

## 10 Virtual Machine Monitoring Zabbix

In this text, Smith and Nair take a new approach by examining virtual machines as a unified discipline and pulling together cross-cutting technologies. Topics include instruction set emulation, dynamic program translation and optimization, high level virtual machines (including Java and CLI), and system virtual machines for both single-user systems and servers.

The IBM® Elastic Storage Server GUI provides an easy way to configure and monitor various features that are available with the IBM ESS system. It is a web application that runs on common web browsers, such as Chrome, Firefox, and Edge. The ESS GUI uses Java Script and Ajax technologies to enable smooth and desktop-like interfacing. This IBM Redpaper publication provides a broad understanding of the architecture and features of the ESS GUI. It includes information about how to install and configure the GUI and in-depth information about the use of the GUI options. The primary audience for this paper includes experienced and new users of the ESS system.

If you have some experience with Zabbix and wish to take your infrastructure to the next level, then this book is for you. Before you start with Zabbix, or monitoring in general, it is best to have some basic Linux knowledge and a good understanding of snmp, virtualization, and scripting.

Discover real world scenarios for Proxmox troubleshooting and become an expert cloud builder About This Book Formulate Proxmox-based solutions and set up virtual machines of any size while gaining expertise even on the most complex multi-cluster setups Master the skills needed to analyze, monitor, and troubleshoot real-world virtual environments This is the most up-to-date title on mastering Proxmox, with examples based on the new Linux Kernel 4.10.15 and Debian Stretch (9.x) Who This Book Is For This book is for Linux and system administrators and professionals working in IT teams who would like to design and implement an enterprise-quality virtualized environment using Proxmox. Some knowledge of networking and virtualization concepts is assumed. What You Will Learn Install basic Proxmox VE nodes and get to know the Proxmox GUI Get to know Proxmox's internal structure and mechanics Create and manage KVM or LXC-based virtual machines Understand advanced virtual networks Configure high availability Proxmox nodes Integrate Ceph big data storage with the Proxmox hypervisor Plan a large virtual environment for cloud-based services Discover real-world scenarios for Proxmox troubleshooting In Detail Proxmox is an open source server virtualization solution that has enterprise-class features for managing virtual machines, for storage, and to virtualize both Linux and Windows application workloads. You'll begin with a refresher on the advanced installation features and the Proxmox GUI to familiarize yourself with the Proxmox VE hypervisor. Then, you'll move on to explore Proxmox under the hood, focusing on storage systems, such as Ceph, used with Proxmox. Moving on, you'll learn to manage KVM virtual machines, deploy Linux containers fast, and see how networking is handled in Proxmox. You'll also learn how to protect a cluster or a VM with a firewall and explore the new high availability features introduced in Proxmox VE 5.0. Next, you'll dive deeper into the backup/restore strategy and see how to properly update and upgrade a Proxmox node. Later, you'll learn how to monitor a Proxmox cluster and all of its components using Zabbix. Finally, you'll discover how to recover Promox from disaster strikes through some real-world examples. By the end of the book, you'll be an expert at making Proxmox work in production environments with minimal downtime. Style and approach This book walks you through every aspect of virtualization using Proxmox using a practical, scenario-based approach that features best practices and all the weaponry you need to succeed when building virtual environments with Proxmox 5.0.

The Sarbanes-Oxley Act (officially titled the Public Company Accounting Reform and Investor Protection Act of 2002), signed into law on 30 July 2002 by President Bush, is considered the most significant change to federal securities laws in the United States since the New Deal. It came in the wake of a series of corporate financial scandals, including those affecting Enron, Arthur Andersen, and WorldCom. The law is named after Senator Paul Sarbanes and Representative Michael G. Oxley. It was approved by the House by a vote of 423-3 and by the Senate 99-0. This book illustrates the many Open Source cost-saving opportunities that public companies can explore in their IT enterprise to meet mandatory compliance requirements of the Sarbanes-Oxley act. This book will also demonstrate by example and technical reference both the infrastructure components for Open Source that can be made compliant, and the Open Source tools that can aid in the journey of compliance. Although many books and reference material have been authored on the financial and business side of Sox compliance, very little material is available that directly address the information technology considerations, even less so on how Open Source fits into that discussion. The format of the book will begin each chapter with the IT business and executive considerations of Open Source and SOX compliance. The remaining chapter verbiage will include specific examinations of Open Source applications and tools which relate to the given subject matter. \* Only book that shows companies how to use Open Source tools to achieve SOX compliance, which dramatically lowers the cost of using proprietary, commercial applications. \* Only SOX compliance book specifically detailing steps to achieve SOX compliance for IT Professionals.

