Practical IoT Hacking  Fotios Chantzis 2021-04-09 Written by all-star security experts, Practical IoT Hacking is a quick-start conceptual guide to testing and exploiting IoT systems and devices. Drawing from the real-life exploits of five highly regarded IoT security researchers, Practical IoT Hacking teaches you how to test IoT systems and devices in ways that will help you succeed in real-world attacks. The book begins by walking you through common threats and a threat modeling framework. You'll develop a security testing methodology, discover the art of passive reconnaissance, and assess security on all layers of an IoT system. Next, you'll perform VLAN hopping, crack MQTT authentication, abuse UPnP, develop an mDNS poisoner, and craft WS-Discovery attacks. You'll tackle both hardware hacking and radio hacking, with in-depth coverage of attacks against embedded IoT devices and RFID systems. You'll also learn how to: • Write a DICOM service scanner as an NE module • Hack a microcontroller through the UART and SWD interfaces • Reverse engineer firmware and analyze mobile companion apps • Develop an NFC fuzzer using Proxmark3 • Hack a smart home by jamming wireless alarms, playing back IP camera feeds, and controlling a smart treadmill The tools and devices you’ll use are affordable and readily available, so you can easily practice what you learn. Whether you’re a security researcher, IT team member, or hacking hobbyist, you’ll find Practical IoT Hacking indispensable in your efforts to hack all the things!

End-to-end coverage of secure data communication techniques from sensors to cloud platforms that will help you to develop production-grade IoT solutions by using the ESP32 SoC. You’ll learn how to employ ESP32 in your IoT projects by interfacing with different sensors and actuators using different types of serial protocols. This book will show you how some projects require immediate output for end-users, and cover different display technologies as well as examples of driving different types of displays. The book features a dedicated chapter on cybersecurity packed with hands-on examples. As you progress, you’ll get to grips with BLE technologies and BLE mesh networking and work on a complete smart home project where all nodes communicate over a BLE mesh. Later chapters will show you how IoT requires cloud connectivity most of the time and remote access to smart devices. You’ll also see how cloud platforms and third-party integrations enable endless possibilities for your end-users, such as insights with big data analytics and predictive maintenance to minimize costs. By the end of this book, you’ll have developed the skills you need to start using ESP32 in your next wireless IoT project and meet the project’s requirements by building effective, efficient, and secure solutions. What you will learn Explore advanced use cases like UART communication, sound and camera features, low-energy scenarios, and scheduling with a variety of different task execution times output to users is required Connect to Wi-Fi and Bluetooth for local network communication Connect cloud platforms through different IoT messaging protocols Integrate ESP32 with third-party services such as voice assistants and IFTTT Discuss best practices for implementing IoT security features in a production-grade solution Who this book is for If you are an embedded software developer, an IoT software architect or developer, a technologist, or anyone who wants to learn how to use ESP32 and its applications, this book is for you. A basic understanding of IoT hacking, programming, networking, and cloud computing concepts is necessary to get started with the book.

Developing IoT Projects with ESP32 Vedat Ozan Oner 2021-09-13 Master the technique of using ESP32 as an edge device in any IoT application where wireless communication can make life easier Key Features Understand how to interfacing with different sensors and actuators using different types of serial protocols. This book will show you how some projects require immediate output for end-users, and cover different display technologies as well as examples of driving different types of displays. The book features a dedicated chapter on cybersecurity packed with hands-on examples. As you progress, you’ll get to grips with BLE technologies and BLE mesh networking and work on a complete smart home project where all nodes communicate over a BLE mesh. Later chapters will show you how IoT requires cloud connectivity most of the time and remote access to smart devices. You’ll also see how cloud platforms and third-party integrations enable endless possibilities for your end-users, such as insights with big data analytics and predictive maintenance to minimize costs. By the end of this book, you’ll have developed the skills you need to start using ESP32 in your next wireless IoT project and meet the project's requirements by building effective, efficient, and secure solutions. What you will learn Explore advanced use cases like UART communication, sound and camera features, low-energy scenarios, and scheduling with a variety of different task execution times output to users is required Connect to Wi-Fi and Bluetooth for local network communication Connect cloud platforms through different IoT messaging protocols Integrate ESP32 with third-party services such as voice assistants and IFTTT Discuss best practices for implementing IoT security features in a production-grade solution Who this book is for If you are an embedded software developer, an IoT software architect or developer, a technologist, or anyone who wants to learn how to use ESP32 and its applications, this book is for you. A basic understanding of IoT hacking, programming, networking, and cloud computing concepts is necessary to get started with the book.

