

Create Your Own Operating System Build Deploy And

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Embedded Operating System Projects - Hentschel, Uwe 2014

In today's life, embedded systems are ubiquitous. But they differ from traditional desktop systems in many aspects - these include predictable timing behavior (real-time), the management of scarce resources (memory, network), reliable communication protocols, energy management, special purpose user-interfaces (headless operation), system configuration, programming languages (to support software/hardware co-design), and modeling techniques. Within this technical report, authors present results from the lecture "Operating Systems for Embedded Computing" that has been offered by the "Operating Systems and Middleware" group at HPI in Winter term 2013/14. Focus of the lecture and accompanying projects was on principles of real-time computing. Students had the chance to gather practical experience with a number of different OSes and applications and present experiences with near-hardware programming. Projects address the entire spectrum, from bare-metal programming to harnessing a real-time OS to exercising the full software/hardware co-design cycle. Three outstanding projects are at the heart of this technical report. Project 1 focuses on the development of a bare-metal operating system for LEGO Mindstorms EV3. While still a toy, it comes with a powerful ARM processor, 64 MB of main memory, standard interfaces, such as Bluetooth and network protocol stacks. EV3 runs a version of 1 1 Introduction Linux. Sources

are available from Lego's web site. However, many devices and their driver software are proprietary and not well documented. Developing a new, bare-metal OS for the EV3 requires an understanding of the EV3 boot process. Since no standard input/output devices are available, initial debugging steps are tedious. After managing these initial steps, the project was able to adapt device drivers for a few Lego devices to an extent that a demonstrator (the Segway application) could be successfully run on the new OS. Project 2 looks at the EV3 from a different angle. The EV3 is running a pretty decent version of Linux- in principle, the RT_PREEMPT patch can turn any Linux system into a real-time OS by modifying the behavior of a number of synchronization constructs at the heart of the OS. Priority inversion is a problem that is solved by protocols such as priority inheritance or priority ceiling. Real-time OSes implement at least one of the protocols. The central idea of the project was the comparison of non-real-time and real-time variants of Linux on the EV3 hardware. A task set that showed effects of priority inversion on standard EV3 Linux would operate flawlessly on the Linux version with the RT_PREEMPT-patch applied. If only patching Lego's version of Linux was that easy... Project 3 takes the notion of real-time computing more seriously. The application scenario was centered around our Carrera Digital 132 racetrack. Obtaining position information from the track, controlling individual cars, detecting and modifying the

Carrera Digital protocol required design and implementation of custom controller hardware. What to implement in hardware, firmware, and what to implement in application software – this was the central question addressed by the project.

Learn Azure in a Month of Lunches - Iain Foulds 2020-06-21

Learn Azure in a Month of Lunches, Second Edition, is a tutorial on writing, deploying, and running applications in Azure. In it, you'll work through 21 short lessons that give you real-world experience. Each lesson includes a hands-on lab so you can try out and lock in your new skills. Summary You can be incredibly productive with Azure without mastering every feature, function, and service. Learn Azure in a Month of Lunches, Second Edition gets you up and running quickly, teaching you the most important concepts and tasks in 21 practical bite-sized lessons. As you explore the examples, exercises, and labs, you'll pick up valuable skills immediately and take your first steps to Azure mastery! This fully revised new edition covers core changes to the Azure UI, new Azure features, Azure containers, and the upgraded Azure Kubernetes Service. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Microsoft Azure is vast and powerful, offering virtual servers, application templates, and prebuilt services for everything from data storage to AI. To navigate it all, you need a trustworthy guide. In this book, Microsoft engineer and Azure trainer Iain Foulds focuses on core skills for creating cloud-based applications. About the book Learn Azure in a Month of Lunches, Second Edition, is a tutorial on writing, deploying, and running applications in Azure. In it, you'll work through 21 short lessons that give you real-world experience. Each lesson includes a hands-on lab so you can try out and lock in your new skills. What's inside Understanding Azure beyond point-and-click Securing applications and data Automating your environment Azure services for machine learning, containers, and more About the reader This book is for readers who can write and deploy simple web or client/server applications. About the author Iain Foulds is an engineer and senior content developer with Microsoft. Table

of Contents PART 1 - AZURE CORE SERVICES 1 Before you begin 2 Creating a virtual machine 3 Azure Web Apps 4 Introduction to Azure Storage 5 Azure Networking basics PART 2 - HIGH AVAILABILITY AND SCALE 6 Azure Resource Manager 7 High availability and redundancy 8 Load-balancing applications 9 Applications that scale 10 Global databases with Cosmos DB 11 Managing network traffic and routing 12 Monitoring and troubleshooting PART 3 - SECURE BY DEFAULT 13 Backup, recovery, and replication 14 Data encryption 15 Securing information with Azure Key Vault 16 Azure Security Center and updates PART 4 - THE COOL STUFF 17 Machine learning and artificial intelligence 18 Azure Automation 19 Azure containers 20 Azure and the Internet of Things 21 Serverless computing

IBM Workload Deployer: Pattern-based Application and Middleware Deployments in a Private Cloud - Carla Sadtler 2012-03-22

IBM® Workload Deployer provides a solution to creating, deploying, and managing workloads in an on-premise or private cloud. It is rich in features that allow you to quickly build and deploy virtual systems from base images, to extend those images, and to customize them for future use as repeatable deployable units. IBM Workload Deployer also provides an application-centric capability enabling rapid deployment of business applications. By using either of these deployment models, an organization can quickly instantiate a complete application platform for development, test, or production. The IBM Workload Deployer uses the concept of patterns to describe the logical configuration of both the physical and virtual assets that comprise a particular solution. The use of patterns allows an organization to construct a deployable solution one time, and then dispense the final product on demand. patterns are composed of an operating system and IBM software solutions, such as IBM WebSphere® Application Server and IBM WebSphere Virtual Enterprise. patterns are constructed to support a single application workload. The IBM Workload Deployer is shipped with a set of pre-loaded virtual images and virtual patterns. These images and patterns can be used to create comprehensive and flexible middleware solutions. They can also be cloned and customized to suit your specific

needs. This IBM Redbooks® publication looks at two different aspects of customizing virtual systems for deployment into the cloud. First, it explores the capabilities of IBM Image Construction and Composition Tool to build and provide highly customized virtual images for use in virtual system patterns on the IBM Workload Deployer. Next, it looks at the virtual application capabilities of the IBM Workload Deployer, including those capabilities that allow you to deploy enterprise applications and database services to the cloud. It also introduces the IBM Workload Deployer Plugin Development Kit, which allows you to further extend the capabilities of the virtual application patterns.

