

Test Driven Development With Python Obey The Testing Goat Using Django Selenium And JavaScript

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Web Scraping with Python - Ryan Mitchell 2015-06-15

Learn web scraping and crawling techniques to access unlimited data from any web source in any format. With this practical guide, you'll learn how to use Python scripts and web APIs to gather and process data from thousands—or even millions—of web pages at once. Ideal for programmers, security professionals, and web administrators familiar with Python, this book not only teaches basic web scraping mechanics, but also delves into more advanced topics, such as analyzing raw data or using scrapers for frontend website testing. Code samples are available to help you understand the concepts in practice. Learn how to parse complicated HTML pages Traverse multiple pages and sites Get a general overview of APIs and how they work Learn several methods for storing the data you scrape Download, read, and extract data from documents Use tools and techniques to clean badly formatted data Read and write natural languages Crawl through forms and logins Understand how to scrape JavaScript Learn image processing and text recognition

Test-Driven Development with Python - Harry Percival 2017-08-02

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

Test-Driven Development with Python - Harry J.W. Percival 2014-06-11

By taking you through the development of a real web application from beginning to end, 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 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 Use a Continuous Integration environment to run your tests automatically

Java Unit Testing with JUnit 5 - Shekhar Gulati 2017-11-10

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.

Mastering Python Networking - Eric Chou 2020-01-30

New edition of the bestselling guide to mastering Python Networking, updated to Python 3 and including the latest on network data analysis, Cloud Networking, Ansible 2.8, and new libraries Key Features Explore the power of Python libraries to tackle difficult network problems efficiently and effectively, including pyATS, Nornir, and Ansible 2.8 Use Python and Ansible for DevOps, network device automation, DevOps, and software-defined networking Become an expert in implementing advanced network-related tasks with Python 3 Book Description Networks in your infrastructure set the foundation for how your application can be deployed, maintained, and serviced. Python is the ideal language for network engineers to explore tools that were previously available to systems engineers and application developers. In Mastering Python Networking, Third edition, you'll embark on a Python-based journey to transition from traditional network engineers to network developers ready for the next-generation of networks. This new edition is completely revised and updated to work with Python 3. In addition to new chapters on network data analysis with ELK stack (Elasticsearch, Logstash, Kibana, and Beats) and Azure Cloud Networking, it includes updates on using newer libraries such as pyATS and Nornir, as well as Ansible 2.8. Each chapter is updated with the latest libraries with working examples to ensure compatibility and understanding of the concepts. Starting with a basic overview of Python, the book teaches you how it can interact with both legacy and API-enabled network devices. You will learn to leverage high-level Python packages and

frameworks to perform network automation tasks, monitoring, management, and enhanced network security followed by Azure and AWS Cloud networking. Finally, you will use Jenkins for continuous integration as well as testing tools to verify your network. What you will learn Use Python libraries to interact with your network Integrate Ansible 2.8 using Python to control Cisco, Juniper, and Arista network devices Leverage existing Flask web frameworks to construct high-level APIs Learn how to build virtual networks in the AWS & Azure Cloud Learn how to use Elastic Stack for network data analysis Understand how Jenkins can be used to automatically deploy changes in your network Use PyTest and Unittest for Test-Driven Network Development in networking engineering with Python Who this book is for Mastering Python Networking, Third edition is for network engineers, developers, and SREs who want to use Python for network automation, programmability, and data analysis. Basic familiarity with Python programming and networking-related concepts such as Transmission Control Protocol/Internet Protocol (TCP/IP) will be useful.

Flask Web Development - Miguel Grinberg 2018-03-05

Take full creative control of your web applications with Flask, the Python-based microframework. With the second edition of this hands-on book, you'll learn the framework from the ground up by developing, step-by-step, a real-world project created by author Miguel Grinberg. This refreshed edition accounts for important technology changes that have occurred in the past three years. You'll learn the framework's core functionality, as well as how to extend applications with advanced web techniques such as database migration and web service communication. The first part of each chapter provides you with reference and background for the topic in question, while the second part guides you through a hands-on implementation of the topic. If you have Python experience, this book shows you how to take advantage of the creative freedom Flask provides.

Django 3 By Example - Antonio Melé 2020-03-31

Learn Django 3 with four end-to-end web projects Key Features Learn Django 3 by building real-world web applications from scratch in Python, using coding best practices Integrate other technologies into your application with clear, step-by-step explanations and comprehensive example code Implement advanced functionalities like a full-text search engine, a user activity stream, or a recommendation engine Add real-time features with Django Channels and WebSockets Book Description If you want to learn the entire process of developing professional web applications with Python and Django, then this book is for you. In the process of building four professional Django projects, you will learn about Django 3 features, how to solve common web development problems, how to implement best practices, and how to successfully deploy your applications. In this book, you will build a blog application, a social image bookmarking website, an online shop, and an e-learning platform. Step-by-step guidance will teach you how to integrate popular technologies, enhance your applications with AJAX, create RESTful APIs, and set up a production environment for your Django projects. By the end of this book, you will have mastered Django 3 by building advanced web applications. What you will learn Build real-world web applications Learn Django essentials, including models, views, ORM, templates, URLs, forms, and authentication Implement advanced features such as custom model fields, custom template tags, cache, middleware, localization, and more Create complex functionalities, such as AJAX interactions, social authentication, a full-text search engine, a payment system, a CMS, a RESTful API, and more Integrate other technologies, including Redis, Celery, RabbitMQ, PostgreSQL, and Channels, into your projects Deploy Django projects in production using NGINX, uWSGI, and Daphne Who this book is for This book is intended for developers with Python knowledge who wish to learn Django in a pragmatic way. Perhaps you are completely new to Django, or you already know a little but you want to get the most out of it. This book will help you to master the most relevant areas of the framework by building practical projects from scratch. You need to have familiarity with programming concepts in order to read this book. Some previous knowledge of HTML and JavaScript is assumed.

