

Mastering Ansible Effectively Automate Configurat

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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.

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Mastering SaltStack - Joseph Hall 2015-08-19

Take charge of SaltStack to automate and configure enterprise-grade environments

About This Book Automate tasks effectively, so that your infrastructure can run itself

Take advantage of cloud-based services that can expand the capabilities of your own data centers

Tackle real-world problems that appear in everyday situations

In Detail SaltStack is known as a popular configuration management system, but that barely scratches the surface. It is, in fact, a powerful automation suite, which is designed not

only to help you manage your servers, but to help them manage themselves. SaltStack is used worldwide by organizations ranging from just a few servers, to tens of thousands of nodes across data centers in multiple continents. This award-winning software is fast becoming the standard for systems management in the cloud world. This book will take you through the advanced features of SaltStack, bringing forward capabilities that will help you excel in the management of your servers. You will be taken through the the mind of the modern systems engineer, and discover how they use Salt to manage their infrastructures, and why those design decisions are so important. The inner workings of Salt will be explored, so that as you advance your knowledge of Salt, you will be able to swim with the current, rather than against it. Various subsystems of Salt are explained in detail, including Salt SSH, Salt Cloud, and external pillars, filesystems, and job caches. You will be taken through an in-

depth discussion of how to effectively scale Salt to manage thousands of machines, and how to troubleshoot issues when things don't go exactly the way you expect them to. You will also be taken through an overview of RAET, Salt's new transport protocol, and given an insight into how this technology improves Salt, and the possibilities that it brings with it. What You Will Learn Learn how the pros are managing their infrastructures, and what techniques they use to keep everything running smoothly with Salt Understand what makes Salt tick, and how that affects the way you use it Take a look at familiar features in a new light, so that you have a better handle on how to approach tasks Use Salt SSH to manage servers that don't fit Salt's traditional use cases Besides automating your configuration, you will be able to automate your servers, and make them behave more intelligently Make better use of cloud-based services, including compute clouds such as EC2, Azure and Openstack Learn

about the new RAET protocol, and how it changes the way automation works Who This Book Is For This book is ideal for professionals who have been managing groups of servers, and want to learn how to add functionality and expand their tool set. This book will also explain some of the more advanced features of Salt, and explore how to use them to bring additional power to the fundamentals that the professionals have already been using. Style and approach This book speaks informally, sometimes almost conversationally, to the user. Topics are covered in detail, using examples that should be comfortable to most users. [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.

Mastering Python Networking - Eric Chou
2017-06-28

Become an expert in implementing advanced, network-related tasks with Python. Key Features Build the skills to perform all networking

tasks using Python with ease
Use Python for network device automation, DevOps, and software-defined networking
Get practical guidance to networking with Python
Book Description This book begins with a review of the TCP/ IP protocol suite and a refresher of the core elements of the Python language. Next, you will start using Python and supported libraries to automate network tasks from the current major network vendors. We will look at automating traditional network devices based on the command-line interface, as well as newer devices with API support, with hands-on labs. We will then learn the concepts and practical use cases of the Ansible framework in order to achieve your network goals. We will then move on to using Python for DevOps, starting with using open source tools to test, secure, and analyze your network. Then, we will focus on network monitoring and visualization. We will learn how to retrieve network information using a polling mechanism, ?ow-based monitoring, and

visualizing the data programmatically. Next, we will learn how to use the Python framework to build your own customized network web services. In the last module, you will use Python for SDN, where you will use a Python-based controller with OpenFlow in a hands-on lab to learn its concepts and applications. We will compare and contrast OpenFlow, OpenStack, OpenDaylight, and NFV. Finally, you will use everything you've learned in the book to construct a migration plan to go from a legacy to a scalable SDN-based network. What you will learn
Review all the fundamentals of Python and the TCP/IP suite
Use Python to execute commands when the device does not support the API or programmatic interaction with the device
Implement automation techniques by integrating Python with Cisco, Juniper, and Arista eAPI
Integrate Ansible using Python to control Cisco, Juniper, and Arista networks
Achieve network security with Python
Build Flask-based web-service

APIs with Python Construct a Python-based migration plan from a legacy to scalable SDN-based network Who this book is for If you are a network engineer or a programmer who wants to use Python for networking, then this book is for you. A basic familiarity with networking-related concepts such as TCP/IP and a familiarity with Python programming will be useful.

Learning Ansible 2.7 - Fabio Alessandro Locati 2019-04-30 Use Ansible to configure your systems, deploy software, and orchestrate advanced IT tasks Key Features Get familiar with the fundamentals of Ansible 2.7 Understand how to use Ansible Tower to scale your IT automation Gain 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 learn

- Create 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 DigitalOcean

Who 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

Mastering C++ Network Automation - Justin Barbara
2023-03-13

50+ Sample Automation Programs across Configuration Management, Container Orchestration, Kubernetes, and Cloud Networking

This book is an in-depth guide for network administrators, cloud architects, and container and Kubernetes administrators who want to learn how to automate networking tasks in C++.