Professional Windows Embedded Compact 7 - Samuel Phung 2011-08-15

Learn to program an array of customized devices and solutions As a compact, highly efficient, scalable operating system, Windows Embedded Compact 7 (WEC7) is one of the best options for developing a new generation of network-enabled, media-rich, and service-oriented devices. This in-depth resource takes you through the benefits and capabilities of WEC7 so that you can start using this performance development platform today. Divided into several major sections, the book begins with an introduction and then moves on to coverage of OS design, application development, advanced application development, how to deploy WEC7 devices, and more. Examines the benefits of Windows Embedded Compact 7 (WEC7) Reviews the various elements of OS design, including configuring and building a customized OS runtime image, using debugging and remote tools, and more Explains how to develop native code applications with Visual Studio 2010, develop database applications with SQL server compact, and use the application deployment option Discusses how to deploy a WEC device, use the boot loader, launch WEC using BIOSLoader, and deploy a WEC power toy If you're interested in learning more about embedded development or you're seeking a higher performance development platform, then this is the book for you.

Blockchain for Business with Hyperledger Fabric - Shah Nakul 2019-09-20

Step-by-step guide to understand the business implementation of Hyperledger Fabric Key

features Learn the basics of blockchain and Distributed Ledger Technology from a business and enterprise perspective Understand the advantages of Hyperledger Fabric and get acquainted with its architecture and tools used Acquire skills to create, deploy and interact with Chaincode in Node.js Learn to set up a new Hyperledger Fabric network Demystify Chaincode, in Fabric, for developers and operators Develop knowledge to invoke Chaincode from Fabric SDK and create APIs Get acquainted with the production environment for Fabric business networks DescriptionIn 2016, enterprise "e;blockchain"e; was a new concept. There were very few players in the private permissioned blockchain space. The advent of Hyperledger Fabric has since brought its tech in front of the likes of multi-national companies across various sectors like banking, insurance, retail, and more. Corporations and startups, across the globe, have started moving towards Hyperledger Fabric to find new use cases to support business requirements efficiently. As a result, relevant technical expertise and knowledge is required to build and support solutions on Hyperledger Fabric. This book aims to equip you with enough knowledge of enterprise blockchain platforms in conjunction with skills to use Fabric in order to succeed in the role of a Blockchain developer or Subject Matter Expert.The book starts with a brief introduction to the world of blockchain. The book will cover all aspects of fabric ranging from network setup, to use case deployment and testing. Several examples have been covered in this book which will provide you a hands-on understanding of the subject. You will also learn to use the basic functions, libraries and packages required in a Fabric business network deployment.What will you learnThis book will help the reader learn techniques for developing enterprise applications using Hyperledger Fabric. It will also help understand why blockchain is being regarded as a game changing technology within the business world. Reader will learn to deploy Fabric based business networks and chaincodes, and will come across case studies to put their knowledge to practice and solve real-life business problems using Hyperledger Fabric. Who this book is forThe book is intended for anyone looking for a

career in blockchain, all aspiring Hyperledger Fabric SMEs who want to learn the most powerful innovation of the current time or working professionals who want to switch their career to blockchain by using Hyperledger Fabric - one of the most commonly used business platforms for blockchain. While no prior knowledge of Blockchain or Fabric is assumed, it will be helpful to have some programming experience.

Table of contents

1. Blockchain and Decentralization
2. Introduction to Hyperledger and Composer
3. Basics of Hyperledger Fabric
4. Frameworks, Network Topologies and Modelling
5. Chaincode in Hyperledger Fabric
6. Fabric SDK: Interaction with Fabric Network
7. Fabric SDK: Building End-to-End Application with Fabric Network
8. Fabric in Production

About the author Nakul Shah is the Founder and Director of Sate Development - India's leading Blockchain Company. He is a regular speaker at conferences across the globe, on topics like Blockchain, Hyperledger and Distributed Ledger Technology. As a longtime creative thought leader in financial markets, technology and innovation, he has worked with startups and multinationals across the world. Nakul has multiple years of experience in research, development and deployment of solutions using Blockchain Technology. Besides creating enterprise solutions, he also provides training, consultancy and development services, helping clients de-mystify the technology and understand how organizations can leverage its key features. Nakul has conducted lectures for banks, universities and governments, on various topics covering platforms and use cases of blockchain. Nakul has played a significant role in the adoption and application of technology. He started his career at State Street Corporation in Boston, which is one of the biggest and oldest providers of mutual fund, pension processing and asset custody services. He used advanced statistical and technical tools in the field of socially responsible investment. He also served as a Product Specialist for the wealth management team at Charles River Development. While executing independent consulting assignments, he has advised a leading sustainability firm that helps Fortune 500 companies. Nakul holds a Master's degree in Financial Engineering from The University of

Michigan Ann Arbor, USA. His LinkedIn Profile: [linkedin.com/in/nakul-s-shah](https://www.linkedin.com/in/nakul-s-shah)

Java Cookbook - Ian F. Darwin 2014-06-25
From lambda expressions and JavaFX 8 to new support for network programming and mobile development, Java 8 brings a wealth of changes. This cookbook helps you get up to speed right away with hundreds of hands-on recipes across a broad range of Java topics. You'll learn useful techniques for everything from debugging and data structures to GUI development and functional programming. Each recipe includes self-contained code solutions that you can freely use, along with a discussion of how and why they work. If you are familiar with Java basics, this cookbook will bolster your knowledge of the language in general and Java 8's main APIs in particular. Recipes include: Methods for compiling, running, and debugging
Manipulating, comparing, and rearranging text
Regular expressions for string- and pattern-matching
Handling numbers, dates, and times
Structuring data with collections, arrays, and other types
Object-oriented and functional programming techniques
Directory and filesystem operations
Working with graphics, audio, and video
GUI development, including JavaFX and handlers
Network programming on both client and server
Database access, using JPA, Hibernate, and JDBC
Processing JSON and XML for data storage
Multithreading and concurrency