Python Pocket Reference - Mark Lutz 2014-01-22

Updated for both Python 3.4 and 2.7, this convenient pocket guide is the perfect on-the-job quick reference. You'll find concise, need-to-know information on Python types and statements, special method names, built-in functions and exceptions, commonly used standard library modules, and other prominent Python tools. The handy index lets you pinpoint exactly what you need. Written by Mark Lutz—widely recognized as the world's leading Python trainer—Python Pocket Reference is an ideal companion to O'Reilly's classic Python tutorials, Learning Python and Programming Python, also written by Mark. This fifth edition covers: Built-in object types, including numbers, lists, dictionaries, and more Statements and syntax for creating and processing objects Functions and modules for structuring and reusing code Python's object-oriented programming tools Built-in functions, exceptions, and attributes Special operator overloading methods Widely used standard library modules and extensions Command-line options and development tools Python idioms and hints The Python SQL Database API

Django 2 by Example - Antonio Melé 2018-05-31

Learn Django 2.0 with four end-to-end projects Key Features Learn Django by building real-world web applications from scratch Develop powerful web applications quickly using the best coding practices Integrate other technologies into your application with clear, step-by-step explanations and comprehensive example code Book Description If you want to learn about the entire process of developing professional web applications with Django, then this book is for you. This book will walk you through the creation of four professional Django projects, teaching you how to solve common problems and implement best practices. You will learn how to build a blog application, a social image-bookmarking website, an online shop, and an e-learning platform. The book will teach you how to enhance your applications with AJAX, create RESTful APIs, and set up a production environment for your Django projects. The book walks you through the creation of real-world applications, while solving common problems and implementing best practices. By the end of this book, you will have a deep understanding of Django and how to build advanced web applications What you will learn Build practical, real-world web applications with Django Use Django with other technologies, such as Redis and Celery Develop pluggable Django applications Create advanced features, optimize your code, and use the cache framework Add internationalization to your Django projects Enhance your user experience using JavaScript and AJAX Add social features to your projects Build RESTful APIs for your applications Who this book is for If you are a web developer who wants to see how to build professional sites with Django, this book is for you. You will need a basic knowledge of Python, HTML, and JavaScript, but you don't need to have worked with Django before.

Learning Selenium Testing Tools with Python - Unmesh Gundecha 2014-12-28

If you are a quality testing professional, or a software or web application developer looking to create automation test scripts for your web applications, with an interest in Python, then this is the perfect guide for you. Python developers who need to do Selenium testing need not learn Java, as they can directly use Selenium for testing with this book.

Test-driven Development - Kent Beck 2003

About software development through constant testing.

Learning Test-Driven Development - Saleem Siddiqui 2021-10-12

Your code is a testament to your skills as a developer. No matter what language you use, code should be clean, elegant, and uncluttered. By using test-driven development (TDD), you'll write code that's easy to understand, retains its elegance, and works for months, even years, to come. With this indispensable guide, you'll learn how to use TDD with three different languages: Go, JavaScript, and Python. Author Saleem Siddiqui shows you how to tackle domain complexity using a unit test-driven approach. TDD partitions requirements into small, implementable features, enabling you to solve problems irrespective of the languages and frameworks you use.

With Learning Test-Driven Development at your side, you'll learn how to incorporate TDD into your regular coding practice. This book helps you: Use TDD's divide-and-conquer approach to tame domain complexity Understand how TDD works across languages, testing frameworks, and domain concepts Learn how TDD enables continuous integration Support refactoring and redesign with TDD Learn how to write a simple and effective unit test harness in JavaScript Set up a continuous integration environment with the unit tests produced during TDD Write clean, uncluttered code using TDD in Go, JavaScript, and Python

