Learning Ansible 2 Second Edition

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Network Programmability and Automation - Jason Edelman 2018-02-02
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
Mastering Ansible - Jesse Keating 2015-11-24
Design, develop, and solve real world automation and orchestration needs by unlocking the automation capabilities of Ansible About This Book Discover how Ansible works in detail Explore use cases for Ansible's advanced features including task delegation, fast failures, and serial task execution Extend Ansible with custom modules, plugins, and inventory sources Who This Book Is For This book is intended for Ansible developers and operators who have an understanding of the core elements and applications but are now looking to enhance their skills in applying automation using Ansible. What You Will Learn Understand Ansible's code and logic flow Safeguard sensitive data within Ansible Access and manipulate complex variable data within Ansible playbooks Handle task results to manipulate change and failure definitions Organize Ansible content into a simple structure Craft a multi-tier rollout playbook utilizing load balancers and manipulating your monitoring system Utilize advanced Ansible features to orchestrate rolling updates with almost no service disruptions Troubleshoot Ansible failures to understand and resolve issues Extend Ansible with custom modules, plugins, or inventory sources In Detail Automation is critical to success in the world of DevOps. How quickly and efficiently an application deployment can be automated, or a new infrastructure can be built up, can be the difference between a successful product or a failure. Ansible provides a simple yet powerful automation engine. Beyond the basics of Ansible lie a host of advanced features which are available to help you increase efficiency and accomplish complex orchestrations with ease. This book provides you with the knowledge you need to understand how Ansible works at a fundamental level and leverage its advanced capabilities. You'll learn how to encrypt Ansible content at rest and decrypt data at runtime. You will master the advanced features and capabilities required to tackle the complex automation challenges of today and beyond. You will gain detailed knowledge of Ansible workflows, explore use cases for advanced features, craft well thought out orchestrations, troubleshoot unexpected behaviour, and extend Ansible through customizations. Finally, you will discover the methods used to examine and debug Ansible operations, helping you to understand and resolve issues. Style and approach A clear, practical guide that covers best practise, system architecture and design aspects that will help you master Ansible with ease.
Artificial Intelligence By Example - Denis Rothman 2020-02-28
Understand the fundamentals and develop your own AI solutions in this updated edition packed with many new examples Key FeaturesAI-based examples to guide you in designing and implementing machine intelligenceBuild machine intelligence from scratch using artificial intelligence examplesDevelop machine intelligence from scratch using real artificial intelligenceBook Description AI has the potential to replicate humans in every field. Artificial Intelligence By Example, Second Edition serves as a starting point for you to understand how AI is built, with the help of intriguing and exciting examples. This book will make you an adaptive thinker and help you apply concepts to real-world scenarios. Using some of the most interesting AI examples, right from computer programs such as a simple chess engine to cognitive chatbots, you will learn how to tackle the machine you are competing with. You will study some of the most advanced machine learning models, understand how to apply AI to blockchain and Internet of Things (IoT), and develop emotional quotient in chatbots using neural networks such as recurrent neural networks (RNNs) and convolutional neural networks (CNNs). This edition also has new examples for hybrid neural networks, combining reinforcement learning (RL) and deep learning (DL), chained algorithms, combining unsupervised learning with decision trees, random forests, combining DL and genetic algorithms, conversational user interfaces (CUI) for chatbots, neuromorphic computing, and quantum computing. By the end of this book, you will understand the fundamentals of AI and have worked through a number of examples that will help you develop your AI solutions. What you will learnApply k-nearest neighbors (KNN) to language translations and explore the opportunities in Google TranslateUnderstand chained algorithms combining unsupervised learning with decision treesSolve the XOR problem with feedforward neural networks (FNN) and build its architecture to represent a data flow graphLearn about meta learning models with hybrid neural networksCreate a chatbot and optimize its emotional intelligence deficiencies with tools such as Small Talk and data loggingBuilding conversational user interfaces (CUI) for chatbotsWriting genetic algorithms that optimize deep learning neural networksBuild quantum computing circuitsWho this book is for Developers and those interested in AI, who want to understand the fundamentals of Artificial Intelligence and implement them practically. Prior experience with Python programming and statistical knowledge is essential to make the most out of this book.
Effective DevOps with AWS - Yogesh Raheja 2018-09-28
Scale and maintain outstanding performance in your AWS-based infrastructure using DevOps principles Key FeaturesImplement continuous integration and continuous deployment pipelines on AWSGain insight from an expert who has worked with Silicon Valley's most high-profile companiesImplement DevOps principles to take full advantage of the AWS stack and servicesBook Description The DevOps movement has transformed the way modern tech companies work. Amazon Web Services (AWS), which has been at the forefront of the cloud computing revolution, has also been a key contributor to the DevOps movement, creating a huge range of managed services that help you implement DevOps principles. Effective DevOps with AWS, Second Edition will help you to understand how the most successful tech start-ups launch and scale their services on AWS, and will teach you how you can do the same. This book explains how to treat infrastructure as code, meaning you can bring resources online and offline as easily as you control your software. You will also build a continuous integration and continuous deployment pipeline to keep your app up to date. Once you have gotten to grips will all this, we'll move on to how to scale your applications to offer maximum performance to users even when traffic spikes, by using the latest technologies, such as containers. In addition to this, you'll get insights into monitoring and alerting, so you can make sure your users have the best experience when using your service. In the concluding chapters, we'll cover inbuilt AWS tools such as CodeDeploy and CloudFormation, which are used by many AWS administrators to perform DevOps. By the end of this book, you'll have learned how to ensure the security of your platform and data, using the latest and most prominent AWS tools. What

you will learnImplement automatic AWS instance provisioning using CloudFormationDeploy your application on a provisioned infrastructure with AnsibleManage infrastructure using TerraformBuild and deploy a CI/CD pipeline with Automated Testing on AWSUnderstand the container journey for a CI/CD pipeline using AWS ECSMonitor and secure your AWS environmentWho this book is for Effective DevOps with AWS is for you if you are a developer, DevOps engineer, or you work in a team which wants to build and use AWS for software infrastructure. Basic computer science knowledge is required to get the most out of this book.

The Packer Book - James Turnbull 2017-07-31

Introductory book designed for SysAdmins, Operations staff, Developers and DevOps who are interested in building images using the open source tool Packer.