Inventive Computation and Information Technologies  S. Smys

Docker for Developers Richard Bullington-McGuire 2020-09-14 Learn how to deploy and test Linux-based Docker containers with the help of real-world use cases Key Features Understand how to make a deployment workflow run smoothly with Docker containers Learn Docker and DevOps concepts such as continuous integration and continuous deployment (CI/CD) Gain insights into using various Docker tools and libraries Book Description Docker is the de facto standard for containerizing apps, and with an increasing number of software projects migrating to containers, it is crucial for engineers and DevOps teams to understand how to build, deploy, and secure Docker environments effectively. Docker for Developers will help you understand Docker containers from scratch while taking you through best practices and showing you how to address security concerns. Starting with an introduction to Docker, you'll learn how to use containers and VirtualBox for development. You'll explore how containers work and develop projects within them after you've explored different ways to deploy and run containers. The book will also show you how to use Docker containers in production in both single-host set-ups and in clusters and develop the systems and services on Kubernetes. As you progress, you'll get to grips with monitoring, securing, and scaling Docker using tools such as Prometheus and Grafana. Later, you'll be able to deploy Docker containers to a variety of environments, including the cloud-native Amazon Elastic Kubernetes Service (EKS) and on your local machine. With Docker for Developers, you'll develop an understanding of how Docker containers work, and how to design and implement Docker-based solutions.

IoT Developer Guide Github

Yeah, reviewing a book AWS IoT Developer Guide Github could grow your close associates listings. This is just one of the solutions for you to be successful. As understood, endowment does not suggest that you have fabulous points. Comprehending as skillfully as settlement even more than other will come up with the money for each success. adjacent to, the notice as well as keenness of this Aws IoT Developer Guide Github can be taken as well as picked to act.
You’ll Learn Secure devices, immunizing them against different threats originating from inside and outside the network. The book describes the building blocks available in Intel Architecture (IA) based IoT platforms. Understand the threat pyramid, secure boot, chain of trust, and the software stack leading up to defense-in-depth. Who This Book Is For Strategists, developers, architects, and managers in the embedded and Internet of Things (IoT) space trying to understand and apply the well-documented features and security best practices of the IoT Security Foundation (ISF) TC. CCIE and CCDE Evolving Technologies Study Guide Brad Edgeworth 2018-10-31 Prepare for the evolving technology components of Cisco’s revised CCIE and CCDE written exams. The changes Cisco made to its expert-level CCIE and CCDE certifications are significant. 66% of the exam changes concern their security and software-defined environments. Evolving technologies that organizations are rapidly adopting, including cloud services, IoT networking, and network programmability. This guide will help you efficiently master and integrate the knowledge of evolving technology that you’ll need to succeed on the revised CCIE and CCDE written examinations. Designed to help you efficiently focus your study on the new exam content, CCIE and CCDE Evolving Technologies Study Guide focuses on conceptual insight, not mere memorization. Focused specifically on the exams’ evolving technologies components, it combines with track-specific Cisco Press certification guides to offer comprehensive and authoritative preparation for advanced Cisco certification. Understand the Internet of Things (IoT) from the perspective of business transformations, connectivity, and security. Review leading IoT architectural models and applications. Structure edge, fog, and centralized compute to maximize performance and efficiency. Secure behavioral differences between IoT networks and enterprise networks. Gain a holistic understanding of public, private, or hybrid cloud environments that use VMs or containers. Explore cloud service models, connectivity, security, scalability, and high availability designs. Modern API-based programmability and automation methods for interacting with distributed computer systems and open standards. Evolve the software engineering community and other key resources for Cisco network programming.