Crafting Test-Driven Software with Python - Alessandro Molina 2021-02-18

Get to grips with essential concepts and step-by-step explanations to apply TDD practices to your Python projects while keeping your test suite under control Key Features Build robust Python applications using TDD and BDD methodologies Test Python web applications using WebTest and web frameworks Leverage PyTest to implement stringent testing mechanisms to ensure fault-tolerant applications Book Description Test-driven development (TDD) is a set of best practices that helps developers to build more scalable software and is used to increase the robustness of software by using automatic tests. This book shows you how to apply TDD practices effectively in Python projects. You'll begin by learning about built-in unit tests and Mocks before covering rich frameworks like PyTest and web-based libraries such as WebTest and Robot Framework, discovering how Python allows you to embrace all modern testing practices with ease. Moving on, you'll find out how to design tests and balance them with new feature development and learn how to create a complete test suite with PyTest. The book helps you adopt a hands-on approach to implementing TDD and associated methodologies that will have you up and running and make you more productive in no time. With the help of step-by-step explanations of essential concepts and practical examples, you'll explore automatic tests and TDD best practices and get to grips with the methodologies and tools available in Python for creating effective and robust applications. By the end of this Python book, you will be able to write reliable test suites in Python to ensure the long-term resilience of your application using the range of libraries offered by Python for testing and development. What you will learn Find out how tests can make your life easier as a developer and discover related best practices Explore PyTest, the most widespread testing framework for Python Get to grips with the most common PyTest plugins, including coverage, flaky, xdist, and picked Write functional tests for WSGI web applications with WebTest Run end-to-end tests for web applications using Robot Framework Understand what test-driven development means and why it is important Discover how to use the range of tools available in Python Build reliable and robust applications Who this book is for This book is for Python developers looking to get started with test-driven development and developers who want to learn about the testing tools available in Python. Developers who want to create web applications with Python and plan to implement TDD methodology with PyTest will find this book useful. Basic knowledge of Python programming is required.

Transformers for Natural Language Processing - Denis Rothman 2021-01-29

Publisher's Note: A new edition of this book is out now that includes working with GPT-3 and comparing the results with other models. It includes even more use cases, such as casual language analysis and computer vision tasks, as well as an introduction to OpenAI's Codex. Key Features Build and implement state-of-the-art language models, such as the original Transformer, BERT, T5, and GPT-2, using concepts that outperform classical deep learning models Go through hands-on applications in Python using Google Colaboratory Notebooks with nothing to install on a local machine Test transformer models on advanced use cases Book Description The transformer architecture has proved to be revolutionary in outperforming the classical RNN and CNN models in use today. With an apply-as-you-learn approach, Transformers for Natural Language Processing investigates in vast detail the deep learning for machine translations, speech-to-text, text-to-speech, language modeling, question answering, and many more NLP domains with transformers. The book takes you through NLP with Python and examines

various eminent models and datasets within the transformer architecture created by pioneers such as Google, Facebook, Microsoft, OpenAI, and Hugging Face. The book trains you in three stages. The first stage introduces you to transformer architectures, starting with the original transformer, before moving on to RoBERTa, BERT, and DistilBERT models. You will discover training methods for smaller transformers that can outperform GPT-3 in some cases. In the second stage, you will apply transformers for Natural Language Understanding (NLU) and Natural Language Generation (NLG). Finally, the third stage will help you grasp advanced language understanding techniques such as optimizing social network datasets and fake news identification. By the end of this NLP book, you will understand transformers from a cognitive science perspective and be proficient in applying pretrained transformer models by tech giants to various datasets. What you will learn Use the latest pretrained transformer models Grasp the workings of the original Transformer, GPT-2, BERT, T5, and other transformer models Create language understanding Python programs using concepts that outperform classical deep learning models Use a variety of NLP platforms, including Hugging Face, Trax, and AllenNLP Apply Python, TensorFlow, and Keras programs to sentiment analysis, text summarization, speech recognition, machine translations, and more Measure the productivity of key transformers to define their scope, potential, and limits in production Who this book is for Since the book does not teach basic programming, you must be familiar with neural networks, Python, PyTorch, and TensorFlow in order to learn their implementation with Transformers. Readers who can benefit the most from this book include experienced deep learning & NLP practitioners and data analysts & data scientists who want to process the increasing amounts of language-driven data.

Python Unit Test Automation - Ashwin Pajankar 2017-02-23

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

High Performance Python - Micha Gorelick 2020-04-30

Your Python code may run correctly, but you need it to run faster. Updated for Python 3, this expanded edition shows you how to locate performance bottlenecks and significantly speed up your code in high-data-volume programs. By exploring the fundamental theory behind design choices, High Performance Python helps you gain a deeper understanding of Python's implementation. How do you take advantage of multicore architectures or clusters? Or build a system that scales up and down without losing reliability? Experienced Python programmers will learn concrete solutions to many issues, along with war stories from companies that use high-performance Python for social media analytics, productionized machine learning, and more. Get a better grasp of NumPy, Cython, and profilers Learn how Python abstracts the underlying computer architecture Use profiling to find bottlenecks in CPU time and memory usage Write efficient programs by choosing appropriate data structures Speed up matrix and vector computations Use tools to compile Python down to machine code Manage multiple I/O

and computational operations concurrently Convert multiprocessing code to run on local or remote clusters Deploy code faster using tools like Docker

Selenium Testing Tools Cookbook - Unmesh Gundecha 2012-11-23

This is a cookbook packed with code examples and step-by-step instructions to ease your learning curve. This book is intended for software quality assurance/testing professionals, software project managers, or software developers with prior experience in using Selenium and Java for testing web-based applications. This book also provides examples for C#, Python, and Ruby users.

