



DO380 – Red Hat OpenShift Administration III: Scaling Deployments in the Enterprise

Red Hat

- **Nível:** Avançado
 - **Duração:** 30h
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Sobre o curso

Plan, implement, and manage OpenShift clusters at scale

Red Hat OpenShift Administration III: Scaling Kubernetes Deployments in the Enterprise (DO380) expands upon the skills required to plan, implement, and manage OpenShift® clusters in the enterprise. You will learn how to support a growing number of stakeholders, applications, and users to achieve large-scale deployments.

This course is based on Red Hat® OpenShift Container Platform 4.5.

LEARN HOW TO:

- Manage OpenShift cluster operators and add operators.
- Automate OpenShift management tasks using Ansible® playbooks.
- Create and schedule cluster administration jobs.
- Implement GitOps workflows using Jenkins.
- Integrate OpenShift with enterprise authentication.
- Query and visualize cluster-wide logs, metrics, and alerts.
- Manage both shared, file-based storage and non-shared, block-based storage.
- Manage machine pools and machine configurations.

SKILLS ASSESSMENT:

Utilize o [diagnóstico de competências](#) para descobrir quais as oportunidades de formação que mais se adequam a si, ou à sua equipa.

Destinatários

- Cluster engineers (systems administrators, cloud administrators, or cloud engineers) focused on planning, designing, and implementing production-grade OpenShift clusters. Cluster engineers require automation skills to scale their manpower to provision and manage an increasing population of clusters, applications, and users, at the same time ensuring these clusters remain in compliance with corporate standards.
 - Site reliability engineers (SREs) focused on keeping OpenShift clusters and applications running without disruption. SREs are interested in troubleshooting infrastructure and application issues with OpenShift clusters and require automation skills to reduce the time to identify, diagnose, and remediate issues.
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Objetivos

Impact on the organization

This course supports IT operations teams that are in the prepare and expand stages of their Container Adoption Journey. The curriculum enables companies to innovate faster, scale based on customer demand, and proactively manage a growing number of OpenShift clusters that host cloud-native and cloud-compatible applications.

Impact on the individual

This course builds upon the essential skills required to configure and manage an OpenShift 4.x cluster, teaching the enhanced skills needed to operate production environments at scale, including:

- Automating Day 2 tasks to establish production clusters with higher performance and availability.
 - Integrating OpenShift with enterprise authentication, storage, CI/CD, and GitOps systems to improve productivity of IT operations and compliance with organization's standards.
 - Troubleshooting techniques to identify issues with cluster operators and compute capacity.
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Pré-requisitos

- Complete Red Hat OpenShift Administration II: Operating a Production Kubernetes Cluster(DO280) and become a Red Hat Certified Specialist in OpenShift Administration.
- Complete Red Hat System Administration II (RH134) and become a Red Hat Certified System Administrator.
- Recommended, but not required: become a Red Hat Certified Systems Engineer or a Red Hat Certified Specialist in Ansible Automation.

- Basic knowledge about writing and running Ansible playbooks is required.
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Programa

- Move from Kubernetes to OpenShift
- Introduce automation on OpenShift
- Manage operators with OpenShift
- Implement GitOps with Jenkins
- Configure enterprise authentication
- Configure trusted TLS certificates
- Configure dedicated node pools
- Configure persistent storage
- Manage cluster monitoring and metrics
- Provision and inspect cluster logging
- Recover failed worker nodes

Move from Kubernetes to OpenShift

- Demonstrate that OpenShift is Kubernetes by deploying Kubernetes-native applications on OpenShift.

Introduce automation on OpenShift

- Automate OpenShift administration tasks using bash scripts and Ansible playbooks.

Manage operators with OpenShift

- Deploy Kubernetes Operators and configure OpenShift cluster operators.

Implement GitOps with Jenkins

- Implement a GitOps workflow using containerized Jenkins to administer an OpenShift cluster.

Configure enterprise authentication

- Integrate OpenShift with enterprise identity providers.

Configure trusted TLS certificates

- Configure OpenShift with trusted TLS certificates for external access to cluster services and applications.

Configure dedicated node pools

- Add nodes to an OpenShift cluster with custom configurations tuned for special workloads.

Configure persistent storage

- Configure storage providers and storage classes to ensure cluster user access to persistent storage.

Manage cluster monitoring and metrics

- Configure and manage the OpenShift monitoring stack.

Provision and inspect cluster logging

- Deploy, query, and troubleshoot cluster-wide logging.

Recover failed worker nodes

- Inspect, troubleshoot, and remediate worker nodes in a variety of failure scenarios.