Learn how to gather detailed statistics and data with this one-stop, comprehensive course along with hands-on recipes to get your infrastructure up and running with Zabbix. About This Book Monitor your network and deploy impressive business solutions with Zabbix Get practical recipes to automate your Zabbix infrastructure and create impressive graphs Integrate, customize, and extend your monitoring solutions with external components and software. Who This Book Is For This course is for System Administrators who have been managing and monitoring infrastructure. You do not need any knowledge about Zabbix. What You Will Learn Efficiently collect data from a large variety of monitoring objects Organize your data in graphs, charts, maps, and slide shows Write your own custom probes and monitoring scripts to extend Zabbix Configure Zabbix and its database to be high available and fault-tolerant Automate repetitive procedures using Zabbix's API FInd out how to monitor SNMP devices Manage hosts, users, and permissions while acting upon monitored conditions Set up your Zabbix infrastructure efficiently Customize the Zabbix interface to suit your system needs Monitor your VMware infrastructure in a quick and easy way with Zabbix In Detail Nowadays, monitoring systems play a crucial role in any IT environment. They are extensively used to not only measure your system's performance, but also to forecast capacity issues. This is where Zabbix, one of the most popular monitoring solutions for networks and applications, comes into the picture. With an efficient monitoring system in place, you'll be able to foresee when your infrastructure runs under capacity and react accordingly. Due to the critical role a monitoring system plays, it is fundamental to implement it in the best way from its initial setup. This avoids misleading, confusing, or, even worse, false alarms that can disrupt an efficient and healthy IT department. This course is for administrators who are looking for an end-to-end monitoring solution. It will get you accustomed with the powerful monitoring solution, starting with installation and explaining the fundamentals of Zabbix. Moving on, we explore the complex functionalities of Zabbix in the form of enticing recipes. These recipes will help you to gain control of your infrastructure. You will be able to organize your data in the form of graphs and charts along with building intelligent triggers for monitoring your network proactively. Toward the end, you will gain expertise in monitoring your networks and applications using Zabbix. This Learning Path combines some of the best that Packt has to offer in one complete, curated package. It includes content from the following Packt products: Zabbix Network Monitoring-Second Edition Zabbix Cookbook Mastering Zabbix-Second Edition Style and approach This course is a compact practical guide that starts from the fundamentals of Zabbix and takes you all the way to building a monitoring solution that gathers data from a large variety of systems. Along the way, we will discuss the low-level operational details that should benefit you even if you have used Zabbix for a while. It also follows a step-by-step approach that is easy to follow, full of engaging examples, and will help you apply the theory to practice.

Monitor your Docker containers and their apps using various native and third-party tools with the help of this exclusive guide! About This Book Get the only book that covers multiple methods to monitoring Docker Containers -your one-stop solution to all your Docker monitoring needs

Learn how to implement third-party tools such as Datalog, cAdvisor, and more with this example-rich, hands-on guide Learn how to efficiently monitor Docker containers and get an edge over other administrators while maintaining apps on these containers Who This Book Is For This book is for DevOps engineers and system administrators who manage Docker containers and want to better manage these containers using expert techniques and methods and better maintain applications built on Docker. What You Will Learn Discover the tools built into Docker to gain an insight into your containers' performance Augment Docker's built-in tools with modern tools such as cAdvisor from Google, SysDig by Draios, and Soundcloud's Prometheus Integrate the monitoring of your containers with more traditional monitoring solutions such as Zabbix Take advantage of the various SaaS offerings from third parties to move monitoring away from your local infrastructure and into the cloud Discover the various ways to ship your applications' logs from the container to a central logging service Get the most out of your application and resources with the right implementation of your monitoring method In Detail This book will show you how monitoring containers and keeping a keen eye on the working of applications helps improve the overall performance of the applications that run on Docker. With the increased adoption of Docker containers, the need to monitor which containers are running, what resources they are consuming, and how these factors affect the overall performance of the system has become the need of the moment. This book covers monitoring containers using Docker's native monitoring functions, various plugins, as well as third-party tools that help in monitoring. We'll start with how to obtain detailed stats for active containers, resources consumed, and container behavior. We also show you how to use these stats to improve the overall performance of the system. Next, you will learn how to use SysDig to both view your containers performance metrics in real time and record sessions to query later. By the end of this book, you will have a complete knowledge of how to implement monitoring for your containerized applications and make the most of the metrics you are collecting Style and approach This is an easy-to-follow guide with plenty of hands-on examples that can be executed both on your local machine and externally hosted services.

Learn virtualization skills by building your own virtual machine Virtualization Essentials, Second Edition provides new and aspiring IT professionals with immersive training in working with virtualization environments. Clear, straightforward discussion simplifies complex concepts, and the hands-on tutorial approach helps you quickly get up to speed on the fundamentals. You'll begin by learning what virtualization is and how it works within the computing environment, then you'll dive right into building your own virtual machine. You'll learn how to set up the CPU, memory, storage, networking, and more as you master the skills that put you in-demand on the job market. Each chapter focuses on a specific goal, and concludes with review questions that test your understanding as well as suggested exercises that help you reinforce what you've learned. As more and more companies are leveraging virtualization, it's imperative that IT professionals have the skills and knowledge to interface with virtualization-centric infrastructures. This book takes a learning-by-doing approach to give you hands-on training and a core understanding of virtualization. Understand how virtualization works Create a virtual machine by scratch and migration Configure and manage basic components and supporting devices Develop the necessary skill set to work in today's virtual world Virtualization was initially used to build test labs, but its use has expanded to become best practice for a tremendous variety of IT solutions including high availability, business continuity, dynamic IT, and more. Cloud computing and DevOps rely on virtualization technologies, and the exponential spread of these and similar applications make virtualization proficiency a major value-add for any IT professional.