Learn Ansible Quickly - Ahmed Alkabary 2020-12-25

Master Ansible Automation and learn how to automate your apps deployment and IT infrastructure operations. Ansible is one of the most popular DevOps tools available in the IT market. Key Features Run Ansible Ad-Hoc commands. Deploy Files with Jinja2 templates. Create and run Ansible Playbooks. Use Ansible Vault to protect sensitive information. Use Ansible Galaxy to install and use Ansible roles. Learn various Ansible troubleshooting techniques. Book Description Learn Ansible Quickly is a fully practical hands-on guide for learning Ansible Automation. It will get you up and running with Ansible in no time. First, you will break the ice with Ansible by running very simple Ad-Hoc commands. Then, you will dive into the world of Ansible playbooks, variables, facts, registers, and loops. Also, you will learn how to use conditional statements in your Ansible playbooks. Moreover, you will explore how to use blocks to handle exceptions and failures in Ansible. In addition, you will get to install and use Ansible roles, so your playbooks look clean and unrepetitive. Finally, you will learn various troubleshooting techniques in Ansible. By the end of this book, you will have all the skills necessarily to develop state of the art Ansible playbooks that can automate any repetitive task you may encounter while working on Linux systems. What you will learn Run Ansible Ad-Hoc commands and Playbooks. Understand how to work with Ansible variables, Facts, Registers, and Loops. Make your Ansible Playbooks smarter with conditional statements. Use Blocks to handle exceptions and failures. Use Handlers to trigger tasks upon change. Who This Book Is For This book is an amazing preparation guide for anyone wants to pass the EX294 certification exam and become a Red Hat Certified Engineer (RHCE). If you are tired of spending countless hours doing the same tedious task on Linux over and over again then this book is for you! Learn Ansible Quickly will teach you all the skills you need to automate borings tasks in Linux. You will be much more efficient working on Linux after reading this book, more importantly, you will get more sleep, I promise you! Learn Ansible Quickly does assume prior Linux knowledge (RHCSA Level) and that you have experience working on the Linux command line. Table of Contents Hello Ansible Running Ad-Hoc Commands Ansible Playbooks Ansible Variables, Facts, and Registers Ansible Loops Decision Making in Ansible Jinja2 Templates Ansible Vault Ansible Roles RHEL System Roles Managing Systems with Ansible Ansible Troubleshooting Final Sample Exam Knowledge Check Solutions

Ansible for DevOps - Jeff Geerling 2020-08-05

Ansible is a simple, but powerful, server and configuration management tool. Learn to use Ansible effectively, whether you manage one server--or thousands.

Ansible: Up and Running - Lorin Hochstein 2014-12-08

Among the many configuration management tools available, Ansible has some distinct advantages—it’s minimal in nature, you don’t need to install anything on your nodes, and it has an easy learning curve. This practical guide shows you how to be productive with this tool quickly, whether you’re a developer deploying code to production or a system administrator looking for a better automation solution. Author Lorin Hochstein shows you how to write playbooks (Ansible’s configuration management scripts), manage remote servers, and explore the tool’s real power: built-in declarative modules. You’ll discover that Ansible has the functionality you need and the simplicity you desire. Understand how Ansible differs from other configuration management systems Use the YAML file format to write your own playbooks Learn Ansible’s support for variables and facts Work with a complete example to deploy a non-trivial application Use roles to simplify and reuse playbooks Make playbooks run faster with ssh multiplexing, pipelining, and parallelism Deploy applications to Amazon EC2 and other cloud platforms Use Ansible to create Docker images and deploy Docker containers

Practical Ansible 2 - Daniel Oh 2020-06-05

Leverage the power of Ansible to gain complete control over your systems and automate application deployment Key FeaturesUse Ansible 2.9 to automate and control your infrastructureDelve into advanced functionality such as plugins and custom modules in AnsibleAutomate and orchestrate major cloud platforms such as OpenStack, AWS, and Azure using AnsibleBook Description Ansible enables you to automate software provisioning, configuration management, and application roll-outs, and can be used as a deployment and orchestration tool. While Ansible provides simple yet powerful features to automate multi-layer environments using agentless communication, it can also solve other critical IT challenges, such as ensuring continuous integration and continuous deployment (CI/CD) with zero downtime. In this book, you'll work with Ansible 2.9 and learn to solve complex issues quickly with the help of task-oriented scenarios. You'll start by installing and configuring Ansible on Linux and macOS to automate monotonous and repetitive IT tasks and get to grips with concepts such as playbooks, inventories, and network modules. As you progress, you'll gain insight into the YAML syntax and learn how to port between Ansible versions. In addition to this, you'll also understand how Ansible enables you to orchestrate multi-layer environments such as networks, containers, and the cloud. By the end of this Ansible book, you'll be well - versed in writing playbooks and other related Ansible code to overcome just about all of your IT challenges, from infrastructure-as-code provisioning to application deployments, and even handling the mundane day-to-day maintenance tasks that take up so much valuable time. What you will learnBecome familiar with the fundamentals of the Ansible frameworkSet up role-based variables and dependenciesAvoid common mistakes and pitfalls when writing automation code in AnsibleExtend Ansible by developing your own modules and pluginsContribute to the Ansible project by submitting your own codeFollow best practices for working with cloud environment inventoriesTroubleshoot issues triggered during Ansible playbook runsWho this book is for If you are a DevOps engineer, administrator, or any IT professional looking to automate IT tasks using Ansible, this book is for you. Prior knowledge of Ansible is not necessary.

Learning Python Networking - José Manuel Ortega 2019-03-29

Achieve improved network programmability and automation by leveraging powerful network programming concepts, algorithms, and tools Key FeaturesDeal with remote network servers using SSH, FTP, SNMP and LDAP protocols.Design multi threaded and event-driven architectures for asynchronous servers programming.Leverage your Python programming skills to build powerful network applicationsBook Description Network programming has always been a demanding task. With full-featured and well-documented libraries all the way up the stack, Python makes network programming the enjoyable experience it should be. Starting with a walk through of today's major networking protocols, through this book, you'll learn how to employ Python for network programming, how to request and retrieve web resources, and how to extract data in major formats over the web. You will utilize Python for emailing using different protocols, and you'll interact with remote systems and IP and DNS networking. You will cover the connection of networking devices and configuration using Python 3.7, along with cloud-based network management tasks using Python. As the book progresses, socket programming will be covered, followed by how to design servers, and the pros and cons of multithreaded and event-driven architectures. You'll develop practical clientside applications, including web API clients, email clients, SSH, and FTP. These applications will also be implemented through existing web application frameworks. What you will learnExecute Python modules on networking toolsAutomate tasks regarding the analysis and extraction of information from a networkGet to grips with asynchronous programming modules available in PythonGet to grips with IP address manipulation modules using Python programmingUnderstand the main frameworks available in Python that are focused on web applicationManipulate IP addresses and perform CIDR calculationsWho this book is for If you're a Python developer or a system administrator with Python experience and you're looking to take your first steps in network programming, then this book is for you. If you're a network engineer or a network professional aiming to be more productive and efficient in networking programmability and automation then this book would serve as a useful resource. Basic knowledge of Python is assumed.

