

# Introduction To Openshift Red Hat

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[Deploying SAP Software in Red Hat OpenShift on IBM Power Systems](#) Jan 25 2022 This IBM® Redpaper publication documents how to containerize and deploy SAP software into Red Hat OpenShift 4 Kubernetes clusters on IBM Power Systems by using predefined Red Hat Ansible scripts, different configurations, and theoretical knowledge, and it documents the findings through sample scenarios. This paper documents the following topics: Running SAP S/4HANA, SAP HANA, and SAP NetWeaver on-premises software in containers that are deployed in Red Hat OpenShift 4 on IBM Power Systems hardware. Existing SAP systems running on IBM Power Systems can be repackaged at customer sites into containers that use predefined Red Hat Ansible scripts. These containers can be deployed multiple times into Red Hat OpenShift 4 Kubernetes clusters on IBM Power Systems. The target audiences for this paper are Chief Information Officers (CIOs) that are interested in containerized solutions of SAP Enterprise Resource Planning (ERP) systems, developers that need containerized environments, and system administrators that provide and manage the infrastructure with underpinning

automation. This paper complements the documentation that is available at IBM Knowledge Center, and it aligns with the educational materials that are provided by IBM Garage™ for Systems Education.

T Bytes Agile & AI Operations Aug 08 2020 This document brings together a set of latest data points and publicly available information relevant for Agile & AI Operations Industry. We are very excited to share this content and believe that readers will benefit from this periodic publication immensely.

Red Hat Enterprise Linux 8 Administration May 05 2020 Develop the skill to manage and administer Red Hat Enterprise Linux and get ready to achieve the RHCSA certification Key Features: Learn the most common administration and security tasks and manage enterprise Linux infrastructures efficiently Assess your knowledge using self-assessment questions based on real-world examples Understand how to apply the concepts of core systems administration in the real world Book Description: Whether in infrastructure or development, as a DevOps or site reliability engineer, Linux skills are now more relevant than ever for any IT job, forming the foundation of understanding the most basic layer of your architecture. With Red Hat Enterprise Linux (RHEL) becoming the most popular choice for enterprises worldwide, achieving the Red Hat Certified System Administrator (RHCSA) certification will validate your Linux skills to install, configure, and troubleshoot applications and services on RHEL systems. Complete with easy-to-follow tutorial-style content, self-assessment questions, tips, best practices, and practical exercises with detailed solutions, this book covers essential RHEL commands, user and group management, software management, networking fundamentals, and much more. You'll start by learning how to create an RHEL 8 virtual machine and get to grips with essential Linux commands. You'll then understand how to manage users and groups on an RHEL 8 system, install software packages, and configure your network interfaces and firewall. As you advance, the book will help you explore disk partitioning, LVM configuration, Stratis volumes, disk compression with VDO, and container management with Podman, Buildah, and Skopeo. By the end of this book, you'll have covered everything included in the RHCSA EX200 certification and be able to use this book as a handy, on-the-job desktop reference guide. This book and its contents are solely the work of Miguel Pérez Colino, Pablo Iranzo Gómez, and Scott McCarty. The content does not reflect the views of their employer (Red Hat Inc.). This work has no connection to Red Hat, Inc. and is not endorsed or supported by Red Hat, Inc. What You Will Learn: Deploy RHEL 8 in different footprints, from bare metal and virtualized to the cloud Manage users and software on local and remote systems at scale Discover how to secure a system with SELinux, OpenSCAP, and firewalld Gain an overview of storage components with LVM, Stratis, and VDO Master remote administration with passwordless SSH and tunnels Monitor your systems for resource usage and take actions to fix issues Understand the boot process, performance optimizations, and containers Who this book is for: This book is for IT professionals or students who want to start a career in Linux administration and anyone who wants to take the RHCSA 8 certification exam. Basic knowledge of Linux and familiarity with the Linux command-line is necessary.

Hybrid Cloud Apps with OpenShift and Kubernetes Jan 13 2021 Selling your CTO on the merits of OpenShift and Kubernetes is only the beginning. To operate and scale OpenShift, you also need to know how to manage and expose resources to application teams and continuously deliver changes to the applications running in these environments. With this practical book, new and experienced developers and operators will learn specific techniques for operationalizing OpenShift and Kubernetes in the enterprise. Industry experts Michael Elder, Jake Kitchener, and Brad Topol show you how to run OpenShift and Kubernetes in production and deliver your applications to a highly available, secure, and scalable platform. You'll learn how to build a strong foundation in advanced cluster operational topics, such as tenancy management, scheduling and capacity management, cost management, continuous delivery, and more.

Examine the fundamental concepts of Kubernetes architecture Get different Kubernetes and OpenShift environments up and running Dive into advanced resource management topics, including capacity planning Learn how to support high availability inside a single cluster Use production-level approaches for continuous delivery and code promotion across clusters Explore hybrid cloud use cases, including multicloud provisioning, upgrading, and policy support Devise and deliver disaster recovery strategies

