Innovate more with Red Hat OpenShift

Plan your migration to Red Hat OpenShift 4 with expert resources, tools, and services

Migrate to Red Hat OpenShift 4

Red Hat OpenShift is for innovation without limitation. Migrate from Red Hat OpenShift 3 to Red Hat OpenShift 4 to gain benefits across your organization:

- Save time through automation.

- Take advantage of the latest features and capabilities.

- Access developer-focused tools, capabilities, and integrations.

- Deploy anywhere from your datacenter to the cloud and out to the edge.

- Simplify platform upgrades.

Access the latest Kubernetes features and capabilities

Red Hat® OpenShift® is a core part of your IT environment and supports your critical business applications and operations. Even so, Kubernetes technology continues to advance rapidly and many new innovations have been developed and released over the last several years.

Red Hat OpenShift 3 was the right platform for your organization when you purchased it, but it is now in the maintenance support phase. As a result, Red Hat OpenShift 3 will receive only critical bug fixes and security patches for qualified critical and important common vulnerabilities and exposures (CVEs). No new software certifications or enhancements will be added during this time. And once the maintenance support phase ends, no additional security patches or bug fixes will be delivered, potentially leaving your environment vulnerable.

You may also be spending extra time and resources on tasks and workarounds to support current business needs. Manual cluster management slows development cycles and reduces focus on higher-value tasks. Support for fewer languages, frameworks, and databases may limit developers. Lack of native support for the latest technologies may require significant rework to use new capabilities.

Migrating to Red Hat OpenShift 4 can alleviate these challenges to support your organization's current needs while providing an adaptable platform for the future.

Red Hat OpenShift 4 delivers more innovation

Red Hat OpenShift 4 is for innovation without limitation. Bring big ideas to life with a security-focused hybrid cloud platform open to any application, team, or infrastructure. Empower teams to develop fast with total freedom, so you can rapidly deliver business value.

- **Increase IT efficiency.** The built-in operator framework saves time by automating tasks like cluster provisioning and management.

- **Adopt new technologies.** Red Hat OpenShift 4 provides access to new technologies and capabilities like machine learning, edge support, and serverless computing.

- **Boost developer productivity.** Red Hat OpenShift 4 gives developers self-service provisioning and workflow automation and supports their preferred languages, frameworks, and databases.

- **Deploy anywhere.** Red Hat OpenShift 4 provides identical container platform features, capabilities, and support service level agreements whether on your own infrastructure or a cloud provider.

- **Streamline upgrades.** Platform upgrades do not require containers to be shut down or workloads migrated to a different cluster during the upgrade process. The Red Hat OpenShift Update Service provides cluster-specific version recommendations for safe, reliable updates.

- **Gain operational insight.** Red Hat Insights for OpenShift—included in Red Hat OpenShift Cluster Manager—helps you proactively identify, prioritize, and resolve risks before they impact users.

- **Simplify software purchases.** Red Hat Marketplace allows you to quickly try, purchase, and deploy certified software on Red Hat OpenShift 4, across infrastructures.

Scale your environment with confidence

Red Hat OpenShift Plus includes everything you need to operate at scale across multiple clusters: advanced security features, day 2 management capabilities, and a global container registry.

Learn more about Red Hat OpenShift Plus.

Considerations for migrating

Migrating from one platform to another takes careful planning. Red Hat OpenShift 4 uses new approaches for deploying and managing clusters. When planning your migration from Red Hat OpenShift 3 to 4, it's important to understand several key differences.

▸ **Immutable infrastructure.** Red Hat OpenShift 4 uses Red Hat Enterprise Linux® CoreOS—an immutable container host—to run containerized applications and provide efficient installation, operator-based management, and simplified upgrades.

▸ **Red Hat OpenShift operators.** New in Red Hat OpenShift 4, operators are a method of packaging, deploying, and managing a Kubernetes application. Operators monitor your cluster for predefined trigger events and can automatically react when these events occur.

▸ **Installation process.** Red Hat OpenShift 4 simplifies cluster creation using an installation program. You can use the program to provision infrastructure and deploy a cluster on that infrastructure, or to deploy a cluster on infrastructure that you have already provisioned. Once the cluster is running, you can use operators to configure your cluster and install new services.

▸ **Upgrades.** In Red Hat OpenShift 4, clusters manage their own updates, including updates to the container host on cluster nodes. You can easily upgrade your cluster using the web console or command-line interface (CLI). Operators automatically upgrade themselves.