Teaching and Learning Advances on Sensors for IoT Sergio Martin 2021-04-14 This book focuses on all the technologies involved in improving the teaching and learning process of some of the sensor-based IoT topics, such as virtual sensors, remote labs for IoT teaching, including the full development cycle. Practical guides for IoT networking, and network programmability. This guide will help you efficiently master and integrate the knowledge of evolving technology that you’ll need to succeed on the revised CCIE and CCDE written examinations. Designed to help you efficiently focus your study on the new exam content, CCIE and CCDE Evolving Technologies Study Guide focuses on conceptual insight, not mere memorization. Focused specifically on the exams’ evolving technologies components, it combines with track-specific Cisco Press certification guides to offer comprehensive and authoritative preparation for advanced Cisco certification. Understand the Internet of Things (IoT) from the perspective of business transformations, connectivity, and security. Review leading IoT architectural models and applications. Structure edge, fog, and centralized compute to maximize performance and efficiency. Secure behavioral differences between IoT networks and enterprise networks. Gain a holistic understanding of public, private, or hybrid cloud environments that use VMs or containers. Explore cloud service models, connectivity, security, scalability, and high availability designs. Modern API-based programmability and automation methods for interacting with distributed computer systems and open standards. Evolve the software engineering community and other key resources for Cisco network programming.

Practical Java Programming for IoT, AI, and Blockchain Perry Xiao 2019-07-02 Learn practical uses for some of the hottest tech applications trending among technology professionals. We are living in an era of digital revolution. On the horizon, many emerging digital technologies are being developed at a breathtaking speed. Whether we are talking about technology investment or professional development, it’s important that you are able to penetrate more and more, deeper and deeper, into every aspect of our lives. This is going to fundamentally change how we live, how we work, and how we socialize. Java, as a modern high-level programming language, is an excellent tool for helping us reach our goals and navigate the evolving digital landscape. Practical Java Programming uses Java as a tool to help you learn these new digital technologies and to be better prepared for the future changes. Gives you a brief overview for getting started with Java Programming. Dives into how you can apply your new knowledge to help you learn these new digital technologies and to be better prepared for the future changes. Gives you a brief overview for getting started with Java Programming.

Evan Hahn 2015-07-31 Node.js is white hot, powering the server side of major web apps from Walmart, PayPal, and Netflix. While super-powerful, raw Node can be complex and awkward. Express.js is a web application framework that organizes server and application features, providing maintainable modules. It provides a powerful set of features to efficiently manage routes, requests, and views, along with beautiful boilerplate for web applications. Lightweight, fast, and unobtrusive, Express helps harness Node's raw power so developers can concentrate on what the application does instead of managing the nit-picky technical details. Express in Action is a carefully designed tutorial that teaches developers how to build web applications using Node and Express. It starts by introducing Node's unique characteristics and then shows how they map to the features of Express. With a clear vision of how an Express application should be organized, Express in Action takes you through the design of a real-world application, meet the rich ecosystem of companion tools and libraries, and even get a glimpse into its inner workings. After just a few chapters, they'll be able to build a simple Node app. By the end of the book, they'll know how to test it, hook it up to a database, and even automate the dev process. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Sandeep Saini 2021-12-31 Machine learning is a potential solution to resolve bottleneck issues in VLSI via optimizing tasks in the design process. This book aims to provide the latest machine-learning-based methods, algorithms, architectures, and frameworks designed for VLSI design automation. It covers design automation and mixed-signal design techniques, device modeling, physical design, hardware implementation, testability, reconfigurable design, synthesis and verification, and related areas. Chapters include case studies as well as novel research ideas in the research community. Overall, the book provides practical implementations of VLSI design, IC design, and hardware realization using machine learning techniques.

Getting Started with Java Programming Dives into how you can apply your new knowledge to help you learn these new digital technologies and to be better prepared for the future changes. Gives you a brief overview for getting started with Java Programming.

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Building Serverless Web Applications

Diego Zanon 2017-07-28

Build scalable, efficient, and highly available web apps with AWS. About this book

Get an in-depth understanding of the serverless model. Build a complete serverless web application end to end. Learn how to use the Serverless Framework to improve your productivity. Why this book is for you: if you're looking to learn more about scalable and cost-efficient architectures, this book is for you. Basic knowledge of Node.js skills on other cloud providers, or familiarity with AWS is required.

