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In 1983, Mark McCormack wrote 'What They Don't Teach You at Harvard Business School'. It was a best seller. Larry Chiang follows up his mentors book 26 years later in a book of parallel format. It similarly stresses reading people, sales and entrepreneurship.

Network automation is one of the hottest topics in Information Technology today. This revolutionary book aims to illustrate the transformative journey towards full enterprise network automation. This book outlines the tools, technologies and processes required to fully automate an enterprise network. Automated network configuration management is more than converting your network configurations to code. The benefits of source control, version control, automated builds, automated testing and automated releases are realized in the world of networking using well established software development practices. The next-generation network administrative toolkit is introduced including Microsoft Team Foundation Server, Microsoft Visual Studio Code, Git, Linux, and the Ansible framework. Not only will these new technologies be covered at length, a new and continuously integrated / continuously delivered pipeline is also introduced. Starting with safe, simple, non-intrusive, non-disruptive information gathering organizations can ease into network automation while building a dynamic library of documentation and on-demand utilities for network operations. Once comfortable with the new ecosystem, administrators can begin making fully automated, orchestrated, and tactical changes to the network. The next evolutionary leap occurs when fully automated network configuration management is implemented. Important information from the network running-configurations is abstracted into data models in a human readable format. Device configurations are dynamically templated creating a scal-

able, intent-based, source of truth. Much like in the world of software development, full automation of the network using a CI/CD pipeline can be realized. Automated builds, automated testing and automated scheduled releases are orchestrated and executed when changes are approved and checked into the central repository. This book is unlike any on the market today as it includes multiple Ansible playbooks, sample YAML data models and Jinja2 templates for network devices, and a whole new methodology and approach to enterprise network administration and management. The CLI no longer cuts it. Readers should take away from this book a new approach to enterprise network management and administration as well as the full knowledge and understanding of how to use TFS, VS Code, Git, and Ansible to create an automation ecosystem. Readers should have some basic understanding of modern network design, operation, and configuration. No prior programming or software development experience is required. John Capobianco has over 20 years of IT experience and is currently a Technical Advisor for the Canadian House of Commons. A graduate of St. Lawrence College's Computer Programmer Analyst program, John is also a former Professor at St. Lawrence College in the Computer Networking and Technical Support (CNTS) program. John has achieved CCNP, CCDP, CCNA: Data Center, MCITP: EA/SA, CompTIA A+ / Network+, and ITIL Foundation certifications. Having discovered a new way to interface with the network John felt compelled to share this new methodology in hopes of revolutionizing the industry and bringing network automation to the world.

Learn to leverage the power of PowerCLI to automate your VMware vSphere environment with ease About This Book This is first book on the market that will enlighten you on the latest version of PowerCLI and how to implement it Effectively manage virtual machines, networks, and reports with the latest features of

PowerCLI A comprehensive and practical book on automating VMware vSphere Who This Book Is For This book is ideal for you if you want to learn how to automate your VMware vSphere or vCloud infrastructure by getting the most out of PowerCLI. It's assumed that you have some experience in administrating a vSphere or vCloud environment. Knowledge of Microsoft's Windows PowerShell is not a prerequisite. What You Will Learn Explore PowerShell and PowerCLI cmdlets and their output objects See how to manage virtual machines and work with virtual networks Manage vCloud Director from PowerCLI Use Site Recovery Manager from PowerCLI to create a disaster recovery solution Manage NSX and vRealize Automation using REST API with PowerCLI Create and configure vSphere HA and DRS clusters Use vSphere Update Manager with PowerCLI to create patch baselines and scan hosts Explore reporting techniques to retrieve log files In Detail VMware vSphere PowerCLI, a free extension to Microsoft Windows PowerShell, enables you to automate the management of a VMware vSphere or vCloud environment. This book will show you how to automate your tasks and make your job easier. Starting with an introduction to the basics of PowerCLI, the book will teach you how to manage your vSphere and vCloud infrastructure from the command line. To help you manage a vSphere host overall, you will learn how to manage vSphere ESXi hosts, host profiles, host services, host firewall, and deploy and upgrade ESXi hosts using Image Builder and Auto Deploy. The next chapter will not only teach you how to create datastore and datastore clusters, but you'll also work with profile-driven and policy-based storage to manage your storage. To create a disaster recovery solution and retrieve information from vRealize Operations, you will learn how to use Site Recovery Manager and vRealize Operations respectively. Towards the end, you'll see how to use the REST APIs from PowerShell to manage NSX and vRealize Automation and create patch

baselines, scan hosts against the baselines for missing patches, and re-mediate hosts. By the end of the book, you will be capable of using the best tool to automate the management and configuration of VMware vSphere. Style and approach This comprehensive book will teach system administrators everything about PowerCLI 6 and how to utilize it to automate VMware vSphere.

This work has been selected by scholars as being culturally important and is part of the knowledge base of civilization as we know it. This work is in the public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as no entity (individual or corporate) has a copyright on the body of the work. Scholars believe, and we concur, that this work is important enough to be preserved, reproduced, and made generally available to the public. To ensure a quality reading experience, this work has been proofread and republished using a format that seamlessly blends the original graphical elements with text in an easy-to-read typeface. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant.