Learning Ansible 2.7 - Fabio Alessandro Locati 2019-04-30

Use Ansible to configure your systems, deploy software, and orchestrate advanced IT tasks Key FeaturesGet familiar with the fundamentals of Ansible 2.7Understand how to use Ansible Tower to scale your IT automationGain insights into how to develop and test Ansible playbooks

Book Description Ansible is an open source automation platform that assists organizations with tasks such as application deployment, orchestration, and task automation. With the release of Ansible 2.7, even complex tasks can be handled much more easily than before. Learning Ansible 2.7 will help you take your first steps toward understanding the fundamentals and practical aspects of Ansible by introducing you to topics such as playbooks, modules, and the installation of Linux, Berkeley Software Distribution (BSD), and Windows support. In addition to this, you will focus on various testing strategies, deployment, and orchestration to build on your knowledge. The book will then help you get accustomed to features including cleaner architecture, task blocks, and playbook parsing, which can help you to streamline automation processes. Next, you will learn how to integrate Ansible with cloud platforms such as Amazon Web Services (AWS) before gaining insights into the enterprise versions of Ansible, Ansible Tower and Ansible Galaxy. This will help you to use Ansible to interact with different operating systems and improve your working efficiency. By the end of this book, you will be equipped with the Ansible skills you need to automate complex tasks for your organization. What you will learnCreate a web server using Ansible Write a custom module and test it Deploy playbooks in the production environment Troubleshoot networks using Ansible Use Ansible Galaxy and Ansible Tower during deployment Deploy an application with Ansible on AWS, Azure and DigitalOceanWho this book is for This beginner-level book is for system administrators who want to automate their organization's infrastructure using Ansible 2.7. No prior knowledge of Ansible is required

OpenStack: Building a Cloud Environment - Alok Shrivastwa 2016-09-19

Learn how you can put the features of OpenStack to work in the real world in this comprehensive path About This Book Harness the abilities of experienced OpenStack administrators and architects, and run your own private cloud successfully Learn how to install, configure, and manage all of the OpenStack core projects including topics on Object Storage, Block Storage, and Neutron Networking services such as LBaaS and FWaaS Get better equipped to troubleshoot and solve common problems in performance, availability, and automation that confront production-ready OpenStack environments Who This Book Is For This course is for those who are new to OpenStack who want to learn the cloud networking fundamentals and get started with OpenStack networking. Basic understanding of Linux Operating System, Virtualization, and Networking, and Storage principles will come in handy. What You Will Learn Get an introduction to OpenStack and its components Store and retrieve data and images using storage components, such as Cinder, Swift, and Glance Install and configure Swift, the OpenStack Object Storage service, including configuring Container Replication between datacenters Gain hands on experience and familiarity with Horizon, the OpenStack Dashboard user interface Learn how to automate OpenStack installations using Ansible and Foreman Follow practical advice and examples for running OpenStack in production Fix common issues with images served through Glance and master the art of troubleshooting Neutron networking In Detail OpenStack is a collection of software projects that work together to provide a cloud fabric. Learning OpenStack Cloud Computing course is an exquisite guide that you will need to build cloud environments proficiently. This course will help you gain a clearer understanding of OpenStack's components and their interaction with each other to build a cloud environment. The first module, Learning OpenStack, starts with a brief look into the need for authentication and authorization, the different aspects of dashboards, cloud computing fabric controllers, along with 'Networking as a Service' and 'Software defined Networking'. Then, you will focus on installing, configuring, and troubleshooting different architectures such as Keystone, Horizon, Nova, Neutron, Cinder, Swift, and Glance. After getting familiar with the fundamentals and application of OpenStack, let's move deeper into the realm of OpenStack. In the second module, OpenStack Cloud Computing Cookbook, preview how to build and operate OpenStack cloud computing, storage, networking, and automation. Dive into Neutron, the OpenStack Networking service, and get your hands dirty with configuring ML2, networks, routers, and distributed virtual routers. Further, you'll learn practical examples of Block Storage, LBaaS, and FBaaS. The final module, Troubleshooting OpenStack, will help you quickly diagnose, troubleshoot, and correct problems in your OpenStack. We will diagnose and remediate issues in Keystone, Glance, Neutron networking, Nova, Cinder block storage, Swift object storage, and issues caused by Heat orchestration. 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: Learning OpenStack by Alok Shrivastwa, Sunil Sarat OpenStack Cloud Computing Cookbook - Third Edition by Kevin Jackson , Cody Bunch, Egle Sigler Troubleshooting OpenStack by Tony Campbell Style and approach This course aims to create a smooth learning path that will teach you how to get started with setting up private and public clouds using a free and open source cloud computing platform—OpenStack. Through this comprehensive course, you'll learn OpenStack Cloud computing from scratch to finish and more!

Network Automation Cookbook - Karim Okasha 2020-04-17

Take your network automation skills to the next level with practical recipes on managing network devices from a variety of vendors like Cisco, Juniper, and Arista Key Features Use Ansible to automate network infrastructure with the help of step-by-step instructions Implement network automation best practices to save cost, avoid critical errors, and reduce downtime Deliver a robust automation framework by integrating Ansible with NAPALM, NetBox, and Batfish Book Description Network Automation Cookbook is designed to help system administrators, network engineers, and infrastructure automation engineers to centrally manage switches, routers, and other devices in their organization's network. This book will help you gain hands-on experience in automating enterprise networks and take you through core network automation techniques using the latest version of Ansible and Python. With the help of practical recipes, you'll learn how to build a network infrastructure that can be easily managed and updated as it scales through a large number of devices. You'll also cover topics related to security automation and get to grips with essential techniques to maintain network robustness. As you make progress, the book will show you how to automate networks on public cloud providers such as AWS, Google Cloud Platform, and Azure. Finally, you will get up and running with Ansible 2.9 and discover troubleshooting techniques and network automation best practices. By the end of this book, you'll be able to use Ansible to automate modern network devices and integrate third-party tools such as NAPALM, NetBox, and Batfish easily to build robust network automation solutions. What you will learn Understand the various components of Ansible Automate network resources in AWS, GCP, and Azure cloud solutions Use IaC concepts to design and build network solutions Automate network devices such as Cisco, Juniper, Arista, and F5 Use NetBox to build network inventory and integrate it with Ansible Validate networks using Ansible and Batfish Who this book is for This Ansible network automation book is for network and DevOps engineers interested in automating complex network tasks. Prior understanding of networking and basic Linux knowledge is required.

Learn Ansible - Russ McKendrick 2018-06-28

Run Ansible playbooks to launch complex multi-tier applications hosted in public clouds Key Features Build your learning curve using Ansible Automate cloud, network, and security infrastructures with ease Gain hands-on exposure on Ansible Book Description Ansible has grown from a small, open source orchestration tool to a full-blown orchestration and configuration management tool owned by Red Hat. Its powerful core modules cover a wide range of infrastructures, including on-premises systems and public clouds, operating systems, devices, and services--meaning it can be used to manage pretty much your entire end-to-end environment. Trends and surveys say that Ansible is the first choice of tool among system administrators as it is so easy to use. This end-to-end, practical guide will take you on a learning curve from beginner to pro. You'll start by installing and configuring the Ansible to perform various automation tasks. Then, we'll dive deep into the various facets of infrastructure, such as cloud, compute and network infrastructure along with security. By the end of this book, you'll have an end-to-end understanding of Ansible and how you can apply it to your own environments. What you will learn Write your own playbooks to configure servers running CentOS, Ubuntu, and Windows Identify repeatable tasks and write playbooks to automate them Define a highly available public cloud infrastructure in code, making it easy to distribute your infrastructure configuration Deploy and configure Ansible Tower and Ansible AWX Learn to use community contributed roles Use Ansible in your day-to-day role and projects Who this book is for Learn Ansible is perfect for system administrators and developers who want to take their current workflows and transform them into repeatable playbooks using Ansible. No prior knowledge of Ansible is required.