From

setting up a network automation environment to automating configuration management and working with containers and container orchestration tools such as Kubernetes, the book covers a wide range of topics. The first section of the book covers the fundamentals of automation scripting and testing. Readers will learn how to create successful automation scripts and test them to ensure they perform properly. The next section describes how to set up a network automation environment. This includes configuring network devices, servers, and other components required for automation. The readers will learn about the various protocols as well as how to use Ansible to automate the configuration management of these devices. It covers containerization and container orchestration systems such as Docker and Kubernetes. Readers will learn how to use tools such as Docker Compose and Kubernetes to automate workload management and deployment. The final section of

the book focuses on cloud networking. The readers will learn how to handle network resources in cloud systems such as AWS, Google Cloud, and Azure. Readers get to work with tools and services available for cloud networking automation, best practices and how to use them in their regular cloud networking operations. Key Learnings Setting up GNS3, Eclipse IDE, cpp-netlib, Boost, OpenSSL, and zlib libraries Configure the ports, hosts, and servers using C++ scripting Writing, testing, and validating network automation scripts in both, test and production environment Building docker images, running containers, and managing container deployments Using Ansible for server provisioning, automated system identification and managing auto-updates Automating container scheduling, service discovery, and load balancing Setting up Kubernetes cluster, Nginx ingress, implementing service mesh, and automating firewall configuration Working with

AWS, Azure and Google Cloud Networking Services for Cloud Automation Table of Content C++ Basics for Networks C++ Advanced for Networks Preparing Network Automation Setup Script, Test, and Validate Network Automation Automating Configuration Management Working with Docker and Containers Container Orchestration and Workload Automation Kubernetes Automation Administering AWS Networking Administering Google Cloud Networking Administering Azure Networking Audience This is a fantastic desk reference for network administrators, cloud architects, DevOps engineers, and automation engineers wishing to automate networking tasks with C++. It is a must-have book for anyone who wants to keep ahead of the curve in the field of networking automation.

Ansible Automation Platform By Examples - Luca Berton

Learn the Red Hat Ansible Automation Platform with some

real-life examples. As an expert in Ansible automation with over a decade of experience, I can confidently say that the Ansible Automation Platform is an excellent solution for automating IT infrastructure management. The installation process is straightforward and requires key steps to ensure successful implementation. The first step in installing the Ansible Automation Platform is setting up the necessary dependencies, which include installing Python and its related libraries. These dependencies are essential to the proper functioning of the platform, and it is crucial to ensure that they are installed correctly. Next, the Ansible Automation Platform packages are installed, which include the control node, the managed node, and the web-based interface. The control node executes Ansible playbooks, while the managed nodes are Ansible-managed systems. The web-based interface provides a user-friendly interface for managing Ansible operations. It is essential to ensure that the

control node and managed nodes are correctly configured to prevent any operational issues. This includes setting up access control and security measures to protect sensitive information. One of the key benefits of the Ansible Automation Platform is its compatibility with various operating systems, including Linux, macOS, and Windows. This allows for greater flexibility in deployment and ensures that the platform can be implemented in virtually any environment. In conclusion, installing the Ansible Automation Platform is a critical step in automating IT infrastructure management. By following the proper installation procedures and configuring the platform to meet the organization's specific needs, the Ansible Automation Platform can greatly enhance productivity and streamline IT operations.

Ansible for DevOps - A Comprehensive Guide from Beginner to Intermediate - Lyron Foster 2023-03-05

This book is a practical guide

for anyone who wants to learn how to use Ansible for DevOps automation. The book provides a step-by-step approach to learning Ansible, starting with the basics of installation and configuration, and gradually building up to advanced concepts and techniques. The book covers essential topics such as Ansible Playbooks, Modules, and Roles, as well as Ansible Inventory and Configuration Management. It also explores Ansible's capabilities in Cloud Infrastructure, Continuous Integration/Continuous Deployment (CI/CD), and advanced concepts such as Ansible Tower and Galaxy. Each chapter includes hands-on exercises and examples that help readers gain practical experience in using Ansible for DevOps automation. The book is suitable for beginners and intermediate users who want to learn how to use Ansible to simplify and streamline their IT infrastructure management. The book's clear and concise language, along with its practical approach, make it an

invaluable resource for DevOps professionals who want to learn how to use Ansible effectively. Whether you are new to Ansible or an experienced user looking to expand your skills, Ansible for DevOps: A Comprehensive Guide from Beginner to Intermediate is an essential guide for mastering Ansible and DevOps automation.

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 Features Tackle complex automation challenges with the newly added features in Ansible 2.7

Book 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.

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.

