
The Art Of Unit Testing Second Edition

Code Better, Sleep Better

A Code of Conduct for Professional Programmers

C# and .NET Core Test-Driven Development

Help for Programmers and Quality Assurance

Python Unit Test Automation

Testing Python

Growing Object-Oriented Software, Guided by Tests

Pragmatic Unit Testing in Java 8 with JUnit

Dependency Injection Principles, Practices, and Patterns

Dive into TDD to create flexible, maintainable, and production-ready .NET Core applications

A Practical and Incremental Approach

Test Driven

The Art of Unit Testing

Java Unit Testing with JUnit 5

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The Clean Coder
The Art of Application Performance Testing
Mastering Shiny
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Practical Techniques for Python Developers and Testers
The Art of Software Testing
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How Tests Drive the Code
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The Art Of Unit Testing
Second Edition

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MAYO CLINTON

Code Better, Sleep Better Simon and
Schuster

Presents practical advice on the
disciplines, techniques, tools, and
practices of computer programming and
how to approach software development
with a sense of pride, honor, and self-
respect.

A Code of Conduct for Professional
Programmers John Wiley & Sons

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

C# and .NET Core Test-Driven Development Apress

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.

Help for Programmers and Quality Assurance

Simon and Schuster
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 [Python Unit Test Automation](#) Pragmatic Bookshelf Fearlessly change the design of your iOS code with solid unit tests. Use Xcode's built-in test framework XCTest and Swift to get rapid feedback on all your code - including legacy code. Learn the tricks and techniques of testing all iOS code, especially view controllers (UIViewController), which are critical to iOS apps. Learn to isolate and replace dependencies in legacy code written without tests. Practice safe refactoring that makes these tests possible, and watch all your changes get verified quickly and automatically. Make even

the boldest code changes with complete confidence. Manual code and UI testing get slower the deeper your navigation hierarchy goes. It can take several taps just to reach a particular screen, never mind the actual workflow tests.

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bold changes. Learn how to avoid the most common mistakes Swift programmers make with the XCTest framework. Use code coverage to find holes in your test suites. Learn how to identify hard dependencies. Reshape the design of your code quickly, with less risk and less fear.

Testing Python Pragmatic Bookshelf
In test driven development, you first write an executable test of what your application code must do. Only then do you write the code itself and, with the test spurring you on, you improve your design. In acceptance test driven development (ATDD), you use the same technique to implement product features, benefiting from iterative development, rapid feedback cycles, and better-defined requirements. TDD and its

supporting tools and techniques lead to better software faster. 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. It uses carefully chosen examples to illustrate TDD tools and design patterns, not in the abstract but concretely in the context of the technologies you face at work. It is accessible to TDD beginners, and it offers effective and less well-known techniques to older TDD hands. 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. What's Inside Learn hands-on to test drive Java code How to avoid

common TDD adoption pitfalls
Acceptance test driven development and the Fit framework How to test Java EE components-Servlets, JSPs, and Spring Controllers Tough issues like multithreaded programs and data access code

[Growing Object-Oriented Software,](#)

[Guided by Tests](#) "O'Reilly Media, Inc."

2nd edition of the step-by-step guide that helps developers to write test sets that are maintainable, readable and trustworthy.

[Pragmatic Unit Testing in Java 8 with](#)

[JUnit](#) BlogIntoBook.com

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](#) Simon and Schuster

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

Dive into TDD to create flexible, maintainable, and production-ready .NET Core applications Packt Publishing Ltd

If you program in C++ you've been neglected. Test-driven development (TDD) is a modern software development practice that can dramatically reduce the number of defects in systems, produce more maintainable code, and give you the confidence to change your software to meet changing needs. But C++ programmers have been ignored by those promoting TDD--until now. In this book, Jeff Langr gives you hands-on lessons in the challenges and rewards of

doing TDD in C++. Modern C++ Programming With Test-Driven Development, the only comprehensive treatment on TDD in C++ provides you with everything you need to know about TDD, and the challenges and benefits of implementing it in your C++ systems. Its many detailed code examples take you step-by-step from TDD basics to advanced concepts. As a veteran C++ programmer, you're already writing high-quality code, and you work hard to maintain code quality. It doesn't have to be that hard. In this book, you'll learn: how to use TDD to improve legacy C++ systems how to identify and deal with troublesome system dependencies how to do dependency injection, which is particularly tricky in C++ how to use testing tools for C++ that aid TDD new