Review how these changes will affect your infrastructure, applications, and operations during and after migration. Be sure to consider your storage, networking, encryption, logging, security, and monitoring configurations. Read the Planning your migration section of the Red Hat OpenShift documentation to learn more about the migration concerns for each of these areas.

Plan your migration journey

Most organizations follow a similar migration journey. The following section provides an overview of the key migration steps shown in Figure 1.
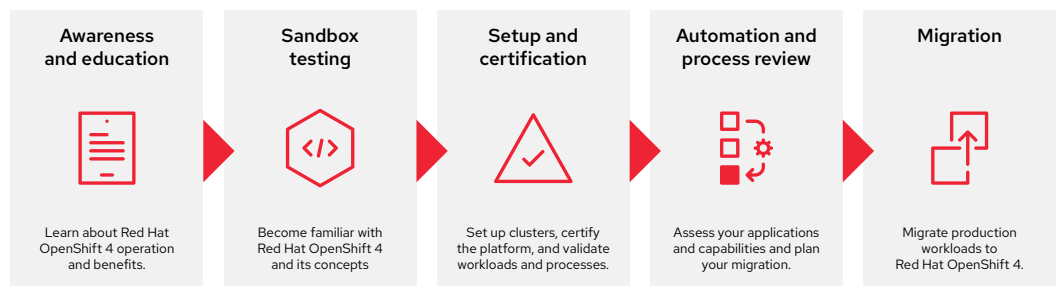
Awareness and education	Sandbox testing	Setup and certification	Automation and process review	Migration
Learn about Red Hat OpenShift 4 operation and benefits.	Become familiar with Red Hat OpenShift 4 and its concepts	Set up clusters, certify the platform, and validate workloads and processes.	Assess your applications and capabilities and plan your migration.	Migrate production workloads to Red Hat OpenShift 4.

Figure 1. Overview of the Red Hat OpenShift 3 to 4 migration journey

Take advantage of managed services

Red Hat works with key cloud provider partners to deliver Red Hat OpenShift managed services that simplify deployment and operations. These services can also provide a bridge between Red Hat OpenShift 3 and 4.

Available offerings include:

- Red Hat OpenShift Dedicated

- Red Hat OpenShift Service on AWS

- Microsoft Azure Red Hat OpenShift

- Red Hat OpenShift on IBM Cloud

Learn more about the benefits of managed services.

Step 1: Awareness and education

Learn about Red Hat OpenShift 4 and understand the benefits for your organization.

▶ Read documentation, watch demonstrations, and attend training courses.

▶ Speak to peers in your industry about best practices.

▶ Discover and assess new and related offerings, including managed services.

Step 2: Sandbox testing

Become familiar with Red Hat OpenShift 4 and its concepts using sandbox and test environments.

▶ Get started with a free trial, interactive learning scenario, or sandbox environment.

▶ Install Red Hat OpenShift 4 in your lab to identify potential issues and settings for configuration.

▶ Map your day 2 operations—including monitoring, backups, recovery, capacity management, and performance tuning—to Red Hat OpenShift 4 capabilities.

Step 3: Setup and certification

Set up Red Hat OpenShift 4 clusters, certify the platform, and validate your workloads and processes.

▶ Certify Red Hat OpenShift 4 according to your organization's processes.

▶ Validate your applications, workloads, and processes with Red Hat OpenShift 4.

▶ Document day 2 operations, security approaches, and other important information and transfer this knowledge to your operations teams.

▶ Perform formal regulatory compliance testing and reporting as needed.

Step 4: Automation and process review

Assess your applications and capabilities and plan your migration.

▶ Evaluate your application architecture—including namespaced and non-namespaced resources, network configurations external to your clusters, storage for stateful applications, and network traffic redirection options—and your organization's tolerance for downtime.

▶ Plan how each application will be migrated. Ideally, you should redeploy applications to your new environment using a continuous integration/continuous deployment (CI/CD) pipeline and subsequently copying any persistent volume data. If automated pipeline deployment is not an option, you can use the Migration Toolkit for Containers (MTC) to move applications between clusters.

▶ Set goals and target dates for moving applications.

Step 5: Migration

Migrate production workloads from Red Hat OpenShift 3 to Red Hat OpenShift 4.

▶ Schedule application migrations or ask application owners to migrate their applications according to your target dates.

▶ Migrate all applications and workloads according to your plans.