The C Programming Language - Brian W. Kernighan 1988
Introduces the features of the C programming language, discusses data types, variables, operators, control flow, functions, pointers, arrays, and structures, and looks at the UNIX system interface

Adopting IBM PureApplication System V1.0 - Shivaji D Bhosale 2013-12-11
This IBM® Redbooks® publication introduces users to the concepts of the IBM PureApplication™ System V1.0. This book covers the most common problems, solutions, best practices, and use cases about adopting the IBM PureApplication System V1.0. The target audience for this book is anyone from the IT industry who wants to acquire a better understanding of IBM PureApplication System, including technical consultants, business

partners, and independent software vendors who are considering migrating to a cloud computing solution. This book also is applicable to system administrators, middleware specialists, and software engineers who need a more in-depth approach to PureApplication System features and capabilities.

Cloud Computing Patterns of Expertise -

Chiara Brandle 2014-06-18

This IBM® Redpaper™ publication explains the business and technical value of emerging patterns of expertise in cloud computing, with specific applicability to IBM PureApplication™ System, IBM Workload Deployer, IBM SmartCloud® Orchestrator, and IBM SmartCloud Application Services. It explains how patterns help companies use the different cloud environments that IBM offers. Also included are some preferred practices for helping to ensure pattern portability. The pattern-based approach is a response to the need to reduce complexity in IT environments, where various skills are required to design, test, configure, and maintain integrated solutions, including clouds. IT managers spend most of their time maintaining applications and application environments, leaving little time to focus on new business needs or to adopt new technologies. As a result, businesses can lack the agility that is needed to be successful in fast-paced, competitive markets. Pattern of expertise are designed to deliver the following benefits: Faster time-to-value Reduced costs and resource demands Fewer errors and, therefore, lower risk Patterns make full use of the unique nature of clouds, both private or public. When they are used in the cloud, patterns allow for the dynamic and efficient use of IT resources to achieve consistent results, even when complex solutions are built. In this way, patterns help save time, money, and resources. This Redpaper aims to show the value that patterns bring to IT managers and the business as a whole.

Hands-On Enterprise Automation on Linux -

James Freeman 2020-01-24

Achieve enterprise automation in your Linux environment with this comprehensive guide Key Features Automate your Linux infrastructure with the help of practical use cases and real-world scenarios Learn to plan, build, manage, and customize OS releases in your

environment Enhance the scalability and efficiency of your infrastructure with advanced Linux system administration concepts Book Description Automation is paramount if you want to run Linux in your enterprise effectively. It helps you minimize costs by reducing manual operations, ensuring compliance across data centers, and accelerating deployments for your cloud infrastructures. Complete with detailed explanations, practical examples, and self-assessment questions, this book will teach you how to manage your Linux estate and leverage Ansible to achieve effective levels of automation. You'll learn important concepts on standard operating environments that lend themselves to automation, and then build on this knowledge by applying Ansible to achieve standardization throughout your Linux environments. By the end of this Linux automation book, you'll be able to build, deploy, and manage an entire estate of Linux servers with higher reliability and lower overheads than ever before. What you will learn Perform large-scale automation of Linux environments in an enterprise Overcome the common challenges and pitfalls of extensive automation Define the business processes needed to support a large-scale Linux environment Get well-versed with the most effective and reliable patch management strategies Automate a range of tasks from simple user account changes to complex security policy enforcement Learn best practices and procedures to make your Linux environment automatable Who this book is for This book is for anyone who has a Linux environment to design, implement, and maintain. Open source professionals including infrastructure architects and system administrators will find this book useful. You're expected to have experience in implementing and maintaining Linux servers along with knowledge of building, patching, and maintaining server infrastructure. Although not necessary, knowledge of Ansible or other automation technologies will be beneficial.

Microservices from Theory to Practice: Creating Applications in IBM Bluemix Using the Microservices Approach -

Shahir Daya 2016-04-04

Microservices is an architectural style in which large, complex software applications are composed of one or more smaller services. Each

of these microservices focuses on completing one task that represents a small business capability. These microservices can be developed in any programming language. They communicate with each other using language-neutral protocols, such as Representational State Transfer (REST), or messaging applications, such as IBM® MQ Light. This IBM Redbooks® publication gives a broad understanding of this increasingly popular architectural style, and provides some real-life examples of how you can develop applications using the microservices approach with IBM Bluemix™. The source code for all of these sample scenarios can be found on GitHub (<https://github.com/>). The book also presents some case studies from IBM products. We explain the architectural decisions made, our experiences, and lessons learned when redesigning these products using the microservices approach. Information technology (IT) professionals interested in learning about microservices and how to develop or redesign an application in Bluemix using microservices can benefit from this book.

Beginning Windows 8 Application Development - Zoltan Arvai 2012-09-06

Learn to use exciting new development tools and create applications for Windows 8 If you're a beginning developer, there's no better place to get up to speed on the Windows 8 SDK than this Wrox guide. A team of Microsoft experts provides a complete course in Windows 8 programming, helping you take full advantage of the innovative new SDK. Written in an easy-to-read style, this book is packed with reusable examples that showcase the endless possibilities of the Windows SDK and also introduces the new Windows 8 app store. It explains how to set up the development environment and covers user interface design, using special effects and graphics, working with C# and C++, and much more. Provides a complete introduction to the Windows SDK and Windows 8, starting with setting up the development environment and building your first application Covers user interface design, touch- and event-driven design elements, leveraging windows-based services, and offline application development with HTML 5 Explores creating C# applications for the Windows 8 system, XNA 4 and Silverlight 5

considerations, and the role of C++ Shows how to debug, certify and deploy your applications Introduces the new Windows 8 app store and offers advice on marketing your apps Beginning Windows 8 Application Development is perfect for anyone who's ready to get started developing apps for the exciting new Windows 8 OS.

