

Aws Iot Developer Guide Github

Eventually, you will unquestionably discover a other experience and feat by spending more cash. still when? complete you admit that you require to acquire those every needs behind having significantly cash? Why dont you try to get something basic in the beginning? Thats something that will guide you to understand even more not far off from the globe, experience, some places, taking into account history, amusement, and a lot more?

It is your definitely own era to produce an effect reviewing habit. in the course of guides you could enjoy now is **Aws Iot Developer Guide Github** below.

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, simulated data acquisition, virtual and remote labs for IoT sensing, gamification experiences and innovative teaching materials, among others. In particular, the articles inside the book show excellent works about hot topics, such as: - Remote labs for IoT teaching, including the full development cycle. - Practical guides for IoT cybersecurity. - Innovative multimodal learning analytics architecture that builds on software-defined networks and network function virtualization principles. - Problem-based learning experiences using designed complex sensor-based IoT ecosystems with sensors, actuators, microcontrollers, plants, soils and irrigation systems. - Block-based programming extensions to facilitate the creation of mobile apps for smart learning experiences. The articles published in this book present only some of the most important topics

about sensor-based IoT learning and teaching. However, the selected papers offer significant studies and promising environments.

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 FeaturesGain practical experience in working with ESP32Learn to interface various electronic devices such as sensors, integrated circuits (ICs), and displaysApply your knowledge to build real-world automation projectsBook Description Developing IoT Projects with ESP32 provides 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

UART RTOS Wi-Fi ESP32 IFTTT #GOTOP

The Internet of Things in the Industrial Sector -

Zaigham Mahmood 2019-08-02

This book has a focus on the development and deployment of the Industrial Internet of Things (IIoT) paradigm, discussing frameworks, methodologies, benefits and limitations, as well as providing case studies of employing the IoT vision in the industrial domain. IIoT is becoming an attractive business reality for many organisations such as manufacturing, logistics, oil and gas, energy and other utilities, mining, aviation, and many more. The opportunities for this paradigm are huge, and according to one report, the IIoT market is predicted to reach \$125 billion by 2021. The driving philosophy behind the IIoT is that smart machines are better than humans at accurately capturing, analysing and communicating real-time data. The underlying technologies include distributed computing, machine learning, artificial intelligence, and machine-to-machine communication, with a typical IIoT system consisting of intelligent systems (applications, controllers, sensors, and security mechanisms), data communication infrastructure (cloud computing, edge computing, etc.), data analytics (to support business intelligence and corporate decision making), and most importantly the human element. The promised benefits of the IIoT include enhanced safety, better reliability, smart metering, inventory management, equipment tracking, and facilities management. There are, however, numerous issues that are also becoming the focus of active research, such as concerns regarding service

availability, data security, and device communication. Lack of ubiquitous interoperability between heterogeneous devices is also a major concern. This book intends to fill a gap in the IIoT literature by providing the scientific contributions and latest developments from researchers and practitioners of international repute, focusing on frameworks, methodologies, benefits, and inherent issues/barriers to connected environments, especially in industrial settings. The intended audience includes network specialists, hardware engineers, and security experts who wish to adopt newer approaches for device connectivity, IoT security, and sensor-based devices design. University level students, researchers and practitioners will also find the latest innovation in technology and newer approaches relevant to the IIoT from a distributed computing perspective.

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 like it or not, whether we are ready or not, digital technologies are going 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 to learn these digital technologies, as well as to develop digital applications, such as IoT, AI, Cybersecurity, Blockchain and more. 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 some of the biggest trending applications today Helps you understand how to program Java to interact with operating systems, networking, and mobile applications Shows you how Java can be used in trending tech applications such as IoT (Internet of Things), AI (Artificial Intelligence), Cybersecurity, and Blockchain Get ready to find out firsthand how Java can be used for connected home devices, healthcare, the cloud, and all the hottest tech applications.

Conquer the Web - Jonathan Reuvid 2018-06-30

This is the ultimate guide to protect your data on the web. From passwords to opening emails, everyone knows what they should do but do you do it?'A must read for anyone looking to upskill their cyber awareness,' Steve Durbin, Managing Director, Information Security ForumTons of malicious content floods the internet which can compromise your system and your device, be it your laptop, tablet or phone. •How often do you make payments online? •Do you have children and want to ensure they stay safe online? •How often do you sit at a coffee shop and log onto their free WIFI? •How often do you use social media on the train or bus? If you believe using an antivirus software will keep devices safe... you are wrong. This book will guide you and provide solutions to avoid common mistakes and to combat cyber attacks.This Guide covers areas such as:•Building resilience into our IT Lifestyle•Online Identity•Cyber Abuse: Scenarios and Stories•Protecting Devices•Download and share•Gaming, gamble and travel•Copycat websites•I Spy and QR Codes•Banking, apps and PasswordsIncludes chapters from Nick Wilding, General Manager at AXELOS, Tim Mitchell,

Content Director at Get Safe Online, Maureen Kendal, Director at Cybercare, Nick Ioannou, Founder of Boolean Logical, and CYBERAWARE.'Conquer the Web is a full and comprehensive read for anyone wanting to know more about cyber-security. It takes it time to explain the many acronyms and jargon that are associated with our industry, and goes into detail where necessary.' Sarah Jane MD of Layer8 Ltd'Online fraud, cyber bullying, identity theft and these are the unfortunate by products of the cyber age. The challenge is how do we protect ourselves in the online world? Conquer the Web provides practical guidance in an easy to understand language that allows readers to take a small number of steps that will greatly increase their online security. A must read for anyone looking to upskill their cyber awareness.' Steve Durbin MD of Information Security Forum Limited *AWS Certified Developer Associate All-in-One Exam Guide (Exam DVA-C01)* - Kamesh Ganesan 2020-11-27 This effective self-study system delivers complete coverage of every topic on the AWS Certified Developer Associate Exam Take the challenging AWS Certified Developer Associate Exam with confidence using the comprehensive information contained in this effective test preparation guide. Written by an Amazon Web Services certified expert and experienced trainer, *AWS Certified Developer Associate All-in-One Exam Guide (Exam DVA-C01)* covers every subject on the exam and clearly explains how to create, deploy, migrate, monitor, and debug cloud-native applications. Designed to help you pass the exam with ease, this guide also serves as an ideal on-the-job reference. Covers all topics on the exam, including: Getting started with AWS Journey AWS high availability and fault tolerance Working with cloud storage Authentication and

authorization
Creating SQL and NoSQL databases in AWS
Cloud AWS application integration and management
Developing cloud-native applications in AWS
Building, deploying, and debugging cloud applications
Electronic content includes: 130 practice questions
Test engine containing full-length practice exams and customizable quizzes

MacGyver in Geosciences - Rolf Hut 2020-06-04

MacGyver science is the creative use of equipment for purposes that were not originally intended by the developer as well as the scientist's own development of sensors or technology for problems where commercially available solutions fall short. Following the successful MacGyver conference sessions in the past years it is time to combine all our ideas, opinions and new research in an article collection. This is a call for papers for all MacGyver earth scientists— present your tools, processes, proof of concepts, designs, open source components, failures and successes, data sets, and emerging technologies, and contribute your part to this exciting collection. Even if your new tool, prototypes or method has been described as part of the method section of a broader publication, we invite you to write a separate publication in our collection that focusses solely on the new tool, processes, proof of concepts, designs, open source components, etc.