![Red Hat logo]

Gain benefits from automation

Migrating applications using CI/CD pipelines and application life-cycle management methodologies is ideal. These automated processes deliver ongoing efficiency, speed, and reliability benefits for your organization. Consider setting up pipelines and automation for your appropriate applications to assist in your migration and gain ongoing benefits.

Migrate more easily with help from the experts

No matter where you are in your journey, Red Hat provides resources, training, tools, and services to help you migrate faster and more easily.

Resources

▸ Red Hat OpenShift on the Red Hat Customer Portal. The Red Hat Customer Portal provides access to product documentation, troubleshooting tools, knowledgebase and solution articles, discussions, and technical support.

Training

▸ Red Hat OpenShift training courses. Red Hat provides hands-on training and practical certification paths to fit your business goals.

▸ Red Hat OpenShift Migration Lab (DO326) training course. This course provides practical working experience for professionals migrating workloads from Red Hat OpenShift 3 to 4.

Tools

▸ Migration Toolkit for Containers (MTC). MTC migrates stateful and stateless applications from a Red Hat OpenShift 3 source cluster to a Red Hat OpenShift 4 destination cluster. It also can migrate applications between Red Hat OpenShift 4 clusters.

Services

▸ Red Hat Technical Account Management Service. This service provides highly technical product specialists who proactively work with your organization to achieve your business outcomes using Red Hat solutions. Red Hat Technical Account Managers (TAMs) specializing in Red Hat OpenShift have cloud experience and knowledge of Red Hat OpenShift and Red Hat Platform-as-a-Service (PaaS)-based tool sets.

▸ Red Hat Openshift 3 to 4 migration services. Red Hat Services can help you build a pipeline to deploy workloads on Red Hat OpenShift 4. During this 8-12 week engagement, Red Hat experts validate your workloads, help your team set up production clusters, and confirm operation of your new environment.

Customer highlight: Sopra Steria

Sopra Steria needed to reduce complexity and costs, improve security, and increase developer adoption. The company migrated 174 applications from Red Hat OpenShift 3 to 4 to improve operations, provide automated security updates, and deliver new capabilities to developers.

Shifted focus from operations to user needs

Increased security capabilities

Gained access to recent Kubernetes features

Watch the webinar to learn more about Sopra Steria's experience.

"Adding a node on the cluster before used to take half a day. Now it's just a matter of clicking on a button, so it's about 4 minutes."

MICHAEL COURCY
DEVOPS ARCHITECT,
SOPRA STERIA

> "*Before, it could take hours or weeks to set up infrastructure and install the software. With Red Hat OpenShift [4], 30 seconds later I have a fully built server and an application container, with the right versions in the right configuration every time.*"

ANNA BRODIE
HEAD OF TECHNOLOGY
AND PRODUCTS,
EDUCATION PAYROLL LIMITED

Customer highlight: Education Payroll Limited

Education Payroll Limited created a digital payroll application, called EdPay, to replace complex, time-consuming manual processing for 14,000 payroll submissions every two weeks. The company originally deployed Red Hat OpenShift 3 but migrated to Red Hat OpenShift 4 to take advantage of enhanced operational capabilities.

Increased user satisfaction by 30% in quarterly surveys

Saved weeks of work with faster application life cycles

Improved collaboration with DevOps approaches

Read the case study to learn more about Education Payroll Limited's experience.

Learn more

Migrating to Red Hat OpenShift 4 can help your organization innovate and operate more efficiently and effectively. Red Hat provides expert resources, tools, and services to help you migrate more quickly and easily. Start planning your migration journey today:

▸ Contact your account manager.

▸ Take the migration readiness assessment.

▸ Get technical support.

About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers develop cloud-native applications, integrate existing and new IT applications, and automate and manage complex environments. A trusted adviser to the Fortune 500, Red Hat provides award-winning support, training, and consulting services that bring the benefits of open innovation to any industry. Red Hat is a connective hub in a global network of enterprises, partners, and communities, helping organizations grow, transform, and prepare for the digital future.

f facebook.com/redhatinc
🐦 @RedHat
in linkedin.com/company/red-hat

North America
1 888 REDHAT1
www.redhat.com

Europe, Middle East, and Africa
00800 7334 2835
europe@redhat.com

Asia Pacific
+65 6490 4200
apac@redhat.com

Latin America
+54 11 4329 7300
info-latam@redhat.com

redhat.com
F29637_0721_KVM