End-to-End Web Testing with Cypress - Waweru Mwaura 2021-01-29

Get to grips with the Cypress framework and learn how to best implement end-to-end automation testing with JavaScript with the help of expert tips, best practices, and real-world testing examples Key Features Write your first end-to-end test and find out how to modernize your testing environment Execute test-driven web development and cross-browser testing using Cypress Discover the advantages of using Cypress over Selenium and refactor testing for modern web apps Book Description Cypress is a modern test automation framework for web-based frontend apps. Learning Cypress will help you overcome the shortcomings of conventional testing solutions such as dependency graph problems, the steep learning curve in setting up end-to-end testing packages, and difficulties in writing explicit time waits for your tests. In End-to-End Web Testing with Cypress, you'll learn how to use different Cypress tools, including time travel, snapshots, errors, and console output, to write fail-safe and non-flaky tests. You'll discover techniques for performing test-driven development (TDD) with Cypress and write cross-browser tests for your web applications. As you advance, you'll implement tests for a sample application and work with a variety of tools and features within the Cypress ecosystem. Finally, this Cypress book will help you grasp advanced testing concepts such as visual testing and networking. By the end of this book, you'll have the skills you need to be able to set up Cypress for any web app and understand how to use it to its full potential. What you will learn Get to grips with Cypress and understand its advantages over Selenium Explore common Cypress commands, tools, and techniques for writing complete tests for web apps Set up and configure Cypress for cross-browser testing Understand how to work with elements and animation to write non-flaky tests Discover techniques for implementing and handling navigation requests in tests Implement visual regression tests with Applitools eyes Who this book is for This book is for automation testing professionals, software and web testers, and frontend web developers who have intermediate-level JavaScript and beginner-level test automation knowledge, as well as for complete beginners who are looking to get started with Cypress and learn how it works. You'll also find this book useful if you are a Selenium tester who wants to migrate to Cypress and leverage its capabilities. An intermediate-level understanding of JavaScript programming and beginner-level knowledge of web testing are required.

Clean Code in Python - Mariano Anaya 2021-01-06

Tackle inefficiencies and errors the Pythonic way Key Features Enhance your coding skills using the new features introduced in Python 3.9 Implement the refactoring techniques and SOLID principles in Python Apply microservices to your legacy systems by implementing practical techniques Book Description Experienced professionals in every field face several instances of disorganization, poor readability, and testability due to unstructured code. With updated code and revised content aligned to the new features of Python 3.9, this second edition of Clean Code in Python will provide you with all the tools you need to overcome these obstacles and manage your projects successfully. The book begins by describing the basic elements of writing clean code and how it plays a key role in Python programming. You will learn about writing efficient and readable code using the Python standard library and best practices for software design. The book discusses object-oriented programming in Python and shows you how to use objects with descriptors and generators. It will also show you the design

principles of software testing and how to resolve problems by implementing software design patterns in your code. In the concluding chapter, we break down a monolithic application into a microservices-based one starting from the code as the basis for a solid platform. By the end of this clean code book, you will be proficient in applying industry-approved coding practices to design clean, sustainable, and readable real-world Python code. What you will learn Set up a productive development environment by leveraging automatic tools Leverage the magic methods in Python to write better code, abstracting complexity away and encapsulating details Create advanced object-oriented designs using unique features of Python, such as descriptors Eliminate duplicated code by creating powerful abstractions using software engineering principles of object-oriented design Create Python-specific solutions using decorators and descriptors Refactor code effectively with the help of unit tests Build the foundations for solid architecture with a clean code base as its cornerstone Who this book is for This book is designed to benefit new as well as experienced programmers. It will appeal to team leads, software architects and senior software engineers who would like to write Pythonic code to save on costs and improve efficiency. The book assumes that you have a strong understanding of programming

Selenium with Python - A Beginner's Guide - Sharma Pallavi R 2019-11-04

Step by step directions to get started with Selenium using Python as a programming language Key features Get introduced to the world of Selenium Understand the concept of locators in Selenium Learn how to write scripts using Selenium WebDriver in Python Learn the concepts of synchronization Learn how to handle different HTML elements like form, table, alert, frame, and dropdown Learn about design patterns like the page object model, data-driven tests, and adding assertions Description Selenium is the most popular open source test automation tool available in the market. In the last decade, its usage has dramatically increased in the IT sector across all types of organizations. The reason for its popularity is mainly because it supports multiple programming languages, test executions on multiple browsers and operating systems. In this book, we will learn about the different components of Selenium. We will discuss the concepts of WebDriver and learn how to apply test automation concepts with it to automate the testing of our application. We will learn the process of recognizing the test objects on the screen and writing Selenium commands using Python as a programming language We will also discuss how to use design patterns like the page object mode and data-driven testing to ensure building a robust test framework, which is modular and scalable in nature. What will you learn The objective is to introduce the world of Selenium to a manual tester who knows Python as a programming language. You will learn to demystify the concept of identifying test objects and writing Selenium commands to create robust test scripts. This book will help learn to automate different HTML elements, which we come across in the web applications we need to test. You will understand how to build a good test suite by learning the concept of design patterns like the page object model and data-driven tests to ensure maintainability of code. Who this book is for This book is for people who have experience in manual testing and knowledge in Python as a programming language. This book will also be helpful for a developer who knows Python as a programming language and is looking for test automation as a career option. Table of contents 1. Selenium - Important Conceptual Background 2. Selenium IDE 3. Locators in Selenium 4. Installation and Setup 5. Selenium WebDriver 6. Unit Test Creation n Python 7. Synchronizing Tests 8. Parameterization of Tests 9. Handling Different Web Elements 10. Working with Frames 11. Concept of the Page Object Model 12. Implementing Selenium Grid About the author Pallavi has an overall professional experience of 14 years. She has worked in varied roles as a product/project manager in the presales team and marketing team for solutions on test automation tools. She holds two provisional patents along with other contributors for her work on building tool agnostic test automation framework solutions. Currently, she is acting as a test automation coach, writer, speaker and owner at 5 Elements Learning where she collaborates and works with test automation enthusiasts across the globe. As an avid learner, she likes to keep herself updated to the latest trends

