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Just Enough Software Test Automation May 14 2021 Offers advice on designing and implementing a software test automation infrastructure, and identifies what current popular testing approaches can and cannot accomplish. Rejecting the automation life cycle model, the authors favor limited automation of unit, integration, and system testing. They also present a control synchronized data-driven framework to help jump-start an automation project. Examples are provided in the Rational suite test studio, and source code is available at a supporting web site. Annotation copyrighted by Book News, Inc., Portland, OR.

Mastering Unit Testing Using Mockito and JUnit Nov 27 2019 A practical and easy-to-follow, yet comprehensive, guide to learning advanced JUnit testing. Each topic is explained and placed in context, and for the more inquisitive, there are more details of the concepts used. This book is for you if you are a developer with some experience in Java application development as well as a basic knowledge of JUnit testing. But for those whose skill set is void of any prior experience with JUnit testing, the book also covers basic fundamentals to get you acquainted with the concepts before putting them into practise.

Java Unit Testing with JUnit 5 Feb 29 2020 Explore the new way of building and maintaining test cases with Java test driven development (TDD) using JUnit 5. This book doesn't just talk about the new concepts, it shows you ways of applying them in TDD and Java 8 to continuously deliver code that excels in all metrics. Unit testing and test driven development have now become part of every developer's skill set. For Java developers, the most popular testing tool has been JUnit, and JUnit 5 is built using the latest features of Java. With Java Unit Testing with JUnit 5, you'll master these new features, including method parameters, extensions, assertions and assumptions, and dynamic tests. You'll also see how to write clean tests with less code. This book is a departure from using older practices and presents new ways of performing tests, building assertions, and injecting dependencies. What You Will Learn Write tests the JUnit 5 way Run your tests from within your IDE Integrate tests with your build and static analysis tools Migrate from JUnit 4 to JUnit 5 Who This Book Is For Java developers both with and without any prior unit testing experience.

Pragmatic Unit Testing in Java 8 with JUnit Dec 21 2021 The Pragmatic Programmers classic is back! Freshly updated for modern software development, *Pragmatic Unit Testing in Java 8 With JUnit* teaches you how to write and run easily maintained unit tests in JUnit with confidence. You'll learn mnemonics to help you know what tests to write, how to remember all the boundary conditions, and what the qualities of a good test are. You'll see how unit tests can pay off by allowing you to keep your system code clean, and you'll learn how to handle the stuff that seems too tough to test. *Pragmatic Unit Testing in Java 8 With JUnit* steps you through all the important unit testing topics. If you've never written a unit test, you'll see screen shots from Eclipse, IntelliJ IDEA, and NetBeans that will help you get past the hard part--getting set up and started. Once past the basics, you'll learn why you want to write unit tests and how to effectively use JUnit. But the meaty part of the book is its collected unit testing wisdom from people who've been there, done that on production systems for at least 15 years: veteran author and developer Jeff Langr, building on the wisdom of Pragmatic Programmers Andy Hunt and Dave Thomas. You'll learn: How to craft your unit tests to minimize your effort in maintaining them. How to use unit tests to help keep your system clean. How to test the tough stuff. Memorable mnemonics to help you remember what's important when writing unit tests. How to help your team reap and sustain the benefits of unit testing. You won't just learn about unit testing in theory--you'll work through numerous code examples. When it comes to programming, hands-on is the only way to learn!

Test-Driven Development with Python Sep 17 2021 By taking you through the development of a real web application from beginning to end, the second edition of this hands-on guide demonstrates the practical advantages of test-driven development (TDD) with Python. You'll learn how to write and run tests before building each part of your app, and then develop the minimum amount of code required to pass those tests. The result? Clean code that works. In the process, you'll learn the basics of Django, Selenium, Git, jQuery, and Mock, along with current web development techniques. If you're ready to take your Python skills to the next level, this book—updated for Python 3.6—clearly demonstrates how TDD encourages simple designs and inspires confidence. Dive into the TDD workflow, including the unit test/code cycle and refactoring Use unit tests for classes and functions, and functional tests for user interactions within the browser Learn when and how to use mock objects, and the pros and cons of isolated vs. integrated tests Test and automate your deployments with a staging server Apply tests to the third-party plugins you integrate into your site Run tests automatically by using a Continuous Integration environment Use TDD to build a REST API with a front-end Ajax interface

Unit Testing in Java Feb 20 2022 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.