Mastering CloudForms Automation - Peter McGowan 2016-08-22

Learn how to work with the Automate feature of CloudForms, the powerful Red

Hat cloud management platform that lets you administer your virtual infrastructure, including hybrid public and private clouds. This practical hands-on introduction shows you how to increase your operational efficiency by automating day-to-day tasks that now require manual input. Throughout the book, author Peter McGowan provides a combination of theoretical information and practical coding examples to help you learn the Automate object model. With this CloudForms feature, you can create auto-scalable cloud applications, eliminate manual decisions and operations when provisioning virtual machines and cloud instances, and manage your complete virtual machine lifecycle. In six parts, this book helps you: Learn the objects and concepts for developing automation scripts with CloudForms Automate Customize the steps and workflows involved in provisioning virtual machines Create and use service catalogs, items, dialogs,

objects, bundles, and hierarchies Use CloudForm's updated workflow to retire and delete virtual machines and services Orchestrate and coordinate with external services as part of a workflow Explore distributed automation processing as well as argument passing and handling

Mastering Ansible - James Spurin 2018

"Ansible is a radically simple IT automation engine that automates cloud provisioning, configuration management, application deployment, intra-service orchestration, and many other IT needs. Designed for multi-tier deployments since day one, Ansible models your IT infrastructure by describing how all of your systems inter-relate, rather than just managing one system at a time. This professional video course on Ansible guides the user through a multitude of topics in order to understand and professionally master Ansible. It aims to help you master Ansible while tackling and learning multiple topics. It starts with Ansible's

architecture and how to provide effective scalable automation. Then we move on to installing and configuring it with various platforms. Further, we look into Ansible modules and playbooks with YAML syntax and execute it. Next you will get to know about advanced Ansible playbooks, and even structure them. You will learn to use Ansible with cloud services and containers and provision it with AWS and Docker. Finally, you will master troubleshooting, validating, and testing with Ansible."--Resource description page.

DevOps with Kubernetes -

Hideto Saito 2017-10-16

Learn to implement DevOps using Docker & Kubernetes.

About This Book Learning DevOps, container, and Kubernetes within one book.

Leverage Kubernetes as a platform to deploy, scale, and run containers efficiently. A

practical guide towards container management and orchestration

Who This Book Is For

This book is targeted for anyone, who wants to learn

containerization and clustering

in a practical way using Kubernetes. No prerequisite skills required, however, essential DevOps skill and public/private Cloud knowledge will accelerate the reading speed. If you're advanced readers, you can also get a deeper understanding of all the tools and technique described in the book. What You Will Learn Learn fundamental and advanced DevOps skills and tools Get a comprehensive understanding for container Learn how to move your application to container world Learn how to manipulate your application by Kubernetes Learn how to work with Kubernetes in popular public cloud Improve time to market with Kubernetes and Continuous Delivery Learn how to monitor, log, and troubleshoot your application with Kubernetes In Detail Containerization is said to be the best way to implement DevOps. Google developed Kubernetes, which orchestrates containers efficiently and is considered the frontrunner in container orchestration.

Kubernetes is an orchestrator that creates and manages your containers on clusters of servers. This book will guide you from simply deploying a container to administrate a Kubernetes cluster, and then you will learn how to do monitoring, logging, and continuous deployment in DevOps. The initial stages of the book will introduce the fundamental DevOps and the concept of containers. It will move on to how to containerize applications and deploy them into. The book will then introduce networks in Kubernetes. We then move on to advanced DevOps skills such as monitoring, logging, and continuous deployment in Kubernetes. It will proceed to introduce permission control for Kubernetes resources via attribute-based access control and role-based access control. The final stage of the book will cover deploying and managing your container clusters on the popular public cloud Amazon Web Services and Google Cloud Platform. At the end of the book, other orchestration

frameworks, such as Docker Swarm mode, Amazon ECS, and Apache Mesos will be discussed. Style and approach Readers will be taken through fundamental DevOps skills and Kubernetes concept and administration with detailed examples. It introduces comprehensive DevOps topics, including microservices, automation tools, containers, monitoring, logging, continuous delivery, and popular public cloud environments. At each step readers will learn how to leverage Kubernetes in their everyday lives and transform their original delivery pipeline for fast and efficient delivery.

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 Features Use Ansible 2.9 to automate and control your infrastructure Delve into advanced functionality such as plugins and custom modules in Ansible Automate and orchestrate major cloud platforms such as OpenStack,

AWS, and Azure using Ansible

Book 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 learn

Become familiar with the fundamentals of the Ansible framework

Set up role-based variables and dependencies

Avoid common mistakes and pitfalls when writing automation code in Ansible

Extend Ansible by developing your own modules and plugins

Contribute to the Ansible project by submitting your own code

Follow best practices for working with cloud environment inventories

Troubleshoot issues triggered during Ansible playbook runs

Who 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.

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 approach This clear, practical guide illustrates the advanced functionalities of Ansible, its system architecture, and design aspects that will help you to master Ansible with ease.

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.