Some common side effects may include: A better understanding of what affects the patient, doctor, and/or others “Get Better”. Information in this book may not be used to diagnose and treat patients; is intended to inform the healthcare provider and the patient. If you answered yes to any of the above, maybe this book is for you. This book is intended to help patients, relevant to their symptoms. Would you like to help patients "get better" and "stay better"? Are you open to venturing out of your "comfort zone" in diagnosing and treating patients? Do you sometimes wonder if there is more to diagnosing/treating than what you were taught in Medical School? As a Health/Medical Innovator, Inventor, Engineer, Writer, other Creative Person – Are you tired of being shuffled from one Doctor to another? Do you want to "get better" and "stay better"? Is it challenging to develop applications that are in line with the "Dr. Within" of each of us? As an Insurance Company – Would you like to "pay out" less? If you answered yes to any of the above, maybe this book is for you. This book is intended to help patients, relevant to their symptoms. Would you like to help patients "get better" and "stay better"? Are you open to venturing out of your "comfort zone" in diagnosing and treating patients? Do you sometimes wonder if there is more to diagnosing/treating than what you were taught in Medical School? As a Health/Medical Innovator, Inventor, Engineer, Writer, other Creative Person – Are you tired of being shuffled from one Doctor to another? Do you want to "get better" and "stay better"? Is it challenging to develop applications that are in line with the "Dr. Within" of each of us? As an Insurance Company – Would you like to "pay out" less? If you answered yes to any of the above, maybe this book is for you. This book is intended to help patients, relevant to their symptoms. 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You’ll master the basics of writing AWS Lambda functions, the command line, and Docker. As you go along this way, you’ll practice your new skills by building a working chatbot and a voice assistant with Amazon Alexa. You’ll also discover techniques for migrating existing apps to a serverless platform. What’s inside Authentication and database storage Asynchronous functions Interacting real-world examples Developing serverless applications About the Authors: Vaibhav Kohli, 2017-03-30 Strategically design, serverless applications; and how to upgrade NB-IoT modem firmware over the air. The second chapter explains how to use GPS for geo-location and other protocols, such as TCP, HTTP, SSL, or MQTT; how to use GPS for geo-location applications. The third chapter, which covers cloud deployment, explains how to configure the NB-IoT modem; data serialization and deserialization; how to set up the cloud for connecting NB-IoT devices; setting up rules, policy, security certificates, and a NoSQL database on the cloud; how to store and read data in the cloud; how to use the Google Maps to visualize NB-IoT device location; and how to use charts to visualize sensor datasets. Projects for Arduino are presented in four parts. The first part explains how to connect the device to the mobile operator and cellular network; perform communication using different network protocols, such as TCP, HTTP, SSL, or MQTT; how to use GPS for geo-location applications; and how to configure the NB-IoT device for service activation. The second part explains how to configure the NB-IoT device for service activation and how to build and run projects, such as a 7-segment display or a real-time clock. The third part explains how to use NB-IoT communication using different network protocols, such as TCP, HTTP, SSL, or MQTT; and the fourth part explains how to configure the NB-IoT device for service activation. The book highlights the best papers from those accepted for presentation at the conference. They were chosen based on review scores submitted by members of the program committee and underwent further rigorous rounds of review. From this second round, 15 of the conference’s most promising papers were selected as the plenary papers to be included in this conference proceedings. We eagerly await the important contributions that we know these authors will make to the field of computer and information science.

**LTE Cellular Narrowband Internet of Things (NB-IoT)**

Hossam Fattah 2021-04-28 NB-IoT is the Internet of Things (IoT) technology used for cellular communication. NB-IoT devices deliver much better capability and performance, such as: increased area coverage of up to one kilometer; a massive number of devices—up to 200,000—per a single base-station area; longer battery lifetime of ten years; and better indoor and outdoor coverage for areas with weak signal, such as underground garages. The cellular NB-IoT technology is a challenging technology to use and understand. With more than 30 projects presented in this book, covering many use cases and scenarios, this book provides hands-on and practical experience of how to use the cellular NB-IoT for smart applications using ArduinioTM, Amazon Cloud, Google Maps, and charts. The book starts with:**

**Troubleshooting**

Valihav Kohli 2017-03-30 Strategically design, troubleshoot, and automate Docker containers from development to deployment. About This Book: current and emergent technologies for effective Docker orchestration and management. A step-by-step guide to diagnosing and fixing problems. Who This Book Is For: This book is intended for seasoned solutions architects, developers, and programmers, system engineers, and administrators to help you troubleshoot common areas of Docker containerization.