OpenStack Administration with Ansible 2 - Second Edition - Walter Bentley 2017-04-28

Orchestrate and automate your OpenStack cloud operator tasks with Ansible 2About This Book* Automate real-world OpenStack cloud operator administrative tasks* Construct a collection of the latest

automation code to save time on managing your OpenStack cloud* Manage containers on your cloud and check the health of your cloud using NagiosWho This Book Is ForThis book is aimed at OpenStack-based cloud operators and infrastructure and sys administrators who have some knowledge of OpenStack and are seeking to automate taxing and manual tasks. This book is also for people new to automating cloud operations in general and the DevOps practice in particular.What You Will Learn* Efficiently execute OpenStack administrative tasks* Familiarize yourself with how Ansible 2 works and assess the defined best practices* Create Ansible 2 playbooks and roles* Automate tasks to customize your OpenStack cloud* Review OpenStack automation considerations when automating administrative tasks* Examine and automate advanced OpenStack tasks and designated use cases* Get a high-level overview of OpenStack and current production-ready projects* Explore OpenStack CLI tools and learn how to use themIn DetailMost organizations are seeking methods to improve business agility because they have realized just having a cloud is not enough. Being able to improve application deployments, reduce infrastructure downtime, and eliminate daily manual tasks can only be accomplished through some sort of automation.We start with a brief overview of OpenStack and Ansible 2 and highlight some best practices. Each chapter will provide an introduction to handling various Cloud Operator administration tasks such as managing containers within your cloud; setting up/utilizing open source packages for monitoring; creating multiple users/tenants; taking instance snapshots; and customizing your cloud to run multiple active regions. Each chapter will also supply a step-by-step tutorial on how to automate these tasks with Ansible 2.Packed with real-world OpenStack administrative tasks, this book will walk you through working examples and explain how these tasks can be automated using one of the most popular open source automation tools: Ansible 2.

Practical Network Automation - Abhishek Ratan 2017-11-16

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 accustomed 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.

AWS System Administration - Mike Ryan 2018-08-08

With platforms designed for rapid adaptation and failure recovery such as Amazon Web Services, cloud computing is more like programming than traditional system administration. Tools for automatic scaling and instance replacement allow even small DevOps teams to manage massively scalable application infrastructures—if team members drop their old views of development and operations and start mastering automation. This comprehensive guide shows developers and system administrators how to configure and manage AWS services including EC2, CloudFormation, Elastic Load Balancing, S3, and Route 53. Sysadms will learn will learn to automate their favorite tools and processes; developers will pick up enough ops knowledge to build a robust and resilient AWS application infrastructure. Launch instances with EC2 or CloudFormation Securely deploy and manage your applications with AWS tools Learn to automate AWS configuration management with Python and Puppet Deploy applications with Auto Scaling and Elastic Load Balancing Explore approaches for deploying application and infrastructure updates Save time on development and operations with reusable components Learn strategies for managing log files in AWS environments Configure a cloud-aware DNS service with Route 53 Use AWS CloudWatch to monitor your infrastructure and applications

Security Automation with Ansible 2 - Madhu Akula 2017-12-13

Automate security-related tasks in a structured, modular fashion using the best open source automation tool available About This Book Leverage the agentless, push-based power of Ansible 2 to automate security tasks Learn to write playbooks that apply security to any part of your system This recipe-based guide will teach you to use Ansible 2 for various use cases such as fraud detection, network security, governance, and more Who This Book Is For If you are a system administrator or a DevOps engineer with responsibility for finding loop holes in your system or application, then this book is for you. It's also useful for security consultants looking to automate their infrastructure's security model. What You Will Learn Use Ansible playbooks, roles, modules, and templating to build generic, testable playbooks Manage Linux and Windows hosts remotely in a repeatable and predictable manner See how to perform security patch management, and security hardening with scheduling and automation Set up AWS Lambda for a serverless automated defense Run continuous security scans against your hosts and automatically fix and harden the gaps Extend Ansible to write your custom modules and use them as part of your already existing security automation programs Perform automation security audit checks for applications using Ansible Manage secrets in Ansible using Ansible Vault In Detail Security automation is one of the most interesting skills to have nowadays. Ansible allows you to write automation procedures once and use them across your entire infrastructure. This book will teach you the best way to use Ansible for seemingly complex tasks by using the various building blocks available and creating solutions that are easy to teach others, store for later, perform version control on, and repeat. We'll start by covering various popular modules and writing simple playbooks to showcase those modules. You'll see how this can be applied over a variety of platforms and operating systems, whether they are Windows/Linux bare metal servers or containers on a cloud platform. Once the bare bones automation is in place, you'll learn how to leverage tools such as Ansible Tower or even Jenkins to create scheduled repeatable processes around security patching, security hardening, compliance reports, monitoring of systems, and so on. Moving on, you'll delve into useful security automation techniques and approaches, and learn how to extend Ansible for enhanced security. While on the way, we will tackle topics like how to manage secrets, how to manage all the playbooks that we will create and how to enable collaboration using Ansible Galaxy. In the final stretch, we'll tackle how to extend the modules of Ansible for our use, and do all the previous tasks in a programmatic manner to get even more powerful automation frameworks and rigs. Style and approach This comprehensive guide will teach you to manage Linux and Windows hosts remotely in a repeatable and predictable manner. The book takes an in-depth approach and helps you understand how to set up complicated stacks of software with codified and easy-to-share best practices.

Ansible 2 Cloud Automation Cookbook - Aditya Patawari 2018-02-28

Orchestrate your cloud infrastructure Key Features Recipe-based approach to install and configure cloud resources using Ansible Covers various cloud-related modules and their functionalities Includes deployment of a sample application to the cloud resources that we create Learn the best possible way to manage and automate your cloud infrastructure Book Description Ansible has a large collection of inbuilt modules to manage various cloud resources. The book begins with the concepts needed to safeguard your credentials and explain how you interact with cloud providers to manage resources. Each chapter begins with an introduction and prerequisites to use the right modules to manage a given cloud provider. Learn about Amazon Web Services, Google Cloud, Microsoft Azure, and other providers. Each chapter shows you how to create basic computing resources, which you can then use to deploy an application. Finally, you will be able to deploy a sample application to demonstrate various usage patterns and utilities of resources. What you will learn Use Ansible Vault to protect secrets Understand how Ansible modules interact with cloud providers to

manage resources Build cloud-based resources for your application Create resources beyond simple virtual machines Write tasks that can be reused to create resources multiple times Work with self-hosted clouds such as OpenStack and Docker Deploy a multi-tier application on various cloud providers Who this book is for If you are a system administrator, infrastructure engineer, or a DevOps engineer who wants to obtain practical knowledge about Ansible and its cloud deliverables, then this book is for you. Recipes in this book are designed for people who would like to manage their cloud infrastructures efficiently using Ansible, which is regarded as one of the best tools for cloud management and automation.