Professional Xcode 3 - James Bucanek 2010-02-12

A solid guide that responds to the active interest in Apple's Xcode tools Apple's Xcode tools are a collection of applications and frameworks that are used to develop, test, and optimize applications primarily written for Mac OS X or the iPhone. The steady increase in sales of Apple computers has triggered a strong interest in gaining a thorough understanding of Xcode and its tools and what they have to offer. This book provides you with an inside look at the array of Xcode tools from top to bottom. You'll go beyond the basics and dive into such in-depth topics as installing the latest version of Xcode tools, customizing the look and behavior of Xcode, creating and managing projects, using the built-in class browser to model complex applications and structures, and more. Offers you a solid foundation for getting the most out of Apple's Xcode tools, a collection of applications and frameworks used to develop, test, and optimize applications written for Mac OS X or the iPhone Includes clear, comprehensive lessons for installing the latest version of Xcode tools, customizing the look of Xcode, creating and managing projects, testing your interfaces, and building and debugging your projects Explains analyzing performance, optimizing your application, working with shared sources, creating your own custom file templates, and customizing the interface builder With this book, you'll be able to take full advantage of the range of tools included with Xcode.

Build Your Own Computer - Richard Whipple 2019-06-03

In this book, I begin with first principles (AND, OR, and NOT logic) and carry out a basic computer design finishing with a working computer using a Field Programmable Gate Array. A knowledge of computer science or electronics is not needed to follow along. Each step will rely on supplied information and simple reasoning. Whether novice or computer

professional, knowing how a computer works allows you to take full advantage of its capabilities.

Mac OS X Hacks - Rael Dornfest 2003

Offers tips, techniques, and tools to help readers take advantage of Mac OS X, covering topics including user accounts, working with audio and video, running a mail server, and networking with Windows desktops.

Build Your Own PC Do-It-Yourself For Dummies - Mark L. Chambers 2011-08-02

If you've dreamed about having a customized multimedia PC or one tricked out for your favorite games, build your own and make your dreams come true! Build Your Own PC Do-It-Yourself For Dummies makes it easy. Not only is building your own PC a really rewarding project, it can also save you a nice chunk of cash. This step-by-step guide helps you decide what you need, teaches you what all those computer terms mean, and tells you exactly how to put the pieces together. It shows you: What tools you need (not as many as you might think!) All about operating systems How to install CD and DVD drives The scoop on sound and video, and how to put a sound system together from start to finish How to connect a monitor and install a modem All about setting up and configuring the hard drive Secrets for securing your system, and more Included is a bonus DVD showing you how to install the motherboard, CPU, RAM, ports, hard drive, video and sound cards, a DVD drive, and more. With Build Your Own PC Do-It-Yourself For Dummies, you can have the computer you want plus the satisfaction of doing it yourself! Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file.

Mobile User Experience - Adrian Mendoza 2013-09-03

This is your must-have resource to the theoretical and practical concepts of mobile UX. You'll learn about the concepts and how to apply them in real-world scenarios. Throughout the book, the author provides you with 10 of the most commonly used archetypes in the UX arena to help illustrate what mobile UX is and how you can master it as quickly as possible. First, you'll start off learning how to communicate mobile UX flows visually. From there, you'll learn about applying and using 10 unique user experience patterns or archetypes for mobile. Finally, you'll

understand how to prototype and use these patterns to create websites and apps. Whether you're a UX professional looking to master mobility or a designer looking to incorporate the best UX practices into your website, after reading this book, you'll be better equipped to maneuver this emerging specialty. Addresses the gap between theoretical concepts and the practical application of mobile user experience design Illustrates concepts and examples through an abundance of diagrams, flows, and patterns Explains the differences in touch gestures, user interface elements, and usage patterns across the most common mobile platforms Includes real-world examples and case studies for this rapidly growing field

The AppFuse Primer - SourceBeat, LLC 2004-01-01

The Spring Framework project is a Java/J2EE framework designed to make developing applications easier. It includes JavaBeans-based configuration, an AOP framework, declarative transaction management, persistence frameworks support (i.e. Hibernate and iBatis, as well as JDBC) and a web MVC framework. Spring Live is designed to explain how to integrate Spring into your projects to make software development easier. It is aimed at users that are familiar with Java development, but have never used Spring. As you read this title, you will learn how Spring reduces the amount of code you have to write and why it's getting so much attention (and respect) from the Java community.

Microsoft System Center Configuration Manager Cookbook - Samir Hammoudi 2016-11-23

Over 60 applicable recipes to administer and manage System Center Configuration Manager Current Branch About This Book Overcome the challenges of administering System Center Configuration Manager when deploying single and multiple-hierarchy sites Help your organization to build a custom-line of business apps and also protect the server against malware threats with Endpoint protection Get easy guidance and best practices to help you work with SCCM Who This Book Is For If you are an intermediate to advanced administrator who wants to administer SCCM and understand how to solve particular problems/scenarios, then this book is for you. You should have a working

knowledge of SCCM, however, knowledge of the latest version is not required. What You Will Learn Administer System Center Configuration Manager Upgrade computers from Windows 7/8.x to Windows 10, using Service Plans to keep Windows 10 machines up to date Manage Compliance Settings effectively and monitor it with SSRS Manage Sites in System Center Configuration Manager and also learn to create collections, leverage role-based administration (RBA), and support clients over the internet without a VPN connection Implement multiple methods to deploy the client, as well as how to be proactive in monitoring client agent health Achieve Mobile device management with Microsoft Intune In Detail This practical cookbook is based on the 1602 current branch of System Center Configuration Manager (SCCM). It shows you how to administer SCCM, giving you an essential toolbox of techniques to solve real-world scenarios. Packed with over 60 task-based and instantly usable recipes, you'll discover how design a SCCM Infrastructure, and dive into topics such as the recommended SQL configuration for SCCM and how to deploy Windows 10 with Operating System Deployment (OSD). You will learn to easily manage Windows 10 devices by deploying applications, software updates, and feature upgrades, and be able to leverage Mobile Device Management (MDM) using SCCM and Microsoft Intune. Finally, you see how to gather the inventory of all your PC park and create reports based on it. By the end of the book, you will have learned the best practices when working with SCCM and have a handy reference guide for troubleshooting. Style and approach This cookbook is full of quick recipes that show you how to administer SCCM and will help you understand how to solve particular problems/situations encountered in day-to-day tasks.