Pragmatic Unit Testing Aug 24 2019 Presents a guide to unit testing with the JUnit library in Java along with providing information on writing code, detecting and fixing problems, testing pieces of code, and testing with a team.

Working Effectively with Legacy Code Apr 12 2021 Get more out of your legacy systems: more performance, functionality, reliability, and manageability Is your code easy to change? Can you get nearly instantaneous feedback when you do change it? Do you understand it? If the answer to any of these questions is no, you have legacy code, and it is draining time and money away from your development efforts. In this book, Michael Feathers offers start-to-finish strategies for working more effectively with large, untested legacy code bases. This book draws on material Michael created for his renowned Object Mentor seminars: techniques Michael has used in mentoring to help hundreds of developers, technical managers, and testers bring their legacy systems under control. The topics covered include Understanding the mechanics of software change: adding features, fixing bugs, improving design, optimizing performance Getting legacy code into a test harness Writing tests that protect you against introducing new problems Techniques that can be used with any language or platform—with examples in Java, C++, C, and C# Accurately identifying where code changes need to be made Coping with legacy systems that aren't object-oriented Handling applications that don't seem to have any structure This book also includes a catalog of twenty-four dependency-breaking techniques that help you work with program elements in isolation and make safer changes.

Test-driven Development Jan 28 2020 About software development through constant testing.

The Art of Unit Testing Sep 29 2022 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

Pragmatic Unit Testing in C# with NUnit Oct 26 2019 Presents a guide to unit testing with the NUnit library in C# along with providing information on writing code, detecting and fixing problems, testing pieces of code, and testing with a team.

Python Unit Test Automation Mar 12 2021 Learn how to automate unit tests of Python 3 with automation libraries, such as doctest, unittest, nose, nose2, pytest, and selenium. This book explores important concepts in software test automation and demonstrates how to automate, organize, and execute unit tests with Python. It also introduces readers to the concepts of web browser automation and logging. This new edition starts with an introduction to Python 3. Next, it covers doctest and pydoc. This is followed by a discussion on unittest, a framework that comes packaged with Python 3 itself. There is a dedicated section on creating test suites, followed by an explanation of how nose2 provides automatic test module discovery. Moving forward, you will learn about pytest, the most popular third-party library and testrunner for Python. You will see how to write and execute tests with pytest. You'll also learn to discover tests automatically with pytest. This edition features two brand new chapters, the first of which focuses on the basics of web browser automation with Selenium. You'll learn how to use Selenium with unittest to write test cases for browser automation and use the Selenium IDE with web browsers such as Chrome and Firefox. You'll then explore logging frameworks such as Python's built-in logger and the third-party framework loguru. The book concludes with an exploration of test-driven development with pytest, during which you will execute a small project using TDD methodology. What You Will Learn Start testing with doctest and unittest Understand the idea of unit testing Get started with nose 2 and pytest Learn how to use logger and loguru Work with Selenium and test driven development Who This Book Is For Python developers, software testers, open source enthusiasts, and contributors to the Python community.

Unit Testing Principles, Practices, and Patterns Jul 28 2022 Unit Testing Principles, Patterns and Practices shows you how to refine your existing unit tests by implementing modern best practices. You'll learn to spot which tests are performing, which need refactoring, and which need to be deleted entirely! Upgrade your testing suite with new testing styles, good patterns, and reliable automated testing. Unit Testing Principles, Practices and Patterns is a practical guide to modern unit testing best practices. Microsoft MVP Vladimir Khorikov takes you hands-on with examples of the ideal unit test and unit testing practices, building your skills step by step on a solid foundation. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

JavaScript Unit Testing Sep 05 2020 A practical, example-driven guide to using, automating, and integrating JavaScript Unit tests for the busy and conscientious JavaScript developer striving for excellence and success. JavaScript Unit Testing is a must have guide for every web developer, designer, architect, and JavaScript coder seeking to ensure the highest quality of their web applications and JS code. Knowledge of JavaScript is assumed.