Ansible - Michael Heap 2016-09-27

This book is your concise guide to Ansible, the simple way to automate apps and IT infrastructure. In less than 250 pages, this book takes you from knowing nothing about configuration management to understanding how to use Ansible in a professional setting. You will learn how to create an Ansible playbook to automatically set up an environment, ready to install an open source project. You'll extract common tasks into roles that you can reuse across all your projects, and build your infrastructure on top of existing open source roles and modules that are available for you to use. You will learn to build your own modules to perform actions specific to your business. By the end you will create an entire cluster of virtualized machines, all of which have your applications and all their dependencies installed automatically. Finally, you'll test your Ansible playbooks. Ansible can do as much or as little as you want it to. Ansible: From Beginner to Pro will teach you the key skills you need to be an Ansible professional. You'll be writing roles and modules and creating entire environments without human intervention in no time at all – add it to your library today. What You Will Learn Learn why Ansible is so popular and how to download and install it Create a playbook that automatically downloads and installs a popular open source project Use open source roles to complete common tasks, and write your own specific to your business Extend Ansible by writing your own modules Test your infrastructure using Test Kitchen and ServerSpec Who This Book Is For Developers that currently create development and production environments by hand. If you find yourself running apt-get install regularly, this book is for you. Ansible adds reproducibility and saves you time all at once. Ansible: From Beginner to Pro is great for any developer wanting to enhance their skillset and learn new tools.

Terraform: Up & Running - Yevgeniy Brikman 2019-09-06

Terraform has become a key player in the DevOps world for defining, launching, and managing infrastructure as code (IaC) across a variety of cloud and virtualization platforms, including AWS, Google Cloud, Azure, and more. This hands-on second edition, expanded and thoroughly updated for Terraform version 0.12 and beyond, shows you the fastest way to get up and running. Gruntwork cofounder Yevgeniy (Jim) Brikman walks you through code examples that demonstrate Terraform's simple, declarative programming language for deploying and managing infrastructure with a few commands. Veteran sysadmins, DevOps engineers, and novice developers will quickly go from Terraform basics to running a full stack that can support a massive amount of traffic and a large team of developers. Explore changes from Terraform 0.9 through 0.12, including backends, workspaces, and first-class expressions Learn how to write production-grade Terraform modules Dive into manual and automated testing for Terraform code Compare Terraform to Chef, Puppet, Ansible, CloudFormation, and Salt Stack Deploy server clusters, load balancers, and databases Use Terraform to manage the state of your infrastructure Create reusable infrastructure with Terraform modules Use advanced Terraform syntax to achieve zero-downtime deployment

Learning Ansible 2 - Fabio Alessandro Locati 2016-11-21

Learn everything you need to manage and handle your systems with ease with Ansible 2 using this comprehensive guide About This Book Simplify the automation of applications and systems using the newest version of Ansible Get acquainted with fundamentals of Ansible such as playbooks, modules, and various testing strategies A comprehensive, learning guide that provides you with great skills to automate your organization's infrastructure using Ansible 2 Who This Book Is For The book is for sys admins who want to automate their organization's infrastructure using Ansible 2. No prior knowledge of Ansible is required. What You Will Learn Set up Ansible 2 and an Ansible 2 project in a future-proof way Perform basic operations with Ansible 2 such as creating, copying, moving, changing, and deleting files, and creating and deleting users Deploy complete cloud environments using Ansible 2 on AWS and DigitalOcean Explore complex operations with Ansible 2 (Ansible vault, e-mails, and Nagios) Develop and test Ansible playbooks Write a custom module and test it In Detail Ansible is an open source automation platform that assists organizations with tasks such as configuration management, application deployment, orchestration, and task automation. With Ansible, even complex tasks can be handled easier than before. In this book, you will learn about the fundamentals and practical aspects of Ansible 2 by diving deeply into topics such as installation (Linux, BSD, and Windows Support), playbooks, modules, various testing strategies, provisioning, deployment, and orchestration. In this book, you will get accustomed with the new features of Ansible 2 such as cleaner architecture, task blocks, playbook parsing, new execution strategy plugins, and modules. You will also learn how to integrate Ansible with cloud platforms such as AWS. The book ends with the enterprise versions of Ansible, Ansible Tower and Ansible Galaxy, where you will learn to interact Ansible with different OSes to speed up your work to previously unseen levels By the end of the book, you'll able to leverage the Ansible parameters to create expeditious tasks for your organization by implementing the Ansible 2 techniques and paradigms. Style and approach This book is a step-by-step learning guide on the all new Ansible 2, which is an ideal configuration management tool.

OpenStack Administration with Ansible 2 - Walter Bentley 2016-12-26

Orchestrate and automate your OpenStack cloud operator tasks with Ansible 2.0 About This Book Automate real-world OpenStack cloud operator administrative tasks Construct a collection of the latest automation code to save time on managing your OpenStack cloud Manage containers on your cloud and check the health of your cloud using Nagios Who This Book Is For This book is aimed at OpenStack-based cloud operators and infrastructure and sys administrators who have some knowledge of OpenStack and are seeking to automate taxing and manual tasks. This book is also for people new to automating cloud operations in general and the DevOps practice in particular. What You Will Learn Efficiently execute OpenStack administrative tasks Familiarize yourself with how Ansible 2 works and assess the defined best practices Create Ansible 2 playbooks and roles Automate tasks to customize your OpenStack cloud Review OpenStack automation considerations when automating administrative tasks Examine and automate advanced OpenStack tasks and designated use cases Get a high-level overview of OpenStack and current production-ready projects Explore OpenStack CLI tools and learn how to use them In Detail Most organizations are seeking methods to improve business agility because they have realized just having a cloud is not enough. Being able to improve application deployments, reduce infrastructure downtime, and eliminate daily manual tasks can only be accomplished through some sort of automation. We start with a brief overview of OpenStack and Ansible 2 and highlight some best practices. Each chapter will provide an introduction to handling various Cloud Operator administration tasks such as managing containers within your cloud; setting up/utilizing open source packages for monitoring; creating multiple users/tenants; taking instance snapshots; and customizing your cloud to run multiple active regions. Each chapter will also supply a step-by-step tutorial on how to automate these tasks with Ansible 2. Packed with real-world OpenStack administrative tasks, this book will walk you through working examples and explain how these tasks can be automated using one of the most popular open source automation tools on the market today. Style and approach This book is a concise, fast-paced guide filled with real-world scenarios that will execute OpenStack administrative tasks efficiently. It serves as a quick reference guide for not just OpenStack functions, but also for creating future Ansible code.

