring 5 and see how they work together. This book updates the perennial bestseller with the latest that the new Spring Framework 5 has to offer. Now in its fifth edition, this popular title is by far the most comprehensive and definitive treatment of Spring available. It covers the new functional web framework and interoperability with Java 9. After reading this definitive book, you'll be armed with the power of Spring to build complex Spring applications, top to bottom. 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 such as Hibernate, Groovy, MyBatis, and more. Spring now works with Java EE and JPA 2 as well. What You'll Learn Discover what's new in Spring Framework 5 Use the Spring Framework with Java 9 Master data access and transactions Work with the new functional web framework Create microservices and other web services Who This Book Is For Experienced Java and enterprise Java developers and programmers. Some experience with Spring highly recommended.

Learn about the responsibilities of a .NET solution architect and explore solution architecture principles, DevOps solutions, and design techniques and standards with hands-on examples of design patterns Key FeaturesFind out what are the essential personality traits and responsibilities of a solution architectBecome well-versed with architecture principles and modern design patterns with hands-on examplesDesign modern web solutions and make the most of Azure DevOps to automate your development life cycleBook Description Understanding solution architecture is a must to build and integrate robust systems to meet your client's needs. This makes it crucial for a professional .NET solution engineer to learn the key skills of a .NET solution architect to create a unique digital journey and build solutions for a wide range of industries, from strategy and design to implementation. With this handbook, developers working with the .NET technology will be able to put their knowledge to work. The book takes a hands-on approach to help you become an effective solution architect. You'll start by learning the principles of the software development life cycle (SDLC), the roles and responsibilities of a .NET solution architect, and what makes a great .NET solution architect. As you make progress through the chapters, you'll understand the principles of solution architecture and how to design a solution, and explore design layers and microservices. You'll complete your learning journey by uncovering modern design patterns and techniques for designing and building digital solutions. By the end of this book, you'll have learned how to architect your modern web solutions with ASP.NET Core and Microsoft Azure and be ready to automate your development life cycle with Azure DevOps. What you will learnUnderstand the role and core responsibilities of a .NET solution architectStudy popular UML (Unified Modeling Language) diagrams for solution architectureWork with modern design patterns with the help of hands-on examplesBecome familiar with microservices and designing layersDiscover how to design modern web solutionsAutomate your development life cycle with Azure DevOpsWho this book is for This book is for intermediate and advanced .NET developers and software engineers who want to advance their careers and expand their knowledge of solution architecture and design principles. Beginner or intermediate-level solution architects looking for tips and tricks to build large-scale .NET solutions will find this book useful. Python Architecture Patterns

Behavior-Driven Development for the whole software lifecycle

Tools for High-Quality Software Development

Essentials of Software Engineering

How Tests Drive the Code

Start your journey to successful adoption of CD and DevOps, 3rd Edition

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 JUnit 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.

"We need better approaches to understanding and managing software requirements, and Dean provides them in this book. He draws ideas from three very useful intellectual pools: classical management practices, Agile methods, and lean product development. By combining the strengths of these three approaches, he has produced something that works better than any one in isolation." – From the Foreword by Don Reinertsen, President of Reinertsen & Associates; author of Managing the Design Factory; and leading expert on rapid product development Effective requirements discovery and analysis is a critical best practice for serious application development. Until now, however, requirements and Agile methods have rarely coexisted peacefully. For many enterprises considering Agile approaches, the absence of effective and scalable Agile requirements processes has been a showstopper for Agile adoption. In Agile Software Requirements, Dean Leffingwell shows exactly how to create effective requirements in Agile environments. Part 1 presents the "big picture" of Agile requirements in the enterprise, and describes an overall process model for Agile requirements at the project team, program, and portfolio levels Part II describes a simple and lightweight, yet comprehensive model that Agile project teams can use to manage requirements Part III shows how to develop Agile requirements for complex systems that require the cooperation of multiple teams Part IV guides enterprises in developing Agile requirements for ever-larger "systems of systems," application suites, and product portfolios This book will help you leverage the benefits of Agile without sacrificing the value of effective requirements discovery and analysis. You'll find proven solutions you can apply right now—whether you're a software developer or tester, executive, project/program manager, architect, or team leader.