Mastering Ansible - Third Edition

- James Freeman 2019
Design, develop, and solve real-world automation and orchestration problems by unlocking the automation capabilities of Ansible. Key Features Tackle complex automation challenges with the newly added features in Ansible 2.7
Book 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 learn Gain an in-depth understanding of how Ansible works under the hood Fully automate Ansible playbook executions with encrypted data Access and manipulate variable data within playbooks Use blocks to perform failure recovery or cleanup Explore the Playbook debugger and the Ansible Console Troubleshoot unexpected behavior effectively Work with cloud infrastructure providers and container systems Develop custom modules, plugins, and dynamic

inventory sources Who 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. Downloading the example code for this book You can download the example code files for all Packt books you have purchased from your account at <http://www.PacktPub.com>. If you purchased this book elsewhere, you can visit <http://www.PacktPub.com/support> and register to have the files e-mailed directly to you. **Mastering Ansible** - James Freeman 2021-12-09 Design, develop, and solve real-world automation and orchestration problems by unlocking Ansible's automation capabilities Key Features Completely revised and updated for Ansible 4.0 and beyond Tackle complex automation challenges with the newly added features in Ansible Learn about the rapidly expanding field of network

automation using Ansible, with the help of practical examples for configuring network devices

Book Description

Ansible is a modern, YAML-based automation tool (built on top of Python, one of the world's most popular programming languages) with a massive and ever-growing user base. Its popularity and Python underpinnings make it essential learning for all in the DevOps space. This fourth edition of *Mastering Ansible* provides complete coverage of Ansible automation, from the design and architecture of the tool and basic automation with playbooks to writing and debugging your own Python-based extensions. You'll learn how to build automation workflows with Ansible's extensive built-in library of collections, modules, and plugins. You'll then look at extending the modules and plugins with Python-based code and even build your own collections — ultimately learning how to give back to the Ansible community. By the end of this Ansible book, you'll

be confident in all aspects of Ansible automation, from the fundamentals of playbook design to getting under the hood and extending and adapting Ansible to solve new automation challenges. What you will learn

Gain an in-depth understanding of how Ansible works under the hood

Get to grips with Ansible collections and how they are changing and shaping the future of Ansible

Fully automate the Ansible playbook executions with encrypted data

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

Who this book is for

If you are an Ansible developer or operator who has a detailed understanding of its core elements and applications but are now looking to enhance your skills in applying automation using Ansible, this book is for you. Prior experience working with core system administration tasks on

Linux and basic familiarity with concepts such as cloud computing, containers, network devices, and fundamentals of a high-level programming language will help you make the most of this book.

[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 unrepeatitive. 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 boring 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 not 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
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- Ansible Roles
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- Managing Systems with Ansible
- Ansible Troubleshooting
- Final Sample Exam
- Knowledge Check Solutions

Mastering Git - Jakub Narebski
2016-04-21

Attain expert-level proficiency with Git for enhanced productivity and efficient collaboration by mastering advanced distributed version control features

About This Book

Set up Git for solo and collaborative development

Harness the full power of Git version control system to customize Git behavior, manipulate history, integrate external tools and explore platform shortcuts

A detailed guide, which explains how to apply advanced Git techniques and workflows and ways to handle submodules

Who This Book Is For

If you are a Git user with reasonable knowledge of Git and familiarity with basic concepts such as branching, merging, staging, and workflows, this is the book for you.

Basic knowledge of installing Git and software configuration management concepts is essential.

What You Will Learn

- Explore project history, find revisions using different criteria, and filter and format how history looks
- Manage your working directory and staging area for commits

and interactively create new revisions and amend them Set up repositories and branches for collaboration Submit your own contributions and integrate contributions from other developers via merging or rebasing Customize Git behavior system-wide, on a per-user, per-repository, and per-file basis Take up the administration and set up of Git repositories, configure access, find and recover from repository errors, and perform repository maintenance Chose a workflow and configure and set up support for the chosen workflow In Detail Git is one of the most popular types of Source Code Management (SCM) and Distributed Version Control System (DVCS). Despite the powerful and versatile nature of the tool enveloping strong support for nonlinear development and the ability to handle large projects efficiently, it is a complex tool and often regarded as “user-unfriendly”. Getting to know the ideas and concepts behind the architecture of Git will help you make full use of its power and

understand its behavior. Learning the best practices and recommended workflows should help you to avoid problems and ensure trouble-free development. The book scope is meticulously designed to help you gain deeper insights into Git's architecture, its underlying concepts, behavior, and best practices. Mastering Git starts with a quick implementation example of using Git for a collaborative development of a sample project to establish the foundation knowledge of Git operational tasks and concepts. Furthermore, as you progress through the book, the tutorials provide detailed descriptions of various areas of usage: from archaeology, through managing your own work, to working with other developers. This book also helps augment your understanding to examine and explore project history, create and manage your contributions, set up repositories and branches for collaboration in centralized and distributed version control, integrate work from other developers,

customize and extend Git, and recover from repository errors. By exploring advanced Git practices, you will attain a deeper understanding of Git's behavior, allowing you to customize and extend existing recipes and write your own. Style and approach Step-by-step instructions and useful information make this book the ultimate guide to understanding and mastering Git. This book will show road to mastery example by example, while explaining mental model of Git. The Introduction section covers the 'Essentials' just for refreshing the basics. The main highlight is that the concepts are based on HOW the technology/framework works and not just practical 'WHAT to do'.