Research Anthology on Agile Software, Software Development, and Testing - Management Association, Information Resources 2021-11-26

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.

The Insider's Guide to Arm Cortex-M Development - Zachary Lasiuk 2022-10-27

Learn and implement the latest Arm Cortex-M microcontroller development concepts such as performance optimization, security, software reuse, machine learning, continuous integration, and cloud-based development from industry experts
Key Features
Learn how to select the best Cortex-M hardware, software, and tools for your project
Understand the use of key software components and how to optimize and develop modern applications
Get hands-on experience implementing quality software using example code provided in the book
Purchase of the print or Kindle book includes a free eBook in the PDF format
Book Description
Cortex-M has been around since 2004, so why a new book now? With new microcontrollers based on the Cortex-M55 and Cortex-M85

being introduced this year, Cortex-M continues to expand. New software concepts, such as standardized software reuse, have emerged alongside new topics including security and machine learning. Development methodologies have also significantly advanced, with more embedded development taking place in the cloud and increased levels of automation. Due to these advances, a single engineer can no longer understand an entire project and requires new skills to be successful. This book provides a unique view of how to navigate and apply the latest concepts in microcontroller development. The book is split into two parts. First, you'll be guided through how to select the ideal set of hardware, software, and tools for your specific project. Next, you'll explore how to implement essential topics for modern embedded developers. Throughout the book, there are examples for you to learn by working with real Cortex-M devices with all software available on GitHub. You will gain experience with the small Cortex-M0+, the powerful Cortex-M55, and more Cortex-M processors. By the end of this book, you'll be able to practically apply modern Cortex-M software development concepts. What you will learn Familiarize yourself with heuristics to identify the right components for your Cortex-M project Boot code to efficiently start up a Cortex-M device Optimize algorithms with compilers, middleware, and other means Get to grips with machine learning frameworks and implementation techniques Understand security in the embedded space with solutions like TrustZone and TF-M Explore cloud-based development methodologies to increase efficiency Dive into continuous integration frameworks and best practices Identify future trends that could impact Cortex-M software development Who this book is for This book is

for practicing engineers and students working with embedded and IoT systems who want to quickly learn how to develop quality software for Arm Cortex-M processors without reading long technical manuals. If you're looking for a book that explains C or assembly language programming for the purpose of creating a single application or mastering a type of programming such as digital signal processing algorithms, then this book is NOT for you. A basic understanding of embedded hardware and software, along with general C programming skills will assist with understanding the concepts covered in this book.

Paging Dr. Within - Tom Garz 2020-03-22

As a Patient - Would you like a "Patient Listener"? Are you tired of Medicine/Treatment "Trial and Error", at your expense? Are you tired of being shuffled from one Doctor to another? Do you want to "get better" and "stay better"? As a Doctor – Would you like more good information from 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 looking for some new ideas? Would you like to "Interface" with the "Dr. Within" 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 describes the Concepts of a "Patient Listener" and a "Super Symptom Checker" – Human, Computer, and/or Computer-Assisted Human – Considering the "Big Picture" around Health and/or Symptoms. This book is about 250

pages, a little over half written text. The remainder contains many Reference Links, from which you can build upon and learn from. The author of this book has set up Discussion Groups for this book to help others share, network, collaborate, etc. *** Use of the Information in this book may help the Patient, Doctor, and/or Others "Get Better". Some common Side Effects may include: A better understanding of what affects Health and Symptoms, Seeing the big picture surrounding Symptoms, Better health, less dependence on medication/treatment, generally "feeling better", Experiencing less perceived stress, more contentment with self and life, Perceiving more control of your life, in general, realizing there are always options no matter what, New insights on what could be done to make "it" better. Note - Continued Use of the Information in this book may result in "Staying Better". Ask your Doctor if "Getting Better" and "Staying Better" are right for you. :-)

Handbook of Research on Big Data and the IoT - Kaur, Gurjit 2019-03-29

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 thus enable new monitoring services and powerful processing of sensory data streams. The Handbook of Research on Big Data and the IoT is a pivotal reference source that provides vital 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.

Building Microservices with Micronaut® - Nirmal Singh 2021-09-30

Explore different aspects of building modular microservices such as development, testing, maintenance, and deployment using the Micronaut framework Key Features Learn how to build scalable, fast, and resilient microservices with this concise guide Explore the many advantages of using reflection-free, compile-time dependency injections and aspect-oriented programming Build cloud-native applications easily with the Micronaut framework Book Description The open source Micronaut® framework is a JVM-based toolkit designed to create microservices quickly and easily. This book will help full-stack and Java developers build modular, high-performing, and reactive microservice-based apps using the Micronaut framework. You'll start by building microservices and learning about the core components, such as ahead-of-time compilation, reflection-less dependency injection, and reactive baked-in HTTP clients and servers. Next, you will work on a real-time microservice application and learn how to integrate Micronaut projects with different kinds of relational and non-relational databases. You'll also learn how to employ different security mechanisms to safeguard your microservices and integrate microservices using event-driven architecture in the Apache Kafka ecosystem. As you advance, you'll get to grips with automated testing and popular testing tools. The book will help you understand how you can easily handle microservice concerns in Micronaut projects, such as service

discovery, API documentation, distributed configuration management, fallbacks, and circuit breakers. Finally, you'll explore the deployment and maintenance aspects of microservices and get up to speed with the Internet of Things (IoT) using the Framework. By the end of this book, you'll be able to build, test, deploy, and maintain your own microservice apps using the framework. What you will learn

Understand why the Micronaut framework is best suited for building microservices

Build web endpoints and services in the Micronaut framework

Safeguard microservices using Session, JWT, and OAuth in Micronaut projects

Get to grips with event-driven architecture in Micronaut applications

Discover how to automate testing at various levels using built-in tools and testing frameworks

Deploy your microservices to containers and cloud platforms

Become well-versed with distributed logging, tracing, and monitoring in Micronaut projects

Get hands-on with the IoT using Alexa and the Micronaut framework

Who this book is for

This book is for developers who have been building microservices on traditional frameworks such as Spring Boot and are looking for a faster alternative. Intermediate-level knowledge of Java programming and implementing web services development in Java is required.