Today, networks must evolve and scale faster than ever. You can't manage everything by hand anymore: You need to automate relentlessly. YANG, along with the NETCONF, RESTCONF, or gRPC/gNMI protocols, is the most practical solution, but most implementers have had to learn by trial and error. Now, Network Programmability with YANG gives you complete and reliable guidance for unlocking the full power of network automation using model-driven APIs and protocols. Authored by three YANG pioneers, this plain-spoken book guides you through successfully applying software practices based on YANG data models. The authors focus on the network operations layer, emphasizing model-driven APIs, and underlying transports. Whether you're a network operator, DevOps engineer, software developer, orchestration engineer, NMS/OSS architect, service engineer, or manager, this guide can help you dramatically improve value, agility, and manageability throughout your network. Discover the value of implementing YANG and Data Model-Driven Management in your network Explore the layers and components of a complete working solution Build a business case where value increases as your solution grows Drill down into transport protocols: NETCONF, RESTCONF, and gNMI/gRPC See how telemetry can establish a valuable

automated feedback loop Find data models you can build on, and evaluate models with similar functionality Understand models, metadata, and tools from several viewpoints: architect, operator, module author, and application developer Walk through a complete automation journey: business case, service model, service implementation, device integration, and operation Leverage the authors' experience to design successful YANG models and avoid pitfalls

This IBM® Redpaper™ publication takes you on a journey that surveys cloud computing to answer several fundamental questions about storage cloud technology. What are storage clouds? How can a storage cloud help solve your current and future data storage business requirements? What can IBM do to help you implement a storage cloud solution that addresses these needs? This paper shows how IBM storage clouds use the extensive cloud computing experience, services, proven technologies, and products of IBM to support a smart storage cloud solution designed for your storage optimization efforts. Clients face many common storage challenges and some have variations that make them unique. It describes various successful client storage cloud implementations and the options that are available to meet your current needs and position you to avoid storage issues in the future. IBM Cloud™ Services (IBM Cloud Managed Services® and IBM SoftLayer®) are highlighted as well as the contributions of IBM to OpenStack cloud storage. This paper is intended for anyone who wants to learn about storage clouds and how IBM addresses data storage challenges with smart storage cloud solutions. It is suitable for IBM clients, storage solution integrators, and IBM specialist sales representatives.

If you are an administrator of a virtual environment and have used vROps before but want to gain a professional understanding by implementing complex tasks easily with it, then this book is for you.

VMware vRealize Automation - Handbook The complete guide to vRealize Automation and how to build your own private cloud. The book helps customers to implement a private cloud solution based on VMware's vRealize automation. After an introduction and discussion of basic cloud concepts, vRealize Automation will be introduced. The book discusses the conceptual design as well as how to implement vRealize Automation. The book will give step-by-step instructions how to configure vRealize Automation.

Furthermore, tips from real projects will be given. The book acts as a reference as well as cookbook for customers. With the cloud becoming more and more important, many companies still try to find a strategy to implement their own private cloud. VMware helps companies with vRealize Automation - one of the most important products within VMware Software Defined Datacenter (SD-DC) strategy. This book is a complete guide to vRealize Automation and will cover all aspects when implementing a vRealize Automation solution - from design, to installation, configuration and extensibility. This book is designed to help the reader to gain all necessary vRealize skills and see use cases on real-life projects.

IBM® FlashSystem 9100 combines the performance of flash and Non-Volatile Memory Express (NVMe) with the reliability and innovation of IBM FlashCore® technology and the rich features of IBM Spectrum™ Virtualize — all in a powerful 2U storage system. Providing intensive data driven multi-cloud storage capacity, FlashSystem 9100 is deeply integrated with the software-defined capabilities of IBM Spectrum Storage™, which allows you to easily add the multi-cloud solutions that best support your business. In this IBM Redbooks® publication, we discuss the product's features and planning steps, architecture, installation, configuration, and hints and tips.

Power up your network applications with Python programming Key Features Master Python skills to develop powerful network applications Grasp the fundamentals and functionalities of SDN Design multi-threaded, event-driven architectures for echo and chat servers Book Description This Learning Path highlights major aspects of Python network programming such as writing simple networking clients, creating and deploying SDN and NFV systems, and extending your network with Mininet. You'll also learn how to automate legacy and the latest network devices. As you progress through the chapters, you'll use Python for DevOps and open source tools to test, secure, and analyze your network. Toward the end, you'll develop client-side applications, such as web API clients, email clients, SSH, and FTP, using socket programming. By the end of this Learning Path, you will have learned how to analyze a network's security vulnerabilities using advanced network packet capture and analysis techniques. This Learning Path includes content from the following Packt products: Practical Network Automation by Abhishek Ratan Mastering Python Networking by Eric Chou Python Network Programming Cookbook, Second Edi-

tion by Pradeeban Kathiravelu, Dr. M. O. Faruque Sarker What you will learn Create socket-based networks with asynchronous models Develop client apps for web APIs, including S3 Amazon and Twitter Talk to email and remote network servers with different protocols Integrate Python with Cisco, Juniper, and Arista eAPI for automation Use Telnet and SSH connections for remote system monitoring Interact with websites via XML-RPC, SOAP, and REST APIs Build networks with Ryu, OpenDaylight, Floodlight, ONOS, and POX Configure virtual networks in different deployment environments Who this book is for If you are a Python developer or a system administrator who wants to start network programming, this Learning Path gets you a step closer to your goal. IT professionals and DevOps engineers who are new to managing network devices or those with minimal experience looking to expand their knowledge and skills in Python will also find this Learning Path useful. Although prior knowledge of networking is not required, some experience in Python programming will be helpful for a better understanding of the concepts in the Learning Path.

Leading the Transformation is executive guide, providing a clear framework for improving development and delivery. Instead of the traditional Agile and DevOps approaches that focus on improving the effectiveness of teams, this book targets the coordination of work across teams in large organizations—an improvement that executives are uniquely positioned to lead.

Virtualize Oracle Business Critical Databases, October 2018 Update: This book is a single source of information for an Oracle DBA to understand the benefits of virtualization and how to effectively deploy Oracle Databases on VMware's SDDC platform. This book is targeted for DBAs looking at implementing Oracle on a virtualized infrastructure. Key topics include deployment, scaling, troubleshooting and performance tuning. The authors, Charles Kim, George Trujillo, Steven Jones and Sudhir Balasubramanian, have spent a number of years focusing on virtualizing Tier-One high performance Oracle platforms. The authors include VMware VCPs, VMware vExperts as well as an Oracle ACE, Oracle ACE Director and hold certifications in the Oracle stack. Imagine a world where your system administrator(s) provisions a fully functional Linux server that is patched with all the up-to-date kernel parameters, updated device drivers, and updated configurations in 1 hour. The time that you make the request to the time that you get access to a server that has a fully configured Red Hat 6/7 or Oracle Linux

6/7 environment is within a couple of hours. On top of all this, the build is consistent and reliable every time. This should be a realistic goal for most companies today, and this book can guide you along your journey.