A tutorial and design examples that demonstrate how to use the tooling to develop applications and achieve the benefits of visual and rapid application development. This publication is an update of Rational Application Developer V7.5 Programming Guide, SG24-7672. Write maintainable, extensible, and durable software with modern C++. This book is a must for every developer, software architect, or team leader who is interested in good C++ code, and thus also wants to save development costs. If you want to teach yourself about writing clean C++, Clean C++ is exactly what you need. It is written to help C++ developers of all skill levels and shows by example how to write understandable, flexible, maintainable, and efficient C++ code. Even if you are a seasoned C++ developer, there are nuggets and data points in this book that you will find useful in your work. If you don't take care with your code, you can produce a large, messy, and unmaintainable beast in any programming language. However, C++ projects in particular are prone to be messy and tend to slip into bad habits. Lots of C++ code that is written today looks as if it was written in the 1980s. It seems that C++ developers have been forgotten by those who preach Software Craftsmanship and Clean Code principles. The web is full of bad, but apparently very fast and highly optimized C++ code examples, with cruel syntax that completely ignores elementary principles of good design and well-written code. This book will explain how to avoid this scenario and how to get the most out of your C++ code. You'll find your coding becomes more efficient and, importantly, more fun. What You'll Learn Gain sound principles and rules for clean coding in C++ Carry out test driven development (TDD) Discover C++ design patterns and idioms Apply these design patterns Who This Book Is For Any C++ developer and software engineer with an interest in producing better code.

Intended for a one-semester, introductory course, Essentials of Software Engineering is a user-friendly, comprehensive introduction to the core fundamental topics and methodologies of software development. The authors, building off their 25 years of experience, present the complete life cycle of a software system, from inception to release and through support. The text is broken into six distinct sections, covering programming concepts, system analysis and design principles of software engineering, development and support processes, methodologies, and product management. Presenting topics emphasized by the IEEE Computer Society sponsored Software Engineering Body of Knowledge (SWEBOK) and by the Software Engineering 2004 Curriculum Guidelines for Undergraduate Degree Programs in Software Engineering, Essentials of Software Engineering is the ideal text for students entering the world of software development.

Learn solution architecture principles and design techniques to build modern .NET solutions Front-End Development Projects with Vue.js Master API design, event-driven structures, and package management in Python Pro Spring 5 Learn to build scalable web applications and dynamic user interfaces with Vue 2 Python for Geeks Unit Test Frameworks Unit Testing in JavaHow Tests Drive the CodeElsevier

The groundbreaking book Design Driven Testing brings sanity back to the software development process by flipping around the concept of Test Driven Development (TDD)restoring the concept of using testing to verify a design instead of pretending that unit tests are a replacement for design. Anyone who feels that TDD is 'Too Damn Difficult!' will appreciate this book. Design Driven Testing shows that, by combining a forward-thinking development process with cutting-edge automation, testing can be a finely targeted, business-driven, rewarding effort. In other words, you'll learn how to test smarter, not harder. Applying a feedback-driven approach to each stage of the project lifecycle. Illustrates a lightweight and effective approach using a core subset of UML. Follows a real-life example project using Java and Flex/ActionScript. Presents bonus chapters for advanced DDTesters covering unit-test antipatterns (and their opposite, 'test-conscious!' design patterns), and showing how to create your own test transformation templates in Enterprise Architect.

Get your data team working effectively! Data is a valuable resource for improving education. Unfortunately, many school teams struggle to make sense of new and often overwhelming data. What Does Your Data Team Sound Like? provides an approach that supports teams as they review a range of data sets, and improves their conversation about effectively applying data to instructional decision-making. Written to help teams navigate the world of analysis for on-going school improvement, this book offers an easy to follow framework that dives deep into data-driven instruction. Readers will find: Easy, step-by-step analysis techniques Case studies that demonstrate different approaches Checklists and flowcharts to help visualize the process Developed by expert authors who have worked with data teams across a wide variety of settings and scenarios, this book will help educators take action to create better learning environments for students.