AWS Ultimate Guide: From Beginners to Advanced - SK Singh 2022-12-28

This is a very comprehensive book on AWS, from beginners to advanced. The book has extensive diagrams to help understand topics much easier way. To make understanding the subject a smoother experience, the book is divided into the following sections: Cloud Computing AWS Fundamentals (What is AWS, AWS Account, AWS Free Tier, AWS Cost & Billing Management, AWS Global Cloud

Infrastructure (part I)), IAM, EC2) AWS Advanced (EC2 Advanced, ELB, Advanced S3, Route 53, AWS Global Cloud Infrastructure (part II), Advanced Storage on AWS, AWS Monitoring, Audit, and Performance), AWS RDS and Databases (AWS RDS and Cache, AWS Databases) Serverless (Serverless Computing, AWS Integration, and Messaging) Container & CI/CD (Container, AWS CI/CD services) Data & Analytics (Data & Analytics) Machine Learning (AWS ML/AI Services) Security (AWS Security & Encryption, AWS Shared Responsibility Model, How to get Support on AWS, Advanced Identity) Networking (AWS Networking) Disaster Management (Backup, Recovery & Migrations) Solutions Architecture (Cloud Architecture Key Design Principles, AWS Well-Architected Framework, Classic Solutions Architecture) Practice Tests Includes AWS services/features such as IAM, S3, EC2, EC2 purchasing options, EC2 placement groups, Load Balancers, Auto Scaling, S3 Glacier, S3 Storage classes, Route 53 Routing policies, CloudFront, Global Accelerator, EFS, EBS, Instance Store, AWS Snow Family, AWS Storage Gateway, AWS Transfer Family, Amazon CloudWatch, EventBridge, CloudWatch Insights, AWS CloudTrail, AWS Config, Amazon RDS, Amazon Aurora, Amazon ElastiCache, Amazon DocumentDB, Amazon Keyspaces, Amazon Quantum Ledger Database, Amazon Timestream, Amazon Managed Blockchain, AWS Lambda, Amazon DynamoDB, Amazon API Gateway, SQS, SNS, SES, Amazon Kinesis, Amazon Kinesis Firehose, Amazon Kinesis Data Analytics, Amazon Kinesis Data Streams, Amazon Kinesis ECS, Amazon Kinesis ECR, Amazon EKS, AWS CloudFormation, AWS Elastic Beanstalk, AWS CodeBuild, AWS OpsWorks, AWS CodeGuru, AWS CodeCommit, Amazon Athena, Amazon Redshift, Amazon EMR, Amazon QuickSight, AWS Glue, AWS Lake Formation, Amazon MSK, Amazon Rekognition, Amazon Transcribe, Amazon

Polly, Amazon Translate, Amazon Lex, Amazon Connect, Amazon Comprehend, Amazon Comprehend Medical, Amazon SageMaker, Amazon Forecast, Amazon Kendra, Amazon Personalize, Amazon Textract, Amazon Fraud Detector, Amazon Sumerian, AWS WAF, AWS Shield Standard, AWS Shield Advanced, AWS Firewall Manager, AWS GuardDuty, Amazon Inspector, Amazon Macie, Amazon Detective, SSM Session Manager, AWS Systems Manager, S3 Replication & Encryption, AWS Organization, AWS Control Tower, AWS SSO, Amazon Cognito, AWS VPC, NAT Gateway, VPC Endpoints, VPC Peering, AWS Transit Gateway, AWS Site-to-Site VPC, Database Management Service (DMS), and many others. In the last section, there are five practice test sets with answers, each containing 65 exam-like questions. Though these questions are more geared towards the AWS Certified Cloud Practitioner exam, the knowledge gained from them may help you in many AWS certification exams.

Serverless Applications with Node.js - Slobodan Stojanovic 2019-02-12

Summary Serverless Applications with Node.js walks you through building serverless apps on AWS using JavaScript. Inside, you'll discover what Claudia.js brings to the table as you build and deploy a scalable event-based serverless application, based around a pizzeria that's fully integrated with AWS services, including Lambda and API Gateway. Each chapter is filled with exercises, examples, tips, and more to make sure you're ready to bring what you've learned into your own work. Foreword by Gojko Adzic. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology The benefits of cloud-hosted serverless web apps are undeniable: lower complexity, quicker time to market,

and easier scalability than traditional, server-dependent designs. And thanks to JavaScript support in AWS Lambda and powerful new serverless API tools like the Claudia.js library, you can build and deploy serverless apps end to end without learning a new language. About the Book Serverless Applications with Node.js teaches you to design and build serverless web apps on AWS using JavaScript, Node, and Claudia.js. You'll master the basics of writing AWS Lambda functions, along with core serverless patterns like API Gateway. Along the 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 Interesting real-world examples Developing serverless microservices About the Reader For web developers comfortable with JavaScript and Node.js. About the Author Slobodan Stojanović and Aleksandar Simović are AWS Serverless Heroes and core contributors to the Claudia.js project. They are also coauthors of Desole, an open source serverless errortracking tool, and the lead developers of Claudia Bot Builder. Table of Contents PART 1 - Serverless pizzeria Introduction to serverless with Claudia Building your first serverless API Asynchronous work is easy, we Promise() Pizza delivery: Connecting an external service Houston, we have a problem! Level up your API Working with files PART 2 - Let's talk When pizza is one message away: Chatbots Typing... Async and delayed responses Jarvis, I mean Alexa, order me a pizza Paying for pizza Migrating to serverless Real-world case studies appendix A - Installation and configuration appendix B - Facebook Messenger, Twilio, and Alexa configuration appendix C -

Stripe and MongoDB setup appendix D - The pizza recipe
Technology Trends - Miguel Botto-Tobar 2017-12-30

This book constitutes the refereed proceedings of the Third International Conference on Technology Trends, CITT 2017, held in Babahoyo, Ecuador, in November 2017. The 16 revised full papers presented were carefully reviewed and selected from 71 submissions. The papers are organized in topical sections on communications; computer and software engineering.