Mastering React Test-Driven Development Jul 24 2019 This book is comprehensive walk through of Test-Driven Development (TDD) for React. It takes a first-principles approach to teach the TDD process using vanilla Jest. Readers build their own test library as they refactor out repeated code in tandem with building a real-world application. It also covers acceptance testing using Cucumber and ...

Testable JavaScript Aug 17 2021 One skill that's essential for any professional JavaScript developer is the ability to write testable code. This book shows you what writing and maintaining testable JavaScript for the client- or server-side actually entails, whether you're creating a new application or rewriting legacy code. From methods to reduce code complexity to unit testing, code coverage, debugging, and automation, you'll learn a holistic approach for writing JavaScript code that you and your colleagues can easily fix and maintain going forward. Testing JavaScript code is complicated. This book helps experienced JavaScript developers simply the process considerably. Get an overview of Agile, test-driven development, and behavior-driven development Use patterns from static languages and standards-based JavaScript to reduce code complexity Learn the advantages of event-based architectures, including modularity, loose coupling, and reusability Explore tools for writing and running unit tests at the functional and application level Generate code coverage to measure the scope and effectiveness of your tests Conduct integration, performance, and load testing, using Selenium or CasperJS Use tools for in-browser, Node.js, mobile, and production debugging Understand what, when, and how to automate your development processes

Unit Test Frameworks Aug 29 2022 Most people who write software have at least some experience with unit testing—even if they don't call it that. If you have ever written a few lines of throwaway code just to try

something out, you've built a unit test. On the other end of the software spectrum, many large-scale applications have huge batteries of test cases that are repeatedly run and added to throughout the development process. What are unit test frameworks and how are they used? Simply stated, they are software tools to support writing and running unit tests, including a foundation on which to build tests and the functionality to execute the tests and report their results. They are not solely tools for testing; they can also be used as development tools on a par with preprocessors and debuggers. Unit test frameworks can contribute to almost every stage of software development and are key tools for doing Agile Development and building big-free code. Unit Test Frameworks covers the usage, philosophy, and architecture of unit test frameworks. Tutorials and example code are platform-independent and compatible with Windows, Mac OS X, Unix, and Linux. The companion CD includes complete versions of JUnit, CppUnit, NUnit, and XMLUnit, as well as the complete set of code examples.

Node.js 8 the Right Way Oct 07 2020 Node.js is the platform of choice for creating modern web services. This fast-paced book gets you up to speed on server-side programming with Node.js 8, as you develop real programs that are small, fast, low-profile, and useful. Take JavaScript beyond the browser, explore dynamic language features, and embrace evented programming. Harness the power of the event loop and non-blocking I/O to create highly parallel microservices and applications. This expanded and updated second edition showcases the latest ECMAScript features, current best practices, and modern development techniques. JavaScript is the backbone of the modern web, powering nearly every web app's user interface. Node.js is JavaScript for the server. This greatly expanded second edition introduces new language features while dramatically increasing coverage of core topics. Each hands-on chapter offers progressively more challenging topics and techniques, broadening your skill set and enabling you to think in Node.js. Write asynchronous, non-blocking code using Node.js's style and patterns. Cluster and load balance services with Node.js core features and third-party tools. Harness the power of databases such as Elasticsearch and Redis. Work with many protocols, create RESTful web services, TCP socket clients and servers, and more. Test your code's functionality with Mocha, and manage its life cycle with npm. Discover how Node.js pairs a server-side event loop with a JavaScript runtime to produce screaming fast, non-blocking concurrency. Through a series of practical programming domains, use the latest available ECMAScript features and harness key Node.js classes and popular modules. Create rich command-line tools and a web-based UI using modern web development techniques. Join the smart and diverse community that's rapidly advancing the state of the art in JavaScript development. What You Need: Node.js 8.x Operating system with bash-like shell OMQ (pronounced "Zero-M-Q") library, version 3.2 or higher Elasticsearch version 5.0 or higher jq version 1.5 or higher Redis version 3.2 or higher

Python Unit Test Automation Jun 26 2022 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