Practical Ansible Automation Handbook - Luca Berton 2023-07-21

Unleash the Power of Ansible to Automate Workflows, Streamline Operations, and Revolutionize Infrastructure Management KEY FEATURES ● Automate tasks with Ansible code for error-free, high-

performance results. ● Master Ansible language essentials, architecture, and ad hoc commands. ● Explore Ansible's versatile capabilities to gain expertise in Linux and Windows administration ● Achieve efficient configuration management, deployment, and orchestration. ● Unlock advanced Ansible Automation Platform and Morpheus features. DESCRIPTION Tired of repetitive and time-consuming IT tasks? Unlock the true potential of automation with "Practical Ansible Automation Handbook." This comprehensive guide, authored by Ansible expert Luca Berton, will help you master the art of automation. Starting with the basics, the book introduces Ansible's workflow, architecture, and environment setup. Through step-by-step instructions and real-world examples, you'll gain proficiency in executing core tasks such as provisioning, configuration management, application deployment, automation, and orchestration. The book covers automating

administrative tasks in Linux and Windows, advanced topics like Ansible Automation Platform and Morpheus, and leveraging cloud computing with Amazon Web Services and Kubernetes container orchestration. Practicality and real-world scenarios set this book apart. It addresses common roadblocks, provides best practices, and helps you develop a beginner-friendly playbook that minimises errors and maximises performance. With Ansible's commercial viability evident in the market, learning it positions you at the forefront of automation expertise. Whether you're a system administrator, network administrator, developer, or manager, this book empowers you to automate everything with Ansible. Embrace the power of automation, revolutionize your IT operations, and unleash new levels of efficiency and productivity in your organisation. WHAT WILL YOU LEARN ● Set up and configure Ansible environments to automate various tasks. ●

Execute automation tasks, manage configurations, and deploy applications. ● Leverage Ansible Automation Platform and Morpheus for performance optimization of complex workflows. ● Design efficient playbooks to streamline operations and troubleshoot using the best practices. ● Efficiently automate routine tasks to achieve Enterprise-level scalability WHO IS THIS BOOK FOR? This book is targeted towards beginners and developers involved in IT operations and who wish to extract the best from Ansible for task automation. It caters to system administrators, network administrators, developers, and managers in IT operations. No prior Ansible knowledge is needed as it covers basics and advances gradually. Familiarity with Linux and system administration is beneficial. By the end, readers will have a solid foundation and be ready to implement automation solutions. TABLE OF CONTENTS Chapter 1: Getting Started Chapter 2: Ansible Language

Core Chapter 3: Ansible Language Extended Chapter 4: Ansible For Linux Chapter 5: Ansible For Windows Chapter 6: Ansible Troubleshooting Chapter 7: Ansible Enterprise Chapter 8: Ansible Advanced

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

Configure Ansible and start coding YAML playbooks using the appropriate modules Key Features Create and use Ansible Playbook to script and organise management tasks Benefit from the Ansible community roles and modules to resolve complex and niche tasks Write configuration management code to automate infrastructure

Book 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 learn Implement Playbook YAML scripts and its capacities to simplify day-to-day tasks Setup Static and Dynamic Inventory Use Ansible predefined modules for Linux, Windows, networking, and virtualisation administration Organize and configure the host filesystem using storage and files modules Implement 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.

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.

Introduction to Ansible Network Automation - Brendan Choi
2023-09-24

This book provides a comprehensive learning journey aimed at helping you master Ansible and efficiently automate a range of enterprise network devices, such as routers, switches, firewalls, wireless LANc (WLC), and Linux servers. Introduction to Ansible Network Automation combines the fundamentals of three books into one, covering basics of Linux administration, Ansible concepts, and Ansible network automation. Authors Brendan Choi and Erwin Medina have

created a structured learning path that starts with the fundamentals and allows you to progressively enhance your skill sets with each chapter. Part I serves as an Ansible primer, guiding you through Linux basics using WSL on Windows 11 and assisting in the setup of your learning environment. Part II covers essential Ansible concepts through practical lab activities involving four Linux servers. In Part III, you will learn how to apply your Linux skills from Part I and the concepts from Part II to real-world scenarios by creating Ansible automation YAML scripts. What sets this book apart is its unique focus on Ansible and Network Automation, combined with a strong emphasis on understanding Linux. It is specifically designed for novice network automation engineers and students, assuming no prior Linux expertise, and provides first-hand experience starting from scratch. It also offers practical insights by sharing real-life examples of Ansible playbooks derived from production enterprise

infrastructure, allowing you to gain an understanding of how Ansible can be effectively applied in real-world enterprise network environments. Upon completion of this book, you will have developed foundational skills in Ansible network automation and general Linux administration, and will understand how to apply this newly acquired knowledge to real-life scenarios. What You Will Learn Develop a comprehensive understanding of Ansible and its essential concepts for automating enterprise network devices and applying them to real-world scenarios Master the basics of Ansible operations within Linux automation and progress to applying Ansible concepts specifically to network device automation Execute Ansible ad-hoc commands and playbooks for a range of network operational tasks, including configuration management, software and system updates, and upgrades Work with real-life examples of Ansible playbooks derived from actual enterprise infrastructure,

gaining practical experience in writing Ansible YAML scripts Acquire the skills to automate network operations using Ansible, streamline network management processes, and replace manual-driven tasks with directives in Ansible playbooks Who is This Book For Network, security, UC and systems engineers, as well as technical leaders, IT managers and network students.