Virtualization Essentials, Second Edition provides accessible, user-friendly, informative virtualization training for the forward-looking pro. Algorithms and Architectures for Parallel Processing 18th International Conference, ICA3PP 2018, Guangzhou, China, November 15-17, 2018, Proceedings, Part III Springer

Master the skills you need to build a rock-solid virtualization environment with the all new Proxmox 4 About This Book Formulate Proxmox-based solutions and set up virtual machines of any size while gaining expertise even on the most complex multi-cluster setups Master the skills needed to analyze, monitor, and troubleshoot real-world virtual environments This is the most up-to-date title on mastering Proxmox, with examples based on the new Linux Kernel 4.2 and Debian Jessie (8.x) Who This Book Is For The book targets Linux and system administrators and professionals working in IT teams who would like to design and implement an enterprise-quality virtualized environment using Proxmox. Knowledge of networking and virtualization concepts is assumed. What You Will Learn Install the basic Proxmox VE nodes Get to know the Proxmox Graphical User Interface (GUI) See and understand Proxmox's internal structure and mechanics Create and manage KVM- or LXC-based virtual machines Understand advanced virtual networks Leverage the power of the built-in Proxmox firewall to provide protection at any level Configure high availability Proxmox nodes Learn different backup strategies and to restore a VM in the event of a disaster to ensure data safety Monitor a Proxmox cluster and all of its components using Zabbix Plan large virtual environments for mission critical virtual environments Work through real-world scenarios to troubleshoot Proxmox In Detail Proxmox is an open source server virtualization solution that has enterprise-class features to manage virtual machines, to be used for storage, and to virtualize both Linux and Windows application workloads. You begin with refresher on the advanced installation features and the Proxmox GUI to familiarize yourself with the Proxmox VE hypervisor. You then move on to explore Proxmox under the hood, focusing on the storage systems used with Proxmox. Moving on, you will learn to manage KVM Virtual Machines and Linux Containers and see how networking is handled in Proxmox. You will then learn how to protect a cluster or a VM with a firewall and explore the new HA features introduced in Proxmox VE 4 along with the brand new HA simulator. Next, you will dive deeper into the backup/restore strategy followed by learning how to properly update and upgrade a Proxmox node. Later, you will learn how to monitor a Proxmox cluster and all of its components using Zabbix. By the end of the book, you will become an expert at making Proxmox environments work in production environments with minimum downtime. Style and approach This book walks you through every aspect of virtualization using Proxmox using a practical, scenario-based approach that features best practices and all the weaponry you need to succeed when building virtual environments with Proxmox 4.

This is not an instructional guide, but a practical, scenario-based book which guides you through everything you need to know in a practical manner by letting you build your own cluster. By the end of the book, you will have a fully functional Proxmox cluster setup at your disposal and have the knowledge to replicate virtualization solutions. If you already know what the word "virtualization" means and you are ready to stand out from the crowd equipped with the unique ability to design and implement a rock-solid virtualized network environment using Proxmox, then you have just picked up the only book you will need. Linux system administration experience together with knowledge of networking and virtualization concepts is assumed. This book is also useful if you are already using Proxmox and simply want to master its advanced features.

This book constitutes the refereed proceedings of the 15th International Conference on Information Security Practice and Experience, ISPEC 2019, held in Kuala Lumpur, Malaysia, in November 2019. The 21 full and 7 short papers presented in this volume were carefully reviewed and selected from 68 submissions. They were organized into the following topical sections: Cryptography I, System and Network Security, Security Protocol and Tool, Access Control and Authentication, Cryptography II, Data and User Privacy, Short Paper I, and Short Paper II. Learn how to monitor your large IT environments using Zabbix with this one-stop, comprehensive guide to the Zabbix world About This Book • Create a tailor-made monitoring solution based on your specific needs • Learn advanced techniques of Zabbix to monitor networks, performances, and other critical features in large environments • Integrate, customize, and extend your monitoring solutions with external components and software Who This Book Is For This book is intended for system administrators and IT architects who need to better integrate their Zabbix installation with their surrounding environment. A basic, working knowledge of Zabbix and Linux is assumed so that the book can focus on how to use every component to its full advantage. It will also be helpful to be familiar with programming concepts and languages but if not, all the content in the book is thorough and well documented. What You Will Learn • Efficiently collect data from a large variety of

monitoring objects• Organize your data in graphs, charts, maps, and slide shows• Build intelligent triggers and alarms to monitor your network proactively• Write your own custom probes and monitoring scripts to extend Zabbix• Configure Zabbix and its database to be high available and fault-tolerant• Automate repetitive procedures using Zabbix's API• Integrate Zabbix with external systems• Understand the protocol and how to interact with it by writing your own custom agent

In Detail Nowadays monitoring systems play a crucial role in any IT environment. They are extensively used to not only measure your system's performance, but also to forecast capacity issues. This is where Zabbix, one of the most popular monitoring solutions for networks and applications, comes into the picture. With an efficient monitoring system in place you'll be able to foresee when your infrastructure runs under capacity and react accordingly. Due to the critical role a monitoring system plays, it is fundamental to implement it in the best way from its initial setup. This avoids misleading, confusing, or, even worse, false alarms which can disrupt an efficient and healthy IT department. This new edition will provide you with all the knowledge you need to make strategic and practical decisions about the Zabbix monitoring system. The setup you'll do with this book will fit your environment and monitoring needs like a glove. You will be guided through the initial steps of choosing the correct size and configuration for your system, to what to monitor and how to implement your own custom monitoring component. Exporting and integrating your data with other systems is also covered. By the end of this book, you will have a tailor-made and well configured monitoring system and will understand with absolute clarity how crucial it is to your IT environment.

