Red Hat Quay

A cloud-native, security-enhanced private enterprise registry platform

Key Benefits

▸ A central registry for all your container images and cloud-native artifacts

▸ Scalable geo-replication architecture to serve thousands of clusters and host millions of images

▸ Continuous, always–on vulnerability scanning in the background

▸ Granular access and permission management with full audit trail

Introduction

Container registries are the backbone of any modern container platform. Container runtimes and orchestration systems do not have long-term storage and image distribution capabilities, therefore container platforms rely on a registry as a critical part of the initial deployment before a container can run. Beyond the initial deployment, the life cycle of running containerized workloads on modern platforms requires a reliable and highly fault-tolerant registry.

Many events in a Red Hat® OpenShift® cluster, or other Kubernetes environment, involve the registry. For example, rolling out configuration changes, reacting to scaling events, handling node maintenance or downtime, or rolling out updates all require interaction with the registry. Even minutes of downtime of a registry can disrupt developers and production applications.

In a multicluster environment spanning multiple sites and cloud services, a resilient central registry is even more important. Red Hat Quay provides a purpose–built, central, scalable registry platform with a proven track record using the same code base as the public Quay.io service that delivers millions of images daily.

Product overview

Red Hat Quay is a security-focused and scalable private registry platform for managing content across global datacenter and cloud environments, focusing on cloud-native and DevSecOps development models and environments. It provides a single, resilient, and distributed content repository for delivering containerized software to development and production across Red Hat OpenShift® and other Kubernetes clusters.

Red Hat Quay analyzes container images for security vulnerabilities, identifying potential issues that can help you mitigate security risks even before running an image. It delivers the foundation for a multicluster deployment with a highly available, scale-out architecture that can span geographically-distributed deployments to increase performance and resiliency. Red Hat Quay offers granular access control to stored content and allows members of teams to collaborate on shared content.

Features and benefits

Capability	Description
Store containers with added security	Red Hat Quay stores your applications privately, with powerful access and authentication settings you can control.
Granular access control	Apply fine-grained access rules to either isolate different user groups or effectively enable collaboration on shared content.
Efficiently builds and deploys new containers	Red Hat Quay automates your container builds integrating with GitHub, Bitbucket, and more. Robot accounts allow for automatic software deployments without giving user credentials away.

Capability	Description
Scans containers to provide added security	Red Hat Quay indexes package content in your container images and continuously scans vulnerabilities, giving you visibility into known issues and how to fix them before you execute a container.
Continuous scanning for most current vulnerability reports	Scanning image content in Red Hat Quay is completely automated. The embedded scanner is automatically indexing newly pushed images and is providing reports on matched CVEs in real time due to constant updates of the vulnerability databases in the background, even in offline environments.
Scalability	Start small and scale with your demands using Red Hat Quay's horizontal scale-out architecture and proven track record as a central registry service at the massive scale of Quay.io.
Geo-replication	Run a geographically distributed, federated Red Hat Quay deployment with a single entry point for clients to boost image pull performance and transparent replication of content.
Quota management	For multiple clusters from different departments or businesses, registry-wide default and custom quotas allow you to manage storage growth.
Container image builds	Simplify continuous integration (CI) pipelines by letting Red Hat Quay build container images in the registry with source code management integration.
Protect against accidental deletion	A time machine setting in Red Hat Quay allows tracking of image tag overwrites and deletions and can revert those if they unintentionally remove content.
Image cache for external registries	Use Red Hat Quay to provide a transparent cache of images stored in other container registries to increase performance and avoid pull rate limiting.
Runs natively on Red Hat OpenShift	Automate the deployment, update, and full life cycle of Red Hat Quay on Red Hat OpenShift using the Red Hat Quay operator, and use Red Hat OpenShift Monitoring for observability of your registry.
Integrates with Red Hat OpenShift	Red Hat Quay can integrate with Red Hat OpenShift's source-to-image build and image stream features for automated deployments and integrated credential management.
Enterprise authentication	Integrate into existing authentication providers with Lightweight Directory Access Protocol (LDAP) or OpenID Connect (OIDC).

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Quay

Capability	Description
Security auditing	Log and audit every security-relevant event in the system in long-term log storage.
Support for hybrid cloud and offline environments	Run Red Hat Quay wherever Red Hat OpenShift and Red Hat Enterprise Linux® are supported including fully disconnected environments.
Third-party database and storage support	Select from a range of supported object storage services and third-party database systems.

Red Hat Quay is included with the Red Hat OpenShift Platform Plus subscription or is available as a standalone subscription.

Technical specifications

Supported platforms

‣ Red Hat Enterprise Linux 7, Red Hat Enterprise Linux 8, and Red Hat Enterprise Linux 9

‣ Red Hat OpenShift Container Platform 4

‣ See more information on supported integrations

Subscription entitlements

‣ One Red Hat Quay subscription is required per Red Hat Quay deployment.

‣ One Red Hat Quay deployment is characterized by one or more instances of the Red Hat Quay software running in one or more containers accessing the same object storage backend.

‣ In instances where Red Hat Quay is part of a Red Hat OpenShift Platform Plus subscription, the entitlement includes unlimited Quay deployments. For more information, visit OpenShift Sizing and Subscription offerings guide.

Learn more about Red Hat Quay

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.

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