A practical and engaging guide to help map out, plan and execute a successful CD and DevOps adoption. Key FeaturesIdentify and overcome the issues that stifle the delivery of quality software.Learn how Continuous Delivery and DevOps work together with other agile tools.Read world examples, tricks and tips that will help the successful adoption of CD & DevOpsBook Description Over the past few years, Continuous Delivery (CD) and DevOps have been in the spotlight in tech media, at conferences, and in boardrooms alike. Many articles and books have been written covering the technical aspects of CD and DevOps, yet the vast majority of the industry doesn't fully understand what they actually are and how, if adopted correctly they can help organizations drastically change the way they deliver value. This book will help you figure out how CD and DevOps can help you to optimize, streamline, and improve the way you work to consistently deliver quality software. In this edition, you'll be introduced to modern tools, techniques, and examples to help you understand what the adoption of CD and DevOps entails. It provides clear and concise insights into what CD and DevOps are all about, how to go about both preparing for and adopting them, and what quantifiable value they bring. You will be guided through the various stages of adoption, the impact they will have on your business and those working within it, how to overcome common problems, and what to do once CD and DevOps have become truly embedded. Included within this book are some real-world examples, tricks, and tips that will help ease the adoption process and allow you to fully utilize the power of CD and DevOps What you will learnExplore Continuous Delivery and DevOps in depthDiscover how CD and DevOps fits in with recent trends such as DataOps, SecOps, a pipeline and CIUnderstand the root causes of the pain points within your existing product delivery processUnderstand the human elements of CD and DevOps and how intrinsic they are to your successAvoid common traps, pitfalls and hurdles as you implement CD and DevOpsMonitor and communicate the relative success of DevOps and CD adoptionExtend and reuse CD and DevOps approachesWho this book is for Who you are a software developer, a system administrator, an agile coach, a product manager, a CTO, a VP, a CEO or anyone else involved in software delivery, you will have a common problem which is delivering quality software. This book has been written for anyone and everyone who wants to understand how to regularly deliver quality software to their customers without said pain.

The Easy Way to Determine Response-to-intervention

Rational Application Developer V7.5 Programming Guide

Rational Application Developer for WebSphere Software V8 Programming Guide

JUnit in Action, Third Edition

Essential Visual Studio 2019

Professional XNA Programming

Architecting High-Performance Embedded Systems

Discover how Visual Studio 2019 can improve your development process. Visual Studio is an integral part of the daily life of millions of developers worldwide. Even as this rich integrated development environment approaches two decades, it has never ceased in innovating ways to make developers' work life more productive. Essential Visual Studio 2019 offers explicit guidance for the developer who is already familiar with Visual Studio, but might feel a little lost when it comes to understanding the more recent features and advances of the IDE. Busy developers simply don't have the time to digest and distill what the latest and greatest tools are with each version. As a result, useful process and performance features may be overlooked. This book, by simply focusing on the most recent innovations in Visual Studio and its tangential developer market, is the perfect "go to" for bridging that gap. Be ready to plunge headfirst into key features and advances that have been added, expanded, or improved, and topics such as unit testing, refactoring, Git, debugging, containers, and more. You will procure the basic concepts and value first, before diving into hands-on code that is designed to quickly get you up and running. The goal of this book is to bring the developer up to speed on Visual Studio 2019. It does not focus just on functionality added in Visual Studio 2019, but takes a deep dive into the areas where Visual Studio 2019 changed. That way, even if you're coming from much earlier versions of Visual Studio, you can easily discern how upgrading to Visual Studio 2019 can make you more productive. What You Will Learn Know how the new features and improvements in Visual Studio 2019 can make you more productiveUnderstand the value of modifications and when they can be used to take full advantage of this powerful IDEReview changes to Visual Studio over the last two versions and see where the development process is headingDiscover the cloud-based, containerized, dev-ops-aware, and platform-flexible aspects of Visual StudioGain clarity on the areas that have the greatest impact to you personally Who This Book Is For Developers who use Visual Studio on a daily basis. Familiarity with earlier versions is helpful, as the book is not a soup-to-nuts survey of the IDE and some basic functions will not be covered.