IBM PowerVC Version 2.0 Introduction and Configuration Jan 01 2020 IBM® Power Virtualization Center (IBM® PowerVCTM) is an advanced enterprise virtualization management offering for IBM Power Systems. This IBM Redbooks® publication introduces IBM PowerVC and helps you understand its functions, planning, installation, and setup. It also shows how IBM PowerVC can integrate with systems management tools such as Ansible or Terraform and that it also integrates well into a OpenShift container environment. IBM PowerVC Version 2.0.0 supports both large and small deployments, either by managing IBM PowerVM® that is controlled by the Hardware Management Console (HMC), or by IBM PowerVM NovaLink. With this capability, IBM PowerVC can manage IBM AIX®, IBM i, and Linux workloads that run on IBM POWER® hardware. IBM PowerVC is available as a Standard Edition, or as a Private Cloud Edition. IBM PowerVC includes the following features and benefits: Virtual image capture, import, export, deployment, and management Policy-based virtual machine (VM) placement to improve server usage Snapshots and cloning of VMs or volumes for backup or testing purposes Support of advanced storage capabilities such as IBM SVC vdisk mirroring of IBM Global Mirror Management of real-time optimization and VM resilience to increase productivity VM Mobility with placement policies to reduce the burden on IT staff in a simple-to-install and easy-to-use graphical user interface (GUI) Automated Simplified Remote Restart for improved availability of VMs ifor when a host is down Role-based security policies to ensure a secure environment for common tasks The ability to enable an administrator to enable Dynamic Resource Optimization on a schedule IBM PowerVC Private Cloud Edition includes all of the IBM PowerVC Standard Edition features and enhancements: A self-service portal that allows the provisioning of new VMs without direct system administrator intervention. There is an option for policy approvals for the requests that are received from the self-service portal. Pre-built deploy templates that are set up by the cloud administrator that simplify the deployment of VMs by the cloud user. Cloud management policies that simplify management of cloud deployments. Metering data that can be used for chargeback. This publication is for experienced users of IBM PowerVM and other virtualization solutions who want to understand and implement the next generation of enterprise virtualization management for Power Systems. Unless stated otherwise, the content of this publication refers to IBM PowerVC Version 2.0.0.

OpenShift for Developers Oct 10 2020 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

**Operating OpenShift** May 17 2021 Kubernetes has gained significant popularity over the past few years, with OpenShift as one of its most mature and prominent distributions. But while OpenShift provides several layers of abstraction over vanilla Kubernetes, this software can quickly become overwhelming because of its rich feature set and functionality. This practical book helps you understand and manage OpenShift clusters from minimal deployment to large multicluster installations. Principal site reliability engineers Rick Rackow and Manuel Dewald, who worked together on Red Hat's managed OpenShift offering for years, provide valuable advice to help your teams operate OpenShift clusters efficiently. Designed for SREs, system administrators, DevOps engineers, and cloud architects, Operating OpenShift encourages consistent and easy container orchestration and helps reduce the effort of deploying a Kubernetes platform. You'll learn why OpenShift has become highly attractive to enterprises large and small. Learn OpenShift core concepts and deployment strategies Explore multicluster OpenShift Container Platform deployments Administer OpenShift clusters following best practices Learn best practices for deploying workloads to OpenShift Monitor OpenShift clusters through state-of-the-art concepts

**OpenShift in Action** Sep 01 2022 Summary OpenShift in Action is a full reference to Red Hat OpenShift that breaks down this robust container platform so you can use it day-to-day. Combining Docker and Kubernetes, OpenShift is a powerful platform for cluster management, scaling, and upgrading your enterprise apps. It doesn't matter why you use OpenShift--by the end of this book you'll be able to handle every aspect of it, inside and out! Foreword by Jim Whitehurst, Red Hat. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Containers let you package everything into one neat place, and with Red Hat OpenShift you can build, deploy, and run those packages all in one place! Combining Docker and Kubernetes, OpenShift is a powerful platform for cluster management, scaling, and upgrading your enterprise apps. About the Book OpenShift in Action is a full reference to Red Hat OpenShift that breaks down this robust container platform so you can use it day-to-day. Starting with how to deploy and run your first application, you'll go deep into OpenShift. You'll discover crystal-clear explanations of namespaces, cgroups, and SELinux, learn to prepare a cluster, and even tackle advanced details like software-defined networks and security, with real-world examples you can take to your own work. It doesn't matter why you use OpenShift--by the end of this book you'll be able to handle every aspect of it, inside and out! What's Inside Written by lead OpenShift architects Rock-solid fundamentals of Docker and Kubernetes Keep mission-critical applications up and running Manage persistent storage About the Reader For DevOps engineers and administrators working in a Linux-based distributed environment. About the Authors Jamie Duncan is a cloud solutions architect for Red Hat, focusing on large-scale OpenShift deployments. John Osborne is a principal OpenShift architect for Red Hat. Table of Contents PART 1 - FUNDAMENTALS Getting to know OpenShift Getting started Containers are Linux PART 2 - CLOUD-NATIVE APPLICATIONS Working with services Autoscaling with metrics Continuous integration and continuous deployment PART 3 - STATEFUL APPLICATIONS Creating and managing persistent storage Stateful applications PART 4 - OPERATIONS AND SECURITY Authentication and resource access Networking Security

**Red Hat OpenShift on IBM Z Installation Guide** Apr 27 2022 This IBM® Redpaper publication provides all the necessary steps to successfully install Red Hat OpenShift 4.4 on IBM Z® or LinuxONE servers. It also provides an introduction to OpenShift nodes, Red Hat Enterprise Linux CoreOS, and Ansible. The steps that are described in this paper are taken from the official pages of the Red Hat website. This IBM Redpaper publication was written for IT architects, IT specialists, and

others who are interested in installing Red Hat OpenShift on IBM Z.

SingleStore Database on High Performance IBM Spectrum Scale Filesystem with Red Hat OpenShift and IBM Cloud Pak for Data Apr 15 2021 This IBM® blueprint describes the SingleStoreDB that is running on Red Hat OpenShift in a containerized environment. The SingleStoreDB deployment uses the IBM Spectrum® Scale container native access storage class to create persistent volumes (PVs) for the SingleStoreDB pods deployment. This document also describes the process that is used to expand a SingleStoreDB volume on IBM Spectrum Scale and an IBM Spectrum Scale PV on a Red Hat OpenShift cluster for IBM Spectrum Scale to verify that the SingleStoreDB remained intact after the volume is expanded. The procedure to create a sample database that is named stockDB, and the data analytical stats for reading and writing the data also are included. The sample data was captured for comparison statistics for SingleStoreDB that is deployed on the IBM Spectrum Scale Cluster File System and local storage. These comparison statistics emphasize the notable difference between the sample data sets. Finally, this document also explains the procedure that is used to create the same sample database with the unlimited storage feature in SingleStore by using IBM Cloud® Object Storage.