Style and approach This book is an easy to follow, step-by-step guide to monitoring network and performance in large environments with Zabbix. It is designed for real-world Zabbix administrators, and is comprised of a perfect mix of theoretical explanations and practical applications, making it your perfect companion.

? This book is open access under a CC BY 4.0 license. This book constitutes the refereed proceedings of the 11th IFIP WG 6.6 International Conference on Autonomous Infrastructure, Management, and Security, AIMS 2017, held in Zurich, Switzerland, in July 2017. The 8 full papers presented together with 11 short papers were carefully reviewed and selected from 24 submissions. The papers are organized in the following topical sections: security management; management of cloud environments and services, evaluation and experimental study of rich network services; security, intrusion detection, and configuration; autonomic and self-management solutions; and methods for the protection of infrastructure.

Gather detailed statistics and deploy impressive business solutions with Zabbix 4.0 Key Features Experience the full impact of Zabbix 4.0, a useful and increasingly popular tool Enhance your network's performance and manage hosts and systems A step-by-step guide to smarter network monitoring Book Description Zabbix 4 Network Monitoring is the perfect starting point for monitoring the performance of your network devices and applications with Zabbix. Even if you've never used a monitoring solution before, this book will get you up and running quickly. You'll learn to monitor more sophisticated operations with ease and soon feel in complete control of your network, ready to meet any challenges you might face. Starting with the installation, you will discover the new features in Zabbix 4.0. You will then get to grips with native Zabbix agents and Simple Network Management Protocol (SNMP) devices. You will also explore Zabbix's integrated functionality for monitoring Java application servers and VMware. This book also covers notifications, permission management, system maintenance, and troubleshooting, so you can be confident that every potential challenge and task is under your control. If you're working with larger environments, you'll also be able to find out more about distributed data collection using Zabbix proxies. Once you're confident and ready to put these concepts into practice, you will understand how to optimize and improve performance. Troubleshooting network issues is vital for anyone working with Zabbix, so the book also helps you work through any technical snags and glitches you might face. By the end of this book, you will have learned more advanced techniques to fine-tune your system and make sure it is in a healthy state. What you will learn Install Zabbix server and an agent from source Manage hosts, users, and permissions while acting upon monitored conditions Visualize data with the help of ad hoc graphs, custom graphs, and maps Simplify complex configurations and learn to automate them Monitor everything from web pages to IPMI devices and Java applications to VMware stats Configure Zabbix to send alerts including problem severity and time periods Troubleshoot any network issue Who this book is for If you're new to Zabbix look no further than this book. Zabbix 4 Network Monitoring is for system and network administrators who are looking to put their knowledge to work with Zabbix 4.0.

A comprehensive guide to rolling out Datadog to monitor infrastructure and applications running in both cloud and datacenter environments Key Features Learn Datadog to proactively monitor your infrastructure and cloud services Use Datadog as a platform for aggregating monitoring efforts in your organization Leverage Datadog's alerting service to implement on-call and site reliability engineering (SRE) processes Book Description Datadog is an essential cloud monitoring and operational analytics tool which enables the monitoring of servers, virtual machines, containers, databases, third-party tools, and application services. IT and DevOps teams can easily leverage Datadog to monitor infrastructure and cloud services, and this book will show you how. The book starts by describing basic monitoring concepts and types of monitoring that are rolled out in a large-scale IT production engineering environment. Moving on, the book covers how standard monitoring features are implemented on the Datadog platform and how they can be rolled out in a real-world production environment. As you advance, you'll discover how Datadog is integrated with popular software components that are used to build cloud platforms. The book also provides details on how to use monitoring standards such as Java Management Extensions (JMX) and StatsD to extend the Datadog platform. Finally, you'll get to grips with monitoring fundamentals, learn how monitoring can be rolled out using Datadog proactively, and find out how to extend and customize the Datadog platform. By the end of this Datadog book, you will have gained the skills needed to monitor your cloud infrastructure and the software applications running on it using Datadog. What you will learn Understand monitoring fundamentals, including metrics, monitors, alerts, and thresholds Implement core monitoring requirements using Datadog features Explore Datadog's integration with cloud platforms and tools Extend Datadog using custom scripting and standards such as JMX and StatsD Discover how proactive monitoring can be rolled out using various Datadog features Understand how Datadog can be used to monitor microservices in both Docker and Kubernetes environments Get to grips with advanced Datadog features such as APM and Security Monitoring Who this book is for This book is for DevOps engineers, site reliability engineers (SREs), IT Production engineers, software developers and architects, cloud engineers, system administrators, and anyone looking to monitor and visualize their infrastructure and applications with Datadog. Basic working knowledge of cloud and infrastructure is useful. Working experience of Linux distribution and some scripting knowledge is required to fully take advantage of the material provided in the book.