From the author of the vSphere Clustering Deep Dive series - The VMware vSphere 6.5 Host Resources Deep Dive is a guide to building consistent high-performing ESXi hosts. A book that people can't put down. Written for administrators, architects, consultants, aspiring VCDX-es and people eager to learn more about the elements that control the behavior of CPU, memory, storage and network resources. This book shows that we can fundamentally and materially improve the systems we're building. We can make the currently running ones consistently faster by deeply understanding and optimizing our systems. The reality is that specifics of the infrastructure matter. Details matter. Especially for distributed platforms which abstract resource layers, such as NSX and vSAN. Knowing your systems inside and out is the only way to be sure you've properly handled those details. It's about having a passion for these details. It's about loving the systems we build. It's about understanding them end-to-end. This book explains the concepts and mechanisms behind the physical resource components and the VMkernel resource schedulers, which enables you to: Optimize your workload for current and future Non-Uniform Memory Access (NUMA) systems. Discover how vSphere Balanced Power Management takes advantage of the CPU Turbo Boost functionality, and why High Performance does not. How the 3-DIMMs per Channel configuration results in a 10-20% performance drop. How TLB works and why it is bad to disable large pages in virtualized environments. Why 3D XPoint is perfect for the vSAN caching tier. What queues are and where they live inside the end-to-end storage data paths. Tune VMkernel components to optimize performance for VXLAN network traffic and NFV environments. Why Intel's Data Plane Development Kit significantly boosts packet processing performance.

"Now that virtualization has blurred the lines between networking and servers, many VMware specialists need a stronger understanding of networks than they may have gained in earlier IT roles. Networking for VMware administrators fills this crucial knowledge gap. Writing for VMware professionals, Christopher Wahl and Steve Pantol illuminate the core concepts of modern networking, and show how to apply them in designing, configuring, and trou-

bleshooting any virtualized network environment"--Page 4 of cover

Become an expert in implementing advanced, network-related tasks with Python. About This Book Build the skills to perform all networking tasks using Python with ease Use Python for network device automation, DevOps, and software-defined networking Get practical guidance to networking with Python Who This Book Is For If you are a network engineer or a programmer who wants to use Python for networking, then this book is for you. A basic familiarity with networking-related concepts such as TCP/IP and a familiarity with Python programming will be useful. What You Will Learn Review all the fundamentals of Python and the TCP/IP suite Use Python to execute commands when the device does not support the API or programmatic interaction with the device Implement automation techniques by integrating Python with Cisco, Juniper, and Arista eAPI Integrate Ansible using Python to control Cisco, Juniper, and Arista networks Achieve network security with Python Build Flask-based web-service APIs with Python Construct a Python-based migration plan from a legacy to scalable SD-N-based network. In Detail This book begins with a review of the TCP/ IP protocol suite and a refresher of the core elements of the Python language. Next, you will start using Python and supported libraries to automate network tasks from the current major network vendors. We will look at automating traditional network devices based on the command-line interface, as well as newer devices with API support, with hands-on labs. We will then learn the concepts and practical use cases of the Ansible framework in order to achieve your network goals. We will then move on to using Python for DevOps, starting with using open source tools to test, secure, and analyze your network. Then, we will focus on network monitoring and visualization. We will learn how to retrieve network information using a polling mechanism, ?ow-based monitoring, and visualizing the data programmatically. Next, we will learn how to use the Python framework to build your own customized network web services. In the last module, you will use Python for SDN, where you will use a Python-based controller with OpenFlow in a hands-on lab to learn its concepts and applications. We will compare and contrast OpenFlow, OpenStack, OpenDaylight, and NFV. Finally, you will use everything you've learned in the book to construct a migration plan to go from a legacy to a scalable SD-N-based network. Style and approach An easy-to-follow guide

packed with hands-on examples of using Python for network device automation, DevOps, and SDN.

While containers, microservices, and distributed systems dominate discussions in the tech world, the majority of applications in use today still run monolithic architectures that follow traditional development processes. This practical book helps developers examine long-established Java-based models and demonstrates how to bring these monolithic applications successfully into the future. Relying on their years of experience modernizing applications, authors Markus Eisele and Natale Vinto walk you through the steps necessary to update your organization's Java applications. You'll discover how to dismantle your monolithic application and move to an up-to-date software stack that works across cloud and on-premises installations. Learn cloud native application basics to understand what parts of your organization's Java-based applications and platforms need to migrate and modernize Understand how enterprise Java specifications can help you transition projects and teams Build a cloud native platform that supports effective development without falling into buzzword traps Find a starting point for your migration projects by identifying candidates and staging them through modernization steps Discover how to complement a traditional enterprise Java application with components on top of containers and Kubernetes

Micro-segmentation - Day 1 brings together the knowledge and guidance for planning, designing, and implementing a modern security architecture for the software-defined data center based on micro-segmentation. VMware NSX makes network micro-segmentation feasible for the first time. It enables granular firewalling and security policy enforcement for every workload in the data center, independent of the network topology and complexity. Micro-segmentation with NSX already helped over a thousand organizations improve the security posture of their software-defined data center by fundamentally changing the way they approach security architecture. Micro-segmentation - Day 1 is your roadmap to simplify and enhance security within software-defined data centers running NSX. You will find insights and recommendations proven in the field for moving your organization from a perimeter-centric security posture to a micro-segmented architecture that provides enhanced security and visibility within your data center. Data Center Virtualization Fundamentals For many IT organizations, today's greatest challenge is to drive more value, efficient