As Python continues to grow in popularity, projects are becoming larger and more complex. Many Python developers are taking an interest in high-level software design patterns such as hexagonal/clean architecture, event-driven architecture, and the strategic patterns prescribed by domain-driven design (DDD). But translating those patterns into Python isn't always straightforward. With this hands-on guide, Harry Percival and Bob Gregory from MADE.com introduce proven architectural design patterns to help Python-based company application complexity—and get the most value out of their test suites. Each pattern is illustrated with concrete examples in beautiful, idiomatic Python, avoiding some of the verbosity of Java and C# syntax. Patterns include: Dependency inversion and its links to ports and adapters (hexagonal/clean architecture) Domain-driven design's distinction between Entities, Value Objects, and Aggregates Repository and Unit of Work patterns for persistent storage Events, commands, and the message bus Command-query responsibility segregation (CQRS) Event-driven architecture and reactive microservices

IBM® Rational® Application Developer for WebSphere® Software V7.5 (Application Developer, for short) is the full function Eclipse 3.4 based development platform for developing Java™ Standard Edition Version 6 (Java SE 6) and Java Enterprise Edition Version 5 (Java EE 5) applications with a focus on applications to be deployed to IBM WebSphere Application Server and IBM WebSphere Portal. Rational Application Developer provides integrated development tools for all development roles, including Web developers, Java developers, business analysts, architects, and enterprise programmers. Rational Application Developer is part of the IBM Rational Software Delivery Platform (SDP), which contains products in four life cycle categories: - Architecture management, which includes integrated development environments - Change and release management - Process and portfolio management - Quality management This IBM Redbooks® publication is a programming guide that highlights the features and tooling included with Rational Application Developer v7.5. Many of the chapters provide working examples that demonstrate how to use the tooling to develop applications, as well as achieve the benefits of visual and rapid application development. This publication is an update of Rational Application Developer V7 Programming Guide, SG24-7501.

Provides instructions for writing and maintaining testable JavaScript code, including reducing code complexity, using Selenium and CasperJS, and production debugging. Advanced Microservices Professional C++ JUnit in Action An In-Depth Guide to the Spring Framework and Its Tools A Practical Guide for 4th-8th Grade (3rd Edition) Effective Software Testing Solution Architecture with .NET

IBM® Rational® Application Developer for WebSphere® Software V7.0 (for short, Rational Application Developer) is the full function Eclipse 3.2 based development platform for developing Java™2 Platform Standard Edition (J2SETM) and Java 2 Platform Enterprise Edition (J2EETM) applications with a focus on applications to be deployed to IBM WebSphere Application Server and IBM WebSphere Portal. Rational Application Developer provides integrated development tools for all development roles, including Web developers, Java developers, business analysts, architects, and enterprise programmers. Rational Application Developer is part of the IBM Rational Software Delivery Platform (SDP), which contains products in four life cycle categories: - Architecture management, which includes integrated development environments (Application Developer is here) - Change and release management - Process and portfolio management - Quality management This IBM Redbooks® publication is a programming guide that highlights the features and tooling included with Rational Application Developer V7.0. Many of the chapters provide working examples that demonstrate how to use the tooling to develop applications, as well as achieve the benefits of visual and rapid application development. This publication is an update of Rational Application Developer V6 Programming Guide, SG24-6449. This book consists of six parts: - Introduction to Rational Application Developer - Develop applications - Test and debug applications - Deploy and profile applications - Team development - Appendices

How do successful agile teams deliver bug-free, maintainable software—iteration after iteration? The answer is: By seamlessly combining development and testing. On such teams, the developers write testable code that enables them to verify it using various types of automated tests. This approach keeps regressions at bay and prevents "testing crunches"—which otherwise may occur near the end of an iteration—from ever happening. Writing testable code, however, is often difficult, because it requires knowledge and skills that cut across multiple disciplines. In Developer Testing, leading test expert and mentor Alexander Tarlander presents concise, focused guidance for making new and legacy code far more testable. Tarlander helps you answer questions like: When have I tested this enough? How many tests do I need to write? What should my tests verify? You'll learn how to design for testability and utilize techniques like refactoring, dependency breaking, unit testing, data-driven testing, and test-driven development to achieve the highest possible confidence in your software. Through practical examples in Java, C#, Groovy, and Ruby, you'll discover what works—and what doesn't. You can quickly begin using Alexander's techniques and toolsets while not getting buried in specialist details. The author helps you adapt your current programming style for testability, make a testing mindset "second nature," improve your code, and enrich your day-to-day experience as a software professional. With this guide, you will understand the discipline and vocabulary of testing from the developer's standpoint. Basic developer tests on well-established testing techniques and best practices Recognize code constructs that impact testability Effectively name, organize, and execute unit tests Master the essentials of classic and "mockist-style" TDD Leverage test doubles with or without mocking frameworks Capture the benefits of programming by contract, even without runtime support for contracts Take control of dependencies between classes, components, layers, and tiers Handle combinatorial explosions of test cases, or scenarios requiring many similar tests Manage code duplication when it can't be eliminated Actively maintain and improve your test suites Perform more advanced tests at the integration, system, and end-to-end levels Develop an understanding for how the organizational context influences quality assurance Establish well-balanced and effective testing strategies suitable for agile teams

