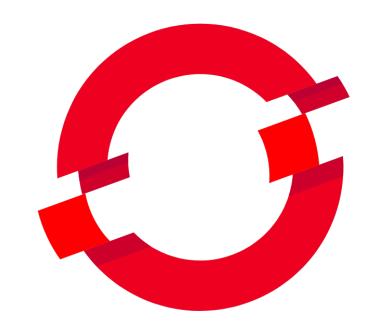
OpenShift Overview

Red Hat OpenShift is an enterprise-ready Kubernetes container platform

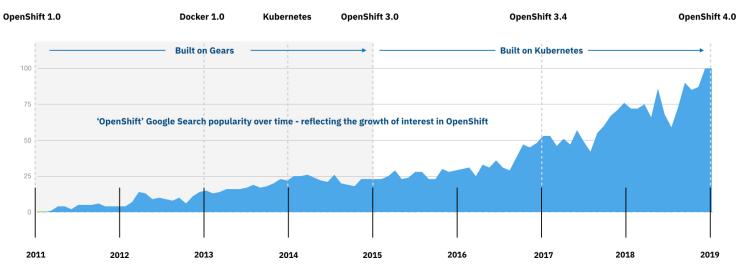
OpenShift key points

- OpenShift is Red Hat's Kubernetes platform
- Runs on RHEL (Red Hat Enterprise Linux)
- Provides built-in security for container-based applications
 - Role-based access controls
 - Security-Enhanced Linux (SELinux)-enabled isolation
- Supports a hybrid cloud architecture
 - OpenShift runs on Amazon Web Services, Azure, Google Cloud Platform, VMware, and more
- Current latest release: v4.1
- IBM Cloud uses v3.11
- v3 uses Docker, v4 uses CRIO



OPENSHIFT

OpenShift history: v1 - v4



Linux, building on Red Hat's heritage and deep expertise in Linux and the reliability of Red Hat Enterprise Linux which served as the foundation for OpenShift 3 RedHat and Docker announced a collaboration around

Fedora RedHat Enterprise Linux and OpenShift

IBM begin contributing code to the Docker Open Source Project

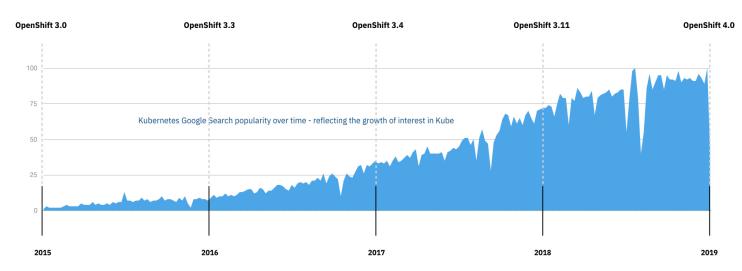
Kubernetes (κυβερνήτης, Greek for "governor", "helmsman" or "captain")[3] was founded by Joe Beda, Brendan Burns and Craig McLuckie,[6] who were quickly joined by other Google engineers including Brian Grant and Tim Hockin, and was first announced by Google in mid-2014.[7] Its development and design are heavily influenced by Google's Borg system.

IBM contributing code to the Kubernetes Open Source Project

Kubernetes for the Enterprise

includes Kubernetes core services, along with Prometheus, Grafana, Elasticsearch, software defined networking, storage, registry and other components that make up the OpenShift Kubernetes platform.

OpenShift history: v3 - v4



Linux, building on Red Hat's heritage and deep expertise in Linux and the reliability of **Red Hat Enterprise Linux** which served as the foundation for OpenShift 3

Containers, designed to provide efficient, immutable and standardized application packaging that enables application portability across a hybrid cloud environment

Kubernetes, providing powerful container orchestration and management capabilities and becoming one of the fastest growing open source projects of the last decade **User Experience** additions with a new web console for editing YAML files and for the container registry.

Build automation and app deployment a beloved feature of
OpenShift 3.0 now comes

Build pipelines and web hooks paving the way for integrated GitHub repository deployment. RedHat second only to Google for Kubernetes open source commits

Filtering, Sorting, Managing
Projects: To make things easier for
people with a large number of
projects, the project list now has a
text filter on name, display name,
description, and project creator. It
also allows sorting on several of
these attributes.

Identity and Access management

Filtering and Sorting, Managing Projects: To make things easier for people with a large number of projects, the project list now has a text filter on name, display name, description, and project creator. It also allows sorting on several of these attributes.

Prometheus Monitoring, CoreOS and Quay.

Operator Framework single-step installation for Kubernetes applications and services, and automated, over-the-air updates and performance tuning.

OpenShift Multi-Cluster Manager allows you to manage multiple clusters, running across multiple clouds or on-premise environments

OpenShift Service Mesh - Istio in OpenShift 4 through what's called the OpenShift service mesh

Knative Framework - a new developer-friendly serverless framework for building, serving and running event-driven applications.