cy, and utilization from data centers. Virtualization is the best way to meet this challenge. Data Center Virtualization Fundamentals brings together the comprehensive knowledge Cisco professionals need to apply virtualization throughout their data center environments. Leading data center expert Gustavo A. A. Santana thoroughly explores all components of an end-to-end data center virtualization solution, including networking, storage, servers, operating systems, application optimization, and security. Rather than focusing on a single product or technology, he explores product capabilities as interoperable design tools that can be combined and integrated with other solutions, including VMware vSphere. With the author's guidance, you'll learn how to define and implement highly-efficient architectures for new, expanded, or retrofit data center projects. By doing so, you can deliver agile application provisioning without purchasing unnecessary infrastructure, and establish a strong foundation for new cloud computing and IT-as-a-service initiatives. Throughout, Santana illuminates key theoretical concepts through realistic use cases, real-world designs, illustrative configuration examples, and verification outputs. Appendixes provide valuable reference information, including relevant Cisco data center products and CLI principles for IOS and NX-OS. With this approach, Data Center Virtualization Fundamentals will be an indispensable resource for anyone preparing for the CCNA Data Center, CCNP Data Center, or CCIE Data Center certification exams. Gustavo A. A. Santana, CCIE® No. 8806, is a Cisco Technical Solutions Architect working in enterprise and service provider data center projects that require deep integration across technology areas such as networking, application optimization, storage, and servers. He has more than 15 years of data center experience, and has led and coordinated a team of specialized Cisco engineers in Brazil. He holds two CCIE certifications (Routing & Switching and Storage Networking), and is a VMware Certified Professional (VCP) and SNIA Certified Storage Networking Expert (SC-SN-E). A frequent speaker at Cisco and data center industry events, he blogs on data center virtualization at [gustavoasantana.net](http://gustavoasantana.net). Learn how virtualization can transform and improve traditional data center network topologies Understand the key characteristics and value of each data center virtualization technology Walk through key decisions, and transform choices into architecture Smoothly migrate existing data centers toward greater virtualization Burst silos that have traditionally made data centers in-

efficient Master foundational technologies such as VLANs, VRF, and virtual contexts Use virtual PortChannel and FabricPath to overcome the limits of STP Optimize cabling and network management with fabric extender (FEX) virtualized chassis Extend Layer 2 domains to distant data center sites using MPLS and Overlay Transport Virtualization (OTV) Use VSANs to overcome Fibre Channel fabric challenges Improve SAN data protection, environment isolation, and scalability Consolidate I/O through Data Center Bridging and FCoE Use virtualization to radically simplify server environments Create server profiles that streamline "bare metal" server provisioning "Transcend the rack" through virtualized networking based on Nexus 1000V and VM-FEX Leverage opportunities to deploy virtual network services more efficiently Evolve data center virtualization toward full-fledged private clouds -Reviews - "The variety of material that Gustavo covers in this work would appeal to anyone responsible for Data Centers today. His grasp of virtualization technologies and ability to relate it in both technical and non-technical terms makes for compelling reading. This is not your ordinary tech manual. Through use of relatable visual cues, Gustavo provides information that is easily recalled on the subject of virtualization, reaching across Subject Matter Expertise domains. Whether you consider yourself well-versed or a novice on the topic, working in large or small environments, this work will provide a clear understanding of the diverse subject of virtualization." -- Bill Dufresne, CCIE 4375, Distinguished Systems Engineer, Cisco (Americas) ".this book is an essential reference and will be valuable asset for potential candidates pursuing their Cisco Data Center certifications. I am confident that in reading this book, individuals will inevitably gain extensive knowledge and hands-on experience during their certification preparations. If you're looking for a truly comprehensive guide to virtualization, this is the one!" -- Yusuf Bhajji, Senior Manager, Expert Certifications (CCIE, CCDE, CCAr), Learning@Cisco "When one first looks at those classic Cisco Data Center blueprints, it is very common to become distracted with the overwhelming number of pieces and linkages. By creating a solid theoretical foundation and providing rich sets of companion examples to illustrate each concept, Gustavo's book brings hope back to IT Professionals from different areas of expertise. Apparently complex topics are demystified and the insertion of products, mechanisms, protocols and technologies in the overall Data Center Architecture is clearly explained, thus enabling

you to achieve robust designs and successful deployments. A must read... Definitely!" -- Alexandre M. S. P. Moraes, Consulting Systems Engineer -- Author of "Cisco Firewalls"

This IBM® Redbooks® publication is a comprehensive guide that covers cloud security considerations for IBM Power Systems™. The first objectives of this book are to examine how Power Systems can fit into the current and developing cloud computing landscape and to outline the proven Cloud Computing Reference Architecture (CCRA) that IBM employs in building private and hybrid cloud environments. The book then looks more closely at the underlying technology and hones in on the security aspects for the following subsystems: IBM Hardware Management Console IBM PowerVM IBM PowerKVM IBM PowerVC IBM Cloud Manager with OpenStack IBM Bluemix This publication is for professionals who are involved in security design with regard to planning and deploying cloud infrastructures using IBM Power Systems.

This IBM® Redbooks® publication provides a technical overview of the features, functions, and enhancements available in IBM i 7.1, including all the Technology Refresh (TR) levels from TR1 to TR7. It provides a summary and brief explanation of the many capabilities and functions in the operating system. It also describes many of the licensed programs and application development tools that are associated with IBM i. The information provided in this book is useful for clients, IBM Business Partners, and IBM service professionals who are involved with planning, supporting, upgrading, and implementing IBM i 7.1 solutions.