Learn how to monitor your large IT environments using Zabbix with this one-stop, comprehensive guide to the Zabbix world About This Book Create a tailor-made monitoring solution based on your specific needs Learn advanced techniques of Zabbix to monitor networks, performances, and other critical features in large environments Integrate, customize, and extend your monitoring solutions with external components and software Who This Book Is For This book is intended for system administrators and IT architects who need to better integrate their Zabbix installation with their surrounding environment. A basic, working knowledge of Zabbix and Linux is assumed so that the book can focus on how to use every component to its full advantage. It will also be helpful to be familiar with programming concepts and languages but if not, all the content in the book is thorough and well documented. What You Will Learn Efficiently collect data from a large variety of monitoring objects Organize your data in graphs, charts, maps, and slide shows Build intelligent triggers and alarms to monitor your network proactively Write your own custom probes and monitoring scripts to extend Zabbix Configure Zabbix and its database to be high available and fault-tolerant Automate repetitive procedures using Zabbix's API Integrate Zabbix with external systems Understand the protocol and how to interact with it by writing your own custom agent In Detail Nowadays monitoring systems play a crucial role in any IT environment. They are extensively used to not only measure your system's performance, but also to forecast capacity issues. This is where

Zabbix, one of the most popular monitoring solutions for networks and applications, comes into the picture. With an efficient monitoring system in place you'll be able to foresee when your infrastructure runs under capacity and react accordingly. Due to the critical role a monitoring system plays, it is fundamental to implement it in the best way from its initial setup. This avoids misleading, confusing, or, even worse, false alarms which can disrupt an efficient and healthy IT department. This new edition will provide you with all the knowledge you need to make strategic and practical decisions about the Zabbix monitoring system. The setup you'll do with this book will fit your environment and monitoring needs like a glove. You will be guided through the initial steps of choosing the correct size and configuration for your system, to what to monitor and how to implement your own custom monitoring component. Exporting and integrating your data with other systems is also covered. By the end of this book, you will have a tailor-made and well configured monitoring system and will understand with absolute clarity how crucial it is to your IT environment. Style and approach This book is an easy to follow, step-by-step guide to monitoring network and performance in large environments with Zabbix. It is designed for real-world Zabbix administrators, and is comprised of a perfect mix of theoretical explanations and practical applications, making it your perfect companion.

This book constitutes the refereed proceedings of the 13th International Conference on Evaluation of Novel Approaches to Software Engineering, ENASE 2018, held in Funchal, Madeira, Portugal, in March 2018. The 17 revised full papers and 5 revised short papers presented were carefully reviewed and selected from 95 submissions. The papers are organized in topical sections on service science and business information systems and software engineering.

Covering the latest VMware vSphere software, an essential book aimed at solving vSphere performance problems before they happen VMware vSphere is the industry's most widely deployed virtualization solution. However, if you improperly deploy vSphere, performance problems occur. Aimed at VMware administrators and engineers and written by a team of VMware experts, this resource provides guidance on common CPU, memory, storage, and network-related problems. Plus, step-by-step instructions walk you through techniques for solving problems and shed light on possible causes behind the problems. Divulges troubleshooting methodologies, performance monitoring tools, and techniques and tools for isolating performance problems Details the necessary steps for handling CPU, memory, storage, and network-related problems Offers understanding on the interactions between VMware vSphere and CPU, memory, storage, and network VMware vSphere Performance is the resource you need to diagnose and handle VMware vSphere performance problems, and avoid them in the future.

Your One-Stop Reference for VMware vSphere Automation If you manage vSphere in a Windows environment, automating routine tasks can save you time and increase efficiency. VMware vSphere PowerCLI is a set of pre-built commands based on Windows PowerShell that is designed to help you automate vSphere processes involving virtual machines, datacenters, storage, networks, and more. This detailed guide—using a practical, task-based approach and real-world examples—shows you how to get the most out of PowerCLI's handy cmdlets. Learn how to: Automate vCenter Server and ESX/ESX(i) Server deployment and configuration Create and configure virtual machines and use vApps Secure, back up, and restore your virtual machines Monitor, audit, and report the status of your vSphere environment Use the PowerCLI SDK, PowerWF Studio, and vEcoShell Schedule and view automation Add a GUI front end to your scripts

Over past few years, technologies have experienced boundaries getting blurred and concept of convergence to gain prominence. Harnessing from this, two main tracks for information processing management and communication are held, covering both research and application works of information management, intelligent information processing, interaction management, networking/ telecommunications, and social interaction. This book creates unique opportunity for research convergence among truly diverse technology domains of computer science. Leveraging from this diversity of topics, researchers get to generate novel research ideas by seeking application of their research in a different technology domain. This volume represents the collection of papers presented at the 13th International Conference on Ubiquitous Information Management and Communication (IMCOM 2019), held on 4-6 January 2019 in Phuket, Thailand. Out of 228 papers submitted from all around the world 88 papers were accepted for presentations. The 88 contributions to this volume are organized into 5 chapters: Chapter 1. Network Evolution, Chapter 2. Intelligent and Secure Network, Chapter 3. Image and Video Processing, Chapter 4. Information Technology and Society, and Chapter 5. Data Mining and Learning. Our editors wish readers to find this volume informative and enjoyable.

This book (CCIS 839) constitutes the refereed proceedings of the First International Conference on Communication, Networks and Computings, CNC 2018, held in Gwalior, India, in March 2018. The 70 full papers were carefully reviewed and selected from 182 submissions. The papers are organized in topical sections on wired and wireless communication systems, high dimensional data representation and processing, networks and information security, computing techniques for efficient networks design, electronic circuits for communication system.

This book presents high-quality research on the concepts and developments in the field of information and communication technologies, and their applications. It features 134 rigorously selected papers (including 10 poster papers) from the Future of Information and Communication Conference 2020 (FICC 2020), held in San Francisco, USA, from March 5 to 6, 2020, addressing state-of-the-art intelligent methods and techniques for solving real-world problems along with a vision of future research. Discussing various aspects of communication, data science, ambient intelligence, networking, computing, security and Internet of Things, the book offers researchers, scientists, industrial engineers and students valuable insights into the current research and next generation information science and communication technologies.