Building a Red Hat OpenShift Environment on IBM Z Jun 29 2022 Cybersecurity is the most important arm of defense against cyberattacks. With the recent increase in cyberattacks, corporations must focus on how they are combating these new high-tech threats. When establishing best practices, a corporation must focus on employees' access to specific workspaces and information. IBM Z® focuses on allowing high processing virtual environments while maintaining a high level of security in each workspace. Organizations not only need to adjust their approach to security, but also their approach to IT environments. To meet new customer needs and expectations, organizations must take a more agile approach to their business. IBM® Z allows companies to work with hybrid and multi-cloud environments that allows more ease of use for the user and efficiency overall. Working with IBM Z, organizations can also work with many databases that are included in IBM Cloud Pak® for Data. IBM Cloud Pak for Data allows organizations to make more informed decisions with improved data usage. Along with the improved data usage, organizations can see the effects from working in a Red Hat OpenShift environment. Red Hat OpenShift is compatible across many hardware services and allows the user to run applications in the most efficient manner. The purpose of this IBM Redbooks® publication is to: Introduce IBM Z and LinuxONE platforms and how they work with the Red Hat OpenShift environment and IBM Cloud Pak for Data Provide examples and the uses of IBM Z with Cloud Paks for Data that show data gravity, consistent development experience, and consolidation and business resiliency The target audience for this book is IBM Z Technical Specialists, IT Architects, and System Administrators.

DevOps with OpenShift Mar 27 2022 Chapter 7. Application Management; Integrated Logging; Container Logs Are Transient; Aggregated Logging; Kibana; Some General Aggregated Kibana Queries; Simple Metrics; Resource Scheduling; Quotas; Quota Scopes; Quota Enforcement; Limit Ranges and Requests Versus Limits; Multiproject Quotas; Applications; Eviction and Pod Rescheduling; Overcommit; Auto Pod Scaling; Java-Based Application Monitoring and Management Using Jolokia; Summary; Afterword; What We Covered; Final Words; Appendix A. OpenShift and 12 Factor Apps; Codebase; Dependencies; Configuration; Backing Services.

Exam Ref 70-532 Developing Microsoft Azure Solutions Sep 28 2019 Prepare for Microsoft Exam 70-532—and help demonstrate your real-world mastery of the skills needed to develop Microsoft Azure solutions. Designed for experienced IT professionals ready to advance their status, Exam Ref focuses on the critical thinking and decision-making acumen needed for job success. Focus on the expertise measured by these objectives: Create and manage Azure Resource Manager Virtual Machines Design and implement a storage and data strategy Manage identity, application, and network services Design and implement Azure PaaS compute, web, and

mobile services This Microsoft Exam Ref: Organizes its coverage by exam objectives Features strategic, what-if scenarios to challenge you Assumes you have experience designing, programming, implementing, automating, and monitoring Microsoft Azure solutions, and are proficient with tools, techniques, and approaches for building scalable, resilient solutions About the Exam Exam 70-532 focuses on skills and knowledge for building highly available solutions in the Microsoft Azure cloud. About Microsoft Certification This exam is for candidates who are experienced in designing, programming, implementing, automating, and monitoring Microsoft Azure solutions. Candidates are also proficient with development tools, techniques, and approaches used to build scalable and resilient solutions. See full details at: [microsoft.com/learning](https://microsoft.com/learning)

OpenShift for Developers Jul 31 2022 Keen to build cloud native applications? Get a rapid, hands-on introduction to OpenShift, the open source container application platform from Red Hat. With this updated edition, you'll learn how to build, deploy, and host a modern, multi-tiered application on OpenShift. OpenShift enables faster momentum for containers, centering on the Kubernetes container orchestrator to automate the way you build, ship, and run applications. Through the course of the book, you'll learn how to use OpenShift and the Quarkus Java Framework to develop and deploy applications using proven enterprise technologies. Learn about OpenShift's core technology, including containers and Kubernetes Use a virtual machine with OpenShift installed and configured on your local computer Deploy existing container images on OpenShift Create and deploy your first application on the OpenShift platform Add language runtime dependencies and connect to a database service managed by Kubernetes Operators Utilize fast iterative development with `odo`, the OpenShift CLI tool for developers Trigger an automatic rebuild and redeployment when you push changes to a repository Use commands to check and debug your application

Knative Cookbook Aug 20 2021 Enterprise developers face several challenges when it comes to building serverless applications, such as integrating applications and building container images from source. With more than 60 practical recipes, this cookbook helps you solve these issues with Knative—the first serverless platform natively designed for Kubernetes. Each recipe contains detailed examples and exercises, along with a discussion of how and why it works. If you have a good understanding of serverless computing and Kubernetes core resources such as deployment, services, routes, and replicas, the recipes in this cookbook show you how to apply Knative in real enterprise application development. Authors Kamesh Sampath and Burr Sutter include chapters on autoscaling, build and eventing, observability, Knative on OpenShift, and more. With this cookbook, you'll learn how to: Efficiently build, deploy, and manage modern serverless workloads Apply Knative in real enterprise scenarios, including advanced eventing Monitor your Knative serverless applications effectively Integrate Knative with CI/CD principles, such as using pipelines for faster, more successful production deployments Deploy a rich ecosystem of enterprise integration patterns and connectors in Apache Camel K as Kubernetes and Knative components

An Implementation of Red Hat OpenShift Network Isolation Using Multiple Ingress Controllers Dec 12 2020 Red Hat OpenShift is a great platform for developing, testing, and running applications. It handles multitenancy within Red Hat OpenShift Cluster by using users and namespaces, which allows it to run different production applications and workloads on the same Red Hat OpenShift Cluster. This IBM® Redpaper describes network isolation on a multitenant Red Hat OpenShift cluster.