and Technologies. She is a firm believer in a larger good and likes to live by example. She volunteers her time for the organization eVidyaloka where she acts as a centre administrator. She is a lifetime member for the Jabarkhet forest reserve and People for Animals. Her Website: <http://5elementslearning.com> Her LinkedIn Profile: <https://www.linkedin.com/in/pallavirsharma/>

Django Test-Driven Development - Kevin Harvey 2015-07-30

This book is for Django developers with little or no knowledge of test-driven development or testing in general. Familiarity with the command line, setting up a Python virtual environment, and starting a Django project are assumed.

Architecture Patterns with Python - Harry Percival 2020-03-05

As Python continues to grow in popularity, projects are becoming larger and more complex. Many Python developers are now 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 developers manage 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

Programming Computer Vision with Python - Jan Erik Solem 2012-06-19

If you want a basic understanding of computer vision's underlying theory and algorithms, this hands-on introduction is the ideal place to start. You'll learn techniques for object recognition, 3D reconstruction, stereo imaging, augmented reality, and other computer vision applications as you follow clear examples written in Python. *Programming Computer Vision with Python* explains computer vision in broad terms that won't bog you down in theory. You get complete code samples with explanations on how to reproduce and build upon each example, along with exercises to help you apply what you've learned. This book is ideal for students, researchers, and enthusiasts with basic programming and standard mathematical skills. Learn techniques used in robot navigation, medical image analysis, and other computer vision applications Work with image mappings and transforms, such as texture warping and panorama creation Compute 3D reconstructions from several images of the same scene Organize images based on similarity or content, using clustering methods Build efficient image retrieval techniques to search for images based on visual content Use algorithms to classify image content and recognize objects Access the popular OpenCV library through a Python interface

ATDD by Example - Markus Gartner 2013

With Acceptance Test-Driven Development (ATDD), business customers, testers, and developers can collaborate to produce testable requirements that help them build higher quality software more rapidly. However, ATDD is still widely misunderstood by many practitioners. *ATDD by Example* is the first practical, entry-level, hands-on guide to implementing and successfully applying it. ATDD pioneer Markus Gartner walks readers step by step through deriving the right systems from business users, and then implementing fully automated, functional tests that accurately reflect business requirements, are intelligible to stakeholders, and promote more effective development. Through two end-to-end case studies, Gartner demonstrates how ATDD can be applied using diverse frameworks and languages. Each case study is accompanied by an extensive set of artifacts, including test automation classes, step definitions, and full sample implementations. These realistic examples illuminate ATDD's fundamental

principles, show how ATDD fits into the broader development process, highlight tips from Gartner's extensive experience, and identify crucial pitfalls to avoid. Readers will learn to Master the thought processes associated with successful ATDD implementation Use ATDD with Cucumber to describe software in ways businesspeople can understand Test web pages using ATDD tools Bring ATDD to Java with the FitNesse wiki-based acceptance test framework Use examples more effectively in Behavior-Driven Development (BDD) Specify software collaboratively through innovative workshops Implement more user-friendly and collaborative test automation Test more cleanly, listen to test results, and refactor tests for greater value If you're a tester, analyst, developer, or project manager, this book offers a concrete foundation for achieving real benefits with ATDD now—and it will help you reap even more value as you gain experience.

Beginning Django - Daniel Rubio 2017-10-27

Discover the Django web application framework and get started building Python-based web applications. This book takes you from the basics of Django all the way through to cutting-edge topics such as creating RESTful applications. *Beginning Django* also covers ancillary, but essential, development topics, including configuration settings, static resource management, logging, debugging, and email. Along with material on data access with SQL queries, you'll have all you need to get up and running with Django 1.11 LTS, which is compatible with Python 2 and Python 3. Once you've built your web application, you'll need to be the admin, so the next part of the book covers how to enforce permission management with users and groups. This technique allows you to restrict access to URLs and content, giving you total control of your data. In addition, you'll work with and customize the Django admin site, which provides access to a Django project's data. After reading and using this book, you'll be able to build a Django application top to bottom and be ready to move on to more advanced or complex Django application development. What You'll Learn Get started with the Django framework Use Django views, class-based views, URLs, middleware, forms, templates, and Jinja templates Take advantage of Django models, including model relationships, migrations, queries, and forms Leverage the Django admin site to get access to the database used by a Django project Deploy Django REST services to serve as the data backbone for mobile, IoT, and SaaS systems Who This Book Is For Python developers new to the Django web application development framework and web developers new to Python and Django.