Effective Unit Testing Apr 24 2022 Summary Effective Unit Testing is written to show how to write good tests—tests that are concise and to the point, expressive, useful, and maintainable. Inspired by Roy Osherove's bestselling The Art of Unit Testing, this book focuses on tools and practices specific to the Java world. It introduces you to emerging techniques like behavior-driven development and specification by example, and shows you how to add robust practices into your toolkit. About Testing Test the components before you assemble them into a full application, and you'll get better software. For Java developers, there's now a decade of experience with well-crafted tests that anticipate problems, identify known and unknown dependencies in the code, and allow you to test components both in isolation and in the context of a full application. About this Book Effective Unit Testing teaches Java developers how to write unit tests that are concise, expressive, useful, and maintainable. Offering crisp explanations and easy-to-absorb examples, it introduces emerging techniques like behavior-driven development and specification by example. Programmers who are already unit testing will learn the current state of the art. Those who are new to the game will learn practices that will serve them well for the rest of their career. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book. About the Author Lasse Koskela is a coach, trainer, consultant, and programmer. He hacks on open source projects, helps companies improve their productivity, and speaks frequently at conferences around the world. Lasse is the author of Test Driven, also published by Manning. What's Inside A thorough introduction to unit testing Choosing best-of-breed tools Writing tests using dynamic languages Efficient test automation Table of Contents PART 1 FOUNDATIONS The promise of good tests In search of good Test doubles PART 2 CATALOG Readability Maintainability Trustworthiness PART 3 DIVERSIONS Testable design Writing tests in other JVM languages Speeding up test execution

Starting to Unit Test Mar 24 2022 Unit testing. You've heard the term. Probably a lot. You know you should probably figure out how it works, since everyone's always talking about it and a lot of companies require developers to know it. But you don't really know it and you're worried that you'll look uninformed if you cop to not knowing it. Well, relax. This book assumes you have absolutely no idea how it works and walks you through the practice from the very beginning. You'll learn the basics, but more importantly, you'll learn the business value, the path to walk not to get frustrated, what's testable and what isn't, and, and everything else that a practical unit testing newbie could possibly want to know.

Hands-On Software Engineering with Golang Oct 19 2021 Explore software engineering methodologies, techniques, and best practices in Go programming to build easy-to-maintain software that can effortlessly scale on demand Key Features Apply best practices to produce lean, testable, and maintainable Go code to avoid accumulating technical debt Explore Go's built-in support for concurrency and message passing to build high-performance applications Scale your Go programs across machines and manage their life cycle using Kubernetes Book Description Over the last few years, Go has become one of the favorite languages for building scalable and distributed systems. Its opinionated design and built-in concurrency features make it easy for engineers to author code that efficiently utilizes all available CPU cores. This Golang book distills industry best practices for writing lean Go code that is easy to test and maintain, and helps you to explore its practical implementation by creating a multi-tier application called Links 'R' Us from scratch. You'll be guided through all the steps involved in designing, implementing, testing, deploying, and scaling an application. Starting with a monolithic architecture, you'll iteratively transform the project into a service-oriented architecture (SOA) that supports the efficient out-of-core processing of large link graphs. You'll learn about various cutting-edge and advanced software engineering techniques such as building extensible data processing pipelines, designing APIs using gRPC, and running distributed graph processing algorithms at scale. Finally, you'll learn how to compile and package your Go services using Docker and automate their deployment to a Kubernetes cluster. By the end of this book, you'll know how to think like a professional software developer or engineer and write lean and efficient Go code. What you will learn Understand different stages of the software development life cycle and the role of a software engineer Create APIs using gRPC and leverage the middleware offered by the gRPC ecosystem Discover various approaches to managing package dependencies for your projects Build an end-to-end project from scratch and explore different strategies for scaling it Develop a graph processing system and extend it to run in a distributed manner Deploy Go services on Kubernetes and monitor their health using Prometheus Who this book is for This Golang programming book is for developers and software engineers looking to use Go to design and build scalable distributed systems effectively. Knowledge of Go

programming and basic networking principles is required.