Introduces the fundamentals of Microsoft's free Game Studio Express (XNA GSE) for programming games for the Xbox 360 platform and Windows, discussing such topics as XNA requirements and components, how to create graphics with the XNA Framework, how to use Shaders to develop visual effects, and developing a game engine. You've heard the hype about Hadoop: it runs petabyte-scale data mining tasks insanely fast, it runs gigantic tasks on clouds for absurdly cheap, it's been heavily commited to by tech giants like IBM, Yahoo!, and the Apache Group, and it's completely open-source (thus free). But what exactly is it, and more importantly, how do you even get a Hadoop cluster up and running? From Apress, the name you've come to trust for hands-on technical knowledge, Pro Hadoop brings you up to speed on Hadoop. You learn the ins and outs of MapReduce; how to structure a cluster, design, and implement the Hadoop file

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system; and how to build your first cloud-computing tasks using Hadoop. Learn how to let Hadoop take care of distributing and parallelizing your software—you just focus on the code, Hadoop takes care of the rest. Best of all, you'll learn from a tech professional who's been in the Hadoop scene since day one. Written from the perspective of a principal engineer with down-in-the-trenches knowledge of what to do wrong with Hadoop, you learn how to avoid the common, expensive first errors that everyone makes with creating their own Hadoop system or inheriting someone else's. Skip the novice stage and the expensive, hard-to-fix mistakes...go straight to seasoned pro on the hottest cloud-computing framework with Pro Hadoop. Your productivity will blow your managers away.

Agile Testing  
Sustainable Software Development Patterns and Best Practices with C++ 17  
Clean C++  
Instructional Models for Course Design & Development  
A Hands-on Approach to Microservice Infrastructure and Tooling  
Practical Software Testing  
Unit Testing in Java

*Get up to date quickly on the new changes coming with C++17 Professional C++ is the advanced manual for C++ programming. Designed to help experienced developers get more out of the latest release, this book skims over the basics and dives right in to exploiting the full capabilities of C++17. Each feature is explained by example, each including actual code snippets that you can plug into your own applications. Case studies include extensive, working code that has been tested on Windows and Linux, and the author's expert tips, tricks, and workarounds can dramatically enhance your workflow. Even many experienced developers have never fully explored the boundaries of the language's capabilities; this book reveals the advanced features you never knew about, and drills down to show you how to turn these features into real-world solutions. The C++17 release includes changes that impact the way you work with C++, this new fourth edition covers them all, including nested namespaces, structured bindings, string view, template argument deduction for constructors, parallel algorithms, generalized sum algorithms, Boyer-Moore string searching, string conversion primitives, a filesystem API, clamping values, optional values, the variant type, the any type, and more. Clear explanations and professional-level depth make this book an invaluable resource for any professional needing to get up to date quickly. Maximize C++ capabilities with effective design solutions Master little-known elements and learn what to avoid Adopt new workarounds and testing/debugging best practices Utilize real-world program segments in your own applications C++ is notoriously complex, and whether you use it for gaming or business, maximizing its functionality means keeping up to date with the latest changes. Whether these changes enhance your work or make it harder depends on how well-versed you are in the newest C++ features. Professional C++ gets you up to date quickly, and provides the answers you need for everyday solutions.*