OpenShift for Developers Jun 17 2021 Keen to build web applications for the cloud? Get a quick hands-on introduction to OpenShift, the open source Platform as a Service (PaaS) offering from Red Hat. With this practical guide, you'll learn the steps necessary to build, deploy, and host a complete real-world application on OpenShift without having to slog through long, detailed explanations of the

technologies involved. OpenShift enables you to use Docker application containers and the Kubernetes cluster manager to automate the way you create, ship, and run applications. Through the course of the book, you'll learn how to use OpenShift and the Wildfly application server to build and then immediately deploy a Java application online. Learn about OpenShift's core technology, including Docker-based containers and Kubernetes Use a virtual machine with OpenShift installed and configured on your local environment Create and deploy your first application on the OpenShift platform Add language runtime dependencies and connect to a database Trigger an automatic rebuild and redeployment when you push changes to the repository Get a working environment up in minutes with application templates Use commands to check and debug your application Create and build Docker-based images for your application

Kubernetes - A Complete DevOps Cookbook Jul 07 2020 Leverage Kubernetes and container architecture to successfully run production-ready workloads Key Features Implement Kubernetes to orchestrate and scale applications proficiently Leverage the latest features of Kubernetes to resolve common as well as complex problems in a cloud-native environment Gain hands-on experience in securing, monitoring, and troubleshooting your application Book Description Kubernetes is a popular open source orchestration platform for managing containers in a cluster environment. With this Kubernetes cookbook, you'll learn how to implement Kubernetes using a recipe-based approach. The book will prepare you to create highly available Kubernetes clusters on multiple clouds such as Amazon Web Services (AWS), Google Cloud Platform (GCP), Azure, Alibaba, and on-premises data centers. Starting with recipes for installing and configuring Kubernetes instances, you'll discover how to work with Kubernetes clients, services, and key metadata. You'll then learn how to build continuous integration/continuous delivery (CI/CD) pipelines for your applications, and understand various methods to manage containers. As you advance, you'll delve into Kubernetes' integration with Docker and Jenkins, and even perform a batch process and configure data volumes. You'll get to grips with methods for scaling, security, monitoring, logging, and troubleshooting. Additionally, this book will take you through the latest updates in Kubernetes, including volume snapshots, creating high availability clusters with kops, running workload operators, new inclusions around kubectl and more. By the end of this book, you'll have developed the skills required to implement Kubernetes in production and manage containers proficiently. What you will learn Deploy cloud-native applications on Kubernetes Automate testing in the DevOps workflow Discover and troubleshoot common storage issues Dynamically scale containerized services to manage fluctuating traffic needs Understand how to monitor your containerized DevOps environment Build DevSecOps into CI/CD pipelines Who this book is for This Kubernetes book is for developers, IT professionals, and DevOps engineers and teams who want to use Kubernetes to manage, scale, and orchestrate applications in their organization. Basic understanding of Kubernetes and containerization is necessary.

Red Hat Enterprise Linux 9 Administration Jun 25 2019 Develop the skills required to administer your RHEL environment on-premises and in the cloud while preparing for the RHCSA exam Purchase of the print or Kindle book includes a free eBook in PDF format Key Features Become a pro at system administration from installation to container management Secure and harden your Linux environment using SSH, SELinux, firewall, and system permissions Gain confidence to pass the RHCSA exam with the help of practice tests Book Description With Red Hat Enterprise Linux 9 becoming the standard for enterprise Linux used from data centers to the cloud, Linux administration skills are in high demand. With this book, you'll learn how to deploy, access, tweak, and improve enterprise services on any system on any cloud running Red Hat Enterprise Linux 9. Throughout the book, you'll get to grips with essential tasks such as configuring and maintaining systems, including software installation, updates, and core services. You'll also understand how to configure

the local storage using partitions and logical volumes, as well as assign and deduplicate storage. You'll learn how to deploy systems while also making them secure and reliable. This book provides a base for users who plan to become full-time Linux system administrators by presenting key command-line concepts and enterprise-level tools, along with essential tools for handling files, directories, command-line environments, and documentation for creating simple shell scripts or running commands. With the help of command line examples and practical tips, you'll learn by doing and save yourself a lot of time. By the end of the book, you'll have gained the confidence to manage the filesystem, users, storage, network connectivity, security, and software in RHEL 9 systems on any footprint. What you will learn

- Become well versed with the fundamentals of RHEL9—from system deployment to user management
- Secure a system by using SELinux policies and configuring firewall rules
- Understand LVM to manage volumes and maintain VDO deduplication
- Manage a system remotely using SSH and public key authentication
- Get the hang of the boot process and kernel tunable to adjust your systems
- Automate simple tasks using scripts or Ansible Playbooks

Who this book is for This book is for Red Hat Enterprise Linux system administrators and Linux system administrators. It's also a good resource for any IT professional who wants to learn system administration. RHCSA certification candidates will find this book useful in their preparation for the certification exam.

OpenShift for Developers      Nov 03 2022 Keen to build web applications for the cloud? Get a quick hands-on introduction to OpenShift, the open source Platform as a Service (PaaS) offering from Red Hat. With this practical guide, you'll learn the steps necessary to build, deploy, and host a complete real-world application on OpenShift without having to slog through long, detailed explanations of the technologies involved. OpenShift enables you to use Docker application containers and the Kubernetes cluster manager to automate the way you create, ship, and run applications. Through the course of the book, you'll learn how to use OpenShift and the Wildfly application server to build and then immediately deploy a Java application online. Learn about OpenShift's core technology, including Docker-based containers and Kubernetes

- Use a virtual machine with OpenShift installed and configured on your local environment
- Create and deploy your first application on the OpenShift platform
- Add language runtime dependencies and connect to a database
- Trigger an automatic rebuild and redeployment when you push changes to the repository
- Get a working environment up in minutes with application templates
- Use commands to check and debug your application
- Create and build Docker-based images for your application

Learn OpenShift      Sep 20 2021 Gain hands-on experience of installing OpenShift Origin 3.9 in a production configuration and managing applications using the platform you built

- Key Features
- Gain hands-on experience of working with Kubernetes and Docker
- Learn how to deploy and manage applications in OpenShift
- Get a practical approach to managing applications on a cloud-based platform
- Explore multi-site and HA architectures of OpenShift for production