Test Driven Development for Embedded C - James W. Grenning 2011-04-25

Another day without Test-Driven Development means more time wasted chasing bugs and watching your code deteriorate. You thought TDD was for someone else, but it's not! It's for you, the embedded C programmer. TDD helps you prevent defects and build software with a long useful life. This is the first book to teach the hows and whys of TDD for C programmers. TDD is a modern programming practice C developers need to know. It's a different way to program---unit tests are written in a tight feedback loop with the production code, assuring your code does what you think. You get valuable feedback every few minutes. You find mistakes before they become bugs. You get early warning of design problems. You get immediate notification of side effect defects. You get to spend more time adding valuable features to your product. James is one of the few experts in applying TDD to embedded C. With his 1.5 decades of training, coaching, and practicing TDD in C, C++, Java, and C# he will lead you from being a novice in TDD to using the techniques that few have mastered. This book is full of code written for embedded C programmers. You don't just see the end product, you see code and tests evolve. James leads you through the thought process and decisions made each step of the way. You'll learn techniques for test-driving code right next to the hardware, and you'll learn design principles and how to apply them to C to keep your code clean and flexible. To run the examples in this book, you will need a C/C++ development environment on your machine, and the GNU GCC tool chain or Microsoft Visual Studio for C++ (some project conversion may be needed).

iOS Code Testing - Abhishek Mishra 2017-06-30

Put into motion practical examples to master Test-Driven Development (TDD) and acceptance testing in Swift. This book uses a pragmatic approach to writing well-tested code and provides techniques that can be used to retrofit tests to legacy code bases. You'll be introduced to basic principles of TDD, such as Test First, Red-Green-Refactor, Remove Duplicate code, Dependency Injection, and Single Responsibility. Approaches covered include TDD, behavior-driven development (BDD), UI, and acceptance testing with common standard/open source frameworks. *iOS Code Testing* offers helpful instruction to teach iOS developers to retrospectively fit tests to legacy code, refactor legacy code so as to make the code more testable, install and configure a popular Swift BDD framework, practice BDD with Xcode, and create automated UI tests with Xcode. Additionally, many projects have legacy code bases. Legacy code is often seen as a blocker when it comes to implementing any kind of testing. What You Will Learn Fit test to legacy code retrospectively Install and configure popular Swift BDD frameworks Practice BDD with Xcode Who This Book Is For Software practitioners, such as Swift developers and mobile app testers.

Python Testing Cookbook - Greg L. Turnquist 2018-06-29

Fix everyday testing problems in Python with the help of this solution-based guide Key Features Use powerful tools such as doctest and unittest to make testing convenient Apply automation testing to an existing legacy system that isn't test oriented A practical guide to ease testing in Python using real-world examples Book Description Automated testing is the best way to increase efficiency while reducing the defects of software testing. It helps find bugs in code easily and at an early stage so that they can be tackled efficiently. This book delves into essential testing concepts used in Python to help you build robust and maintainable code. *Python Testing Cookbook* begins with a brief introduction to Python's unit testing framework to help you write automated test cases. You will learn how to write suitable test sets for your software and run automated test suites with Nose. You will then work with the unittest.mock library, which allows you to replace the parts of your system that are being tested with mock objects and make assertions about how they have been used. You will also see how to apply Test-driven Development (TDD) and Behavior-driven Development (BDD) and how to eliminate issues caused by TDD. The book explains how to integrate automated tests using Continuous Integration and perform smoke/load testing. It also covers best practices and will help you solve persistent testing issues in Python. The book concludes by helping you understand how doctest works and how Selenium can be used to test code efficiently. What you will learn Run test cases from the command line with increased verbosity Write a Nose extension to pick tests based on regular expressions Create testable documentation using doctest Use Selenium to test the Web User Interface Write a testable story with Voidspace Mock and Nose Configure TeamCity to run Python tests on commit Update project-level scripts to provide coverage reports Who this book is for If you're a Python developer who wants to take testing to the next level and would like to expand your testing skills, this book is for you. It is assumed that you have some Python programming knowledge.