*Explore the complete process of developing systems based on field-programmable gate arrays (FPGAs), including the design of electronic circuits and the construction and debugging of prototype embedded devices Key Features•Learn the basics of embedded systems and real-time operating systems•Understand how FPGAs implement processing algorithms in hardware•Design, construct, and debug custom digital systems from scratch using KiCad•Book Description Modern digital devices used in homes, cars, and wearables contain highly sophisticated computing capabilities composed of embedded systems that generate, receive, and process digital data streams at rates up to multiple gigabits per second. This book will show you how to use Field Programmable Gate Arrays (FPGAs) and high-speed digital circuit design to create your own cutting-edge digital systems. Architecting High-Performance Embedded Systems takes you through the fundamental concepts of embedded systems, including real-time operation and the Internet of Things (IoT), and the architecture and capabilities of the latest generation of FPGAs. Using powerful free tools for FPGA design and electronic circuit design, you'll learn how to design, build, test, and debug high-performance FPGA-based IoT devices. The book will also help you get up to speed with embedded system design, circuit design, hardware construction, firmware development, and debugging to produce a high-performance embedded device – a network-based digital oscilloscope. You'll explore techniques such as designing four-layer printed circuit boards with high-speed differential signal pairs and assembling the board using surface-mount components. By the end of the book, you'll have a solid understanding of the concepts underlying embedded systems and FPGAs and will be able to design and construct your own sophisticated digital devices. What you will learn•Understand the fundamentals of real-time embedded systems and sensors•Discover the capabilities of FPGAs and how to use FPGA development tools•Learn the principles of digital circuit design and PCB layout with KiCad•Construct high-speed circuit board prototypes at low cost•Design and develop high-performance algorithms for FPGAs•Develop robust, reliable, and efficient firmware in C•Thoroughly test and debug embedded device hardware and firmware•Who this book is for This book is for software developers, IoT engineers, and anyone who wants to understand the process of developing high-performance embedded systems. You'll also find this book useful if you want to learn about the fundamentals of FPGA development and all aspects of firmware development in C and C++. Familiarity with the C language, digital circuits, and electronic soldering is necessary to get started.*

*Front-End Development Projects with Vue.js introduces you to Vue 2 and helps you get started with web application development using this popular framework. You'll master the knowledge and skills needed to become an effective front-end developer and apply them to tackle real-world development challenges.*

*Summary Building on the bestselling first edition, EJB 3 in Action, Second Edition tackles EJB 3.2 head-on, through numerous code samples, real-life scenarios, and illustrations. This book is a fast-paced tutorial for Java EE 6 business component development using EJB 3.2, JPA 2, and CDI. Besides covering the basics of EJB 3.2, this book includes in-depth EJB 3.2 internal implementation details, best practices, design patterns, and performance tuning tips. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Book The EJB 3 framework provides a standard way to capture business logic in manageable server-side modules, making it easier to write, maintain, and extend Java EE applications. EJB 3.2 provides more enhancements and intelligent defaults and integrates more fully with other Java technologies, such as CDI, to make development even easier. EJB 3 in Action, Second Edition is a fast-paced tutorial for Java EE business component developers using EJB 3.2, JPA, and CDI. It tackles EJB head-on through numerous code samples, real-life scenarios, and illustrations. Beyond the basics, this book includes internal implementation details, best practices, design patterns, performance tuning tips, and various means of access including Web Services, REST Services, and WebSockets. Readers need to know Java. No prior experience with EJB or Java EE is assumed. What's Inside Fully revised for EJB 3.2 POJO persistence with JPA 2.1 Dependency injection and bean management with CDI 1.1 Interactive application with WebSocket 1.0 About the Authors Debu Panda, Reza Rahman, Ryan Cuprak, and Michael Remijan are seasoned Java architects, developers, authors, and community leaders. Debu and Reza coauthored the first edition of EJB 3 in Action. Table of Contents PART 1 OVERVIEW OF THE EJB LANDSCAPE What's what in EJB 3 A first taste of EJB PART 2 WORKING WITH EJB COMPONENTS Building business logic with session beans Messaging and developing MDBs EJB runtime context, dependency injection, and crosscutting logic Transactions and security Scheduling and timers Exposing EJBs as web services PART 3 USING EJB WITH JPA AND CDI JPA entities Managing entities JPQL Using CDI with EJB 3 PART 4 PUTTING EJB INTO ACTION Packaging EJB 3 applications Using WebSockets with EJB 3 Testing and EJB*

Java Enterprise in a Nutshell

A Practical Guide for Testers and Agile Teams

What Does Your School Data Team Sound Like?