Foundation ActionScript 3.0 for Flash and Flex - Darren Richardson 2009-11-09

ActionScript 3.0, the latest version of the Flash Platform's scripting language, offers many new and powerful features. ActionScript is now a full-fledged programming language, with complete object-oriented capabilities, improved event handling, sound and video support, drawing capabilities, support for regular expressions, and much more. Whether you are a Flash designer

wishing to add to your skill set or an experienced ActionScript developer who wants to get up to speed with the latest version, you'll find all you need to know in Foundation ActionScript 3.0 for Flash and Flex. Starting with the fundamentals, you'll learn how to add interactivity to your Flash movies by using ActionScript objects, manipulating sound and video, and harnessing the power of regular expressions and XML. The book concludes with two case studies to consolidate what you've learned and introduce some additional advanced techniques. You'll gain a solid understanding of the new and exciting world of ActionScript 3.0 and see how everything fits together to form complete applications, so you'll be able to build your own professional sites. The sensible layout of the book makes it easy to find information about specific techniques. It focuses on the essential skills that will enable you to get up and running quick. With this book as your guide, you'll be creating killer Flash applications before you know it.

Operating Systems and Middleware - Max Hailperin 2007

By using this innovative text, students will obtain an understanding of how contemporary operating systems and middleware work, and why they work that way.

Building Serverless Python Web Services with Zappa - Abdulwahid Abdulhaque Barguzar 2018-07-30

Master serverless architectures in Python and their implementation, with Zappa on three different frameworks. Key Features Scalable serverless Python web services using Django, Flask, and Pyramid. Learn Asynchronous task execution on AWS Lambda and scheduling using Zappa. Implementing Zappa in a Docker container. Book Description Serverless applications are becoming very popular these days, not just because they save developers the trouble of managing the servers, but also because they provide several other benefits such as cutting heavy costs and improving the overall performance of the application. This book will help you build serverless applications in a quick and efficient way. We begin with an introduction to AWS and the API gateway, the environment for serverless development, and Zappa. We then look at building, testing, and deploying apps in

AWS with three different frameworks--Flask, Django, and Pyramid. Setting up a custom domain along with SSL certificates and configuring them with Zappa is also covered. A few advanced Zappa settings are also covered along with securing Zappa with AWS VPC. By the end of the book you will have mastered using three frameworks to build robust and cost-efficient serverless apps in Python. What you will learn Build, test, and deploy a simple web service using AWS CLI Integrate Flask-based Python applications, via AWS CLI configuration Design Rest APIs integrated with Zappa for Flask and Django Create a project in the Pyramid framework and configure it with Zappa Generate SSL Certificates using Amazon Certificate Manager Configure custom domains with AWS Route 53 Create a Docker container similar to AWS Lambda Who this book is for Python Developers who are interested in learning how to develop fast and highly scalable serverless applications in Python, will find this book useful

Microsoft System Center 2012

Configuration Manager - Brian Mason

2012-09-25

Over 50 practical recipes to administer System Center 2012 Configuration Manager

Linux Device Drivers - Jonathan Corbet

2005-02-07

Provides information on writing a driver in Linux, covering such topics as character devices, network interfaces, driver debugging, concurrency, and interrupts.

Create Your Own Operating System - Lucus

Darnell 2016-08-22

Have you ever wanted to build your own operating system, but didn't know where to begin? Then this book is for you! In this book, the author explains everything you need to know from getting and installing the necessary tools to writing, compiling, deploying, and testing your very own operating system. By the time you are done you will have an operating system to call your own. And, don't worry about destroying your existing hardware and software environment as everything in this book is written with the intention of running in a virtualized environment. However, should you choose to do so, the author also explains how to deploy and test your new OS on bare-metal hardware as

well. The first few chapters give a brief overview of how modern day computers work. In these chapters you will (re)learn everything from memory allocation, stacks, and bootloaders to low-level machine code and programming languages. After that, you will jump into downloading and installing the tools you will use for building your very own operating system. Here you will learn how to develop a bootloader and kernel just like modern day computers rely on for operating. The last few chapters will explain how to deploy and test your operating system as well as how to expand your OS to do more and even how to cross-compile your shiny new operating system for other devices such as the Raspberry Pi. To give an idea of what you can find in this book, below is the Table of Contents.

- 0x01 OS Basics
- 0x02 Intro to Machine Code
- 0x03 Intro to the Assembly Programming Language
- 0x04 Intro to the C Programming Language
- 0x05 Getting Started - Installing VirtualBox - Installing Linux - Installing GNOME - Preparing CentOS and the VM - Troubleshooting VirtualBox Guest Additions - Preparing the Development Environment
- 0x06 Bootstrapping with the Bootloader - Creating the Entry Point - GNU GRUB - Compiling the Entry Point
- 0x07 Welcome to the Kernel
- 0x08 Putting it all Together
- 0x09 Testing Your Operating System
- 0x0A Starting Your Architecture Library - Expanding the Console
- 0x0B Expanding Your OS
- 0x0C Cross-Compiling for Other Architectures - Create a Custom Cross-Compiler - Porting for the Raspberry Pi - Testing on Physical Hardware Conclusion

Acknowledgements Appendix Index

Robot Operating System (ROS) - Anis Koubaa

2021-07-17

This book is the sixth volume of the successful book series on Robot Operating System: The Complete Reference. The objective of the book is to provide the reader with comprehensive coverage of the Robot Operating Systems (ROS) and the latest trends and contributed systems. ROS is currently considered as the primary development framework for robotics applications. There are seven chapters organized into three parts. Part I presents two chapters on the emerging ROS 2.0 framework; in particular, ROS 2.0 is become increasingly mature to be integrated into the industry. The

first chapter from Amazon AWS deals with the challenges that ROS 2 developers will face as they transition their system to be commercial-grade. The second chapter deals with reactive programming for both ROS1 and ROS. In Part II, two chapters deal with advanced robotics, namely on the usage of robots in farms, and the second deals with platooning systems. Part III provides three chapters on ROS navigation. The first chapter deals with the use of deep learning for ROS navigation. The second chapter presents a detailed tuning guide on ROS navigation and the last chapter discusses SLAM for ROS applications. I believe that this book is a valuable companion for ROS users and developers to learn more ROS capabilities and features.