Validate your AWS skills. This is your opportunity to take the next step in your career by expanding and validating your skills on the AWS cloud. AWS has been the frontrunner in cloud computing products and services, and the AWS Certified Solutions Architect Official Study Guide for the Associate exam will get you fully prepared through expert content, and real-world knowledge, key exam essentials, chapter review questions, access to Sybex's interactive online learning environment, and much more. This official study guide, written by AWS experts, covers exam concepts, and provides key review on exam topics, including: Mapping Multi-Tier Architectures to AWS Services, such as web/app servers, firewalls, caches and load balancers Understanding managed RDBMS through AWS RDS (MySQL, Oracle, SQL Server, Postgres, Aurora) Understanding Loose Coupling and Stateless Systems Comparing Different Consistency Models in AWS Services Understanding how

AWS CloudFront can make your application more cost efficient, faster and secure Implementing Route tables, Access Control Lists, Firewalls, NAT, and DNS Applying AWS Security Features along with traditional Information and Application Security Using Compute, Networking, Storage, and Database AWS services Architecting Large Scale Distributed Systems Understanding of Elasticity and Scalability Concepts Understanding of Network Technologies Relating to AWS Deploying and Managing Services with tools such as CloudFormation, OpsWorks and Elastic Beanstalk. Learn from the AWS subject-matter experts, review with proven study tools, and apply real-world scenarios. If you are looking to take the AWS Certified Solutions Architect Associate exam, this guide is what you need for comprehensive content and robust study tools that will help you gain the edge on exam day and throughout your career.

The 2013 edition of the bestselling vSphere book on the market Virtualization remains the hottest trend in the IT world, and VMware vSphere is the industry's most widely deployed virtualization solution. The demand for IT professionals skilled in virtualization and cloud-related technologies is great and expected to keep growing. This comprehensive Sybex guide covers all the features and capabilities of VMware vSphere, showing administrators step by step how to install, configure, operate, manage, and secure it. This perfect blend of hands-on instruction, conceptual explanation, and practical application is reinforced with real-world examples. Led by Scott Lowe and Nick Marshall, both VMware vExperts, the author team provides expertise that will prepare IT professionals to excel in using this virtualization technology. Virtualization is seen as a "best practice" for high availability and disaster recovery solutions, as well as for applications such as Exchange Server and SharePoint IDC estimates that there are as many as 7 million jobs available worldwide in virtualization and cloud technology Provides hands-on instruction in all the latest features and capabilities of VMware vSphere, with both conceptual explanations and practical applications Author team is lead by Scott Lowe and Nick Marshall, well-known VMware experts and popular bloggers Mastering VMware vSphere provides what every virtualization professional needs to know.

This is a companion transcript of the audio series, Beyond The Phoenix Project, intended to be used for reference and to enable further research of cited material, and not as a standalone work.

In the audio series, Gene Kim and John Willis present a nine-part discussion that includes an oral history of the DevOps movement, as well as discussions around pivotal figures and philosophies that DevOps draws upon, from Goldratt to Deming; from Lean to Safety Culture to Learning Organizations. The book is a great way for listeners to take an even deeper dive into topics relevant to DevOps and leading technology organizations.

Unleash the benefits of VMware vSphere 6.7 to provide a powerful, flexible and secure digital infrastructure Key Features Deep dive into areas like management, security, scalability, availability and more with vSphere 6.7 Design, deploy and manage VMware vSphere virtual datacenters Implement monitoring and security of VMware workloads with ease Book Description vSphere 6.7 is the latest release of VMware's industry-leading, virtual cloud platform. It allows organisations to move to hybrid cloud computing by enabling them to run, manage, connect and secure applications in a common operating environment. This up-to-date, 2nd edition provides complete coverage of vSphere 6.7. Complete with step-by-step explanations of essential concepts, practical examples and self-assessment questions, you will begin with an overview of the products, solutions and features of the vSphere 6.7 suite. You'll learn how to design and plan a virtual infrastructure and look at the workflow and installation of components. You'll gain insight into best practice configuration, management and security. By the end the book you'll be able to build your own VMware vSphere lab that can run even the most demanding of workloads. What you will learn Explore the immense functionality of vSphere 6.7 Design, manage and administer a virtualization environment Get tips for the VCP6-DCV and VCIX6-DCV exams Understand how to implement different migration techniques across different environments Explore vSphere 6.7s powerful capabilities for patching, upgrading and managing the configuration of virtual environments. Understand core vSphere components Master resource management, disaster recovery, troubleshooting, monitoring and security Who this book is for This book is for Administrators, Infrastructure Engineers, Architects, and Consultants with basic knowledge of VMware vSphere.

This IBM® Redbooks® publication is volume one of five in a series of books entitled The Virtualization Cookbook for IBM Z. The series includes the following volume: The Virtualization Cookbook for IBM z Systems® Volume 1: IBM z/VM® 6.3, SG24-8147 The Vir-

tualization Cookbook for IBM Z Volume 2: Red Hat Enterprise Linux 8.2 Servers, SG24-8303 The Virtualization Cookbook for IBM z Systems Volume 3: SUSE Linux Enterprise Server 12, SG24-8890 The Virtualization Cookbook for IBM z Systems Volume 4: Ubuntu Server 16.04, SG24-8354 Virtualization Cookbook for IBM Z Volume 5: KVM, SG24-8463 It is recommended that you start with Volume 1 of this series because the IBM z/VM hypervisor is the foundation (or base "layer") for installing Linux on IBM Z®. This book series assumes that you are generally familiar with IBM Z technology and terminology. It does not assume an in-depth understanding of z/VM or Linux. It is written for individuals who want to start quickly with z/VM and Linux, and get virtual servers up and running in a short time (days, not weeks or months). Volume 1 starts with a solution orientation, discusses planning and security, and then, describes z/VM installation methods, configuration, hardening, automation, servicing, networking, optional features, and more. It adopts a "cookbook-style" format that provides a concise, repeatable set of procedures for installing, configuring, administering, and maintaining z/VM. This volume also includes a chapter on monitoring z/VM and the Linux virtual servers that are hosted. Volumes 2, 3, and 4 assume that you completed all of the steps that are described in Volume 1. From that common foundation, these volumes describe how to create your own Linux virtual servers on IBM Z hardware under IBM z/VM. The cookbook format continues with installing and customizing Linux. Volume 5 provides an explanation of the kernel-based virtual machine (KVM) on IBM Z and how it can use the z/Architecture®. It focuses on the planning of the environment and provides installation and configuration definitions that are necessary to build, manage, and monitor a KVM on Z environment. This publication applies to the supported Linux on Z distributions (Red Hat, SUSE, and Ubuntu). Master your virtual environment with the ultimate vSphere guide Mastering VMware vSphere 6 is the fully updated edition of the bestselling guide to VMware's virtualization solution. With comprehensive coverage of this industry-leading toolset, this book acts as an informative guide and valuable reference. Step-by-step instruction walks you through installation, configuration, operation, security processes, and much more as you conquer the management and automation of your virtual environment. Written by certified VMware vExperts, this indispensable guide provides hands-on instruction and detailed conceptual explanations, anchored