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 allow candidates to link their core technology expertise with knowledge of 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, achieve mastery, and build confidence, 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 processing

efficiency Recognize behavioral and operational 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. Master modern API-based programmability and automation methods for interacting with diverse network applications and devices Connect with the Cisco DevNet developer community and other key resources for Cisco network programming

VLSI and Hardware Implementations using Modern Machine Learning Methods - Sandeep Saini 2021-12-30

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. The focus is on digital, analog, 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 given field. Overall, the book provides practical implementations of VLSI design, IC design, and hardware realization using machine learning techniques. Features: Provides the details of state-of-the-art machine learning methods used in VLSI design Discusses hardware implementation and device modeling pertaining to machine learning algorithms Explores machine learning for various VLSI architectures and reconfigurable computing Illustrates the latest techniques for device size and feature optimization Highlights the latest case studies and reviews of the methods used for hardware

implementation This book is aimed at researchers, professionals, and graduate students in VLSI, machine learning, electrical and electronic engineering, computer engineering, and hardware systems.

AWS Certified SysOps Administrator Official Study Guide

- Stephen Cole 2017-09-19

Comprehensive, interactive exam preparation and so much more The AWS Certified SysOps Administrator Official Study Guide: Associate Exam is a comprehensive exam preparation resource. This book bridges the gap between exam preparation and real-world readiness, covering exam objectives while guiding you through hands-on exercises based on situations you'll likely encounter as an AWS Certified SysOps Administrator. From deployment, management, and operations to migration, data flow, cost control, and beyond, this guide will help you internalize the processes and best practices associated with AWS. The Sybex interactive online study environment gives you access to invaluable preparation aids, including an assessment test that helps you focus your study on areas most in need of review, and chapter tests to help you gauge your mastery of the material.

Electronic flashcards make it easy to study anytime, anywhere, and a bonus practice exam gives you a sneak preview so you know what to expect on exam day. Cloud computing offers businesses a cost-effective, instantly scalable IT infrastructure. The AWS Certified SysOps Administrator - Associate credential shows that you have technical expertise in deployment, management, and operations on AWS. Study exam objectives Gain practical experience with hands-on exercises Apply your skills to real-world scenarios Test your understanding with challenging review questions Earning your AWS Certification is much more than just passing an exam—you

must be able to perform the duties expected of an AWS Certified SysOps Administrator in a real-world setting. This book does more than coach you through the test: it trains you in the tools, procedures, and thought processes to get the job done well. If you're serious about validating your expertise and working at a higher level, the AWS Certified SysOps Administrator Official Study Guide: Associate Exam is the resource you've been seeking.

Cloud Computing – CLOUD 2018 - Min Luo 2018-06-19

This volume constitutes the proceedings of the 11th International Conference on Cloud Computing, CLOUD 2018, held as part of the Services Conference Federation, SCF 2018, in Seattle, WA, USA, in June 2018. The 26 full papers presented together with 3 short papers were carefully reviewed and selected from 108 submissions. They are organized in topical sections such as cloud computing; client-server architectures; distributed systems organizing principles; storage virtualization; virtual machines; cloud based storage; distributed architectures; network services; and computing platforms.

AWS Certified Cloud Practitioner Exam Guide - SK Singh 2022-09-30

This book is a comprehensive exam guide to help prepare for the AWS Cloud Certified Practitioner exam. The book has extensive diagrams to help understand topics much easier way. The book is divided into different sections to logically group related chapters in one section. It has the following sections: Cloud Computing (Cloud Computing Introduction, Cloud Computing Service Categories, Cloud Deployment Models, Virtualization,) AWS Fundamentals (What is AWS, AWS Account, AWS Free Tier, AWS Cost & Billing Management, AWS Global Cloud

Infrastructure (part I)), IAM, EC2) AWS Advanced (EC2 Advanced, ELB, Advanced S3, Route 53, AWS Global Cloud Infrastructure (part II), Advanced Storage on AWS, AWS Monitoring, Audit, and Performance), AWS RDS and Databases (AWS RDS and Cache, AWS Databases) Serverless (Serverless Computing, AWS Integration, and Messaging) Container & CI/CD (Container, AWS CI/CD services) Data & Analytics (Data & Analytics) Machine Learning (AWS ML/AI Services) Security (AWS Security & Encryption, AWS Shared Responsibility Model, How to get Support on AWS, Advanced Identity) Networking (AWS Networking) Solutions Architecture (Cloud Architecture Key Design Principles, AWS Well-Architected Framework) Practice Tests Includes AWS services/features such as IAM, S3, EC2, EC2 purchasing options, EC2 placement groups, Load Balancers, Auto Scaling, S3 Glacier, S3 Storage classes, Route 53 Routing policies, CloudFront, Global Accelerator, EFS, EBS, Instance Store, AWS Snow Family, AWS Storage Gateway, AWS Transfer Family, Amazon CloudWatch, EventBridge, CloudWatch Insights, AWS CloudTrail, AWS Config, Amazon RDS, Amazon Aurora, Amazon ElastiCache, Amazon DocumentDB, Amazon Keyspaces, Amazon Quantum Ledger Database, Amazon Timestream, Amazon Managed Blockchain, AWS Lambda, Amazon DynamoDB, Amazon API Gateway, SQS, SNS, SES, Amazon Kinesis, Amazon Kinesis Firehose, Amazon Kinesis Data Analytics, Amazon Kinesis Data Streams, Amazon Kinesis ECS, Amazon Kinesis ECR, Amazon EKS, AWS CloudFormation, AWS Elastic Beanstalk, AWS CodeBuild, AWS OpsWorks, AWS CodeGuru, AWS CodeCommit, Amazon Athena, Amazon Redshift, Amazon EMR, Amazon QuickSight, AWS Glue, AWS Lake Formation, Amazon MSK, Amazon Rekognition, Amazon Transcribe, Amazon Polly, Amazon Translate, Amazon Lex, Amazon Connect, Amazon Comprehend, Amazon Comprehend Medical,

Amazon SageMaker, Amazon Forecast, Amazon Kendra, Amazon Personalize, Amazon Textract, Amazon Fraud Detector, Amazon Sumerian, AWS WAF, AWS Shield Standard, AWS Shield Advanced, AWS Firewall Manager, AWS GuardDuty, Amazon Inspector, Amazon Macie, Amazon Detective, SSM Session Manager, AWS Systems Manager, S3 Replication & Encryption, AWS Organization, AWS Control Tower, AWS SSO, Amazon Cognito, AWS VPC, NAT Gateway, VPC Endpoints, VPC Peering, AWS Transit Gateway, AWS Site-to-Site VPC, Database Management Service (DMS), and many others. In the last section (Practice Tests), there are five practice test sets with answers containing 65 exam-like questions. These questions will help you apply your learning to better prepare for the exam.