Book Description Docker containers transform application delivery technologies to make them faster and more reproducible, and to reduce the amount of time wasted on configuration. Managing Docker containers in the multi-node or multi-datacenter environment is a big challenge, which is why container management platforms are required. OpenShift is a new generation of container management platforms built on top of both Docker and Kubernetes. It brings additional functionality to the table, something that is lacking in Kubernetes. This new functionality significantly helps software development teams to bring software development processes to a whole new level. In this book, we'll start by explaining the container architecture, Docker, and CRI-O overviews. Then, we'll look at container orchestration and Kubernetes. We'll cover OpenShift installation, and its basic and advanced components. Moving on, we'll deep dive into concepts such as deploying application OpenShift. You'll learn how to set

up an end-to-end delivery pipeline while working with applications in OpenShift as a developer or DevOps. Finally, you'll discover how to properly design OpenShift in production environments. This book gives you hands-on experience of designing, building, and operating OpenShift Origin 3.9, as well as building new applications or migrating existing applications to OpenShift. What you will learn Understand the core concepts behind containers and container orchestration tools Understand Docker, Kubernetes, and OpenShift, and their relation to CRI-O Install and work with Kubernetes and OpenShift Understand how to work with persistent storage in OpenShift Understand basic and advanced components of OpenShift, including security and networking Manage deployment strategies and application's migration in OpenShift Understand and design OpenShift high availability Who this book is for The book is for system administrators, DevOps engineers, solutions architects, or any stakeholder who wants to understand the concept and business value of OpenShift.

Deployment and Usage Guide for Running AI Workloads on Red Hat OpenShift and NVIDIA DGX Systems with IBM Spectrum Scale Nov 22 2021 This IBM® Redpaper publication describes the architecture, installation procedure, and results for running a typical training application that works on an automotive data set in an orchestrated and secured environment that provides horizontal scalability of GPU resources across physical node boundaries for deep neural network (DNN) workloads. This paper is mostly relevant for systems engineers, system administrators, or system architects that are responsible for data center infrastructure management and typical day-to-day operations such as system monitoring, operational control, asset management, and security audits. This paper also describes IBM Spectrum® LSF® as a workload manager and IBM Spectrum Discover as a metadata search engine to find the right data for an inference job and automate the data science workflow. With the help of this solution, the data location, which may be on different storage systems, and time of availability for the AI job can be fully abstracted, which provides valuable information for data scientists.

Operating OpenShift Nov 30 2019 While OpenShift provides several layers of abstraction over vanilla Kubernetes, it can rapidly become overwhelming through its rich feature set and functionality. This book is designed for Site Reliability Engineers, System Administrators, DevOps Engineers and Cloud Architects, to help them understand and manage OpenShift clusters from minimal deployment to large multi-cluster installations.

OpenShift in Action Jun 05 2020 Summary OpenShift in Action is a full reference to Red Hat OpenShift that breaks down this robust container platform so you can use it day-to-day. Combining Docker and Kubernetes, OpenShift is a powerful platform for cluster management, scaling, and upgrading your enterprise apps. It doesn't matter why you use OpenShift—by the end of this book you'll be able to handle every aspect of it, inside and out! Foreword by Jim Whitehurst, Red Hat. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Containers let you package everything into one neat place, and with Red Hat OpenShift you can build, deploy, and run those packages all in one place! Combining Docker and Kubernetes, OpenShift is a powerful platform for cluster management, scaling, and upgrading your enterprise apps. About the Book OpenShift in Action is a full reference to Red Hat OpenShift that breaks down this robust container platform so you can use it day-to-day. Starting with how to deploy and run your first application, you'll go deep into OpenShift. You'll discover crystal-clear explanations of namespaces, cgroups, and SELinux, learn to prepare a cluster, and even tackle advanced details like software-defined networks and security, with real-world examples you can take to your own work. It doesn't matter why you use OpenShift—by the end of this book you'll be able to handle every aspect of it, inside and out! What's Inside Written by lead OpenShift architects Rock-solid fundamentals of Docker and Kubernetes Keep mission-critical applications up and running Manage persistent storage About the Reader For DevOps engineers and

administrators working in a Linux-based distributed environment. About the Authors  
Jamie Duncan is a cloud solutions architect for Red Hat, focusing on large-scale  
OpenShift deployments. John Osborne is a principal OpenShift architect for Red Hat.  
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Security

Deploying to OpenShift May 29 2022 Get an in-depth tour of OpenShift, the container-  
based software deployment and management platform from Red Hat that provides a  
secure multi-tenant environment for the enterprise. This practical guide describes  
in detail how OpenShift, building on Kubernetes, enables you to automate the way you  
create, ship, and run applications in a containerized environment. Author Graham  
Dumpleton provides the knowledge you need to make the best use of the OpenShift  
container platform to deploy not only your cloud-native applications, but also more  
traditional stateful applications. Developers and administrators will learn how to  
run, access, and manage containers in OpenShift, including how to orchestrate them  
at scale. Build application container images from source and deploy them Implement  
and extend application image builders Use incremental and chained builds to  
accelerate build times Automate builds by using a webhook to link OpenShift to a Git  
repository Add configuration and secrets to the container as project resources Make  
an application visible outside the OpenShift cluster Manage persistent storage  
inside an OpenShift container Monitor application health and manage the application  
lifecycle This book is a perfect follow-up to OpenShift for Developers: A Guide for  
Impatient Beginners (O'Reilly).

Red Hat OpenShift Container Platform for IBM zCX Oct 02 2022 Application  
modernization is essential for continuous improvements to your business value.  
Modernizing your applications includes improvements to your software architecture,  
application infrastructure, development techniques, and business strategies. All of  
which allows you to gain increased business value from existing application code.  
IBM® z/OS® Container Extensions (IBM zCX) is a part of the IBM z/OS operating  
system. It makes it possible to run Linux on IBM Z® applications that are packaged  
as Docker container images on z/OS. Application developers can develop, and data  
centers can operate, popular open source packages, Linux applications, IBM software,  
and third-party software together with z/OS applications and data. This IBM  
Redbooks® publication presents the capabilities of IBM zCX along with several use  
cases that demonstrate Red Hat OpenShift Container Platform for IBM zCX and the  
application modernization benefits your business can realize.