by practical applications and real-world examples. This book is the ultimate guide to vSphere, helping administrators master their virtual environment. Learn to: Install, configure, and manage the vCenter Server components Leverage the Support Tools to provide maintenance and updates Create and configure virtual networks, storage devices, and virtual machines Implement the latest features to ensure compatibility and flexibility Manage resource allocation and utilization to meet application needs Monitor infrastructure performance and availability Automate and orchestrate routine administrative tasks Mastering VMware vSphere 6 is what you need to stay up-to-date on VMware's industry-leading software for the virtualized datacenter. Kubernetes has become the dominant container orchestrator, but many organizations that have recently adopted this system are still struggling to run actual production workloads. In this practical book, four software engineers from VMware bring their shared experiences running Kubernetes in production and provide insight on key challenges and best practices. The brilliance of Kubernetes is how configurable and extensible the system is, from pluggable runtimes to storage integrations. For platform engineers, software developers, infosec, network engineers, storage engineers, and others, this book examines how the path to success with Kubernetes involves a variety of technology, pattern, and abstraction considerations. With this book, you will: Understand what the path to production looks like when using Kubernetes Examine where gaps exist in your current Kubernetes strategy Learn Kubernetes's essential building blocks--and their trade-offs Understand what's involved in making Kubernetes a viable location for applications Learn better ways to navigate the cloud native landscape Summary Kubernetes in Action is a comprehensive guide to effectively developing and running applications in a Kubernetes environment. Before diving into Kubernetes, the book gives an overview of container technologies like Docker, including how to build containers, so that even readers who haven't used these technologies before can get up and running. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Kubernetes is Greek for "helmsman," your guide through unknown waters. The Kubernetes container orchestration system safely manages the structure and flow of a distributed application, organizing containers and services for maximum efficiency. Kubernetes serves as an op-

erating system for your clusters, eliminating the need to factor the underlying network and server infrastructure into your designs. About the Book Kubernetes in Action teaches you to use Kubernetes to deploy container-based distributed applications. You'll start with an overview of Docker and Kubernetes before building your first Kubernetes cluster. You'll gradually expand your initial application, adding features and deepening your knowledge of Kubernetes architecture and operation. As you navigate this comprehensive guide, you'll explore high-value topics like monitoring, tuning, and scaling. What's Inside Kubernetes' internals Deploying containers across a cluster Securing clusters Updating applications with zero downtime About the Reader Written for intermediate software developers with little or no familiarity with Docker or container orchestration systems. About the Author Marko Luksa is an engineer at Red Hat working on Kubernetes and OpenShift. Table of Contents PART 1 - OVERVIEW Introducing Kubernetes First steps with Docker and Kubernetes PART 2 - CORE CONCEPTS Pods: running containers in Kubernetes Replication and other controllers: deploying managed pods Services: enabling clients to discover and talk to pods Volumes: attaching disk storage to containers ConfigMaps and Secrets: configuring applications Accessing pod metadata and other resources from applications Deployments: updating applications declaratively StatefulSets: deploying replicated stateful applications PART 3 - BEYOND THE BASICS Understanding Kubernetes internals Securing the Kubernetes API server Securing cluster nodes and the network Managing pods' computational resources Automatic scaling of pods and cluster nodes Advanced scheduling Best practices for developing apps Extending Kubernetes

The Definitive Guide to Planning, Implementing, Securing, Maintaining, and Troubleshooting VMware Virtual Infrastructure 3 This is the most comprehensive guide to planning for, implementing, securing, maintaining, monitoring, and troubleshooting VMware VI3 in any IT environment. Written by Eric Siebert, a veteran VMware system administrator and one of only 300 vExperts named by VMware in 2009, this book will help IT professionals make the best possible decisions about VMware every step of the way. Siebert presents extensive coverage of the upfront planning and architectural tasks that can make or break VMware deployments, sharing practical insights you'll never find in the official documentation. Next, he presents dozens of tips, tricks, and best

practices for everything from migration and configuration to backup. Along the way, Siebert introduces advanced techniques for optimizing both the efficiency of VMware system administration and the effectiveness of VMware virtual environments. Coverage includes Understanding your current infrastructure--and all the ways virtualization will change it Building VI3 environments for maximum reliability and performance Choosing the right software, servers, storage, and network infrastructure Constructing your virtualized environment Configuring virtual networking, storage, and resources to maximize host and guest performance Systematically securing hosts, VMs, networks, and vCenter Servers Mastering best practices for populating virtual environments, including P2V migration, templating, and the use of ISO files Monitoring your virtual environment, analyzing metrics, and proactively eliminating bottlenecks Applying patches to fix bugs and security vulnerabilities without introducing problems caused by unexpected dependencies Troubleshooting virtual environments: identifying and resolving specific problems, one step at a time Improving administration with snapshots, scripting, and other advanced techniques VMware VI3 Implementation and Administration is an invaluable guide for every professional working with VMware, including architects designing virtual infrastructures, as well as managers and administrators who must implement and support them. Explore the benefits of VMware vSphere 6.7 to provide a powerful, flexible, and secure virtual infrastructure, and secure apps. Next, you'll pick up on how to enhance your infrastructure with high-performance storage access, such as remote direct memory access (RDMA) and Persistent Key Features Design, deploy and manage VMware vSphere virtual data centers Implement monitoring and security of VMware workloads with ease Explore tips and techniques for designing a robust virtual infrastructure Book Description vSphere 6.7 is the latest release of VMware's industry-leading virtual cloud platform. By understanding how to manage, secure, and scale apps with vSphere 6.7, you can easily run even the most demanding of workloads. This Learning Path begins with an overview of the features of the vSphere 6.7 suite. You'll learn how to plan and design a virtual infrastructure. You'll also gain insights into best practices to efficiently configure, manage, and secure apps. Next, you'll pick up on how to enhance your infrastructure with high-performance storage access, such as remote direct memory access (RDMA) and Persistent memory. The book will even