The two volumes of this book collect high-quality peer-reviewed research papers presented in the International Conference on ICT for Sustainable Development (ICT4SD 2015) held at Ahmedabad, India during 3 – 4 July 2015. The book discusses all areas of Information and Communication Technologies and its applications in field for engineering and management. The main focus of the volumes are on applications of ICT for Infrastructure, e-Governance, and contemporary technologies advancements on Data Mining, Security, Computer Graphics, etc. The objective of this International Conference is to provide an opportunity for the researchers, academicians, industry persons and students to interact and exchange ideas, experience and expertise in the current trend and strategies for Information and Communication Technologies.

This three-volume set LNCS 11139-11141 constitutes the refereed proceedings of the 27th International Conference on Artificial Neural Networks, ICANN 2018, held in Rhodes, Greece, in October 2018. The 139 full and 28 short papers as well as 41 full poster papers and 41 short poster papers presented in these volumes was carefully reviewed and selected from total of 360 submissions. They are related to the following thematic topics: AI and Bioinformatics, Bayesian and Echo State Networks, Brain Inspired Computing, Chaotic Complex Models, Clustering, Mining, Exploratory Analysis, Coding Architectures, Complex Firing Patterns, Convolutional Neural Networks, Deep Learning (DL), DL in Real Time Systems, DL and Big Data Analytics, DL and Big Data, DL and Forensics, DL and Cybersecurity, DL and Social Networks, Evolving Systems – Optimization, Extreme Learning

Machines, From Neurons to Neuromorphism, From Sensation to Perception, From Single Neurons to Networks, Fuzzy Modeling, Hierarchical ANN, Inference and Recognition, Information and Optimization, Interacting with The Brain, Machine Learning (ML), ML for Bio Medical systems, ML and Video-Image Processing, ML and Forensics, ML and Cybersecurity, ML and Social Media, ML in Engineering, Movement and Motion Detection, Multilayer Perceptrons and Kernel Networks, Natural Language, Object and Face Recognition, Recurrent Neural Networks and Reservoir Computing, Reinforcement Learning, Reservoir Computing, Self-Organizing Maps, Spiking Dynamics/Spiking ANN, Support Vector Machines, Swarm Intelligence and Decision-Making, Text Mining, Theoretical Neural Computation, Time Series and Forecasting, Training and Learning.

This book constitutes the proceedings of the 18th IFIP WG 8.5 International Conference on Electronic Government, EGOV 2019, held in San Benedetto del Tronto, Italy, in September 2019, in conjunction with the IFIP WG 8.5 IFIP International Conference on Electronic Participation (ePart 2019) and the International Conference for E-Democracy and Open Government Conference (CeDEM 2019). The 27 revised full papers presented were carefully reviewed and selected from 64 submissions. The papers are clustered under the following topical sections: E-Government Foundations; E-Government Services and Open Government; Open Data: Social and Technical Aspects; AI, Data Analytics and Automated Decision Making; and Smart Cities.

This book on performance fundamentals covers UNIX, OpenVMS, Linux, Windows, and MVS. Most of the theory and systems design principles can be applied to other operating systems, as can some of the benchmarks. The book equips professionals with the ability to assess performance characteristics in unfamiliar environments. It is suitable for practitioners, especially those whose responsibilities include performance management, tuning, and capacity planning. IT managers with a technical outlook also benefit from the book as well as consultants and students in the world of systems for the first time in a professional capacity.

This book constitutes the proceedings of the International Conference on Edge Computing, EDGE 2018, held in Seattle, WA, USA, in June 2018. The 9 full papers and 3 short paper presented in this volume were carefully reviewed and selected from 29 submissions. The contributions are organized in topical sections named: Research Track; Application and Industry Track; and Short Paper Track. They deal with the latest fundamental advances in the state of the art and practice of edge computing.

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 book constitutes the refereed proceedings of the 14th International Conference on Economics of Grids, Clouds, Systems, and Services, GECON 2017, held in Biarritz, France, in September 2017. The 10 full papers and 10 short papers presented together with 3 invited talks were carefully reviewed and selected from 38 submissions. This volume of the GECON 2017 proceedings has been structured in sections following the sessions that comprised the conference program: Pricing in Cloud and Quality of Service, Work in Progress on Service Management, Work in Progress on Business models and Community Cooperation, Work in Progress on Energy Efficiency and Resource Management, Resource Management, Edge Computing, Cloud Federation; and Work in Progress on Service Selection and Coordination.