Mastering System Center 2012

Configuration Manager - Steve Rachui

2012-04-19

Expert coverage of Microsoft's highly anticipated network software deployment tool The latest version of System Center Configuration Manager (SCCM) is a dramatic update of its predecessor Configuration Manager 2007, and this book offers intermediate-to-advanced coverage of how the new SCCM boasts a simplified hierarchy, role-based security, a new console, flexible application deployment, and mobile management. You'll explore planning and installation, migrating from SCCM 2007, deploying software and operating systems, security, monitoring and troubleshooting, and automating and customizing SCCM 2012 with scripts. Features an unparalleled team of authors, two of whom are insiders at Microsoft and have worked with SCCM since nearly its inception Provides in-depth coverage and offers a hands-on approach to learning all there is to know about SCCM Explores why SCCM 2012 is the most significant update in its 16-year history Packed with real-world scenarios to show you how to use SCCM in various contexts, Mastering System Center Configuration Manager 2012 covers all aspects of this powerful and complete network software deployment tool.

Build Your Own Blockchain - Daniel Hellwig

2020-05-02

This book provides a comprehensive introduction to blockchain and distributed

ledger technology. Intended as an applied guide for hands-on practitioners, the book includes detailed examples and in-depth explanations of how to build and run a blockchain from scratch. Through its conceptual background and hands-on exercises, this book allows students, teachers and crypto enthusiasts to launch their first blockchain while assuming prior knowledge of the underlying technology. How do I build a blockchain? How do I mint a cryptocurrency? How do I write a smart contract? How do I launch an initial coin offering (ICO)? These are some of questions this book answers. Starting by outlining the beginnings and development of early cryptocurrencies, it provides the conceptual foundations required to engineer secure software that interacts with both public and private ledgers. The topics covered include consensus algorithms, mining and decentralization, and many more. "This is a one-of-a-kind book on Blockchain technology. The authors achieved the perfect balance between the breadth of topics and the depth of technical discussion. But the real gem is the set of carefully curated hands-on exercises that guide the reader through the process of building a Blockchain right from Chapter 1." Volodymyr Babich, Professor of Operations and Information Management, McDonough School of Business, Georgetown University "An excellent introduction of DLT technology for a non-technical audience. The book is replete with examples and exercises, which greatly facilitate the learning of the underlying processes of blockchain technology for all, from students to entrepreneurs." Serguei Netessine, Dhirubhai Ambani Professor of Innovation and Entrepreneurship, The Wharton School, University of Pennsylvania "Whether you want to start from scratch or deepen your blockchain knowledge about the latest developments, this book is an essential reference. Through clear explanations and practical code examples, the authors take you on a progressive journey to discover the technology foundations and build your own blockchain. From an operations perspective, you can learn the principles behind the distributed ledger technology relevant for transitioning towards blockchain-enabled supply chains. Reading this book, you'll get inspired, be able to assess the applicability of blockchain to

supply chain operations, and learn from best practices recognized in real-world examples." Ralf W. Seifert, Professor of Technology and Operations Management at EPFL and Professor of Operations Management at IMD

Continuous Delivery - Jez Humble 2010-07-27
Winner of the 2011 Jolt Excellence Award!

Getting software released to users is often a painful, risky, and time-consuming process. This groundbreaking new book sets out the principles and technical practices that enable rapid, incremental delivery of high quality, valuable new functionality to users. Through automation of the build, deployment, and testing process, and improved collaboration between developers, testers, and operations, delivery teams can get changes released in a matter of hours—sometimes even minutes—no matter what the size of a project or the complexity of its code base. Jez Humble and David Farley begin by presenting the foundations of a rapid, reliable, low-risk delivery process. Next, they introduce the “deployment pipeline,” an automated process for managing all changes, from check-in to release. Finally, they discuss the “ecosystem” needed to support continuous delivery, from infrastructure, data and configuration management to governance. The authors introduce state-of-the-art techniques, including automated infrastructure management and data migration, and the use of virtualization. For each, they review key issues, identify best practices, and demonstrate how to mitigate risks. Coverage includes

- Automating all facets of building, integrating, testing, and deploying software
- Implementing deployment pipelines at team and organizational levels
- Improving collaboration between developers, testers, and operations
- Developing features incrementally on large and distributed teams
- Implementing an effective configuration management strategy
- Automating acceptance testing, from analysis to implementation
- Testing capacity and other non-functional requirements
- Implementing continuous deployment and zero-downtime releases
- Managing infrastructure, data, components and dependencies
- Navigating risk management, compliance, and auditing

Whether you’re a developer, systems administrator, tester, or manager, this book will help your organization move from idea to release faster

than ever—so you can deliver value to your business rapidly and reliably.

Windows Server 2016: Installing & Configuring - William Stanek 2016-10-25

The in-depth, authoritative reference for intermediate to advanced IT professionals. Solutions, workarounds, tips and insights for IT pros working with Windows Server 2016. This exhaustive and comprehensive work provides a deep dive into the operating system that will teach you how to squeeze every last bit of power and make the most of the features and programs available. Inside this superbly organized guide, packed with expert advice, you'll find hundreds of timesaving solutions for installing, configuring, managing, and maintaining Windows Server 2016. Topics covered in this book include: Planning server deployments Building enterprise solutions Designing for high availability Deploying Full-Server and Server Core Deploying Nano Server and Windows Containers Managing Boot Configuration Data Hacking the Registry Configuring roles and features Managing server binaries Selecting hardware components Managing and troubleshooting hardware Performing diagnostics and troubleshooting Configuring event forwarding Tracking server health and performance Optimizing server performance And much, much more!! This book, *Installing & Configuring Windows Server 2016*, is designed to be used with other volumes in the Tech Artisans Library, which together provide a definitive resource for all of the core features and enhancements in Windows Server 2016. Windows Server expert William Stanek doesn't just show you the steps you need to follow, he tells you how features work, why you would want to configure them, and how you can optimize them to meet your needs. Windows Server 2016 is Microsoft's most powerful, versatile and fully featured operating system yet. Get this book and the others in the Tech Artisans Library to conquer it from the inside out.