guide you in securing your network with security features, such as encrypted vMotion and VM-level encryption. Finally, by learning how to apply Proactive High Availability and Predictive Distributed Resource Scheduler (DRS), you'll be able to achieve enhanced computing, storage, network, and management capabilities for your virtual data center. By the end of this Learning Path, you'll be able to build your own VMware vSphere lab that can run high workloads. This Learning Path includes content from the following Packt products: VMware vSphere 6.7 Data Center Design Cookbook - Third Edition by Mike Brown and Hersey Cartwright Mastering VMware vSphere 6.7 - Second Edition by Martin Gavanda, Andrea Mauro, Karel Novak, and Paolo Valsecchi What you will learn Understand how to patch, upgrade, and manage a virtual environment with vSphere 6.7 Identify key factors related to a vSphere design Mitigate security risks and meet compliance requirements in a vSphere design Create a vSphere conceptual design by identifying technical and business requirements Map the logical resource design into the physical vSphere design Create professional vSphere design documentation Who this book is for This Learning Path is for administrators, infrastructure engineers, consultants, and architects who want to design virtualized data center environments using VMware vSphere 6.x (or previous versions of vSphere and the supporting components). Basic knowledge of VMware vSphere is required to get the most out of this Learning Path.

This IBM® Redbooks® publication provides a technical overview of the features, functions, and enhancements that are available in IBM i 7.2, including all the available Technology Refresh (TR) levels, from TR1 to TR3. This publication provides a summary and brief explanation of the many capabilities and functions in the operating system. It also describes many of the licensed programs and application development tools that are associated with IBM i. The information that is provided in this book is useful for clients, IBM Business Partners, and IBM service professionals that are involved with planning, supporting, upgrading, and implementing IBM i 7.2 solutions.

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 Kuber-

netes 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

Like sysadmins before them, network engineers are finding that they cannot do their work manually anymore. As the field faces new protocols, technologies, delivery models, and a pressing need for businesses to be more agile and flexible, network automation is becoming essential. This practical guide shows network engineers how to use a range of technologies and tools—including Linux, Python, JSON, and XML—to automate their systems through code. Network programming and automation will help you simplify tasks involved in configuring, managing, and operating network equipment, topologies, services, and connectivity. Through the course of the book, you'll learn the basic skills and tools you need to make this critical transition. This book covers: Python programming basics: data types, conditionals, loops, functions, classes, and modules Linux fundamentals to provide the foundation you need on your network automation journey Data formats and models: JSON, XML, YAML, and YANG for networking Jinja templating and its applicability for creating network device configurations The role of application programming interfaces (APIs) in network automation Source control with Git to manage code changes during the automation process How Ansible, Salt, and StackStorm open source automation tools can be used to automate network devices Key tools and technologies required for a Continuous Integration (CI) pipeline in network operations

Today, new business models in the marketplace coexist with traditional ones and their well-established IT architectures. They generate new business needs and new IT requirements that can only be satisfied by new service models and new technological approach-

es. These changes are reshaping traditional IT concepts. Cloud in its three main variants (Public, Hybrid, and Private) represents the major and most viable answer to those IT requirements, and software-defined infrastructure (SDI) is its major technological enabler. IBM® technology, with its rich and complete set of storage hardware and software products, supports SDI both in an open standard framework and in other vendors' environments. IBM services are able to deliver solutions to the customers with their extensive knowledge of the topic and the experiences gained in partnership with clients. This IBM Redpaper™ publication focuses on software-defined storage (SDS) and IBM Storage Systems product offerings for software-defined environments (SDEs). It also provides use case examples across various industries that cover different client needs, proposed solutions, and results. This paper can help you to understand current organizational capabilities and challenges, and to identify specific business objectives to be achieved by implementing an SDS solution in your enterprise.

Master your virtual environment with the ultimate vSphere guide *Mastering VMware vSphere 6.7* is the fully updated edition of the bestselling guide to VMware's virtualization solution. With comprehensive coverage of this industry-leading toolset, this book acts as an informative guide and valuable reference. Step-by-step instruction walks you through installation, configuration, operation, security processes, and much more as you conquer the management and automation of your virtual environment. Written by certified VMware vExperts, this indispensable guide provides hands-on instruction and detailed conceptual explanations, anchored by practical applications and real-world examples. This book is the ultimate guide to vSphere, helping administrators master their virtual environment. Learn to: Install, configure, and manage the vCenter Server components Leverage the Support Tools to provide maintenance and updates Create and configure virtual networks, storage devices, and virtual machines Implement the latest features to ensure compatibility and flexibility Manage resource allocation and utilization to meet application needs Monitor infrastructure performance and availability Automate and orchestrate routine administrative tasks *Mastering VMware vSphere 6.7* is what you need to stay up-to-date on VMware's industry-leading software for the virtualized datacenter. Prepare to succeed at your VCDX panel defense and gain world-class knowledge for designing complex VMware environments

VMware Certified Design Expert (VCDX) is the highest level of VMware certification, achieved by dedicated professionals who have demonstrated exceptional skill in VMware enterprise deployments. To earn a VCDX, professionals must create a complete enterprise VMware design and undergo an arduous defense at the hands of some of the world's most sophisticated VMware experts. Now, for the first time, there's a comprehensive guide to VCDX defense: *VCDX Boot Camp*. Based on the legendary standing-room-only boot camps led by VCDX co-creator John Arrasjid, this guide captures the unsurpassed personal experience of three pioneering VCDX certification holders, program developers, and defense panelists. John Arrasjid, Ben Lin, and Mostafa Khalil cover everything you need to know to prepare for certification. They demystify the entire VCDX defense process, clearly explain its format and prerequisites, and offer indispensable tips for maximizing your likelihood of success. Detailed chapters on both design and troubleshooting offer four complete scenarios explaining exactly what VCDX panelists will expect from your defense. Learn how to think like a VCDX, discovering powerful insights and best practices for designing your own world-class virtualized environment. Coverage includes