Building Microservices with .NET Core Jan 10 2021 Architect your .NET applications by breaking them into really small pieces—microservices—using this practical, example-based guide About This Book Start your microservices journey and understand a broader perspective of microservices development Build, deploy, and test microservices using ASP.Net MVC, Web API, and Microsoft Azure Cloud Get started with reactive microservices and understand the fundamentals behind it Who This Book Is For This book is for .NET Core developers who want to learn and understand microservices architecture and implement it in their .NET Core applications. It's ideal for developers who are completely new to microservices or have just a theoretical understanding of this architectural approach and want to gain a practical perspective in order to better manage application complexity. What You Will Learn Compare microservices with monolithic applications and SOA Identify the appropriate service boundaries by mapping them to the relevant bounded contexts Define the service interface and implement the APIs using ASP.NET Web API Integrate the services via synchronous and asynchronous mechanisms Implement microservices security using Azure Active Directory, OpenID Connect, and OAuth 2.0 Understand the operations and scaling of microservices in .NET Core Understand the testing pyramid and implement consumer-driven contract using pact net core Understand what the key features of reactive microservices are and implement them using reactive extension In Detail Microservices is an architectural style that promotes the development of complex applications as a suite of small services based on business capabilities. This book will help you identify the appropriate service boundaries within the business. We'll start by looking at what microservices are, and what the main characteristics are. Moving forward, you will be introduced to real-life application scenarios, and after assessing the current issues, we will begin the journey of transforming this application by splitting it into a suite of microservices. You will identify the service boundaries, split the application into multiple microservices, and define the service contracts. You will find out how to configure, deploy, and monitor microservices, and configure scaling to allow the application to quickly adapt to increased demand in the future. With an introduction to the reactive microservices, you strategically gain further value to keep your code base simple, focusing on what is more important rather than the messy asynchronous calls. Style and approach This guide serves as a stepping stone that helps .NET Core developers in their microservices architecture. This book provides just enough theory to understand the concepts and apply the examples.

xUnit Test Patterns Jun 14 2021 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.

Automated Unit Testing with ABAP Aug 05 2020 Write automated unit tests for the ABAP language. This book teaches programmers using simple examples and metaphors and explains the underlying concepts of writing effective automated unit tests. Many, if not most, ABAP programmers learned their programming and testing skills before the ABAP development environment provided an automated unit testing facility. Automated Unit Testing with ABAP: A Practical Approach offers hope and salvation to ABAP programmers who continue to toil with antiquated manual unit testing processes, taking them by the hand and lifting them out of that dungeon of despair with a modern and proven alternative. It begins by explaining how the xUnit family of automated testing frameworks provides a quick and effective means of insuring high-quality software. It then focuses on the ABAP Unit Testing Facility, the xUnit framework applicable specifically to the ABAP language, showing how it can be used to bring ABAP applications under automated testing control, from old legacy applications to those newly written. Whereas xUnit testing has been widely accepted with developers writing in many other programming languages, it is an unfortunate fact in the ABAP community that many programmers still are unfamiliar with xUnit concepts and do not know how to begin implementing automated unit testing into their development process. This book demonstrates how to refactor programs so they become designed for testability, showing how to use process encapsulation and test isolation to facilitate automated testing, including a thorough explanation of test-driven development and the use of test doubles. The book: Shows how to write automated unit tests for ABAP Instills ABAP programmers with the confidence to refactor poorly written code Explains how an automated testing harness facilitates rapid software development Teaches how to utilize test-driven development (TDD) with ABAP Offers advice and tips on the best ways to write automated unit tests What You Will Learn Become familiar with the xUnit approach to testing Know the ABAP statements that interfere with running automated unit tests and how to accommodate them Understand what it means to isolate code for testing and how this is achieved Gain the confidence to refactor poorly written code Make ABAP programs designed for testability Reap the benefits of spending less time manually unit testing ABAP programs Use test-driven development (TDD) with ABAP programming Use configurable test doubles in ABAP Who This Book Is For ABAP programmers who remain unfamiliar with the automated unit testing facility and those who already use it but want to improve their skill writing and using automated tests. The book addresses the reluctance and trepidation felt by procedural ABAP programmers who need to know some object-oriented concepts to use this facility, expands their horizons, and helps them step through the doorway leading to a different approach to program design.