[Cloud Native DevOps with Kubernetes](#) - John Arundel 2019-03-08

Kubernetes is the operating system of the cloud native world, providing a reliable and scalable platform for running containerized workloads. In this friendly, pragmatic book, cloud experts John Arundel and Justin Domingus show you what

Kubernetes can do—and what you can do with it. You'll learn all about the Kubernetes ecosystem, and use battle-tested solutions to everyday problems. You'll build, step by step, an example cloud native application and its supporting infrastructure, along with a development environment and continuous deployment pipeline that you can use for your own applications. Understand containers and Kubernetes from first principles; no experience necessary Run your own clusters or choose a managed Kubernetes service from Amazon, Google, and others Use Kubernetes to manage resource usage and the container lifecycle Optimize clusters for cost, performance, resilience, capacity, and scalability Learn the best tools for developing, testing, and deploying your applications Apply the latest industry practices for security, observability, and monitoring Adopt DevOps principles to help make your development teams lean, fast, and effective

Upgrading and Repairing Servers - Scott Mueller 2006-04-24

As the price of servers comes down to the level of desktop PCs, many small- and medium-sized businesses are forced to provide their own server setup, maintenance and support, without the high-dollar training enjoyed by their big corporation counterparts. *Upgrading and Repairing Servers* is the first line of defense for small- and medium-sized businesses, and an excellent go-to reference for the experienced administrators who have been asking for a reference guide like this one for a long time! It's all here in one, incredibly useful tome that you will refer to again and again. Inside is in-depth coverage of server design and implementation, building and deploying, server hardware components, network and backup operations, SAN, fault tolerance, server racks, server rooms, server operating systems, as well as SUN Microsystems servers. No other computer hardware book has ever dared tackle this enormous topic - until now!

Microsoft Azure - Marshall Copeland 2015-10-08

Written for IT and business professionals, this book provides the technical and business insight needed to plan, deploy and manage the services provided by the Microsoft Azure cloud. Find out

how to integrate the infrastructure-as-a-service (IaaS) and platform-as-a-service (PaaS) models with your existing business infrastructure while maximizing availability, ensuring continuity and safety of your data, and keeping costs to a minimum. The book starts with an introduction to Microsoft Azure and how it differs from Office 365—Microsoft's 'other' cloud. You'll also get a useful overview of the services available. Part II then takes you through setting up your Azure account, and gets you up-and-running on some of the core Azure services, including creating web sites and virtual machines, and choosing between fully cloud-based and hybrid storage solutions, depending on your needs. Part III now takes an in-depth look at how to integrate Azure with your existing infrastructure. The authors, Anthony Puca, Mike Manning, Brent Rush, Marshall Copeland and Julian Soh, bring their depth of experience in cloud technology and customer support to guide you through the whole process, through each layer of your infrastructure from networking to operations. High availability and disaster recovery are the topics on everyone's minds when considering a move to the cloud, and this book provides key insights and step-by-step guidance to help you set up and manage your resources correctly to optimize for these scenarios. You'll also get expert advice on migrating your existing VMs to Azure using InMage, mail-in and the best 3rd party tools available, helping you ensure continuity of service with minimum disruption to the business. In the book's final chapters, you'll find cutting edge examples of cloud technology in action, from machine learning to business intelligence, for a taste of some exciting ways your business could benefit from your new Microsoft Azure deployment.

Deploying to OpenShift - Graham Dumpleton 2018-05-02

Get an in-depth tour of OpenShift, the container-based software deployment and management platform from Red Hat that provides a secure multi-tenant environment for the enterprise. This practical guide describes in detail how OpenShift, building on Kubernetes, enables you to automate the way you create, ship, and run applications in a containerized environment. Author Graham Dumpleton provides the knowledge you need to make the best use of the

OpenShift container platform to deploy not only your cloud-native applications, but also more traditional stateful applications. Developers and administrators will learn how to run, access, and manage containers in OpenShift, including how to orchestrate them at scale. Build application container images from source and deploy them. Implement and extend application image builders. Use incremental and chained builds to accelerate build times. Automate builds by using a webhook to link OpenShift to a Git repository. Add configuration and secrets to the container as project resources. Make an application visible outside the OpenShift cluster. Manage persistent storage inside an OpenShift container. Monitor application health and manage the application lifecycle. This book is a perfect follow-up to *OpenShift for Developers: A Guide for Impatient Beginners* (O'Reilly).

Assembly Language: Simple, Short, and Straightforward Way of Learning Assembly Programming - Dr. SHERWYN ALLIBANG
2020-10-10

This book is intended for beginners who would like to learn the basics of Assembly Programming. This book uses Simple words, Short sentences, and Straightforward paragraphs. The triple S way to learn Assembly Programming. The topics covered in this book includes a brief introduction to assembly, common arithmetic instructions, character and string input and display routines, flow controls including conditional and looping statements, stack, and procedures. This assembly language book is intended for complete beginners in assembly programming. However, it is assumed that the reader has prior or basic knowledge with other programming languages. This book includes screenshots of step by step of how to code, compile, link, and run assembly programs. This book is packed with working sample assembly programs and after reading this book, the reader would be able to develop assembly programs based particularly on problems given in computer science courses.

[Exam Ref AZ-900 Microsoft Azure Fundamentals](#)
- Jim Cheshire 2019-06-05

Prepare for Microsoft Exam AZ-900—and help demonstrate your real-world mastery of cloud services and how they can be provided with Microsoft Azure. Designed for professionals in

any non-technical or technical role, Exam Ref focuses on the critical thinking and decision-making acumen needed for success at the Microsoft Certified Fundamentals level. Focus on the expertise measured by these objectives: Understand cloud concepts Understand core Azure services Understand security, privacy, compliance, and trust Understand Azure pricing and support This Microsoft Exam Ref: Organizes its coverage by exam objectives Features strategic, what-if scenarios to challenge you Assumes you want to show foundational knowledge of cloud services and their delivery with Microsoft Azure; no technical background or IT experience is required About the Exam Exam AZ-900 focuses on knowledge needed to evaluate cloud service's value; explain IaaS, PaaS, and SaaS; compare public, private, and hybrid cloud models; understand core Azure architectural components, products, and management tools; describe the Azure Marketplace, its usage, and key solutions; understand Azure security, identity services, and monitoring; manage privacy, compliance, and data protection; price subscriptions and manage costs; choose support options; use Service Level Agreements; and understand the Azure service lifecycle. About Microsoft Certification Passing this exam fulfills your requirements for the Microsoft Certified Azure Fundamentals credential, demonstrating that you understand cloud concepts, core Azure Services, Azure pricing and support, and the fundamentals of cloud security, privacy, compliance, and trust. See full details at: www.microsoft.com/learn