Computational Science/Intelligence and Applied Informatics - Roger Lee 2019-07-25

This book gathers the outcomes of the 6th ACIS International Conference on Computational Science/Intelligence & Applied Informatics (CSII 2019), which was held on May 29–31, 2019 in Honolulu, Hawaii. The aim of the conference was 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 discussed the practical challenges encountered in their work and the solutions 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 for this Springer (SCI) book and not the 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 Arduino™, Amazon Cloud, Google Maps, and charts. The book starts by explaining AT commands used 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 Google Maps to visualize NB-IoT device geo-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 upgrade NB-IoT modem firmware over the air. The second part explains the microcontroller unit and how to build and run projects, such as a 7-segment display or a real-time clock. The third part explains how NB-IoT can be used with sensor devices, such as ultrasonic and environmental sensors. Finally, the fourth part explains how NB-IoT can be used to control actuators, such as stepper motors and relays. This book is a unique resource for understanding practical uses of the NB-IoT technology and serves as a handbook for technical and non-technical readers who are looking for practicing and exercising the cellular NB-IoT technology. The book can be used by engineers, students, researchers, system integrators, mobile operators' technical staff, and electronics enthusiasts. To download the software which can be used with the book, go to: <https://github.com/5ghub/NB-IoT> About the Author: Hossam Fattah is a technology expert in 4G/5G wireless systems and networking. He received his Ph.D. in Electrical and Computer Engineering from University of British Columbia, Vancouver, Canada in 2003. He received his Master of Applied Science in Electrical and Computer Engineering from University of Victoria, Victoria, Canada in 2000. He completed his B.Sc. degree in Computers and Systems Engineering from Al-Azhar University, Cairo, Egypt in 1995. Between 2003 and 2011, he was in academia and industry, including Texas A&M University. Between 2011 and 2013, he was with Spirent Communications, NJ, USA. Since 2013, he has been with Microsoft, USA. He is also an affiliate associate professor at University of Washington, Tacoma, WA, USA, teaching graduate courses on IoT and distributed systems and collaborating on 5G research and innovations. He has had many patents and technical publications in

conferences and journals. He is a registered professional Engineer with the Association of Professional Engineers, British Columbia, Canada. He is the author of the recent book 5G LTE Narrowband Internet of Things (NB-IoT). His research interest is in wireless communications and radio networks and protocols, cellular quality of service, radio resource management, traffic and packet scheduling, network analytics, and mobility.

Practical Node-RED Programming - Taiji Hagino 2021-03-22

Use a low-code programming approach to create event-driven applications from scratch by wiring together hardware devices, APIs, and online services
Key Features
Discover how you can automate the Internet of Things (IoT) without writing huge blocks of code
Learn how to wire together flows using a browser-based visual editor
Handle IoT data with little to no coding knowledge
Book Description
Node-RED is a free and open source flow-based programming tool used to handle IoT data that allows programmers of any level to interconnect physical I/O, cloud-based systems, databases, and APIs to build web applications without code. Practical Node-RED Programming is a comprehensive introduction for anyone looking to get up to speed with the Node-RED ecosystem in no time. Complete with hands-on tutorials, projects, and self-assessment questions, this easy-to-follow guide will help you to become well versed in the foundations of Node-RED. You'll learn how to use Node-RED to handle IoT data and build web applications without having to write complex code. Once you've covered the basics, you'll explore various visual programming techniques and find out how to make sample flows as you cover web development, IoT development, and cloud service connections, and finally build useful

real-world applications. By the end of this book, you'll have learned how to use Node-RED to develop a real-world application from scratch, which can then be implemented in your business. What you will learn
Understand the history of Node-RED and why you need to learn a flow-based programming tool
Use Node-RED to build Node.js-based applications
Handle data for IoT devices using Node-RED flows
Explore advanced Node-RED features such as connecting repositories and customizing the flow editor
Find out what the MQTT protocol is and how it relates to Node-RED
Create and publish your own nodes and flows using the Node-RED library
Who this book is for
This Node-RED book is for web developers and IoT engineers with some background in JavaScript and Node.js. Although not necessary, familiarity with the concepts of electronics will help you to make the most out of this book.

Building Serverless Web Applications - Diego Zanon 2017-07-28

Build scalable, efficient, and highly available web apps using 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
Who This Book Is For
If you're looking to learn more about scalable and cost-efficient architectures, this book is for you. Basic knowledge of Node.js skills or familiarity with cloud services is required. For other topics, we cover the basics.
What You Will Learn
Get a grasp of the pros and cons of going serverless and its use cases
Discover how you can use the building blocks of AWS to your advantage
Set up the environment and create a basic app with the Serverless Framework
Host static files on S3 and CloudFront with HTTPS support
Build a sample

application with a frontend using React as an SPA
Develop the Node.js backend to handle requests and connect to a SimpleDB database Secure your applications with authentication and authorization Implement the publish-subscribe pattern to handle notifications in a serverless application Create tests, define the workflow for deployment, and monitor your app In Detail This book will equip you with the knowledge needed to build your own serverless apps by showing you how to set up different services while making your application scalable, highly available, and efficient. We begin by giving you an idea of what it means to go serverless, exploring the pros and cons of the serverless model and its use cases. Next, you will be introduced to the AWS services that will be used throughout the book, how to estimate costs, and how to set up and use the Serverless Framework. From here, you will start to build an entire serverless project of an online store, beginning with a React SPA frontend hosted on AWS followed by a serverless backend with API Gateway and Lambda functions. You will also learn to access data from a SimpleDB database, secure the application with authentication and authorization, and implement serverless notifications for browsers using AWS IoT. This book will describe how to monitor the performance, efficiency, and errors of your apps and conclude by teaching you how to test and deploy your applications. Style and approach This book takes a step-by-step approach on how to use the Serverless Framework and AWS services to build Serverless Applications. It will give you a hands-on feeling, allowing you to practice while reading. It provides a brief introduction of concepts while keeping the focus on the practical skills required to develop applications.