Unit Testing Succinctly Jul 16 2021 Unit testing can be a valuable part of any development cycle, but it can easily cause more problems than it prevents if used incorrectly. With Unit Testing Succinctly by Marc Clifton, you'll learn what you need to know to leverage unit testing and minimize the number of bugs introduced in development. The book clearly defines what does and does not constitute units and tests, different approaches to implementing unit tests, and even the far-reaching effects that unit testing can have on the architecture of your application.

Working Effectively with Unit Tests Jan 22 2022 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.

Dependency Injection Principles, Practices, and Patterns Feb 08 2021 Summary Dependency Injection Principles, Practices, and Patterns teaches you to use DI to reduce hard-coded dependencies between application components. You'll start by learning what DI is and what types of applications will benefit from it. Then, you'll work through concrete scenarios using C# and the .NET framework to implement DI in your own projects. As you dive into the thoroughly-explained examples, you'll develop a foundation you can apply to any of the many DI libraries for .NET and .NET Core. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Dependency Injection (DI) is a great way to reduce tight coupling between software components. Instead of hard-coding dependencies, such as specifying a database driver, you make those connections through a third party. Central to application frameworks like ASP.NET Core, DI enables you to better manage changes and other complexity in your software.

About the Book *Dependency Injection Principles, Practices, and Patterns* is a revised and expanded edition of the bestselling classic *Dependency Injection in .NET*. It teaches you DI from the ground up, featuring relevant examples, patterns, and anti-patterns for creating loosely coupled, well-structured applications. The well-annotated code and diagrams use C# examples to illustrate principles that work flawlessly with modern object-oriented languages and DI libraries. What's Inside Refactoring existing code into loosely coupled code DI techniques that work with statically typed OO languages Integration with common .NET frameworks Updated examples illustrating DI in .NET Core About the Reader For intermediate OO developers. About the Authors Mark Seemann is a programmer, software architect, and speaker who has been working with software since 1995, including six years with Microsoft. Steven van Deursen is a seasoned .NET developer and architect, and the author and maintainer of the Simple Injector DI library. Table of Contents PART 1 Putting Dependency Injection on the map The basics of Dependency Injection: What, why, and how Writing tightly coupled code Writing loosely coupled code PART 2 Catalog DI patterns DI anti-patterns Code smells PART 3 Pure DI Application composition Object lifetime Interception Aspect-Oriented Programming by design Tool-based Aspect-Oriented Programming PART 4 DI Containers DI Container introduction The Autofac DI Container The Simple Injector DI Container The Microsoft.Extensions.DependencyInjection DI Container

Unit Testing Principles, Practices, and Patterns Oct 31 2022 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

C# and .NET Core Test-Driven Development Jun 22 2019 Learn how to apply a test-driven development process by building ready C# 7 and .NET Core applications. Key Features Create tests to quickly detect and resolve issues when writing portable code Uncover code integration issues that improve code quality using continuous integration Set up and use data-driven unit testing to verify your code Book Description This book guides developers to create robust, production-ready C# 7 and .NET Core applications through the practice of test-driven development process. In *C# and .NET Core Test-Driven Development*, you will learn the different stages of the TDD life cycle, basics of TDD, best practices, and anti-patterns. It will teach you how to create an ASP.NET Core MVC sample application, write testable code with SOLID principles and set up a dependency injection for your sample application. Next, you will learn the xUnit testing framework and learn how to use its attributes and assertions. You'll see how to create data-driven unit tests and mock dependencies in your code. You will understand the difference between running and debugging your tests on .NET Core on LINUX versus Windows and Visual Studio. As you move forward, you will be able to create a healthy continuous integration process for your sample application using GitHub, TeamCity, Cake, and Microsoft VSTS. By the end of this book, you will have learned how to write clean and robust code through the effective practice of TDD, set up CI build steps to test and build applications as well as how to package application for deployment on NuGet. What you will learn Write flexible, maintainable, and verifiable code for .NET Core Write testable code using SOLID principles and dependency injections Recognize the characteristics of a good unit test Structure and group your unit test Use mock objects to handle dependencies Set up an end-to-end continuous integration process Who this book is for This book is for .NET developers who would like to build efficient applications by implementing principles of test-driven development. C# programming and working knowledge of VS is assumed.