[Python Testing with Pytest](#) - Brian Okken 2017

Do less work when testing your Python code, but be just as expressive, just as elegant, and just as readable. The pytest testing framework helps you write tests quickly and keep them readable and maintainable - with no boilerplate code. Using a robust yet simple fixture model, it's just as easy to write small tests with pytest as it is to scale up to complex functional testing for applications, packages, and libraries. This book shows you how. For Python-based projects, pytest is the undeniable choice to test your code if you're looking for a full-featured, API-independent, flexible, and extensible testing framework. With a full-bodied fixture model that is unmatched in any other tool, the pytest framework gives you powerful features such as assert rewriting and plug-in capability - with no boilerplate code. With simple step-by-step instructions and sample code, this book gets you up to speed

quickly on this easy-to-learn and robust tool. Write short, maintainable tests that elegantly express what you're testing. Add powerful testing features and still speed up test times by distributing tests across multiple processors and running tests in parallel. Use the built-in assert statements to reduce false test failures by separating setup and test failures. Test error conditions and corner cases with expected exception testing, and use one test to run many test cases with parameterized testing. Extend pytest with plugins, connect it to continuous integration systems, and use it in tandem with tox, mock, coverage, unittest, and doctest. Write simple, maintainable tests that elegantly express what you're testing and why. What You Need: The examples in this book are written using Python 3.6 and pytest 3.0. However, pytest 3.0 supports Python 2.6, 2.7, and Python 3.3-3.6.

Cucumber Recipes - Ian Dees 2013-02-12

You can test just about anything with Cucumber. We certainly have, and in *Cucumber Recipes* we'll show you how to apply our hard-won field experience to your own projects. Once you've mastered the basics, this book will show you how to get the most out of Cucumber--from specific situations to advanced test-writing advice. With over forty practical recipes, you'll test desktop, web, mobile, and server applications across a variety of platforms. This book gives you tools that you can use today to automate any system that you encounter, and do it well. The *Cucumber Book* showed you how your team can work together to write executable specifications--documents that tell a clear story and also happen to be working test code. We'll arm you with ready-rolled solutions to real-world problems: your tests will run faster, read more clearly, and work in any environment. Our first tips will help you fit Cucumber into your workflow. Powerful filters will tame tables full of test data, transforming them into the format your application needs. Custom output formatters will generate reports for any occasion. Continuous Integration servers will run your Cucumber tests every time the code changes. Next, you'll find recipes tailored to the platform you're running on. Ever wanted to know how to test a Rails app from Cucumber? Need to put a Windows program through its paces? How about a mobile app running on Android or iOS? We'll show you how to do all of these. Throughout the book, you'll see how to make Cucumber sing as you interoperate with different platforms, languages, and environments. From embedded circuits to Python and PHP web apps, Cucumber has something for you. What You Need: You'll need basic working knowledge of Cucumber and Ruby. Individual recipes may have additional requirements; for example, a recipe on Windows automation might pull in an open source GUI driver. We've written the recipes for compatibility with Ruby 1.9.3 and 1.8.7, plus Cucumber 1.1.4. Other versions may work as well, but these are the ones we test with.

Test-Driven Development with Python - Harry Percival 2014-06-11

By taking you through the development of a real web application from beginning to end, 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 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 Use a Continuous Integration environment to run your tests automatically

Python for DevOps - Noah Gift 2019-12-12

Much has changed in technology over the past decade. Data is hot, the cloud is ubiquitous, and many organizations need some form of automation. Throughout these transformations, Python has become one of the most popular

languages in the world. This practical resource shows you how to use Python for everyday Linux systems administration tasks with today's most useful DevOps tools, including Docker, Kubernetes, and Terraform. Learning how to interact and automate with Linux is essential for millions of professionals. Python makes it much easier. With this book, you'll learn how to develop software and solve problems using containers, as well as how to monitor, instrument, load-test, and operationalize your software. Looking for effective ways to "get stuff done" in Python? This is your guide. Python foundations, including a brief introduction to the language How to automate text, write command-line tools, and automate the filesystem Linux utilities, package management, build systems, monitoring and instrumentation, and automated testing Cloud computing, infrastructure as code, Kubernetes, and serverless Machine learning operations and data engineering from a DevOps perspective Building, deploying, and operationalizing a machine learning project

Python Developer's Handbook - André dos Santos Lessa 2001

"Python Developer's Handbook" offers experienced developers the knowledge to fully develop their skills as a Python programmer. The material focuses exclusively on the specific topic at hand and avoids general programming topics, except where unique concerns are encountered.

Testing Python - David Sale 2014

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 skill.

Test-Driven Development with Python - Harry Percival 2017-08-02

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

Lightweight Django - Julia Elman 2014-11-03

How can you take advantage of the Django framework to integrate complex client-side interactions and real-time features into your web applications? Through a series of rapid application development projects, this hands-on book shows experienced Django developers how to include REST APIs, WebSockets, and client-side MVC frameworks such as Backbone.js into new or existing projects. Learn how to make the most of Django's decoupled design by choosing the components you need to build the lightweight applications you want. Once you finish this book, you'll know how to build single-page applications that respond to interactions in real time. If you're familiar with Python and JavaScript, you're good to go. Learn a lightweight approach for starting a new Django project Break reusable applications into smaller services that communicate with one another Create a static, rapid prototyping site

as a scaffold for websites and applications Build a REST API with django-rest-framework Learn how to use Django with the Backbone.js MVC framework Create a single-page web application on top of your REST API Integrate real-time features with WebSockets and the Tornado networking library Use the book's code-driven examples in your own projects