IoT Development for ESP32 and ESP8266 with JavaScript - Peter Hoddie 2020-06-26

This book introduces a new approach to embedded development, grounded in modern, industry-standard JavaScript. Using the same language that powers web browsers and Node.js, the Moddable SDK empowers IoT developers to apply many of the same tools and techniques used to build sophisticated websites and mobile apps. The Moddable SDK enables you to unlock the full potential of inexpensive microcontrollers like the ESP32 and ESP8266. Coding for these microcontrollers in C or C++ with the ESP-IDF and Arduino SDKs works for building basic products but doesn't scale to handle the increasingly complex IoT products that customers expect. The Moddable SDK adds the lightweight XS JavaScript engine to those traditional environments, accelerating development with JavaScript while keeping the performance benefits of a native SDK. Building user interfaces and communicating over the network are two areas where JavaScript really shines. *IoT Development for ESP32 and ESP8266 with JavaScript* shows you how to build responsive touch screen user interfaces using the Piu framework. You'll learn how easy it is to securely send and receive JSON data over Wi-Fi with elegant JavaScript APIs for common IoT protocols, including HTTP/HTTPS, WebSocket, MQTT, and mDNS. You'll also learn how to integrate common sensors and actuators, Bluetooth Low Energy (BLE), file systems, and more into your projects, and you'll see firsthand how JavaScript makes it easier to combine these diverse technologies. If you're an embedded C or C++ developer who has never worked in JavaScript, don't worry. This book includes an introduction to the JavaScript language just for embedded developers experienced with C or C++. What

You'll Learn Building, installing, and debugging JavaScript projects on the ESP32 and ESP8266 Using modern JavaScript for all aspects of embedded development with the Moddable SDK Developing IoT products with animated user interfaces, touch input, networking, BLE, sensors, actuators, and more Who This Book Is For Professional embedded developers who want the speed, flexibility, and power of web development in their embedded software work Makers who want a faster, easier way to build their hobby projects Web developers working in JavaScript who want to extend their skills to hardware products

Designing Production-Grade and Large-Scale IoT Solutions

- Mohamed Abdelaziz 2022-05-26

Get to grips with key IoT aspects along with modern trends, architectures, and technologies that support IoT solutions, such as cloud computing, modern app architecture paradigms, and data analytics Key Features

- Understand the big picture of designing production-grade IoT solutions from an industry expert
- Get up and running with the development and designing aspects of the Internet of Things
- Solve business problems specific to your domain using different IoT platforms and technologies

Book Description With the rising demand for and recent enhancements in IoT, a developer with sound knowledge of IoT is the need of the hour. This book will help you design, build, and operate large-scale E2E IoT solutions to transform your business and products, increase revenue, and reduce operational costs. Starting with an overview of how IoT technologies can help you solve your business problems, this book will be a useful guide to helping you implement end-to-end IoT solution architecture. You'll learn to select IoT devices; real-time operating systems; IoT Edge

covering Edge location, software, and hardware; and the best IoT connectivity for your IoT solution. As you progress, you'll work with IoT device management, IoT data analytics, IoT platforms, and put these components to work as part of your IoT solution. You'll also be able to build IoT backend cloud from scratch by leveraging the modern app architecture paradigms and cloud-native technologies such as containers and microservices. Finally, you'll discover best practices for different operational excellence pillars, including high availability, resiliency, reliability, security, cost optimization, and high performance, which should be applied for large-scale production-grade IoT solutions. By the end of this IoT book, you'll be confident in designing, building, and operating IoT solutions. What you will learn

- Understand the detailed anatomy of IoT solutions and explore their building blocks
- Explore IoT connectivity options and protocols used in designing IoT solutions
- Understand the value of IoT platforms in building IoT solutions
- Explore real-time operating systems used in microcontrollers
- Automate device administration tasks with IoT device management
- Master different architecture paradigms and decisions in IoT solutions
- Build and gain insights from IoT analytics solutions
- Get an overview of IoT solution operational excellence pillars

Who this book is for This book is for E2E solution architects, systems and technical architects, and IoT developers looking to design, build, and operate E2E IoT applications and solutions. Basic knowledge of cloud computing, software engineering, and distributed system design will help you get the most out of this book.

IoT and Smart Cities - Rashmi Nanda 2019-10-11

Know how Smart TVs, Smart Cars, Smart Homes, and Smart

Cities are changing the World! DESCRIPTION The Internet of Things (IoT) not only connect people but will connect 'smart' homes, appliances, cars, offices, factories, cities, basically the world. This book discusses how 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, and sustainable urban planning. The technical aspects of smart cities enabled primarily by the Internet of Things, the socio-economic motivations and impact of smart city development are covered in this book. KEY FEATURES Learn to successfully create, launch and manage the Internet of Things services Know the process of specifying, implementing, and deploying IoT services Learn the fundamentals of IoT services, building blocks and the key factors Learn the fast track approach to IoT Learn a dual perspective on the Internet of Things and ubiquitous computing Know detailed coverage of the underlying architecture, framework and state of the art methodologies WHAT WILL YOU LEARN The purpose of this book is to help you to work with cities and learn to develop them into smart cities. You will learn to develop a plan and learn what an smart city is, how to plan the smart city infrastructure and from where do you start while developing the smart city. You will learn what kind of planning is involved and about permitting, rent, acquisition, construction planning, with whom should you work? You can learn all this and more from case studies and deployment planning described in the book. WHOM THIS BOOK IS FOR Students studying IoT in universities and

who want to know the fundamentals of the IoT business. For business executives and IoT startups. Table of Contents 1. Introduction 2. RFID and WSN: The Beginning 3. Interoperability of IoT Devices and Sensor (Semantic) Web 4. Cloud's Internet of Things (IoT) 5. IoT and Edge Computing 6. IoT - Big Data Convergence with IoT Data 7. Introduction to (Big Data) Internet of Things Analytics and Streams 8. Operability Among IoT Clouds and Semantics 9. Edge and Analytics 10. To Conclude 11. Abbreviation 12. Bibliography

Advances in Computer Science and Ubiquitous Computing - James J. (Jong Hyuk) Park 2016-12-01

This book presents the combined proceedings of the 8th International Conference on Computer Science and its Applications (CSA-16) and the 11st International Conference on Ubiquitous Information Technologies and Applications (CUTE 2016), both held in Bangkok, Thailand, December 19 - 21, 2016. The aim of these two meetings was to promote discussion and interaction among academics, researchers and professionals in the field of ubiquitous computing technologies. These proceedings reflect the state-of-the-art in the development of computational methods, involving theory, algorithm, numerical simulation, error and uncertainty analysis and novel application of new processing techniques in engineering, science, and other disciplines related to ubiquitous computing.