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.

Hands-on Ansible Automation - Luca Berton 2023-07-21

Unleash the Power of Automation: Your Guide to Ansible Mastery

KEY FEATURES

- Comprehensive coverage of Ansible essentials and practical applications in Linux and Windows environments.
- Step-by-step guidance for setting up and configuring Ansible environments.
- In-depth exploration of playbook development for automating configuration management, deployment, and orchestration tasks.
- Advanced techniques for leveraging Ansible Automation Platform and Morpheus for enhanced performance.
- Troubleshooting strategies and

best practices to overcome roadblocks in Ansible implementation. ● Enhance Ansible workflows with troubleshooting, best practices, and integrations for optimal performance and expand capabilities in configuration management, GUI, RBAC, and third-party systems.

DESCRIPTION Hands-on Ansible Automation is a comprehensive guide by expert Luca Berton that equips readers with the skills to proficiently automate configuration management, deployment, and orchestration tasks. Starting with Ansible basics, the book covers workflow, architecture, and environment setup, progressing to executing core tasks such as provisioning, configuration management, application deployment, automation, and orchestration. Advanced topics include Ansible Automation Platform, Morpheus, cloud computing (with an emphasis on Amazon Web Services), and Kubernetes container orchestration. The book addresses common challenges, offers best practices for

successful automation implementation, and guides readers in developing a beginner-friendly playbook using Ansible code. With Ansible's widespread adoption and market demand, this guide positions readers as sought-after experts in infrastructure automation. Suitable for system administrators, network administrators, developers, and managers, this book empowers readers to revolutionize IT operations, unlocking new levels of efficiency and productivity. Embrace Ansible automation today and transform the way you work.

WHAT YOU WILL LEARN ● Gain a comprehensive knowledge of Ansible and its practical applications in Linux and Windows environments. ● Set up and configure Ansible environments, execute automation tasks, and manage configurations. ● Deploy applications and orchestrate complex workflows using Ansible. ● Learn advanced techniques such as utilizing the Ansible Automation Platform for improved performance. ●

Acquire troubleshooting skills, implement best practices, and design efficient playbooks to streamline operations. ● Revolutionize infrastructure management, automate routine tasks, and achieve unprecedented efficiency and scalability within organizations.

WHO THIS BOOK IS FOR This book is targeted towards beginners as well as developers who wish to learn and extract the best out of Ansible for automating their tasks. Whether you are a system administrator, network administrator, developer, or manager, this book caters to all audiences involved in IT operations. No prior knowledge of Ansible is required as the book starts with the basics and gradually progresses to advanced topics. However, familiarity with Linux, command-line interfaces, and basic system administration concepts would be beneficial. By the end of the book, readers will have a solid foundation in Ansible and be ready to implement automation solutions in their organizations.

TABLE OF CONTENTS 1. Introduction to Ansible Automation 2. Ansible Basics and Core Concepts 3. Extending Ansible's Capabilities 4. Managing Linux Systems with Ansible 5. Automating Windows Infrastructure with Ansible 6. Troubleshooting Ansible Deployments 7. Scaling Up with Ansible Enterprise 8. Advanced Ansible Techniques

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 everyday 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.

[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

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.

Mastering Ansible - Ghada Atef 2023-03-09

"Mastering Ansible: A Comprehensive Guide to Automating Configuration Management and Deployment" is an in-depth guide to Ansible, a popular open-source tool for automating infrastructure as code. The book covers everything from the basics of Ansible to advanced topics such as modules, plugins, roles, and dynamic inventory. It provides detailed guidance on how to write efficient, modular, and

reusable playbooks, and how to use Ansible to automate a wide range of tasks, from provisioning servers to deploying applications. The book also includes best practices, tips, and tricks for working effectively with Ansible, as well as use cases and real-world examples. Whether you're a beginner or an experienced user, "Mastering Ansible" will help you become a master of Ansible and take your automation skills to the next level.