Ansible for AWS - Yan Kurniawan 2016-10-26

A simple way to provision and manage your Amazon Cloud infrastructureAbout This Book- Get started with AWS management for infrastructure engineers- Explore techniques to set up and manage your private cloud using Ansible- A practical guide to help you manage AWS-based applications and infrastructure using AnsibleWho This Book Is ForIf you are an infrastructure engineer, system administrator, or Dev Ops engineer, this book is for you. You will find this book helpful if you have previous experience with Linux systems administration, including familiarity with the command line, file system, and text editing. Prior basic knowledge of Amazon Web Services and some experience with Ansible is assumed.What You Will Learn- Set up your own AWS account and get started with the AWS console- Use Ansible Playbook to configure and launch EC2 instances- Delve deeper into the AWS cloud infrastructure and create and manage VPC- Provision Amazon Relational Database Service (RDS) with Ansible- Manage files in an Amazon Simple Storage Service (S3) bucket using Ansible- Extend Ansible's functionality

in the AWS environment- Use Ansible to provision ELB and Auto Scaling groups- Manage IAM users, groups, roles, and keys- See how to refine and chain together AWS tools using AnsibleIn DetailLooking to get a simple and efficient way to manage your Amazon Cloud infrastructure? Ansible is exactly what you need. This book will show you how to use Ansible's cloud modules to easily provision and manage AWS resources including EC2, VPC, RDS, S3, ELB, ElastiCache, and Route 53. We'll take you beyond the basics of Ansible, showing you real-world examples of AWS infrastructure automation and management with detailed steps, complete code, and screen captures from the AWS console.The example projects inside this title will help you grasp the process leading to full AWS automation. From a single WordPress site to a highly available and scalable WordPress site, we'll demonstrate the power of using Ansible to provision and automate AWS-based infrastructure deployment.Style and approachThis hands-on guide will help you get acquainted with techniques to implement AWS for your private cloud.

Learning Ansible 2 - Second Edition - Fabio Alessandro Locati 2016-11-30

A comprehensive and practical guide to help you manage your systems with ease using Ansible 2About This Book* Simplify the automation of applications and systems using the newest version of Ansible* Get acquainted with fundamentals of Ansible such as playbooks, modules, and various testing strategies* A comprehensive, learning guide that provides you with great skills to automate your organization's infrastructure using Ansible 2Who This Book Is ForThe book is for sys admins who want to automate their organization's infrastructure using Ansible 2. No prior knowledge of Ansible is required.What You Will Learn* Set up Ansible 2 and an Ansible 2 project in a future-proof way* Perform basic operations with Ansible 2 such as creating, copying, moving, changing, and deleting files, and creating and deleting users)* Deploy complete cloud environments using Ansible 2 on Amazon Web Services and DigitalOcean* Explore complex operations with Ansible 2 (Ansible vault, e-mails, and Nagios)* Develop and test Ansible playbooks* Write a custom module and test itIn DetailAnsible is an open source automation platform that assists organizations with tasks such as configuration management, application deployment, orchestration, and task automation. Basically complex tasks can be handled by the easy-to-use Ansible. This update to Learning Ansible is based on the latest version, Ansible 2.In this book, you will learn about the fundamentals and practical aspects of Ansible 2 by deep diving into topics such as installation (Linux, BSD, and Windows Support), playbooks, modules, various testing strategies, provisioning, deployment, and orchestration. In this book, you will get accustomed with the new features of Ansible 2 such as cleaner architecture, task blocks, playbook parsing, new execution strategy plugins, and modules. You will also learn how to integrate Ansible 2 with cloud platforms such as AWS. The book ends with the enterprise version of Ansible, Ansible Tower and Ansible Galaxy, where you will learn to interact Ansible with different OSs to speedup your work with Ansible Tower and Ansible Galaxy.By the end of the book, you'll able to leverage the Ansible parameters to create expeditious tasks for your organization by implementing the Ansible 2 techniques and paradigms.

Ansible Quick Start Guide - Mohamed Alibi 2018-09-28

Configure Ansible and start coding YAML playbooks using the appropriate modules Key FeaturesCreate and use Ansible Playbook to script and organise management tasksBenefit from the Ansible community roles and modules to resolve complex and niche tasksWrite configuration management code to automate infrastructureBook Description Configuration Management (CM) tools help administrators reduce their workload. Ansible is one of the best Configuration Management tools, and can act as an orchestrator for managing other CMs. This book is the easiest way to learn how to use Ansible as an orchestrator and a Configuration Management tool. With this book, you will learn how to control and monitor computer and network infrastructures of any size,physical or virtual. You will begin by learning about the Ansible client-server architecture. To get started, you will set up and configure an Ansible server. You will then go through the major features of Ansible: Playbook and Inventory. Then, we will look at Ansible systems and network modules. You will then use Ansible to enable infrastructure automated configuration management, followed by best practices for using Ansible roles and community modules. Finally, you will explore Ansible features such as Ansible Vault, Ansible Containers, and Ansible plugins. What you will learnImplement Playbook YAML scripts and its capacities to simplify day-to-day tasksSetup Static and Dynamic InventoryUse Ansible predefined modules for Linux, Windows, networking, and virtualisation administrationOrganize and configure the host filesystem using storage and files modulesImplement Ansible to enable infrastructure automated configuration managementSimplify infrastructure administrationSearch and install new roles and enable them within AnsibleSecure your data using Ansible VaultWho this book is for This book is targeted at System Administrators and Network Administrators who want to use Ansible to automate an infrastructure. No knowledge of Ansible is required.

OpenStack Administration with Ansible - Walter Bentley 2016-01-28

Design, build, and automate 10 real-world OpenStack administrative tasks with Ansible About This Book Automate real-world OpenStack cloud operator administrative tasks Construct a collection of automation code to save time on managing your OpenStack cloud Use this step-by-step tutorial to automate such tasks with Ansible Who This Book Is For If you are an OpenStack-based cloud operator and/or infrastructure administrator and are interested in automating administrative functions, then this book is exactly what you are looking for. Having a functioning OpenStack environment is helpful, but most certainly not necessary. What You Will Learn Efficiently execute OpenStack administrative tasks Familiarize yourself with how Ansible works and assess the defined best practices Create Ansible playbooks and roles Automate tasks to customize your OpenStack cloud Review OpenStack automation considerations when automating administrative tasks Examine and automate advanced OpenStack tasks and designated use cases Get a high-level overview of OpenStack and the current production-ready projects Deep dive into OpenStack CLI tools and find out how to use them In Detail Most organizations are seeking methods to improve business agility because they have realized just having a cloud is not enough. Being able to improve application deployments, reduce infrastructure downtime, and eliminate daily manual tasks can only be accomplished through some sort of automation. Packed with real-world OpenStack administrative tasks, this book will walk you through working examples and explain how these tasks can be automated using one of the most popular open source automation tools—Ansible. We will start with a brief overview of OpenStack and Ansible and highlight some best practices. Each chapter will provide an introduction to handling various Cloud Operator administration tasks such as creating multiple users/tenants, setting up Multi-Tenant Isolation, customizing your clouds quotas, taking instance snapshots, evacuating compute hosts for maintenance, and running cloud health checks, and a step-by-step tutorial on how to automate these tasks with Ansible. Style and approach This easy-to-follow reference guide is packed with examples of real-world OpenStack administration tasks; each task is explained in detail and then subsequently turned into automation code.