Deploying to OpenShift Oct 22 2021 Get an in-depth tour of OpenShift, the container-  
based software deployment and management platform from Red Hat that provides a  
secure multi-tenant environment for the enterprise. This practical guide describes  
in detail how OpenShift, building on Kubernetes, enables you to automate the way you  
create, ship, and run applications in a containerized environment. Author Graham  
Dumpleton provides the knowledge you need to make the best use of the OpenShift  
container platform to deploy not only your cloud-native applications, but also more  
traditional stateful applications. Developers and administrators will learn how to  
run, access, and manage containers in OpenShift, including how to orchestrate them  
at scale. Build application container images from source and deploy them Implement  
and extend application image builders Use incremental and chained builds to  
accelerate build times Automate builds by using a webhook to link OpenShift to a Git  
repository Add configuration and secrets to the container as project resources Make  
an application visible outside the OpenShift cluster Manage persistent storage  
inside an OpenShift container Monitor application health and manage the application  
lifecycle This book is a perfect follow-up to OpenShift for Developers: A Guide for

Impatient Beginners (O'Reilly).

WildFly Cookbook Oct 29 2019 With the increasing demand for distributed systems for Java applications, WildFly offers a robust platform on which to deploy and manage your services. As a matter of fact, WildFly 9 is a fully certified Java EE 7 platform and provides remote management tools, such as the redesigned Admin Console and the new and powerful Command Line Interface (CLI). With practical and accessible material, you will begin by learning to set up your WildFly runtime environment, and progress to selecting appropriate operational models, managing subsystems, and conquering the CLI. You will then walk through the different balancing and clustering techniques, simultaneously learning about role-based access control and then developing applications targeting WildFly and Docker.

Operating OpenShift Nov 10 2020 Kubernetes has gained significant popularity over the past few years, with OpenShift as one of its most mature and prominent distributions. But while OpenShift provides several layers of abstraction over vanilla Kubernetes, this software can quickly become overwhelming because of its rich feature set and functionality. This practical book helps you understand and manage OpenShift clusters from minimal deployment to large multicluster installations. Principal site reliability engineers Rick Rackow and Manuel Dewald, who worked together on Red Hat's managed OpenShift offering for years, provide valuable advice to help your teams operate OpenShift clusters efficiently. Designed for SREs, system administrators, DevOps engineers, and cloud architects, Operating OpenShift encourages consistent and easy container orchestration and helps reduce the effort of deploying a Kubernetes platform. You'll learn why OpenShift has become highly attractive to enterprises large and small. Learn OpenShift core concepts and deployment strategies Explore multicluster OpenShift Container Platform deployments Administer OpenShift clusters following best practices Learn best practices for deploying workloads to OpenShift Monitor OpenShift clusters through state-of-the-art concepts

Storage Multi-tenancy for Red Hat OpenShift Container Platform with IBM Storage 31 2020 With IBM® Spectrum Virtualize and the Object-Based Access Control, you can implement multi-tenancy and secure storage usage in a Red Hat OpenShift environment. This IBM Redpaper® publication shows you how to secure the storage usage from the OpenShift user to the IBM Spectrum® Virtualize array. You see how to restrict storage usage in a Red Hat OpenShift Container Platform to avoid the over-consumption of storage by one or more user. These uses cases can be expanded to the use of this control to provide assistance with billing.

Jan

Playing with Java Microservices on Kubernetes and OpenShift Mar 15 2021 Playing with Java Microservices on Kubernetes and OpenShift will teach you how to build and design microservices using Java and the Spring platform. This book covers topics related to creating Java microservices and deploy them to Kubernetes and OpenShift. Traditionally, Java developers have been used to developing large, complex monolithic applications. The experience of developing and deploying monoliths has been always slow and painful. This book will help Java developers to quickly get started with the features and the concerns of the microservices architecture. It will introduce Docker, Kubernetes and OpenShift to help them deploying their microservices. The book is written for Java developers who wants to build microservices using the Spring Boot/Cloud stack and who wants to deploy them to Kubernetes and OpenShift. You will be guided on how to install the appropriate tools to work properly. For those who are new to Enterprise Development using Spring Boot, you will be introduced to its core principles and main features thru a deep step-by-step tutorial on many components. For experts, this book offers some recipes that illustrate how to split monoliths and implement microservices and deploy them as containers to Kubernetes and OpenShift. The following are some of the key challenges that we will address in this book: - Introducing Spring Boot/Cloud for beginners - Splitting a monolith using the Domain Driven Design approach - Implementing the

cloud & microservices patterns - Rethinking the deployment process - Introducing containerization, Docker, Kubernetes and OpenShift By the end of reading this book, you will have practical hands-on experience of building microservices using Spring Boot/Cloud and you will master deploying them as containers to Kubernetes and OpenShift.

Data Serving with FUJITSU Enterprise Postgres on IBM LinuxONE Apr 03 2020  
Enterprises require support and agility to work with big data repositories and relational databases. FUJITSU Enterprise Postgres is one of the leading relational database management systems (RDBMSs), and it is designed to work with large data sets. As more companies transform their infrastructures with hybrid cloud services, they require environments that protect the safety of their data and business rules. At IBM®, we believe that your data is yours and yours alone. The insights and advantages that come from your data are yours to use in the pursuit of your business objectives. IBM is dedicated to this mission, and the IBM LinuxONE platform is designed around this core statement. IBM LinuxONE is a secure and scalable data serving and computing platform that is made for today's critical workloads. IBM LinuxONE is an all-Linux enterprise platform for open innovation that combines the best of Linux and open technology with the best of enterprise computing in one system. Combining FUJITSU Enterprise Postgres, which is a robust Relational Database Management System (RDBMS) that provides strong query performance and high availability (HA), with IBM LinuxONE can transform your application and data portfolio by providing innovative data privacy, security, and cyber resiliency capabilities, which are all delivered with minimal downtime. This IBM Redbooks® publication describes data serving with FUJITSU Enterprise Postgres 12 that is deployed on IBM LinuxONE, which provides the scalability, business-critical availability, and security that your enterprise requires. This publication is useful to IT architects, system administrators, and others who are interested in understanding the significance of using FUJITSU Enterprise Postgres on IBM LinuxONE. This publication is written for those who are familiar with IBM LinuxONE and have some experience in the use of PostgreSQL.