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

Achieve enterprise automation in your Linux environment with this comprehensive guide Key Features Automate your Linux infrastructure with the help of practical use cases and real-world scenarios Learn to plan, build, manage, and customize OS releases in your environment Enhance the scalability and efficiency of your infrastructure with advanced Linux system administration concepts Book Description Automation is

paramount if you want to run Linux in your enterprise effectively. It helps you minimize costs by reducing manual operations, ensuring compliance across data centers, and accelerating deployments for your cloud infrastructures. Complete with detailed explanations, practical examples, and self-assessment questions, this book will teach you how to manage your Linux estate and leverage Ansible to achieve effective levels of automation. You'll learn important concepts on standard operating environments that lend themselves to automation, and then build on this knowledge by applying Ansible to achieve standardization throughout your Linux environments. By the end of this Linux automation book, you'll be able to build, deploy, and manage an entire estate of Linux servers with higher reliability and lower overheads than ever before. What you will learn Perform large-scale automation of Linux environments in an enterprise Overcome the

common challenges and pitfalls of extensive automation Define the business processes needed to support a large-scale Linux environment Get well-versed with the most effective and reliable patch management strategies Automate a range of tasks from simple user account changes to complex security policy enforcement Learn best practices and procedures to make your Linux environment automatable Who this book is for This book is for anyone who has a Linux environment to design, implement, and maintain. Open source professionals including infrastructure architects and system administrators will find this book useful. You're expected to have experience in implementing and maintaining Linux servers along with knowledge of building, patching, and maintaining server infrastructure. Although not necessary, knowledge of Ansible or other automation technologies will be beneficial.

Mastering Python Networking - Eric Chou
2020-01-30

New edition of the bestselling guide to mastering Python Networking, updated to Python 3 and including the latest on network data analysis, Cloud Networking, Ansible 2.8, and new libraries Key Features Explore the power of Python libraries to tackle difficult network problems efficiently and effectively, including pyATS, Nornir, and Ansible 2.8 Use Python and Ansible for DevOps, network device automation, DevOps, and software-defined networking Become an expert in implementing advanced network-related tasks with Python 3 Book Description Networks in your infrastructure set the foundation for how your application can be deployed, maintained, and serviced. Python is the ideal language for network engineers to explore tools that were previously available to systems engineers and application developers. In Mastering Python Networking, Third edition, you'll embark on a Python-based journey to transition from traditional network engineers to network

developers ready for the next-generation of networks. This new edition is completely revised and updated to work with Python 3. In addition to new chapters on network data analysis with ELK stack (Elasticsearch, Logstash, Kibana, and Beats) and Azure Cloud Networking, it includes updates on using newer libraries such as pyATS and Nornir, as well as Ansible 2.8. Each chapter is updated with the latest libraries with working examples to ensure compatibility and understanding of the concepts. Starting with a basic overview of Python, the book teaches you how it can interact with both legacy and API-enabled network devices. You will learn to leverage high-level Python packages and frameworks to perform network automation tasks, monitoring, management, and enhanced network security followed by Azure and AWS Cloud networking. Finally, you will use Jenkins for continuous integration as well as testing tools to verify your network.

What you will learn
Use Python libraries to interact with your network
Integrate Ansible 2.8 using Python to control Cisco, Juniper, and Arista network devices
Leverage existing Flask web frameworks to construct high-level APIs
Learn how to build virtual networks in the AWS & Azure Cloud
Learn how to use Elastic Stack for network data analysis
Understand how Jenkins can be used to automatically deploy changes in your network
Use PyTest and Unittest for Test-Driven Network Development in networking engineering with Python
Who this book is for
Mastering Python Networking, Third edition is for network engineers, developers, and SREs who want to use Python for network automation, programmability, and data analysis. Basic familiarity with Python programming and networking-related concepts such as Transmission Control Protocol/Internet Protocol (TCP/IP) will be useful.

Mastering Ansible - Jesse Keating 2017-03-30
Master the ins and outs of

advanced operations with Ansible About 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.x Who This Book Is For This 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 sources In Detail This 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 approach This clear, practical guide illustrates the advanced

functionalities of Ansible, its system architecture, and design aspects that will help you to master Ansible with ease.

[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 for Real-Life Automation* - Gineesh Madapparambath 2022-09-30

Learn how to automate and manage your IT infrastructure and applications using Ansible Key Features Develop Ansible automation use cases by automating day-to-day IT and application operations Use Ansible to automate private and public cloud, application containers, and container platforms Improve your DevOps workflow with Ansible Book Description Get ready to leverage the power of Ansible's wide applicability to automate and manage IT infrastructure with Ansible for Real-Life Automation. This book will guide you in setting up and managing the free and open source automation tool and remote-managed nodes in the production and dev/staging environments. Starting with its installation and deployment, you'll learn automation using simple use cases in your

workplace. You'll go beyond just Linux machines to use Ansible to automate Microsoft Windows machines, network devices, and private and public cloud platforms such as VMWare, AWS, and GCP. As you progress through the chapters, you'll integrate Ansible into your DevOps workflow and deal with application container management and container platforms such as Kubernetes. This Ansible book also contains a detailed introduction to Red Hat Ansible Automation Platform to help you get up to speed with Red Hat AAP and integration with CI/CD and ITSM. What's more, you'll implement efficient automation solutions while learning best practices and methods to secure sensitive data using Ansible Vault and alternatives to automate non-supported platforms and operations using raw commands, command modules, and REST API calls. By the end of this book, you'll be proficient in identifying and developing real-life automation use cases using Ansible. What you will learn Explore real-life IT