Pro Git - Scott Chacon 2014-11-18

Pro Git (Second Edition) is your fully-updated guide to Git and its usage in the modern world. Git has come a long way since it was first developed by Linus Torvalds for Linux kernel development. It has taken the open source world by storm since its inception in 2005, and this book teaches you how to use it like a pro. Effective and well-implemented version control is a necessity for successful web projects, whether large or small. With this book you'll learn how to master the world of distributed version workflow, use the distributed features of Git to the full, and extend Git to meet your every need. Written by Git pros Scott Chacon and Ben Straub, *Pro Git* (Second Edition) builds on the

hugely successful first edition, and is now fully updated for Git version 2.0, as well as including an indispensable chapter on GitHub. It's the best book for all your Git needs.

System Center 2012 Configuration Manager Unleashed - Kerrie Meyler 2012

This is the comprehensive reference and technical guide to Microsoft System Center Configuration Manager 2012. A team of expert authors offers step-by-step coverage of related topics in every feature area, organized to help IT professionals rapidly optimize Configuration Manager 2012 for their requirements, and then deploy and use it successfully. The authors begin by introducing Configuration Manager 2012 and its goals, and explaining how it fits into the broader System Center product suite. Next, they fully address planning, design, and implementation. Finally, they systematically cover each of Configuration Manager 2012's most important feature sets, addressing issues ranging from configuration management to software distribution. Readers will learn how to use Configuration Manager 2012's user-centric capabilities to provide anytime/anywhere services and software, and to strengthen both control and compliance. The first book on Configuration Manager 2012, System Center Configuration Manager 2012 Unleashed joins Sams' market-leading series of books on Microsoft's System Center product suite: books that have achieved go-to status amongst IT implementers and administrators worldwide.

Build Your Own Programming Language - Clinton L. Jeffery 2021-12-31

Written by the creator of the Unicon programming language, this book will show you how to implement programming languages to reduce the time and cost of creating applications for new or specialized areas of computing. Key Features: Reduce development time and solve pain points in your application domain by building a custom programming language. Learn how to create parsers, code generators, file readers, analyzers, and interpreters. Create an alternative to frameworks and libraries to solve domain-specific problems. Book Description: The need for different types of computer languages is growing rapidly and developers prefer creating domain-specific languages for solving specific application domain problems. Building

your own programming language has its advantages. It can be your antidote to the ever-increasing size and complexity of software. In this book, you'll start with implementing the frontend of a compiler for your language, including a lexical analyzer and parser. The book covers a series of traversals of syntax trees, culminating with code generation for a bytecode virtual machine. Moving ahead, you'll learn how domain-specific language features are often best represented by operators and functions that are built into the language, rather than library functions. We'll conclude with how to implement garbage collection, including reference counting and mark-and-sweep garbage collection. Throughout the book, Dr. Jeffery weaves in his experience of building the Unicon programming language to give better context to the concepts where relevant examples are provided in both Unicon and Java so that you can follow the code of your choice of either a very high-level language with advanced features, or a mainstream language. By the end of this book, you'll be able to build and deploy your own domain-specific languages, capable of compiling and running programs. What you will learn: Perform requirements analysis for the new language and design language syntax and semantics. Write lexical and context-free grammar rules for common expressions and control structures. Develop a scanner that reads source code and generate a parser that checks syntax. Build key data structures in a compiler and use your compiler to build a syntax-coloring code editor. Implement a bytecode interpreter and run bytecode generated by your compiler. Write tree traversals that insert information into the syntax tree. Implement garbage collection in your language. Who this book is for: This book is for software developers interested in the idea of inventing their own language or developing a domain-specific language. Computer science students taking compiler construction courses will also find this book highly useful as a practical guide to language implementation to supplement more theoretical textbooks. Intermediate-level knowledge and experience working with a high-level language such as Java or the C++ language are expected to help you get the most out of this book.

Building Enterprise JavaScript Applications

- Daniel Li 2018-09-29

Strengthen your applications by adopting Test-Driven Development (TDD), the OpenAPI Specification, Continuous Integration (CI), and container orchestration. Key Features Create production-grade JavaScript applications from scratch Build microservices and deploy them to a Docker container for scaling applications Test and deploy your code with confidence using Travis CI Book Description With the over-abundance of tools in the JavaScript ecosystem, it's easy to feel lost. Build tools, package managers, loaders, bundlers, linters, compilers, transpilers, typecheckers - how do you make sense of it all? In this book, we will build a simple API and React application from scratch. We begin by setting up our development environment using Git, yarn, Babel, and ESLint. Then, we will use Express, Elasticsearch and JSON Web Tokens (JWTs) to build a stateless API service. For the front-end, we will use React, Redux, and Webpack. A central theme in the book is maintaining code quality. As such, we

will enforce a Test-Driven Development (TDD) process using Selenium, Cucumber, Mocha, Sinon, and Istanbul. As we progress through the book, the focus will shift towards automation and infrastructure. You will learn to work with Continuous Integration (CI) servers like Jenkins, deploying services inside Docker containers, and run them on Kubernetes. By following this book, you would gain the skills needed to build robust, production-ready applications. What you will learn Practice Test-Driven Development (TDD) throughout the entire book Use Cucumber, Mocha and Selenium to write E2E, integration, unit and UI tests Build stateless APIs using Express and Elasticsearch Document your API using OpenAPI and Swagger Build and bundle front-end applications using React, Redux and Webpack Containerize services using Docker Deploying scalable microservices using Kubernetes Who this book is for If you're a JavaScript developer looking to expand your skillset and become a senior JavaScript developer by building production-ready web applications, then this book is for you.