C++11 features that facilitate TDD As you grow in TDD mastery, you'll discover how to keep a massive C++ system from becoming a design mess over time, as well as particular C++ trouble spots to avoid. You'll find out how to prevent your tests from being a maintenance burden and how to think in TDD without giving up your hard-won C++ skills. Finally, you'll see how to grow and sustain TDD in your team. Whether you're a complete unit-testing novice or an experienced tester, this book will lead you to mastery of test-driven development in C++. What You Need A C++ compiler running under Windows or Linux, preferably one that supports C++11. Examples presented in the book were built under gcc 4.7.2. Google Mock 1.6 (downloadable for free; it contains

Google Test as well) or an alternate C++ unit testing tool. Most examples in the book are written for Google Mock, but it isn't difficult to translate them to your tool of choice. A good programmer's editor or IDE. cmake, preferably. Of course, you can use your own preferred make too. CMakeLists.txt files are provided for each project. Examples provided were built using cmake version 2.8.9. Various freely-available third-party libraries are used as the basis for examples in the book. These include: cURL JsonCpp Boost (filesystem, date_time/gregorian, algorithm, assign) Several examples use the boost headers/libraries. Only one example uses cURL and JsonCpp.

A Practical and Incremental Approach "O'Reilly Media, Inc."

Master high quality software development driven by unit tests About This Book Design and implement robust system components by means of the de facto unit testing standard in Java Reduce defect rate and maintenance effort, plus simultaneously increase code quality and development pace Follow a step-by-step tutorial imparting the essential techniques based on real-world scenarios and code walkthroughs Who This Book Is For No matter what your specific background as a Java developer, whether you're simply interested in building up a safety net to reduce regressions of your desktop application or in improving your server-side reliability based on robust and reusable components, unit testing is the way to go. This book provides you with a

comprehensive but concise entrance
advancing your knowledge step-wise to
a professional level. What You Will Learn
Organize your test infrastructure and
resources reasonably Understand and
write well structured tests Decompose
your requirements into small and
independently testable units Increase
your testing efficiency with on-the-fly
generated stand-in components and deal
with the particularities of exceptional
flow Employ runners to adjust to specific
test demands Use rules to increase
testing safety and reduce boilerplate Use
third party supplements to improve the
expressiveness of your verification
statements In Detail JUnit has matured
to become the most important tool when
it comes to automated developer tests in
Java. Supported by all IDEs and build

systems, it empowers programmers to
deliver software features reliably and
efficiently. However, writing good unit
tests is a skill that needs to be learned;
otherwise it's all too easy to end up in
gridlocked development due to messed
up production and testing code.
Acquiring the best practices for unit
testing will help you to prevent such
problems and lead your projects to
success with respect to quality and
costs. This book explains JUnit concepts
and best practices applied to the test
first approach, a foundation for high
quality Java components delivered in
time and budget. From the beginning
you'll be guided continuously through a
practically relevant example and pick up
background knowledge and
development techniques step by step.

Starting with the basics of tests organization you'll soon comprehend the necessity of well structured tests and delve into the relationship of requirement decomposition and the many-faceted world of test double usage. In conjunction with third-party tools you'll be trained in writing your tests efficiently, adapt your test case environment to particular demands and increase the expressiveness of your verification statements. Finally, you'll experience continuous integration as the perfect complement to support short feedback cycles and quality related reports for your whole team. The tutorial gives a profound entry point in the essentials of unit testing with JUnit and prepares you for test-related daily work challenges. Style and approach This is

an intelligible tutorial based on an ongoing and non-trivial development example. Profound introductions of concepts and techniques are provided stepwise as the programming challenges evolve. This allows you to reproduce and practice the individual skills thoroughly.