automation use cases and employ Ansible for automation. Develop playbooks with best practices for production environments. Approach different automation use cases with the most suitable methods. Use Ansible for infrastructure management and automate VMWare, AWS, and GCP. Integrate Ansible with Terraform, Jenkins, OpenShift, and Kubernetes. Manage container platforms such as Kubernetes and OpenShift with Ansible. Get to know the Red Hat Ansible Automation Platform and its capabilities. Who this book is for: This book is for DevOps and systems engineers looking to adopt Ansible as their automation tool. To get started with this book, basic knowledge of Linux is necessary, along with an understanding of how tasks are done the manual way before setting out to automate them.

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

Automating Junos

Administration - Jonathan Looney 2016-04-27

How can you grow and maintain a reliable, flexible, and cost-efficient network in the face of ever-increasing demands? With this practical guide, network engineers will learn how to program Juniper network devices to perform day-to-day tasks, using the automation features of the Junos OS. Junos supports several automation tools that provide powerful solutions to common network automation tasks. Authors Jonathan Looney and Stacy

Smith, senior testing engineers at Juniper, will help you determine which tools work best for your particular network requirements. If you have experience with Junos, this book will show you how automation can make a big difference in the operation of your existing network. Manage Junos software with remote procedure calls and a RESTful API Represent devices as Python objects and manage them with Python's PyEZ package Customize Junos software to detect and block commits that violate your network standards Develop custom CLI commands to present information the way you want Program Junos software to automatically respond to network events Rapidly deploy new Junos devices into your network with ZTP and Netconify tools Learn how to use Ansible or Puppet to manage Junos software

Ansible For Amazon Web Services AWS By Examples

Luca Berton 2022-07-13

This course provides an introduction to the Ansible

language. Ansible is a popular open source IT automation technology for scripting applications in a wide variety of domains. It is free, portable, powerful, and remarkably easy and fun to use. This course is a tool to learn the Ansible automation technology with some real-life examples. Learn the Ansible automation technology with some real-life examples. Every successful IT department needs automation nowadays for bare metal servers, virtual machines, could, containers, and edge computing. Automate your IT journey with Ansible automation technology. I'm going to teach you example by example how to accomplish the most common IT Professional tasks to automate your AWS Infrastructure. Each of the lessons summarizes a specific use case for the Modern AWS Infrastructure. Each lesson is focused on a module from the most important parameter with some live demo of code and real-life usage. Each code is battle proved in the real life. Console interaction and

verification are included in every video. How to configure Ansible to interact with AWS infrastructure - EC2, VPC, security groups, etc.. You could automate the creation, update, and gather information for EC2 machines, and many more use-cases using Ansible. A mundane activity like creating an AWS EC2 machine is the most used with Ansible For AWS. Each example is using the secure connection protocol to guarantee sensible data are encrypted and reserved. Maintain your AWS infrastructure network the most efficiently as possible with Ansible Automation, the simple human-readable automation technology. Are you ready to automate your day with Ansible? Examples in the book are tested with the latest version of Ansible 2.9+ and Ansible Core 2.11+.

Mastering Ansible - Ernest Thomas 2017-06-09

Ansible is an IT automation tool that lets you manage your Infrastructure as a Code. It helps you deploy your applications and manage

configurations, thus making life easier. Ansible, in most ways, is self sufficient to address most of your requirements. Ideally, standard modules, libraries, or plugins are used to automate a given IT platform. Customizing Ansible can be done by custom module and plugin development. This book shows you how to automate most of the tasks in your IT environment, thus minimizing the need to manually perform scheduled tasks and extend your Ansible implementation by developing customized modules and plugins. You'll begin by getting an understanding of the fundamental aspects of extending the Ansible framework, such as custom functions and reusable modules. You'll then progress to building custom plugins and extensions using the fundamental building blocks explained earlier. We'll also show you how to automate some tasks using scripts. Finally, we'll demonstrate how these extensions can be seamlessly integrated into existing Ansible installations

and explain how to conduct unit testing on these extensions to ensure they work as desired.

Ansible: Up and Running -

Lorin Hochstein 2017-07-20

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. With this updated second edition, you'll learn 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. Authors Lorin Hochstein and René Moser show 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. Manage Windows machines, and automate network device configuration. Manage your fleet from your

web browser with Ansible Tower Understand how Ansible differs from other configuration management systems Use the YAML file format to write your own playbooks Work with a complete example to deploy a non-trivial application Deploy applications to Amazon EC2 and other cloud platforms

Create Docker images and deploy Docker containers with Ansible This book is best read start to finish, with later chapters building on earlier ones. Because it's written in a tutorial style, you can follow along on your own machine. Most examples focus on web applications.