Podman for DevOps Jul 19 2021 Build, deploy, and manage containers with the next-generation engine and tools Key Features Discover key differences between Docker and Podman Build brand new container images with Buildah, the Podman companion Learn how to manage and integrate containers securely in your existing infrastructure Book Description As containers have become the new de facto standard for packaging applications and their dependencies, understanding how to implement, build, and manage them is now an essential skill for developers, system administrators, and SRE/operations teams. Podman and its companion tools Buildah and Skopeo make a great toolset to boost the development, execution, and management of containerized applications. Starting with the basic concepts of containerization and its underlying technology, this book will help you get your first container up and running with Podman. You'll explore the complete toolkit and go over the development of new containers, their lifecycle management, troubleshooting, and security aspects. Together with Podman, the book illustrates Buildah and Skopeo to complete the tools ecosystem and cover the complete workflow for building, releasing, and managing optimized container images. Podman for DevOps provides a comprehensive view of the full-stack container technology and its relationship with the operating system foundations, along with crucial topics such as networking, monitoring, and integration with systemd, docker-compose, and Kubernetes. By the end of this DevOps book, you'll have developed the skills needed to build and package your applications inside containers as well as to deploy, manage, and integrate them with system services. What you will learn Understand Podman's daemonless approach as a container engine Run, manage, and secure containers with Podman Discover the strategies, concepts, and command-line options for using Buildah to build containers from scratch Manage OCI images with Skopeo Troubleshoot runtime, build, and isolation

issuesIntegrate Podman containers with existing networking and system servicesWho this book is for The book is for cloud developers looking to learn how to build and package applications inside containers and system administrators who want to deploy, manage, and integrate them with system services and orchestration solutions. This book provides a detailed comparison between Docker and Podman to aid you in learning Podman quickly.

OpenShift Security Guide Dec 24 2021

DevOps Culture and Practice with OpenShift Sep 08 2020 A practical guide to making the best use of the OpenShift container platform based on the real-life experiences, practices, and culture within Red Hat Open Innovation Labs Key FeaturesLearn how modern software companies deliver business outcomes that matter by focusing on DevOps culture and practicesAdapt Open Innovation Labs culture and foundational practices from the Open Practice LibraryImplement a metrics-driven approach to application, platform, and product, understanding what to measure and how to learn and pivotBook Description DevOps Culture and Practice with OpenShift features many different real-world practices - some people-related, some process-related, some technology-related - to facilitate successful DevOps, and in turn OpenShift, adoption within your organization. It introduces many DevOps concepts and tools to connect culture and practice through a continuous loop of discovery, pivots, and delivery underpinned by a foundation of collaboration and software engineering. Containers and container-centric application lifecycle management are now an industry standard, and OpenShift has a leading position in a flourishing market of enterprise Kubernetes-based product offerings. DevOps Culture and Practice with OpenShift provides a roadmap for building empowered product teams within your organization. This guide brings together lean, agile, design thinking, DevOps, culture, facilitation, and hands-on technical enablement all in one book. Through a combination of real-world stories, a practical case study, facilitation guides, and technical implementation details, DevOps Culture and Practice with OpenShift provides tools and techniques to build a DevOps culture within your organization on Red Hat's OpenShift Container Platform. What you will learnImplement successful DevOps practices and in turn OpenShift within your organizationDeal with segregation of duties in a continuous delivery worldUnderstand automation and its significance through an application-centric viewManage continuous deployment strategies, such as A/B, rolling, canary, and blue-greenLeverage OpenShift's Jenkins capability to execute continuous integration pipelinesManage and separate configuration from static runtime softwareMaster communication and collaboration enabling delivery of superior software products at scale through continuous discovery and continuous deliveryWho this book is for This book is for anyone with an interest in DevOps practices with OpenShift or other Kubernetes platforms. This DevOps book gives software architects, developers, and infra-ops engineers a practical understanding of OpenShift, how to use it efficiently for the effective deployment of application architectures, and how to collaborate with users and stakeholders to deliver business-impacting outcomes.

T Bytes Agile & AI Operations Mar 03 2020 This document brings together a set of latest data points and publicly available information relevant for Agile & AI Operations Industry. We are very excited to share this content and believe that readers will benefit from this periodic publication immensely.

Installation and Configuration of IBM Watson Analytics and StoredIQ Jul 27 2019 Guidance for successful installation of a wide range of IBM software products KEY FEATURES ? Complete installation guide of IBM software systems, Redhat Enterprise, IBM Cloud, and Docker. ? Expert-led demonstration on complete configuration and implementation of IBM software solutions. ? Includes best practices and efficient techniques adopted by banks, financial services, and insurance companies. DESCRIPTION This book provides instructions for installation, configuration and troubleshooting sections to improve the IT support productivity and fast resolution