Developing Modern Mobile Apps

Build production-ready applications using advanced Python concepts and industry best practices

Pro Android with Kotlin

Agile Software Requirements

**This textbook is a comprehensive and practical guide to teaching middle level social studies. Middle level students are just as capable as high school students at engaging in hands-on, progressive, reflective activities, yet pedagogical strategies designed specifically for the middle grades are often overlooked in teacher education programs. This text provides both progressive and traditional teaching methods and strategies proven effective in the middle level classroom. The content of this book consists of conventional chapters such as “What is Social Studies?” and “Unit and Curriculum Planning,” as well as unique chapters such as “The Middle Level Learner”, “Best Practices for Teaching State History” and “Integrating the “Core” Subjects in Middle Level Social Studies”. In addition to the unique chapters and lesson plans many additional features of the book will be useful for middle level teaching and learning. These features include:**

- A list of website resources that provide links to thousands of lesson plans, state and national standards, and other multimedia tools that can be used in the classroom.
- Individual, collaborative, and whole class activities that will help methods students develop a better understanding of the topics, lessons, and strategies discussed.
- High quality lesson ideas and classroom tested teaching strategies embedded throughout the book.
- Images of student work samples that will methods students visualize the finished product that is being discussed.
- An examination of state and national standards that will help guide methods students in their lesson planning

**A comprehensive guide to AngularJS, Google's open-sourceclient-side framework for app development. Most of the existing guides to AngularJS struggle to providesimple and understandable explanations for more advanced concepts.As a result, some developers who understand all the basic concepts of AngularJS struggle when it comes to building more complexreal-world applications. Professional AngularJS provides a thorough understanding of AngularJS, covering everything from basicconcepts, such as directives and data binding, to more advancedconcepts like transclusion, build systems, and automatedintegration testing. In addition to explaining the features ofAngularJS, this book distills real-world experience on how thesefeatures fit together to enable teams to work together moreeffectively in building extraordinary apps. Offers a more thorough and comprehensive approach toAngularJS Includes pointers to other advanced topics Lets you build a simple application from scratch, explainingbasic building blocks along the way for quick hands-onlearning**

**JUnit in Action, Third Edition has been completely rewritten for this release. The book is full of examples that demonstrate JUnit's modern features, including its new architecture; nested, tagged, and dynamic tests; and dependency injection. Summary JUnit is the gold standard for unit testing Java applications. Filled with powerful new features designed to automate software testing, JUnit 5 boosts your productivity and helps avoid debugging nightmares. Whether you're just starting with JUnit or you want to ramp up on the new features, JUnit in Action, Third Edition has you covered. Extensively revised with new code and new chapters, JUnit in Action, Third Edition is an up-to-date guide to smooth software testing. Dozens of hands-on examples illustrate JUnit 5's innovations for dependency injection, nested testing, parameterized tests, and more. Throughout, you'll learn how to use JUnit 5 to automate your testing, for a process that consumes less resources, and gives you more time for developing. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology The JUnit framework is the gold standard for unit testing Java applications—and knowing it is an essential skill for Java developers. The latest version, JUnit 5, is a total overhaul, now supporting modern Java features like Lambdas and Streams. About the book JUnit in Action, Third Edition has been completely rewritten for this release. The book is full of examples that demonstrate JUnit's modern features, including its new architecture; nested, tagged, and dynamic tests; and dependency injection. You'll benefit from author Catalin Tudose's unique "pyramid" testing strategy, which breaks the testing process into layers and sets you on the path to bug-free code creation. What's inside Migrating from JUnit 4 to 5 Effective test automation Test-driven development and behavior-driven development Using mocks for test isolation Connecting JUnit 5 with Maven or Gradle About the reader For intermediate Java developers. About the author Catalin Tudose has a Ph.D. in Computer Science, and over 15 years of experience as a Senior Java Developer and Technical Team Lead. Previous editions were authored by Petar Tahchiev, Felipe Leme, Gary Gregory, and Vincent Massol. Table of Contents PART 1 JUNIT 1 JUnit jump-start 2 Exploring core JUnit 3 Unit architecture 4 Migrating from JUnit 4 to JUnit 5 5 Software testing principles PART 2 - DIFFERENT TESTING STRATEGIES 6 Test quality 7 Coarse-grained testing with stubs 8 Testing with mock objects 9 In-container testing PART 3 - WORKING WITH JUNIT 5 AND OTHER TOOLS 10 Running JUnit tests from Maven 3 11 Running JUnit tests from Gradle 6 12 JUnit 5 IDE support 13 Continuous integration with JUnit 5 PART 4 - WORKING WITH MODERN FRAMEWORKS AND JUNIT 5 14 JUnit 5 extension model 15 Presentation-layer testing 16 Testing Spring applications 17 Testing Spring Boot applications 18 Testing a REST API 19 Testing database applications PART 5 - DEVELOPING APPLICATIONS WITH JUNIT 5 20 Test-driven development with JUnit 5 21 Behavior-driven development in JUnit 5 22 Implementing a test pyramid strategy with JUnit 5**