If you are looking to build production-ready Docker containers for automated deployment, you will be able to master and troubleshoot both the basic functions and the advanced features of Docker. Arstechnica recommended line syntax, unit testing, the Docker Registry, Github, and leading container hosting platforms and Cloud Service Providers (CSP) are the prerequisites.

**What You Will Learn**

- Install Docker ecosystem tools and services.
- Migrate Docker services to multi-container configurations.
- Use Docker networks and inter-link containers.
- Attach volumes securely to containers.
- Consume and troubleshoot Docker APIs.
- Troubleshooting issue of Docker deployment in Public Cloud.
- Ease the process of container management with Kubernetes.

**In The Book You Will Also Learn**

- How to connect the device to the mobile operator and cellular network.
- How to perform communication using different network protocols.
- How to set up the cloud for connecting NB-IoT devices.
- How to configure the NB-IoT device for service activation.
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**About the Readers**

For web developers comfortable with JavaScript, Node, and Claudia.js. You’ll master the basics of writing AWS Lambda functions, the command line, and Docker. As you go along this way, you’ll practice your new skills by building a working chatbot and a voice assistant with Amazon Alexa. You’ll also discover techniques for migrating existing apps to a serverless platform. What’s inside Authentication and database storage Asynchronous functions Interacting real-world examples Developing serverless applications About the Authors: Vaibhav Kohli, 2017-03-30 Strategically design, serverless applications; and how to upgrade NB-IoT modem firmware over the air. The second chapter explains how to use GPS for geo-location and other protocols, such as TCP, HTTP, SSL, or MQTT; how to use GPS for geo-location applications. The third chapter, which covers cloud deployment, explains how to configure the NB-IoT modem; data serialization and deserialization; how to set up the cloud for connecting NB-IoT devices; setting up rules, policy, security certificates, and a NoSQL database on the cloud; how to store and read data in the cloud; how to use the Google Maps to visualize NB-IoT device location; and how to use charts to visualize sensor datasets. Projects for Arduino are presented in four parts. The first part explains how to connect the device to the mobile operator and cellular network; perform communication using different network protocols, such as TCP, HTTP, SSL, or MQTT; how to use GPS for geo-location applications. The second part explains how to configure the NB-IoT device for service activation and how to build and run projects, such as a 7-segment display or a real-time clock. The third part explains how to use NB-IoT communication using different network protocols, such as TCP, HTTP, SSL, or MQTT; and the fourth part explains how to configure the NB-IoT device for service activation. The book highlights the best papers from those accepted for presentation at the conference. They were chosen based on review scores submitted by members of the program committee and underwent further rigorous rounds of review. From this second round, 15 of the conference’s most promising papers were selected as the plenary papers to be included in this conference proceedings. We eagerly await the important contributions that we know these authors will make to the field of computer and information science.

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- Attach volumes securely to containers.
- Consume and troubleshoot Docker APIs.
- Troubleshooting issue of Docker deployment in Public Cloud. The process of container management with Kubernetes. In Detail: The book will traverse some common best practices to for complex application scenarios where troubleshooting can be successfully employed to provide the repeatable processes and advantages that containers can deliver. This book will be a practical guide showing how to fix real-life issues related to installation, memory, Dockerfile syntax, connection, authorization, networking and so on in Docker containers. It also explains how to debug and reason about containerized setup and administration in a step-by-step fashion. By sequentially working through the real-world production scenarios in each chapter throughout the book, you will gain insight into and mastery of common areas not only for effective troubleshooting, but ways and means to avoid troubleshooting in the first place. This book will also cover tips and tricks that make the workflow easier. Style and approach An easy-to-follow guide full of interactive examples of real-world development and deployment scenarios. Ample screenshots, workflows, complementary tools, and related terminal commands are provided to address a wide range of use cases. This book teaches readers how to bring together researchers and scientists, businesspeople and entrepreneurs, teachers, engineers, computer users, and students to discuss the various fields of computer science and to share their experiences and exchange new ideas and information in a meaningful way. Further, they presented research results on all aspects (theory, applications and tools) of computer and information science, and discuss concerns functionally to serverless applications. In one age, they addressed the challenges they adopted to overcome them. The book highlights the best papers from those accepted for presentation at the conference. They were chosen based on review scores submitted by members of the program committee and underwent further rigorous rounds of review. From this second round, 15 of the conference’s most promising papers were selected as the plenary papers to be included in this conference proceedings. We eagerly await the important contributions that we know these authors will make to the field of computer and information science.
(IoT) not only connect people but will connect ‘smart’ homes, appliances, cars, factories, etc. They will form networks that will change the way businesses and cities function. Smart cities strive to deploy and interconnect infrastructures and services to guarantee that the authorities and citizens have access to reliable and global customized services. The book describes a wide range of topics present in the design, development, and running of smart cities, ranging from big data management, Internet of Things (IoT) and Artificial Intelligence, to sustainable urban development.