Discover practical recipes to help you efficiently monitor enterprise IT infrastructure for Windows, Linux, and networking Key Features Find out how you can leverage some of the most exciting features of Zabbix 5 Perform professional IT infrastructure and application monitoring on multiple platforms Discover easy-to-follow, practical solutions to problems in network monitoring with Zabbix Book Description Zabbix offers useful insights into your infrastructure performance and issues and enables you to enhance your monitoring setup with its variety of powerful features. This book covers hands-on, easy-to-follow recipes for using Zabbix 5 for effectively monitoring the performance of devices and applications over networks. The book starts by guiding you through the installation of Zabbix and using the Zabbix frontend. You'll then work your way through the most prominent features of Zabbix and make the right design choices for building a scalable and easily manageable environment. The book contains recipes for building items and triggers for different types of monitoring, building templates, and using Zabbix proxies. As you advance, you'll learn how to use the Zabbix API for customization and manage your Zabbix server and database efficiently. Finally, you'll find quick solutions to the common and not-so-common problems that you may encounter in your everyday Zabbix monitoring work. By the end of this Zabbix book, you'll have learned how to use Zabbix for all your monitoring needs and be able to build a solid Zabbix setup by leveraging its key functionalities. What you will learn Explore the different types of monitoring available in Zabbix 5 Find out how to build your own Zabbix templates Use Zabbix proxies for effective load balancing/scaling Work with custom integrations and the Zabbix API Set up triggers and alerting with Zabbix 5 Maintain your Zabbix setup for scaling, backups, and upgrades Discover how to perform advanced Zabbix database management Monitor cloud-based products such as Amazon Web Services (AWS), Azure, and Docker Who this book is for This book is for IT engineers who want to get started with Zabbix and anyone with an intermediate understanding of Zabbix looking to extend their knowledge. Although not necessary, prior experience with Zabbix will help you to make the most of this book.

If you are an experienced network administrator looking for a comprehensive monitoring solution that will keep a watchful eye on networks, then this book is for you.

Manage on-premises and cloud IT assets from one console Key Features Empower yourself with practical recipes to collect and analyze operational insights on Windows and Linux servers in your on premises datacenters and in any public cloud environments such as Azure and AWS. Build capabilities through practical tasks and techniques to collect and analyze machine data Address business challenges and discover means to accommodate workloads and instances in a low cost manner Book Description Microsoft Operations Management Suite Cookbook begins with an overview of how to hit the ground running with OMS insights and analytics. Next, you will learn to search and analyze data to retrieve actionable insights, review alert generation from the analyzed data, and use basic and advanced Log search queries in Azure Log Analytics. Following this, you will explore some other management solutions that provide functionality related to workload assessment, application dependency mapping, automation and configuration management, and security and compliance. You will also become well versed with the data protection and recovery functionalities of OMS Protection and Recovery, and learn how to use Azure Automation components and features in OMS. Finally you will learn how to evaluate key considerations for using the Security and Audit solution, and working with Security and Compliance in OMS. By the end of the book, you will be able to configure and utilize solution offerings in OMS, understand OMS workflows, how to unlock insights, integrate capabilities into new or existing workflows, manage configurations, and automate tasks and processes. What you will learn Understand the important architectural considerations and strategies for OMS Use advanced search query commands and strategies to derive insights from indexed data Make use of alerting in OMS such as alert actions, and available options for the entire lifecycle of the alert Discover some practical tips for monitoring Azure container service containers and clusters using OMS Review and use the backup options available through the Azure backup service, as well as data recovery options available through Azure Site Recovery (ASR) Understand how to advance important DevOps concepts within your IT organization Learn how to manage configurations and automate process Who this book is for This book is written for the IT professional and general reader who is interested in technology themes such as DevOps, Big Data Analytics, and digital transformation concepts. Azure and other cloud platform administrators, cloud professionals, and technology analysts who would like to solve everyday problems quickly and efficiently with hybrid management tools available in the Microsoft product ecosystem will derive much value from this book. Prior experience with OMS 2012 would be helpful.

The Cloud Computing Bible is a complete reference to cloud computing that presents the technologies, protocols, platforms and infrastructure that make cloud computing possible and desirable. Many of the cloud computing books on the market today are small books of 300 pages or less and the larger books tend to be programming books or security titles. A longer format book such as Cloud Computing Bible allows a complete definition of the topic as well as in-depth introductions to essential technologies and platforms. Additionally it allows significant technologies to be presented in a form that provides enough detail for the reader to determine if it is something that they are interested in learning more about. It is important to stress platform and technologies as the main subject and intersperse that with products in order to provide an extended life span, but have current appeal. The book will be divided into five parts: The Value Proposition, Platforms, Infrastructure, Services and Applications, and The Mobile Cloud.

Over 60 hands-on recipes to perform server virtualization and manage virtualized server solutions with Proxmox About This Book Learn the process of installing, configuring, and managing Proxmox clusters Explore ways of integrating various storage systems with Proxmox Step-by-step and easy-to-learn instructions to build virtual environments of any size using Proxmox Who This Book Is For This book is perfect for system administrators who want to learn to implement and administer Proxmox VE environments. Since this book will not cover the basics of Proxmox, a basic understanding of virtualization and networking with Proxmox VE is required. What You Will Learn Install and configure an enterprise grade, cluster-based virtual environment using Proxmox Manage a cluster with Graphical User Interface using datacenter, node, KVM, and OpenVZ menus among others Learn different ways of configuring your network and clusters to create complex cloud services Configure and manage the built-in Proxmox firewall to protect your virtual environment Integrate storage systems such as Ceph, Sheepdog, and ZFS for virtual machine management to suit your business needs Backup and restore your data via stop suspend, and snapshot modes Upgrade a Proxmox node with new releases and apply update patches through GUI or CLI Monitor the resources and virtual machines to maintain performance and uptime Explore commands used for Proxmox and Ceph cluster through CLI In Detail Proxmox VE goes head to head with big virtualization platforms without bearing the overheads of high costs and vendor lock-ins. Rock solid stability and extremely easy manageability gives Proxmox VE an edge in the world of virtualization. The Proxmox cluster file system (pmxcfs) is designed uniquely for storage of configuration files with high security and reliability. Its simplicity and robustness make it easy for system administrators to manage their systems efficiently. Proxmox VE's intuitive interface, high availability, and unique central management system puts it on par with the world's best virtualization platforms. Its simplicity and high quality of service is what makes it the foremost choice for most system administrators. Starting with a step-by-step installation of Proxmox nodes along with an illustrated tour of Proxmox graphical user interface where you will spend most of your time managing a cluster, this book will get you up and running with the mechanisms of Proxmox VE. Various entities such as Cluster, Storage, and Firewall are also covered in an easy to understand format. You will then explore various backup solutions and restore mechanisms, thus learning to keep your applications and servers safe. Next, you will see how to upgrade a Proxmox node with a new release and apply update patches through GUI or CLI. Monitoring resources and virtual machines is required on an enterprise level, to maintain performance and uptime; to achieve this, we learn how to monitor host machine resources and troubleshoot common issues in the setup. Finally, we will walk through some advanced configurations for VM followed by a list of commands used for Proxmox and Ceph