Day One - Sean Sawtell 2018-09

Mastering Ansible - James Freeman 2019-03-25

Design, develop, and solve real-world automation and orchestration problems by unlocking the automation capabilities of Ansible. Key FeaturesTackle complex automation challenges with the newly added features in Ansible 2.7Book Description Automation is essential for success in the modern world of DevOps. Ansible provides a simple, yet powerful, automation engine for tackling complex automation challenges. This book will take you on a journey that will help you exploit the latest version's advanced features to help you increase efficiency and accomplish complex orchestrations. This book will help you understand how Ansible 2.7 works at a fundamental level and will also teach you to leverage its advanced capabilities. Throughout this book, you will learn how to encrypt Ansible content at rest and decrypt data at runtime. Next, this book will act as an ideal resource to help you master the advanced features and capabilities required to tackle complex automation challenges. Later, it will walk you through workflows, use cases, orchestrations, troubleshooting, and Ansible extensions. Lastly, you will examine and debug Ansible operations, helping you to understand and resolve issues. By the end of the book, you will be able to unlock the true power of the Ansible automation engine and tackle complex, real- world actions with ease. What you will learnGain an in-depth understanding of how Ansible works under the hoodFully automate Ansible playbook executions with encrypted dataAccess and manipulate variable data within playbooksUse blocks to perform failure recovery or cleanupExplore the Playbook debugger and the Ansible ConsoleTroubleshoot unexpected behavior effectivelyWork with cloud infrastructure providers and container systemsDevelop custom modules, plugins, and dynamic inventory sourcesWho this book is for This book is for Ansible developers and operators who have an understanding of its

core elements and applications but are now looking to enhance their skills in applying automation using Ansible.

Practical DevOps - Joakim Verona 2016-02-16

Harness the power of DevOps to boost your skill set and make your IT organization perform better About This Book Get to know the background of DevOps so you understand the collaboration between different aspects of an IT organization and a software developer Improve your organization's performance to ensure smooth production of software and services Deploy top-quality software and ensure software maintenance and release management with this practical guide Who This Book Is For This book is aimed at developers and system administrators who wish to take on larger responsibilities and understand how the infrastructure that builds today's enterprises works. This book is also great for operations personnel who would like to better support developers. You do not need to have any previous knowledge of DevOps. What You Will Learn Appreciate the merits of DevOps and continuous delivery and see how DevOps supports the agile process Understand how all the systems fit together to form a larger whole Set up and familiarize yourself with all the tools you need to be efficient with DevOps Design an application that is suitable for continuous deployment systems with Devops in mind Store and manage your code effectively using different options such as Git, Gerrit, and Gitlab Configure a job to build a sample CRUD application Test the code using automated regression testing with Jenkins Selenium Deploy your code using tools such as Puppet, Ansible, Palletops, Chef, and Vagrant Monitor the health of your code with Nagios, Munin, and Graphite Explore the workings of Trac—a tool used for issue tracking In Detail DevOps is a practical field that focuses on delivering business value as efficiently as possible. DevOps encompasses all the flows from code through testing environments to production environments. It stresses the cooperation between different roles, and how they can work together more closely, as the roots of the word imply—Development and Operations. After a quick refresher to DevOps and continuous delivery, we quickly move on to looking at how DevOps affects architecture. You'll create a sample enterprise Java application that you'll continue to work with through the remaining chapters. Following this, we explore various code storage and build server options. You will then learn how to perform code testing with a few tools and deploy your test successfully. Next, you will learn how to monitor code for any anomalies and make sure it's running properly. Finally, you will discover how to handle logs and keep track of the issues that affect processes Style and approach This book is primarily a technical guide to DevOps with practical examples suitable for people who like to learn by implementing concrete working code. It starts out with background information and gradually delves deeper into technical subjects.

Cloud Native DevOps with Kubernetes - John Arundel 2019-03-08

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

Hands-On Enterprise Automation on Linux - James Freeman 2020-01-24

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

Camel in Action - Claus Ibsen 2018-02-02

Summary Camel in Action, Second Edition is the most complete Camel book on the market. Written by core developers of Camel and the authors of the highly acclaimed first edition, this book distills their experience and practical insights so that you can tackle integration tasks like a pro. Forewords by James Strachan and Dr. Mark Little Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Apache Camel is a Java framework that implements enterprise integration patterns (EIPs) and comes with over 200 adapters to third-party systems. A concise DSL lets you build integration logic into your app with just a few lines of Java or XML. By using Camel, you benefit from the testing and experience of a large and vibrant open source community. About the Book Camel in Action, Second Edition is the definitive guide to the Camel framework. It starts with core concepts like sending, receiving, routing, and transforming data. It then goes in depth on many topics such as how to develop, debug, test, deal with errors, secure, scale, cluster, deploy, and monitor your Camel applications. The book also discusses how to run Camel with microservices, reactive systems, containers, and in the cloud. What's Inside Coverage of all relevant EIPs Camel microservices with Spring Boot Camel on Docker and Kubernetes Error handling, testing, security, clustering, monitoring, and deployment Hundreds of examples in Java and XML About the Reader Readers should be familiar with Java. This book is accessible to beginners and invaluable to experts. About the Author Claus Ibsen is a senior principal engineer working for Red Hat specializing in cloud and integration. He has worked on Apache Camel for the last nine years where he heads the project. Claus lives in Denmark. Jonathan Anstey is an engineering manager at Red Hat and a core Camel contributor. He lives in Newfoundland, Canada. Table of Contents Part 1 - First steps Meeting Camel Routing with Camel Part 2 - Core Camel Transforming data with Camel Using beans with Camel Enterprise integration patterns Using components Part 3 - Developing and testing Microservices Developing Camel projects Testing RESTful web services Part 4 - Going further with Camel Error handling Transactions and idempotency Parallel processing Securing Camel Part 5 - Running and managing Camel Running and deploying Camel Management and monitoring Part 6 - Out in the wild Clustering Microservices with Docker and Kubernetes Camel tooling Bonus online chapters Available at https://www.manning.com/books/camel-in-action-second-edition and in electronic versions of this book: Reactive Camel Camel and the IoT by Henryk Konsek

Mastering Ansible - Second Edition - Jesse Keating 2017-03-30

Master the ins and outs of advanced operations with AnsibleAbout This Book* Learn how to extend Ansible with custom modules, plugins, and inventory sources* Utilize advanced Ansible features to orchestrate rolling updates with little to no service disruptions* An up-to-date book that brings to light the newly added features in Ansible 2.xWho This Book Is ForThis book is for Ansible developers and operators who have an understanding of the core elements and applications but are now looking to enhance their skills in applying automation using Ansible.What You Will Learn* Gain an in-depth understanding of how Ansible works under the covers* Fully automate the Ansible playbook executions with encrypted data* Access and manipulate variable data within playbooks*

Use Blocks to construct failure recovery or cleanup* Explore the Playbook debugger and Ansible Console* Troubleshoot unexpected behavior effectively* Work with cloud infrastructure providers and container systems* Develop custom modules, plugins, and dynamic inventory sourcesIn DetailThis book provides you with the knowledge you need to understand how Ansible 2.1 works at a fundamental level and leverage its advanced capabilities. You'll learn how to encrypt Ansible content at rest and decrypt data at runtime. You will master the advanced features and capabilities required to tackle the complex automation challenges of today and beyond.You will gain detailed knowledge of Ansible workflows, explore use cases for advanced features, craft well thought out orchestrations, troubleshoot unexpected behaviour, and extend Ansible through customizations. Finally, you will discover the methods used to examine and debug Ansible operations, helping you to understand and resolve issues.By the end of the book, the readers will be able to unlock the true power of the Ansible automation engine and will tackle complex real world actions with ease.Style and approachThis clear, practical guide illustrates the advanced functionalities of Ansible, its system architecture, and design aspects that will help you to master Ansible with ease.