In this book, you will learn how to define and design your city in the tools, procedures, and thought processes to get the job done well. If you are working on building a smart city that is sustainable and innovative, you will benefit from this book. You will learn how to design and run smart cities, focusing on real-world case studies from around the world. This book will help you understand how to plan and manage the smart city to ensure that it meets the needs of its citizens.

**About the Technology**

Apache Camel is a Java framework that implements enterprise integration patterns (EIPs) and comes with over 200 adapters to third-party systems. A concise DSL lets you build integration logic into your app with just a few lines of Java or XML. By using Camel, you can benefit from the testing, security, clustering, monitoring, and deployment features. It is ideal for large-scale integration and deployment of enterprise systems, as well as for real-world scenarios. This book includes numerous case studies and real-world examples to help you understand how to use Camel in the field.

**Summary**

Camel in Action, Second Edition is the definitive guide to the Camel framework. It starts with core concepts like sending, receiving, routing, and transforming data. It then goes in depth on many topics such as how to develop, debug, test, and deploy real-world integration applications. The book also discusses how to run Camel with microservices, reactive systems, containers, and in the cloud. What's Inside: Coverage of all relevant EIPs Camel microservices with Spring Boot Camel on Docker and Kubernetes Error handling, testing, security, clustering, monitoring, and deployment Hundreds of examples in the wild Clustering Microservices with Docker and Kubernetes Using the IIoT to transform data into actionable insights Testing RESTful web services with Camel Running and deploying Camel Management and deployment

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**About the Author**

Claus Ibsen is a senior principal engineer working for Red Hat specializing in cloud and integration. He has worked on Apache Camel for the last nine years where he leads the development and deployment of the Camel project. Claus lives in Denmark. Table of Contents

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**About the Reader**

Readers should be familiar with Java. This book is accessible to beginners and invaluable to experts. About the Reader

Readers should be familiar with Java. This book is accessible to beginners and invaluable to experts.
API is an efficient way to communicate with an application or service. However, making APIs secure involves a variety of techniques, including authentication, authorization, and encryption. The book will help you understand how to properly design and implement secure APIs, which is crucial in today's digital world.

The content of the book is divided into several parts, each covering a different aspect of API security. Here is a brief overview of the book's contents:

**Part 1: Introduction to API Security**
- Why APIs need security
- Common API security flaws
- Overview of API security technologies

**Part 2: API Authentication**
- OAuth 2.0 and OpenID Connect
- Basic authentication
- Session-based authentication
- JSON Web Tokens (JWTs)

**Part 3: API Authorization**
- Role-based access control
- Identity management
- Authorization policies

**Part 4: API Encryption**
- Cryptography fundamentals
- Public-key infrastructure
- SSL/TLS

**Part 5: Advanced API Security**
- Secure API design
- API metrics and monitoring
- API versioning

**Appendix**
- Common API security best practices
- Common API security attacks
- Common API security tools

**About the Author**

Neil Madden has extensive experience in software development and is an expert in API security. He has worked with a variety of technologies and is well-versed in the latest security practices.

**Who should read this book?**

This book is recommended for anyone interested in learning about API security. This includes software developers, security professionals, and business leaders who want to ensure their APIs are secure.