- Authoritative preparation guidance (including expert insights into scheduling your preparation and defense)
- Tips for conducting mock defenses, boot camps, and study sessions with your colleagues
- How to select, create, and document a superior, defensible design
- How to make design choices and incorporate design patterns that support the VCDX blueprint
- How to confidently defend your skills in architecture, designing new solutions, and troubleshooting design or implementation flaws
- Proven tips for responding to tough questions from panelists
- Detailed example defenses of designs incorporating VCDX-DCV, VCDX-Cloud, and VCDX-DT

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Over 75 practical recipes to confidently design an efficient virtual datacenter with VMware vSphere 6.x *About This Book* Get the first book on the market that helps you design a virtualized data center with VMware vSphere 6 *Achieve enhanced compute, storage, network, and management capabilities for your virtual data center* Exciting and practical recipes help you to design a virtual data center easily by leveraging the features of VMware vSphere 6 *Who This Book Is For* If you are an administrator or consultant interested in designing virtualized datacenter environments using VMware

vSphere 6.x or previous versions of vSphere and the supporting components, this book is for you. It will help both new and experienced architects deliver professional VMware vSphere virtual datacenter designs. *What You Will Learn* Identify key factors related to a vSphere design and apply them to every step of the design process Mitigate security risks and meet compliance requirements in a vSphere design. Create a vSphere conceptual design by identifying technical and business requirements Determine the type of database to use based on the deployment size. Design for performance, availability, recoverability, manageability, and security Map the logical resource design into the physical vSphere design Create professional vSphere design documentation to ensure a successful implementation of the vSphere design Leverage the latest vSphere 6.x features to ensure manageability, performance, availability, and security in a virtual datacenter design *In Detail* VMware is the industry leader in data center virtualization. The vSphere 6.x suite of products provides a robust and resilient platform to virtualize server and application workloads. With the release of 6.x a whole range of new features has come along such as ESXi Security enhancements, fault tolerance, high availability enhancements, and virtual volumes, thus simplifying the secure management of resources, the availability of applications, and performance enhancements of workloads deployed in the virtualized datacenter. This book provides recipes to create a virtual datacenter design using the features of vSphere 6.x by guiding you through the process of identifying the design factors and applying them to the logical and physical design process. You'll follow steps that walk you through the design process from beginning to end, right from the discovery process to creating the conceptual design; calculating the resource requirements of the logical storage, compute, and network design; mapping the logical requirements to a physical design; security design; and finally creating the design documentation. The recipes in this book provide guidance on making design decisions to ensure the successful creation, and ultimately the successful implementation, of a VMware vSphere 6.x virtual data center design. *Style and Approach* The book follows a recipe-based approach that consists of practical recipes to effectively design a virtual data center. *DevOps for VMware® Administrators* is the first book focused on using DevOps tools and practices with VMware technologies. The authors introduce high-value tools from third parties and VMware



itself, and guide you through using them to improve the performance of all your virtualized systems and applications. You'll walk through automating and optimizing configuration management, provisioning, log management, continuous integration, and more. The authors also offer step-by-step coverage of deploying and managing applications at scale with Docker containers and Google Kubernetes. They conclude with an up-to-the-minute discussion of VMware's newest DevOps initiatives, including VMware vRealize Automation and VMware vRealize Code Stream. Coverage includes

- Understanding the challenges that DevOps tools and practices can help VMware administrators to solve
- Using Vagrant to quickly deploy Dev and Test environments that match production system specifications
- Writing Chef "recipes" that streamline server configuration and maintenance
- Simplifying Unix/Linux configuration management and orchestration with Ansible
- Implementing Docker containers for faster and easier application management
- Automating provisioning across the full lifecycle with Razor
- Integrating Microsoft PowerShell Desired State Configuration (DSC) and VMware PowerCLI to automate key Windows Server and vSphere VM admin tasks
- Using Puppet to auto-

mate infrastructure provisioning, configuration, orchestration, and reporting

- Supercharging log management with ELK (Elasticsearch, Logstash, Kibana)
- Supporting DevOps source code management with Git and continuous integration practices with Jenkins
- Achieving continuous integration, delivery, and deployment with VMware's vRealize Code Stream

Get More from your Network with Automation tools to increase its effectiveness. About This Book Get started with network automation (and different automation tasks) with relevant use cases Apply software design principles such as Continuous Integration and DevOps to your network toolkit Guides you through some best practices in automation Who This Book Is For If you are a network engineer looking for an extensive guide to help you automate and manage your network efficiently, then this book is for you. What You Will Learn Get the detailed analysis of Network automation Trigger automations through available data factors Improve data center robustness and security through specific access and data digging Get an Access to APIs from Excel for dynamic reporting Set up a communication with SSH-based devices using netmiko Make full use of practical use cases and best practices to get ac-

customized with the various aspects of network automation In Detail Network automation is the use of IT controls to supervise and carry out every-day network management functions. It plays a key role in network virtualization technologies and network functions. The book starts by providing an introduction to network automation, SDN, and its applications, which include integrating DevOps tools to automate the network efficiently. It then guides you through different network automation tasks and covers various data digging and reporting methodologies such as IPv6 migration, DC relocations, and interface parsing, all the while retaining security and improving data center robustness. The book then moves on to the use of Python and the management of SSH keys for machine-to-machine (M2M) communication, all followed by practical use cases. The book also covers the importance of Ansible for network automation including best practices in automation, ways to test automated networks using different tools, and other important techniques. By the end of the book, you will be well acquainted with the various aspects of network automation. Style and approach A clear, concise, and straightforward book that will enable you to automate networks and improve performance.