Learn Ansible - Russ McKendrick 2018-06-28

Ansible is an IT automation and configuration management tool widely used for infrastructure, cloud, and network automation. Trends and surveys say that Ansible is the choice of tool among system administrators as it is so easy to use. In this book, you'll learn how to integrate Ansible into your day-to-day role as a system administrator, ...

IT Infrastructure Automation Using Ansible - Waqas Irtaza 2021-09-30

Expert solutions to automate routine IT tasks using Ansible. KEY FEATURES ● Single handy guide for all IT teams to bring automation throughout the enterprise. ● In-depth practical demonstration of various automation use-cases on the IT infrastructure. ● Expert-led guidelines and best practices to write Ansible playbooks without any errors. DESCRIPTION This book deals with all aspects of Ansible IT infrastructure automation. While reading this book, you should look for automation opportunities in your current role and automate time-consuming and repetitive tasks using Ansible. This book contains Ansible fundamentals assuming you are totally new to Ansible. Proper instructions for setting up the laboratory environment to implement each concept are explained and covered in detail. This book is equipped with practical examples, use-cases and modules on the network. The system and cloud management are practically demonstrated in the book. You will learn to automate all the common administrative tasks throughout the entire IT infrastructure. This book will help establish and build the proficiency of your automation skills, and you can start making the best use of Ansible in enterprise automation. WHAT WILL YOU LEARN ● Install Ansible and learn the fundamentals. ● Use practical examples and learn about the loop, conditional statements, and variables. ● Understand the Ansible network modules and how to apply them in our day-to-day network management. ● Learn to automate the Windows and Linux infrastructure using Ansible. ● Automate routine administrative tasks for AWS, Azure, Google Cloud. ● Explore how to use Ansible for Docker and Kubernetes. WHO THIS BOOK IS FOR This book is for all IT students and professionals who want to manage or plan to administer the IT infrastructure. Knowing the basic Linux command-line would be good although not mandatory. TABLE OF CONTENTS 1. Up and Running with Ansible 2. Ansible Basics 3. Ansible Advance Concepts 4. Ansible for Network Administration 5. Ansible for System Administration 6. Ansible for Cloud Administration 7. Ansible Tips and Tricks

Learning Ansible - Madhurranjan Mohaan 2014-11-27

If you want to learn how to use Ansible to automate an infrastructure, either from scratch or to augment your current tooling with Ansible, then this is the book for you. It has plenty of practical examples to help you get to grips with Ansible.

Ansible Playbook Essentials - Gourav Shah 2015-08-05

Design automation blueprints using Ansible's playbooks to orchestrate and manage your multi-tier infrastructure About This Book Get to grips with Ansible's features such as orchestration, automatic node discovery, and data encryption Create data-driven, modular and reusable automation code with Ansible roles, facts, variables, and templates A step-by-step approach to automating and managing system and application configurations effectively using Ansible's playbooks Who This Book Is For If you are a systems or automation engineer who intends to automate common infrastructure tasks, deploy applications, and use orchestration to configure systems in a co-ordinated manner, then this book is for you. Some understanding of the Linux/UNIX command line interface is expected. What You Will Learn Write simple tasks and plays Organize code into a reusable, modular structure Separate code from data using variables and Jinja2 templates Run custom commands and scripts using Ansible's command modules Control execution flow based on conditionals Integrate nodes and discover topology information about other nodes in the cluster Encrypt data with ansible-vault Create environments with isolated configurations to match application development workflow Orchestrate infrastructure and deploy applications in a coordinated manner In Detail Ansible combines configuration management, orchestration, and parallel command execution into a single tool. Its batteries-included approach and built-in module library makes it easy to integrate it with cloud platforms, databases, and notification services without requiring additional plugins. Playbooks in Ansible define the policies your systems under management enforce. They facilitate effective configuration management rather than running ad hoc scripts to deploy complex applications. This book will show you how to write a blueprint of your infrastructure encompassing multi-tier applications using Ansible's playbooks. Beginning with the basic concepts such as plays, tasks, handlers, inventory, and the YAML syntax that Ansible uses, you will see how to organize your code into a modular structure. Building on this, you will master techniques to create data-driven playbooks with variables, templates, logical constructs, and encrypted data. This book will also take you through advanced clustering concepts such as discovering topology information, managing multiple environments, and orchestration. By the end of this book, you will be able to design solutions to your automation and orchestration problems using playbooks quickly and efficiently. Style and approach This book follows a step-by-step approach, with the concepts explained in a conversational and easy-to-follow style. Each topic is explained sequentially in the process of creating a course. A comprehensive explanation of the basic and advanced features of Ansible playbooks is also included.

OpenShift for Developers - Joshua Wood 2021-09-01

Ready to build cloud native applications? Get a hands-on introduction to daily life as a developer crafting code on OpenShift, the open source container application platform from Red Hat. Creating and packaging your apps for deployment on modern distributed systems can be daunting. Too often, adding infrastructure value can complicate development. With this practical guide, you'll learn how to build, deploy, and manage a multitiered application on OpenShift. Authors Joshua Wood and Brian Tannous, principal developer advocates at Red Hat, demonstrate how OpenShift speeds application development. With the Kubernetes container orchestrator at its core, OpenShift simplifies and automates the way you build, ship, and run code. You'll learn how to use OpenShift and the Quarkus Java framework to develop and deploy apps using proven enterprise technologies and practices that you can apply to code in any language. Learn the development cycles for building and deploying on OpenShift, and the tools that drive them Use OpenShift to build, deploy, and manage the ongoing lifecycle of an n-tier application Create a continuous integration and deployment pipeline to build and deploy application source code on OpenShift Automate scaling decisions with metrics and trigger lifecycle events with webhooks

Core Radiology - Ellen X. Sun 2021-09-30

Embodying the principle of 'everything you need but still easy to read', this fully updated edition of Core Radiology is an indispensable aid for learning the fundamentals of radiology and preparing for the American Board of Radiology Core exam. Containing over 2,100 clinical radiological images with full explanatory captions and color-coded annotations, streamlined formatting ensures readers can follow discussion points effortlessly. Bullet pointed text concentrates on essential concepts, with text boxes, tables and over 400 color illustrations supporting readers' understanding of complex anatomic topics. Real-world examples are presented for the readers, encompassing the vast majority of entitles likely encountered in board exams and clinical practice. Divided into two volumes, this edition is more manageable whilst remaining comprehensive in its coverage of topics, including expanded pediatric cardiac surgery descriptions, updated brain tumor classifications, and non-invasive vascular imaging. Highly accessible and informative, this is the go-to introductory textbook for radiology residents worldwide.