**Summary**

In summary, "Building Microservices with Micronaut" is an excellent resource for anyone looking to build modern, scalable microservices in Java. The book provides clear and concise guidance on using Micronaut for building secure, high-performing microservices. Whether you are a full-stack developer or a Java enthusiast, this book is a must-read.

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The increase in connected devices in the Internet of Things (IoT) is leading to an exponential increase in the data that an organization is required to manage. To successfully utilize IoT in businesses, big data analytics are necessary in order to efficiently sort through the increased data. The combination of big data and IoT can provide new ways to analyze and monitor data, such as in the IoT, to help businesses make better decisions.

The Handbook of Research on Emerging Trends and Recent Innovative Applications of Big Data and IoT, Challenges facing organizations and the implications of these technologies on society, and best practices for their implementation. While highlighting topics such as bootstrapping, data fusion, and graph mining, this publication is ideally designed for IT specialists, managers, policymakers, analysts, software engineers, academicians, and researchers.

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High-Performance Computing and Big Data Analysis is a comprehensive guide for researchers and practitioners working in the fields of high-performance computing, big data analysis, and related areas. The book covers a wide range of topics, from the basics of high-performance computing to advanced techniques in big data analysis.

The book is divided into several sections, each focusing on a different aspect of high-performance computing and big data analysis. The sections include:

- High-performance computing technologies
- Parallel computing paradigms
- Advanced algorithms and data structures
- Big data technologies and architectures
- Applications of big data and IoT
- Challenges and best practices for their implementation

The book is written by a team of experts in the field and is a valuable resource for students, researchers, and practitioners who are interested in staying up-to-date with the latest developments in high-performance computing and big data analysis.

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Building Microservices with Micronaut covers the latest advancements in microservices architecture and their implementation using the Micronaut framework. The book is an excellent resource for developers who want to build microservices in Java and want to learn about the core components, such as ahead-of-time compilation, reflection-less dependency injection, and reactive baked-in HTTP clients and servers.

The book is divided into several sections, each focusing on a different aspect of building microservices with Micronaut. The sections include:

- Introduction to Micronaut
- Web endpoints and services
- Micronaut projects
- Building Microservices with Micronaut

The book is written by Nirmal Singh, a well-known expert in the field of software development. Singh is the author of several books on software development, and this book is a testament to his expertise and experience.

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API Security in Action is a comprehensive guide for developers who want to build APIs that are secure and reliable. The book covers a wide range of topics, from the basics of API security to advanced techniques for building secure APIs.

The book is divided into several sections, each focusing on a different aspect of API security. The sections include:

- Introduction to API security
- API security technologies
- API authentication
- API authorization
- API encryption

The book is written by Neil Madden, an expert in API security. Madden has extensive experience in software development and is well-versed in the latest security practices.

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Apache Kafka is a distributed streaming platform that is widely used for building microservices and cloud-native applications. The book "Apache Kafka: Production-Grade Distributed Messaging and Stream Processing" is an excellent resource for anyone looking to learn about Apache Kafka.

The book covers a wide range of topics, from the basics of Apache Kafka to advanced techniques for building scalable and resilient microservices. The book is divided into several sections, each focusing on a different aspect of Apache Kafka. The sections include:

- Introduction to Apache Kafka
- Apache Kafka architecture
- Apache Kafka clusters
- Apache Kafka streams

The book is written by Gregor Hohpe and Luke block, both experts in the field of distributed computing. Hohpe and block have extensive experience in software development and are well-versed in the latest technologies and practices.
Software development continues to be an ever-evolving field as organizations require new and innovative programs that can be implemented to make processes more efficient, productive, and cost-effective. Agile practices particularly have shown great benefits for improving the effectiveness of software development and its maintenance due to their ability to adapt to change. It is integral to remain up to date with the most emerging tactics and techniques involved in the development of new and innovative software.

The Research Anthology on Agile Software, Software Development, and Testing is a comprehensive resource on the emerging trends of software development and testing. This text discusses the newest developments in agile software and its usage spanning multiple industries. Featuring a collection of insights from diverse authors, this research anthology offers international perspectives on agile software. Covering topics such as global software engineering, knowledge management, and product development, this comprehensive resource is valuable to software developers, software engineers, computer engineers, IT directors, students, managers, faculty, researchers, and academicians.