Test Driven Cengage Learning Master the Shiny web framework—and take your R skills to a whole new level. By letting you move beyond static reports, Shiny helps you create fully interactive web apps for data analyses. Users will be able to jump between datasets, explore different subsets or facets of the data, run models with parameter values of their choosing, customize visualizations, and much more. Hadley Wickham from RStudio shows data scientists, data analysts,

statisticians, and scientific researchers with no knowledge of HTML, CSS, or JavaScript how to create rich web apps from R. This in-depth guide provides a learning path that you can follow with confidence, as you go from a Shiny beginner to an expert developer who can write large, complex apps that are maintainable and performant. Get started: Discover how the major pieces of a Shiny app fit together Put Shiny in action: Explore Shiny functionality with a focus on code samples, example apps, and useful techniques Master reactivity: Go deep into the theory and practice of reactive programming and examine reactive graph components Apply best practices: Examine useful techniques for making your Shiny apps work well in production

"O'Reilly Media, Inc."

Test-Driven Development (TDD) is now an established technique for delivering better software faster. TDD is based on a simple idea: Write tests for your code before you write the code itself.

However, this "simple" idea takes skill and judgment to do well. Now there's a practical guide to TDD that takes you beyond the basic concepts. Drawing on a decade of experience building real-world systems, two TDD pioneers show how to let tests guide your development and "grow" software that is coherent, reliable, and maintainable. Steve Freeman and Nat Pryce describe the processes they use, the design principles they strive to achieve, and some of the tools that help them get the job done. Through an extended worked example,

you'll learn how TDD works at multiple levels, using tests to drive the features and the object-oriented structure of the code, and using Mock Objects to discover and then describe relationships between objects. Along the way, the book systematically addresses challenges that development teams encounter with TDD—from integrating TDD into your processes to testing your most difficult features. Coverage includes Implementing TDD effectively: getting started, and maintaining your momentum throughout the project Creating cleaner, more expressive, more sustainable code Using tests to stay relentlessly focused on sustaining quality Understanding how TDD, Mock Objects, and Object-Oriented Design come together in the context of a real software

development project Using Mock Objects to guide object-oriented designs Succeeding where TDD is difficult: managing complex test data, and testing persistence and concurrency *The Art of Unit Testing* Simon and Schuster

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.

Java Unit Testing with JUnit 5 John Wiley & Sons

With constantly changing business requirements and technical environments, the code needs to evolve too. Building applications using test-driven development process ensures that they work properly irrespective of such changes. In this book, you will learn to make such robust and production-ready applications with C# and .NET.

Unit Testing in Java Createspace Independent Publishing Platform

Including numerous examples throughout, this book guides you step-

by-step from writing your first simple unit tests to building complete test sets that are maintainable, readable, and trustworthy. --

The Clean Coder Simon and Schuster
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

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The Art of Application Performance Testing John Wiley & Sons

Specifically designed as an introduction to the exciting world of engineering, **ENGINEERING FUNDAMENTALS: AN INTRODUCTION TO ENGINEERING** encourages students to become engineers and prepares them with a solid foundation in the fundamental

principles and physical laws. The book begins with a discovery of what engineers do as well as an inside look into the various areas of specialization. An explanation on good study habits and what it takes to succeed is included as well as an introduction to design and problem solving, communication, and ethics. Once this foundation is established, the book moves on to the basic physical concepts and laws that students will encounter regularly. The framework of this text teaches students that engineers apply physical and chemical laws and principles as well as mathematics to design, test, and supervise the production of millions of parts, products, and services that people use every day. By gaining problem solving skills and an understanding of

fundamental principles, students are on their way to becoming analytical, detail-oriented, and creative engineers. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version. Mastering Shiny Pearson Education 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. **The Art of Unit Testing** "O'Reilly

Media, Inc."

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

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