of issues that arise. It covers readers' references that are available online and also step-by-step procedures required for a successful installation of a broad range of IBM Data Analytics products. This book provides a holistic in-depth knowledge for students, software architects, installation specialists, and developers of Data Analysis software and a handbook for data analysts who want a single source of information on IBM Data Analysis Software products. This book provides a single resource that covers the latest available IBM Data Analysis software on the most recent RedHat Linux and IBM Cloud platforms. This book includes comprehensive technical guidance, enabling IT professionals to gain an in-depth knowledge of the installation of a broad range of IBM Software products across different operating systems. WHAT YOU WILL LEARN ? Step-by-step installation and configuration of IBM Watson Analytics. ? Managing RedHat Enterprise Systems and IBM Cloud Platforms. ? Installing, configuring, and managing IBM StoredIQ. ? Best practices to administer and maintain IBM software packages. ? Upgrading VMware stations and installing Docker. WHO THIS BOOK IS FOR This book is a go-to guide for IT professionals who are primarily Solution Architects, Implementation Experts, or Technology Consultants of IBM Software suites. This will also be a useful guide for IT managers who are looking to adopt and enable their enterprise with IBM products. TABLE OF CONTENTS 1. Getting Started with IBM Resources for Analytics 2. IBM Component Software Compatibility Matrix 3. IBM Download Procedures 4. On-Premise Server Configurations and Prerequisites 5. IBM Fix Packs 6. IBM Cloud PAK Systems 7. RedHat OpenShift 4.x Installations 8. IBM Cloud Private System 9. Base VMWare System Platform 10. IBM Cloud Private Cluster on CentOS 8.0 11. UIMA Pipeline and Java Code Extensions 12. IBM Watson Explorer Foundational Components V12 13. IBM Watson Explorer oneWEX 12.0.3 14. IBM StoredIQ for Legal APPENDIX References and End of Life Support

Getting Started with OpenShift Feb 23 2022 Intrigued by the possibilities of developing web applications in the cloud? With this concise book, you get a quick hands-on introduction to OpenShift, the open source Platform as a Service (PaaS) offering from Red Hat. You'll learn the steps necessary to build, deploy, and host a complete real-world application on OpenShift, without having to read long, detailed explanations of the technologies involved. Though the book uses Python, application examples in other languages are available on GitHub. If you can build web applications, use a command line, and program in Java, Python, Ruby, Node.js, PHP, or Perl, you're ready to get started. Dive in and create your first example application with OpenShift Modify the example with your own code and hot-deploy the changes Add components such as a database, task scheduling, and monitoring Use external libraries and dependencies in your application Delve into networking, persistent storage, and backup options Explore ways to adapt your team processes to use OpenShift Learn OpenShift terms, technologies, and commands Get a list of resources to learn more about OpenShift and PaaS

OpenShift Multi-Cluster Management Handbook Feb 11 2021 Discover best practices for designing and scaling robust OpenShift clusters' architecture for different workloads Manage multiple clusters on-premise or in the cloud using multi-cluster management tools to keep them secure and compliant Implement multi-cluster CI/CD on OpenShift using GitOps Key Features Discover best practices to design robust OpenShift architecture and scale them to different workloads Understand the minimal collection of topics you should consider in your container security strategy Implement multi-cluster CI/CD on OpenShift using GitOps Book Description For IT professionals working with Red Hat OpenShift Container Platform, the key to maximizing efficiency is understanding the powerful and resilient options to maintain the software development platform with minimal effort. OpenShift Multi-Cluster Management Handbook is a deep dive into the technology, containing knowledge essential for anyone who wants to work with OpenShift. This book starts by covering the architectural concepts and definitions necessary for deploying OpenShift clusters. It then takes you through designing Red Hat OpenShift for hybrid and multi-

cloud infrastructure, showing you different approaches for multiple environments (from on-premises to cloud providers). As you advance, you'll learn container security strategies to protect pipelines, data, and infrastructure on each layer. You'll also discover tips for critical decision making once you understand the importance of designing a comprehensive project considering all aspects of an architecture that will allow the solution to scale as your application requires. By the end of this OpenShift book, you'll know how to design a comprehensive Red Hat OpenShift cluster architecture, deploy it, and effectively manage your enterprise-grade clusters and other critical components using tools in OpenShift Plus. What you will learn

- Understand the important aspects of OpenShift cluster architecture
- Design your infrastructure to run across hybrid clouds
- Define the best strategy for multitenancy on OpenShift
- Discover efficient troubleshooting strategies with OpenShift
- Build and deploy your applications using OpenShift Pipelines (Tekton)
- Work with ArgoCD to deploy your applications using GitOps practices
- Monitor your clusters' security using Red Hat Advanced Cluster Security

Who this book is for This book is for a wide range of IT professionals using or looking to use OpenShift with a hybrid/multi-cloud approach. In this book, IT architects will find practical guidance on OpenShift clusters' architecture, while Sysadmins, SREs, and IT operators will learn more about OpenShift deployment, troubleshooting, networking, security, and tools to manage multiple clusters from a single pane. For DevOps engineers, this book covers CI/CD strategies for multiple clusters using GitOps. Equipped with just basic knowledge of containerization and Kubernetes, you're ready to get started.

Cloud-native Computing — Aug 27 2019 Explore the cloud-native paradigm for event-driven and service-oriented applications In *Cloud-Native Computing: How to Design, Develop, and Secure Microservices and Event-Driven Applications*, a team of distinguished professionals delivers a comprehensive and insightful treatment of cloud-native computing technologies and tools. With a particular emphasis on the Kubernetes platform, as well as service mesh and API gateway solutions, the book demonstrates the need for reliability assurance in any distributed environment. The authors explain the application engineering and legacy modernization aspects of the technology at length, along with agile programming models. Descriptions of MSA and EDA as tools for accelerating software design and development accompany discussions of how cloud DevOps tools empower continuous integration, delivery, and deployment. *Cloud-Native Computing* also introduces proven edge devices and clouds used to construct microservices-centric and real-time edge applications. Finally, readers will benefit from:

- Thorough introductions to the demystification of digital transformation
- Comprehensive explorations of distributed computing in the digital era, as well as reflections on the history and technological development of cloud computing
- Practical discussions of cloud-native computing and microservices architecture, as well as event-driven architecture and serverless computing
- In-depth examinations of the Akka framework as a tool for concurrent and distributed applications development

Perfect for graduate and postgraduate students in a variety of IT- and cloud-related specialties, *Cloud-Native Computing* also belongs in the libraries of IT professionals and business leaders engaged or interested in the application of cloud technologies to various business operations.