Container runtime



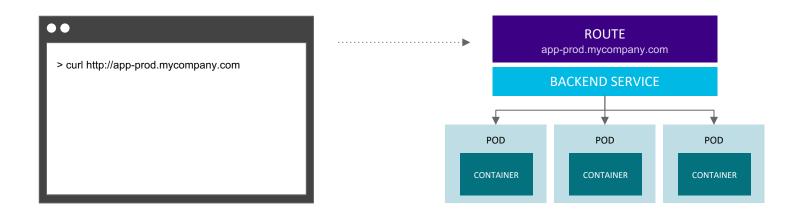
A lightweight, OCI-compliant container runtime

Minimal and Secure
Architecture

Optimized for Kubernetes Runs any OCI-compliant image (including docker)

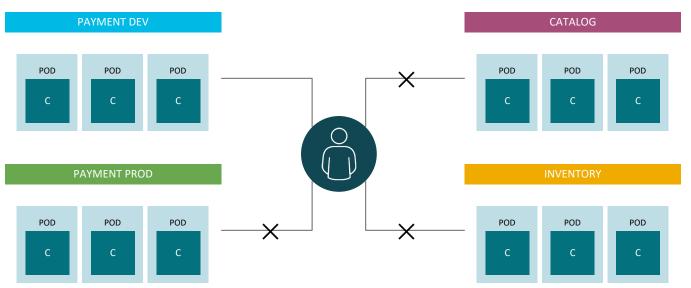
Routes

routes add services to the external load-balancer and provide readable URLs for the app

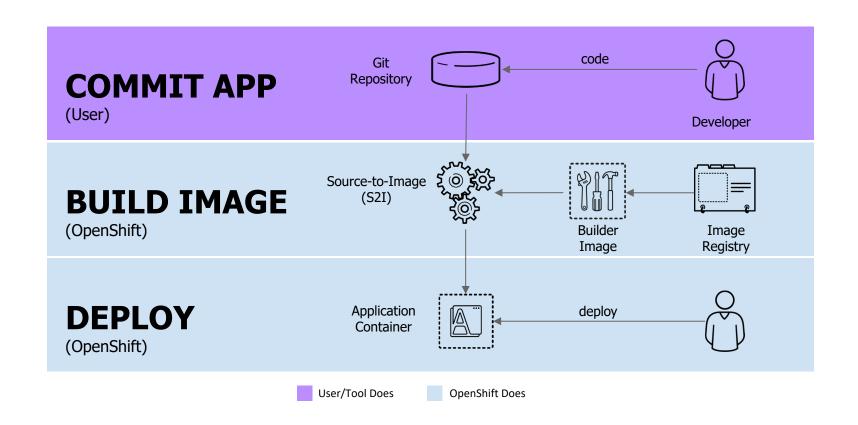


Projects extend k8s namespaces

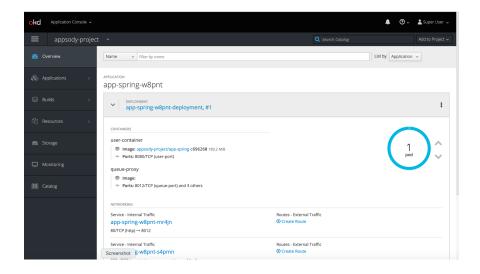
projects isolate apps across environments, teams, groups and departments

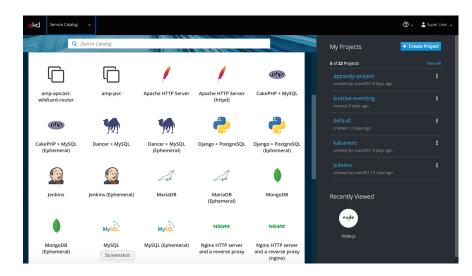


Source-to-Image



Web Console

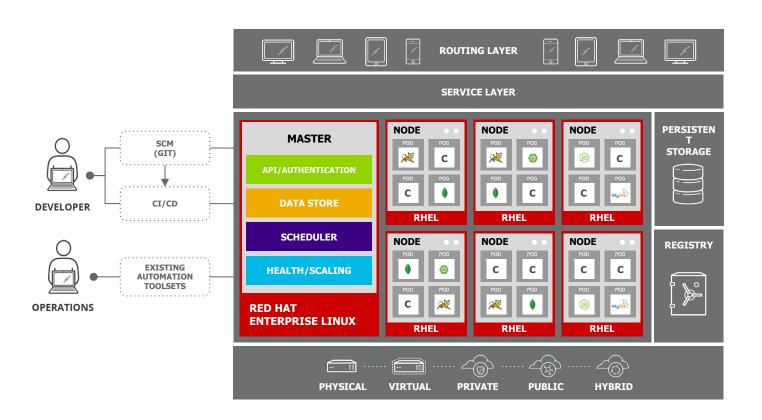




Application dashboard

Service Catalog

OpenShift Architecture



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