Data Structure and Algorithmic Thinking with Python - Narasimha Karumanchi 2015-01-29

It is the Python version of "Data Structures and Algorithms Made Easy." Table of Contents: goo.gl/VLEUca Sample Chapter: goo.gl/8AEcYk Source Code: goo.gl/L8Xxdt The sample chapter should give you a very good idea of the quality and style of our book. In particular, be sure you are comfortable with the level and with our Python coding style. This book focuses on giving solutions for complex problems in data structures and algorithm. It even provides multiple solutions for a single problem, thus familiarizing readers with different possible approaches to the same problem. "Data Structure and Algorithmic Thinking with Python" is designed to give a jump-start to programmers, job hunters and those who are appearing for exams. All the code in this book are written in Python. It contains many programming puzzles that not only encourage analytical thinking, but also prepares readers for interviews. This book, with its focused and practical approach, can help readers quickly pick up the concepts and techniques for developing efficient and effective solutions to problems. Topics covered include: Organization of Chapters Introduction Recursion and Backtracking Linked Lists Stacks Queues Trees Priority Queues and Heaps Disjoint Sets ADT Graph Algorithms Sorting Searching Selection Algorithms [Medians] Symbol Tables Hashing String Algorithms Algorithms Design Techniques Greedy Algorithms Divide and Conquer Algorithms Dynamic Programming Complexity Classes Hacks on Bit-wise Programming Other Programming Questions

Test-Driven iOS Development - Graham Lee 2012-04-12

As iOS apps become increasingly complex and business-critical, iOS developers must ensure consistently superior code quality. This means adopting best practices for creating and testing iOS apps. Test-Driven Development (TDD) is one of the most powerful of these best practices. Test-Driven iOS Development is the first book 100% focused on helping you successfully implement TDD and unit testing in an iOS environment. Long-time iOS/Mac developer Graham Lee helps you rapidly integrate TDD into your existing processes using Apple's Xcode 4 and the OCMUnit unit testing framework. He guides you through constructing an entire Objective-C iOS app in a test-driven manner, from initial specification to functional product. Lee also introduces powerful patterns for applying TDD in iOS development, and previews powerful automated testing capabilities that will soon arrive on the iOS platform. Coverage includes Understanding the purpose, benefits, and costs of unit testing in iOS environments Mastering the principles of TDD, and applying them in areas from app design to refactoring Writing usable, readable, and repeatable iOS unit tests Using OCMUnit to set up your Xcode project for TDD Using domain analysis to identify the classes and interactions your app needs, and designing it accordingly Considering third-party tools for iOS unit testing Building networking code in a test-driven manner Automating testing of view controller code that interacts with users Designing to interfaces, not implementations Testing concurrent code that typically runs in the background Applying TDD to existing apps Preparing for Behavior Driven Development (BDD) The only iOS-specific guide to TDD and unit testing, Test-Driven iOS Development covers both essential concepts and practical implementation.

[Python Testing with Selenium](#) - Sujay Raghavendra 2021-01-28

Implement different testing techniques using Selenium WebDriver with the Python programming language. This quick reference provides simple functional test cases with a syntax-based approach for Selenium WebDriver. You'll begin by reviewing the basics of Selenium WebDriver and its architectural design history and then move on to the configuration and installation of Selenium library for different web browsers, including the basic commands needed to start test scripts in various browsers. You'll review action commands of keyboard and mouse

for testing user interactions in a web page and see how hyperlinks are tested. The book also examines various web elements using eight different locators provided by Selenium to help you choose the one best suited to your needs. All Python scripts are ready to test real examples, all of which are explained thoroughly with problem statements. You'll use different Python design patterns to automate test scripts that can be incorporated with Selenium. In the end, Python Testing with Selenium will provide you with the expertise to write your own test cases in future.

What You'll Learn

- Install and configure Selenium WebDriver with Python for different web-browsers
- Review basic commands of Selenium
- Locate web elements
- Work with UI based web elements
- Assert web elements and handle exceptions
- Write test scripts in Page Object Model
- Write test cases with Unittest framework

Who This Book Is For

Python developers/testers who want to test their web applications

Practical Django 2 and Channels 2 - Federico Marani 2018-12-14

Learn how to rapidly build your own ecommerce site by applying Django's battle-tested components. This book

demonstrates Django's features and conventions to help you develop modern web applications quickly. You'll adopt a "learn by doing" approach and gain a deeper understanding Django by working through a project in which the real-time component will be critical. The book starts with the basics and explains the difference between a Django project and a Django app, the most important settings, how to change them, and the fundamentals of packaging. You'll then be introduced to all the standard tools of Django, along with a sample project. The book then moves on to Channels, a recent addition to the Django ecosystem. It extends the framework with support for real-time operations such as Websockets and other asynchronous features. Practical Django 2 and Channels 2 provides the practical concepts needed to create complex, database-driven websites as easily as possible. What You'll Learn

- Build and deploy a simple company site with Django
- Develop more complex, data-heavy sites using the Django ORM
- Integrate Django with Channels
- Unit-test your solutions

Who This Book Is For

Python developers and web developers wanting to learn Django 2 and Channels 2