cluster through CLI. With this focused and detailed guide you will learn to work your way around with Proxmox VE quickly and add to your skillset. Style and approach This book is an inclusive and extensive handbook. It takes a pragmatic approach to complement your system admin skills and accomplish tasks within the Proxmox environment. It consists of illustrations and code-files to help you work with the data as you go from one recipe to the other.

The four-volume set LNCS 11334-11337 constitutes the proceedings of the 18th International Conference on Algorithms and Architectures for Parallel Processing, ICA3PP 2018, held in Guangzhou, China, in November 2018. The 141 full and 50 short papers presented were carefully reviewed and selected from numerous submissions. The papers are organized in topical sections on Distributed and Parallel Computing; High Performance Computing; Big Data and Information Processing; Internet of Things and Cloud Computing; and Security and Privacy in Computing.

Statistics is defined differently by different authors over a period of time. In the olden days statistics was confined to only state affairs but in modern days it embraces almost every sphere of human activity. Therefore a number of old definitions, which was confined to narrow field of enquiry, were replaced by more definitions, which are much more comprehensive and exhaustive. Secondly, statistics has been defined in two different ways – Statistical data and statistical methods. The following are some of the definitions of statistics as numerical data. 1. Statistics are the classified facts representing the conditions of people in a state. In particular they are the facts, which can be stated in numbers or in tables of numbers or in any tabular or classified arrangement. 2. Statistics are measurements, enumerations or estimates of natural phenomenon usually systematically arranged, analyzed and presented as to exhibit important interrelationships among them. Monitor your network hardware, servers, and web performance effectively and efficiently.

This book constitutes the refereed proceedings of the 12th International Conference on Economics of Grids, Clouds, Systems, and Services, GECON 2015, held in Cluj-Napoca, Romania, in September 2015. The 11 revised full papers and 10 paper-in-progress presented were carefully reviewed and selected from 38 submissions. The presentation sessions that have been set up are: resource allocation, service selection in clouds, energy conservation and smart grids, applications: tools and protocols, community networks and legal and socio-economic aspects.

Die Anzahl der IT-Systeme wächst stetig. Täglich kommen neue Server und Geräte in unseren Netzwerken zum Einsatz. Doch die Anzahl der Personen, die diese Netzwerke betreuen, nimmt nicht im gleichen Maße zu. Damit Systeme und Netzwerke dennoch stabil bleiben, wird effektives und effizientes Monitoring zu einem entscheidenden Faktor. Eine Monitoring-Lösung, die sich für komplexere Aufgaben in Unternehmen bewährt hat, bietet seit mehr als 10 Jahren das Open-Source-Monitoring-System Zabbix. In diesem Buch erfahren Sie alles über das Monitoring mit Zabbix. Neben den Grundlagen werden auch Spezialthemen wie Skalierung, Tuning und Erweiterung eines Zabbix-Servers erläutert. Mit zahlreichen konkreten Beispielen aus seiner beruflichen Praxis veranschaulicht der Autor die Arbeit mit Zabbix und bezieht dabei auch die wesentlichen Neuerungen der Version 3 ein. Der Inhalt richtet sich gleichermaßen an Anfänger und Profis. Wenn Sie noch nicht mit Zabbix überwachen, lernen Sie Schritt für Schritt die Einrichtung eines professionellen IT-Monitorings. Wenn Sie Zabbix bereits nutzen, gibt Ihnen das Buch viele Tipps aus der Praxis und sofort nutzbare Beispiele, wie Sie konkrete Anforderungen umsetzen.

Performance is one of the main issues that every administrator faces at one point or another. This book will help you to identify and mitigate it. The book starts with an introduction to Zabbix and the most common mistakes that are usually overlooked while deploying it. You will discover the importance of an impressive and easy-to-use front-end and how to develop one, along with comparisons between Apache, Nginx, and lighttpd web servers. Storage, as an important aspect of every deployment, is covered and you will be shown how to choose the right storage system for you and configure it to suit your deployment. Towards the end of the book, you will walk through the intricacies of the operating system; the final piece of the puzzle that holds all the components together. You will then dive into advanced topics including using a specific piece of hardware for each of the components, the Zabbix proxy, and firewall settings. By the end of the book, you will be able to tune your Zabbix implementation to achieve maximum performance.

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