Async in C# 5.0 Jul 04 2020 If you're writing one of several applications that call for asynchronous programming, this concise hands-on guide shows you how the async feature in C# 5.0 can make the process much simpler. Along with a clear introduction to asynchronous programming, you get an in-depth look at how the async feature works and why you might want to use it in your application. Written for experienced C# programmers—yet approachable for beginners—this book is packed with code examples that you can extend for your own projects. Write your own asynchronous code, and learn how async saves you from this messy chore Discover new performance possibilities in ASP.NET web server code Explore how async and WinRT work together in Windows 8 applications Learn the importance of the await keyword in async methods Understand which .NET thread is running your code—and at what points in the program Use the Task-based Asynchronous Pattern (TAP) to write asynchronous APIs in .NET Take advantage of parallel computing in modern machines Measure async code performance by comparing it with alternatives

Writing Maintainable Unit Tests: Mastering the Art of Loosely Coupled Unit Tests Dec 29 2019 This book is for experienced software developers who want to improve upon their existing skills in writing unit tests. You will learn how to build loosely coupled, highly maintainable and robust unit tests that are trustworthy and improve the overall code quality of your software applications. The content of this book is based on 15+ years of experience with Test-Driven Development. Although the examples in this book are written in C#, the principles and guidance are broadly applicable to other platforms and programming environments as well (Java, Python, JavaScript, etc.). You will be able to universally apply this knowledge throughout the rest of your career.

Practical Common Lisp Nov 19 2021 * Treats LISP as a language for commercial applications, not a language for academic AI concerns. This could be considered to be a secondary text for the Lisp course that most schools teach . This would appeal to students who sat through a LISP course in college without quite getting it – so a "nostalgia" approach, as in "wow-lisp can be practical..." * Discusses the Lisp programming model and environment. Contains an introduction to the language and gives a thorough overview of all of Common Lisp's main features. * Designed for experienced programmers no matter what languages they may be coming from and written for a modern audience—programmers who are familiar with languages like Java, Python, and Perl. * Includes several examples of working code that actually does something useful like Web programming and database access.

Android Test-Driven Development by Tutorials (Second Edition) Sep 25 2019 Learn Android Test-Driven Development! Writing apps is hard. Writing testable apps is even harder, but it doesn't have to be. Reading and understanding all the official Google documentation on testing can be time-consuming - and confusing. This is where *Android Test-Driven Development* comes to the rescue! In this book, you'll learn about Android Test-Driven Development the quick and easy way: by following fun and easy-to-read tutorials. Who This Book Is For This book is for the intermediate Android developers who already know the basics of Android and Kotlin development but want to learn Android Test-Driven Development. Topics Covered in *Android Test-Driven Development* - Getting Started with Testing: Learn the core concepts involved in testing including what is a test, why should you test, what should you test and what you should not test. - Test-Driven Development (TDD): Discover the Red-Green-Refactor steps and how to apply them. - The Testing Pyramid: Learn about

the different types of tests and how to organize them. - Unit Tests: Learn how to start writing unit tests with TDD using JUnit and Mockito. - Integration Tests: Writing tests with different subsystems is a must in today's complex application world. Learn how to test with different subsystems including the persistence and network layers. - Architecting for Testing: Explore how to architect your app for testing and why it matters. - TDD on Legacy Projects: Take your TDD to the next level by learning how to apply it to existing legacy projects. And much more, including Espresso tests, UI tests, code coverage and refactoring. One thing you can count on: after reading this book, you'll be prepared to take advantage of Android Test-Driven Development in your own apps!

Test Driven: Practical Test Driven Development And Acceptance Tdd For Java Developers Dec 09 2020 Test Driven brings under one cover practical TDD techniques distilled from several years of community experience. With examples in Java and the Java EE environment, it explores both the techniques and the mindset of TDD and ATDD.