Applied Machine Learning and High-Performance Computing on AWS - Mani Khanuja 2022-12-30

Build, train, and deploy large machine learning models at scale in various domains such as computational fluid dynamics, genomics, autonomous vehicles, and numerical optimization using Amazon SageMaker Key Features Understand the need for high-performance computing (HPC)

Build, train, and deploy large ML models with billions of parameters using Amazon SageMaker Learn best practices and architectures for implementing ML at scale using HPC Book Description Machine learning (ML) and high-performance computing (HPC) on AWS run compute-intensive workloads across industries and emerging applications. Its use cases can be linked to various verticals, such as computational fluid dynamics (CFD), genomics, and autonomous vehicles. This book provides end-to-end guidance, starting with HPC concepts for storage and networking. It then progresses to working examples on how to process large datasets using SageMaker Studio and EMR. Next, you'll learn how to build, train, and deploy large models using distributed training. Later chapters also guide you through deploying models to edge devices using SageMaker and IoT Greengrass, and performance optimization of ML models, for low latency use cases. By the end of this book, you'll be able to build, train, and deploy your own large-scale ML application, using HPC on AWS, following industry best practices and addressing the key pain points encountered in the application life cycle. What you will learn Explore data management, storage, and fast networking for HPC applications Focus on the analysis and visualization of a large volume of data using Spark Train visual transformer models using SageMaker distributed training Deploy and manage ML models at scale on the cloud and at the edge Get to grips with performance optimization of ML models for low latency workloads Apply HPC to industry domains such as CFD, genomics, AV, and optimization Who this book is for The book begins with HPC concepts, however, it expects you to have prior machine learning knowledge. This book is for ML engineers and data scientists interested in

learning advanced topics on using large datasets for training large models using distributed training concepts on AWS, deploying models at scale, and performance optimization for low latency use cases. Practitioners in fields such as numerical optimization, computation fluid dynamics, autonomous vehicles, and genomics, who require HPC for applying ML models to applications at scale will also find the book useful.

Beyond Edge Computing - Ana Juan Ferrer 2023-04-23
This book explores the most recent Edge and Distributed Cloud computing research and industrial advances, settling the basis for Advanced Swarm Computing developments. It features the Swarm computing concepts and realizes it as an Ad-hoc Edge Cloud architecture. Unlike current techniques in Edge and Cloud computing that solely view IoT connected devices as sources of data, Swarm computing aims at using the compute capabilities of IoT connected devices in coordination with current Edge and Cloud computing innovations. In addition to being more widely available, IoT-connected devices are also quickly becoming more sophisticated in terms of their ability to carry considerable compute and storage resources. Swarm computing and Ad-hoc Edge Cloud take full advantage of this trend to create on-demand, autonomic and decentralized self-managed computing infrastructures. Focusing on cognitive resource and service management, the book examines the specific research challenges of the Swarm computing approach, related to the characteristics of IoT connected devices that form the infrastructure. It also offers academics and practitioners insights for future research in the fields of Edge and Swarm computing.

The Insider's Guide to Arm Cortex-M Development - Zachary Lasiuk 2022-10-27

Learn and implement the latest Arm Cortex-M microcontroller development concepts such as performance optimization, security, software reuse, machine learning, continuous integration, and cloud-based development from industry experts

Key Features

- Learn how to select the best Cortex-M hardware, software, and tools for your project
- Understand the use of key software components and how to optimize and develop modern applications
- Get hands-on experience implementing quality software using example code provided in the book

Purchase of the print or Kindle book includes a free eBook in the PDF format

Book Description

Cortex-M has been around since 2004, so why a new book now? With new microcontrollers based on the Cortex-M55 and Cortex-M85 being introduced this year, Cortex-M continues to expand. New software concepts, such as standardized software reuse, have emerged alongside new topics including security and machine learning. Development methodologies have also significantly advanced, with more embedded development taking place in the cloud and increased levels of automation. Due to these advances, a single engineer can no longer understand an entire project and requires new skills to be successful. This book provides a unique view of how to navigate and apply the latest concepts in microcontroller development. The book is split into two parts. First, you'll be guided through how to select the ideal set of hardware, software, and tools for your specific project. Next, you'll explore how to implement essential topics for modern embedded developers. Throughout the book, there are examples for you to learn by working with real Cortex-M devices with all software available on GitHub. You will gain experience with the small Cortex-M0+, the powerful Cortex-M55, and more Cortex-M processors. By

the end of this book, you'll be able to practically apply modern Cortex-M software development concepts.

What you will learn

- Familiarize yourself with heuristics to identify the right components for your Cortex-M project
- Boot code to efficiently start up a Cortex-M device
- Optimize algorithms with compilers, middleware, and other means
- Get to grips with machine learning frameworks and implementation techniques
- Understand security in the embedded space with solutions like TrustZone and TF-M
- Explore cloud-based development methodologies to increase efficiency
- Dive into continuous integration frameworks and best practices
- Identify future trends that could impact Cortex-M software development

Who this book is for

This book is for practicing engineers and students working with embedded and IoT systems who want to quickly learn how to develop quality software for Arm Cortex-M processors without reading long technical manuals. If you're looking for a book that explains C or assembly language programming for the purpose of creating a single application or mastering a type of programming such as digital signal processing algorithms, then this book is NOT for you. A basic understanding of embedded hardware and software, along with general C programming skills will assist with understanding the concepts covered in this book.

Stay Relevant in 2020 - Java Developer 1000+ Unique Real Life Challenges and Interview Questions - Infinite Paths Publication 2020-05-16

Our Architect Team has created this Book with Great care and most of the latest technologies are covered One can learn from the questions itself as they are well detailed. THESE CHALLENGES ARE NOT A COLLECTION OF REGULAR INTERVIEW QUESTIONS SCRAPPED FROM WEB Interview

Questions from the below Topics. 1. Blockchain 2. Microservices 3. Docker 4. Kubernetes 5. Reactive 6. Spring Boot 7. Apache Spark 8. AI-ML-DL 9. JHipster 10. Advanced JDBC 11. MySQL 12. JShell 13. Appium 14. Elastic search 15. Mockito 16. PowerMock 17. Regex 18. MongoDB 19. SQL 20. Redis 21. Generic 22. JDK 23. Scrum – Agile 24. Quantum 25. Serverless 26. Security 27. Android 28. Selenium 29. JWT 30. Hacking 31. Capacity Planning 32. Postman 33. Progressive 34. BDD 35. Swagger 36. Jmeter 37. Logging 38. Concurrency 39. Linux 40. RaspberryPI 41. Arduino 42. Terms 43. Charts 44. Tomcat 45. Kotlin 46. Architectures 47. Hibernate 48. GIT 49. Web Development 50. Softwares and Libraries 51. AWS 52. AZURE Functions 53. Maven 54. HyperLedger 55. HTTP/2 56. WireShark 57. IOT 58. ELK 59. Graffana 60. Wildfly 61. Software Design 62. Jenkins 63. SonarQube 64. Patterns AntiPatterns 65. Famous and Useful Softwares 66. FAAS 67. Quartz

High-Performance Computing and Big Data Analysis - Lucio Grandinetti 2019-10-19

This book constitutes revised and selected papers from the Second International Congress on High-Performance Computing and Big Data Analysis, TopHPC 2019, held in Tehran, Iran, in April 2019. The 37 full papers and 2 short papers presented in this volume were carefully reviewed and selected from a total of 103 submissions. The papers in the volume are organized according to the following topical headings: deep learning; big data analytics; Internet of Things.- data mining, neural network and genetic algorithms; performance issues and quantum computing.