**Develop Android apps with Kotlin to create more elegant programs than the Java equivalent. This book covers the various aspects of a modern Android app that professionals are expected to encounter. There are chapters dealing with all the important aspects of the Android platform, including GUI design, file- and data-handling, coping with phone calls, multimedia apps, interaction with location and mapping services, monetizing apps, and much more. Pro Android with Kotlin is an invaluable source for developers wanting to build real-world state-of-the-art apps for modern Android devices. What You Will Learn Integrate activities, such as intents, services, toasts and more, into your Android apps Build UIs in Android using layouts, widgets, lists, menus, and action bars Deal with data in your Android apps using data persistence and cloud access Design for different Android devices Create multimedia apps in Android Secure, deploy, and monetize your Android apps Who This Book Is For Professional Android app developers.**

Professional AngularJS

Boosting Development Productivity with Containers, Git, and Azure Tools

Design and build high-performance real-time digital systems based on FPGAs and custom circuits

Pro Hadoop

Lean Requirements Practices for Teams, Programs, and the Enterprise

Building Quality into Software

Building Games for Xbox 360 and Windows with XNA Game Studio 2.0

**Its formative assessment approach gives the teacher additional detailed information about students' performance, which, in turn, should guide the type of instruction designed and implemented, ultimately leading to higher performance on summative outcome measures. Additionally, detailed information is provided on subject area CBA construction, the creation and implementation of a district-wide CBA system for response-to-intervention, and how to use IDEA'S response-to-intervention in student evaluation."**-BOOK JACKET.

**Get past the myths of testing in agile environments - and implement agile testing the RIGHT way. \* \* For everyone concerned with agile testing: developers, testers, managers, customers, and other stakeholders. \* Covers every key issue: Values, practices, organizational and cultural challenges, collaboration, metrics, infrastructure, documentation, tools, and more. \* By two of the world's most experienced agile testing practitioners and consultants. Software testing has always been crucial, but it may be even more crucial in agile environments that rely heavily on repeated iterations of software capable of passing tests. There are, however, many myths associated with testing in agile environments. This book helps agile team members overcome those myths -- and implement testing that truly maximizes software quality and value. Long-time agile testers Lisa Crispin and Janet Gregory offer powerful insights for three large, diverse groups of readers: experienced testers who are new to agile; members of newly-created agile teams who aren't sure how to perform testing or work with testers; and test/QA managers whose development teams are implementing agile. Readers will learn specific agile testing practices and techniques that can mean the difference between success and failure; discover how to transition 'traditional' test teams to agile; and learn how to integrate testers smoothly into agile teams. Drawing on extensive experience, the authors illuminate topics ranging from culture to test planning to automated tools. They cover every form of testing: business-facing tests, technology-facing tests, exploratory tests, context-driven and scenario tests, load, stability, and endurance tests, and more. Using this book's techniques, readers can improve the effectiveness and reduce the risks of any agile project or initiative.**

EJB 3 in Action

Enabling Test-Driven Development, Domain-Driven Design, and Event-Driven Microservices