Testing Python May 26 2022 Fundamental testing methodologies applied to the popular Python language Testing Python; Applying Unit Testing, TDD, BDD and Acceptance Testing is the most comprehensive book available on testing for one of the top software programming languages in the world. Python is a natural choice for new and experienced developers, and this hands-on resource is a much needed guide to enterprise-level testing development methodologies. The book will show you why Unit Testing and TDD can lead to cleaner, more flexible programs. Unit Testing and Test-Driven Development (TDD) are increasingly must-have skills for software developers, no matter what language they work in. In enterprise settings, it's critical for developers to ensure they always have working code, and that's what makes testing methodologies so attractive. This book will teach you the most widely used testing strategies and will introduce you to still others, covering performance testing, continuous testing, and more. Learn Unit Testing and TDD—important development methodologies that lie at the heart of Agile development Enhance your ability to work with Python to develop powerful, flexible applications with clean code Draw on the expertise of author David Sale, a leading UK developer and tech commentator Get ahead of the crowd by mastering the underappreciated world of Python testing Knowledge of software testing in Python could set you apart from Python developers using outmoded methodologies. Python is a natural fit for TDD and Testing Python is a must-read text for anyone who wants to develop expertise in Python programming.

Java Extreme Programming Cookbook Mar 31 2020 Brimming with over 100 "recipes" for getting down to business and actually doing XP, the Java Extreme Programming Cookbook doesn't try to "sell" you on XP; it succinctly documents the most important features of popular open source tools for XP in Java—including Ant, JUnit, Http'nit, Cactus, Tomcat, XDoclet—and then digs right in, providing recipes for implementing the tools in real-world environments.

The Art of Unit Testing Jun 02 2020 Roy Osherove führt Sie in diesem Buch Schritt für Schritt von einfachen Tests zu Tests, die wartbar, lesbar und zuverlässig sind. Er geht auf die Grundlagen des Interaction Testings ein und stellt bewährte Vorgehensweisen für das Schreiben, das Verwalten und das Warten der Unit Tests in echten Projekten vor. Es werden auch fortgeschrittene Themen behandelt wie Mocks, Stubs und Frameworks wie etwa Typemock Isolator und Rhino Mocks.

Practical Unit Testing with JUnit and Mockito Nov 07 2020 This book explains in detail how to implement unit tests using two very popular open source Java technologies: JUnit and Mockito. It presents a range of techniques necessary to write high quality unit tests - e.g. mocks, parametrized tests and matchers. It also discusses trade-offs related to the choices we have to make when dealing with some real-life code issues. The book stresses the importance of writing readable and maintainable unit tests, and puts a lot of stress on code quality. It shows how to achieve testable code and to eliminate common mistakes by following the Test Driven Development approach. Every topic discussed in the book is illustrated with code examples, and each chapter is accompanied by some exercises. By reading this book you will: Grasp the role and purpose of unit tests Write high-quality, readable and maintainable unit tests Learn how to use JUnit and Mockito (but also other useful tools) Avoid common pitfalls when writing unit tests Recognize bad unit tests, and fix them in no time Develop code following the Test Driven Development (TDD) approach Use mocks, stubs and test-spies intelligently Measure the quality of your tests using code coverage and mutation testing Learn how to improve your tests' code so it is an asset and not a burden Test collections, expected exceptions, time-dependent methods and much more Customize test reports so that they show you what you really need to know Master tools and techniques your team members have never even heard of (priceless!) :) Nowadays every developer is expected to write unit tests. While simple in theory, in practice writing high-quality unit tests can turn out to be a real challenge. This book will help.

The Art of Unit Testing, Third Edition May 02 2020 The Art of Unit Testing, Third Edition takes you below the surface and understand how unit testing can transform the way you deliver and maintain software. The Art of Unit Testing, Third Edition guides you step by step from your first simple unit tests to building complete test sets that are maintainable, readable, and trustworthy. Now with examples using JavaScript and Node, this expanded third edition teaches you to write unit tests for async and observable code, as well as methods of faking functions, modules and refactorings. You'll get to grips with complex subjects such as mocks and stubs, explore how to handle tricky legacy codebases, and save yourself time with tests that function for both frontend and backend applications. The Art of Unit Testing, Third Edition is an essential guide for any unit tester who wants to feel confident writing code that's easier to create, maintain, and adapt. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.