IoT Projects with Bluetooth Low Energy - Madhur Bhargava 2017-08-28

Use the power of BLE to create exciting IoT

applications

About This Book* Build hands-on IoT projects using Bluetooth Low Energy and learn about Bluetooth 5 and its features.* Build a health tracking system, and indoor navigation and warehouse weather monitoring projects using smart devices.* Build on a theoretical foundation and create a practice-based understanding of Bluetooth Low Energy.

Who This Book Is ForIf you're an application developer, a hardware enthusiast, or just curious about the Internet of Things and how to convert it into hands-on projects, then this book is for you. Having some knowledge of writing mobile applications will be advantageous.

What You Will Learn* Learn about the architecture and IoT uses of BLE, and in which domains it is being used the most* Set up and learn about various development platforms (Android, iOS, Firebase, Raspberry Pi, Beacons, and GitHub)* Create an Explorer App (Android/iOS) to diagnose a Fitness Tracker* Design a Beacon with the Raspberry Pi and write an app to detect the Beacon* Write a mobile app to periodically poll the BLE tracking sensor* Compose an app to read data periodically from temperature and humidity sensors* Explore more applications of BLE with IoT* Design projects for both Android and iOS mobile platforms

In DetailBluetooth Low Energy, or Bluetooth Smart, is Wireless Personal Area networking aimed at smart devices and IoT applications. BLE has been increasingly adopted by application developers and IoT enthusiasts to establish connections between smart devices. This book initially covers all the required aspects of BLE, before you start working on IoT projects. In the initial stages of the book, you will learn about the basic aspects of Bluetooth Low Energy-- such as discovering devices, services, and characteristics--that will be helpful for advanced-level

projects. This book will guide you through building hands-on projects using BLE and IoT. These projects include tracking health data, using a mobile App, and making this data available for health practitioners; Indoor navigation; creating beacons using the Raspberry Pi; and warehouse weather Monitoring. This book also covers aspects of Bluetooth 5 (the latest release) and its effect on each of these projects. By the end of this book, you will have hands-on experience of using Bluetooth Low Energy to integrate with smart devices and IoT projects. Style and approach A practical guide that will help you promote yourself into an expert by building and exploring practical applications of Bluetooth Low Energy.

AWS Certified Advanced Networking Official Study Guide - Sidhartha Chauhan 2018-02-13

The official study guide for the AWS certification specialty exam The AWS Certified Advanced Networking Official Study Guide – Specialty Exam helps to ensure your preparation for the AWS Certified Advanced Networking – Specialty Exam. Expert review of AWS fundamentals align with the exam objectives, and detailed explanations of key exam topics merge with real-world scenarios to help you build the robust knowledge base you need to succeed on the exam—and in the field as an AWS Certified Networking specialist. Coverage includes the design, implementation, and deployment of cloud-based solutions; core AWS services implementation and knowledge of architectural best practices; AWS service architecture design and maintenance; networking automation; and more. You also get one year of free access to Sybex’s online interactive learning environment and study tools, which features flashcards, a glossary, chapter tests, practice

exams, and a test bank to help you track your progress and gauge your readiness as exam day grows near. The AWS credential validates your skills surrounding AWS and hybrid IT network architectures at scale. The exam assumes existing competency with advanced networking tasks, and assesses your ability to apply deep technical knowledge to the design and implementation of AWS services. This book provides comprehensive review and extensive opportunities for practice, so you can polish your skills and approach exam day with confidence. Study key exam essentials with expert insight Understand how AWS skills translate to real-world solutions Test your knowledge with challenging review questions Access online study tools, chapter tests, practice exams, and more Technical expertise in cloud computing, using AWS, is in high demand, and the AWS certification shows employers that you have the knowledge and skills needed to deliver practical, forward-looking cloud-based solutions. The AWS Certified Advanced Networking Official Study Guide – Specialty Exam helps you learn what you need to take this next big step for your career.

Internet of Everything - Teresa Pereira 2023-03-01 This book constitutes the refereed post-conference proceedings of the EAI International Conference on Internet of Everything, IoECon 2022, which took place in Guimarães, Portugal in September 16-17 2022. IoECon 2022 presents IoE paradigms to their whole dimension, intelligently connecting devices, people, processes, data, and things. IoE is multi-disciplinary and offers an opportunity to explore the co-relations between different areas, techniques, and theories about a new cyber world. The 10 revised full papers were carefully reviewed and selected from 26 submissions. The papers

focus on a complete ecosystem that digitally interconnects everything, including people-to-people, people-to-machines, and machines-to-machines.

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, devices, and protocols to mitigate risk. 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 NSE 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

REQUIREMENTS: Basic knowledge of Linux command line, TCP/IP, and programming

Industrial IoT for Architects and Engineers - Joey

Bernal 2023-01-20

Go beyond connecting services to understand the unique challenges encountered in industrial environments by building Industrial IoT architectures using AWS Purchase of the print or kindle book includes a free eBook in the PDF format Key Features Understand the key components of IoT Architecture and how it applies to Industry 4.0 Walk through extensive examples and solutions across multiple Industries Learn how to collect, process, store, and analyse Industrial IoT data Book Description When it comes to using the core and managed services available on AWS for making decisions about architectural environments for an enterprise, there are as many challenges as there are advantages. This Industrial IoT book follows the journey of data from the shop floor to the boardroom, identifying goals and aiding in strong architectural decision-making. You'll begin from the ground up, analyzing environment needs and understanding what is required from the captured data, applying industry standards and conventions throughout the process. This will help you realize why digital integration is crucial and how to approach an Industrial IoT project from a holistic perspective. As you advance, you'll delve into the operational technology realm and consider integration patterns with common industrial protocols for data gathering and analysis with direct connectivity to data through sensors or systems. The book will equip you with the essentials for designing industrial IoT architectures while also covering intelligence at the edge and creating a greater awareness of the role of machine learning and artificial intelligence in overcoming architectural challenges. By the end of this book, you'll be ready to apply IoT directly to the industry while adapting the concepts

covered to implement AWS IoT technologies. What you will learn Discover Industrial IoT best practices and conventions Understand how to get started with edge computing Define and build IoT solution architectures from scratch Use AWS as the core of your solution platform Apply advanced analytics and machine learning to your data Deploy edge processing to react in near real time to events within your environment Who this book is for This book is for architects, engineers,

developers, and technical professionals interested in building an edge and cloud-based Internet of Things ecosystem with a focus on industry solutions. Since the focus of this book is specifically on IoT, a solid understanding of core IoT technologies and how they work is necessary to get started. If you are someone with no hands-on experience, but are familiar with the subject, you'll find the use cases useful to learn how architectural decisions are made.