

RHUG Intro and Agenda

Agenda

- ▶ Introductions & Announcements
 - Richard Hofmeister
- ▶ Summit Recap
 - Gary Johnson
- ▶ How to be ~~lazy~~ an efficient engineer
 - Brad Krumme
- ▶ Managed OpenShift on Azure
 - Nerav Doshi

Platform Release Schedule

All Dates Subject to Change

- ▶ OpenShift 4.16 : Very Soon
- ▶ ACM 2.11 : Q3 2024
- ▶ RHEL 9.5: Q4 2024
- ▶ OpenShift 4.17 : Q4 2024
- ▶ Satellite 6.16: Q4 2024
- ▶ Quay 3.12: Q3 2024
 - Quay.io on AWS Marketplace
- ▶ ACS 4.5: Q3 2024
- ▶ Convert2RHEL v2.0.0: RELEASED
- ▶ AAP 2.5 : Q3 2024
- ▶ OpenShift Lightspeed: Tech Preview Q3 2024

Middleware Release Schedule

All Dates Subject to Change

- ▶ JBoss EAP 8.0 : RELEASED
- ▶ AMQ Streams 2.7 : RELEASED
- ▶ Camel 4.4 : RELEASED
- ▶ Dev Spaces 3.14: RELEASED
- ▶ Keycloak 24.0 : RELEASED
- ▶ 3scale 2.15 : Q3 2024
- ▶ Quarkus 3.8.5 : Q3 2024

Red Hat OpenShift 4.16 highlights

Core



- ▶ EUS 3 year lifecycle for OpenShift 4.14+
- ▶ Self-managed Hosted Control Planes in AWS (GA)
- ▶ Selectable etcd tuning profiles (GA)
- ▶ Expander configurations for cluster autoscaler

Security



- ▶ Admin (global) network policy (GA)
- ▶ Reduced permissions for anonymous users and groups
- ▶ BYO OIDC in ROSA with Hosted Control Planes
- ▶ Advanced Cluster Security Cloud Services (GA)

Virtualization



- ▶ Metro DR with Advanced Cluster Management and OpenShift Data Foundation
- ▶ Hot-plug CPU
- ▶ Safe memory overcommit (Tech Preview)
- ▶ Multi-cluster VM monitoring with Advanced Cluster Management
- ▶ CSI RWX block and snapshot support

Telco and Edge



- ▶ Image-based updates for Single Node OpenShift
- ▶ OpenShift Appliance Builder
- ▶ Multus CNI and GitOps for MicroShift
- ▶ MicroShift direct EUS updates
- ▶ OpenStack Services On OpenShift 18.0 (GA)

Red Hat Advanced Cluster Management for Kubernetes

What's New in RHACM 2.11 - Policy-based Governance

The screenshot shows a diff tool window titled 'diff-demo' with a 'NonCompliant' status. It displays two diff views:

Difference for the Deployment open-cluster-management-agent-addon/config-policy-controller

```

--- open-cluster-management-agent-addon/config-policy-controller : existing
+++ open-cluster-management-agent-addon/config-policy-controller : updated
@@ -150,11 +150,11 @@
- mountPath: /var/run/klusterlet
  name: klusterlet-config
  dnsPolicy: ClusterFirst
  imagePullSecrets:
- name: open-cluster-management-image-pull-credentials
- restartPolicy: Always
+ restartPolicy: OnFailure
  schedulerName: default-scheduler
  securityContext:
    runAsNonRoot: true
    seccompProfile:
      type: RuntimeDefault
  
```

Annotations in the screenshot:

- A red arrow points to the line `- restartPolicy: Always` with the label "Resource current state".
- A green arrow points to the line `+ restartPolicy: OnFailure` with the label "Policy desired state".

Difference for the Namespace default

```

--- default : existing
+++ default : updated
@@ -5,14 +5,16 @@
  openshift.io/sa.scc.mcs: s0:cl,c0
  openshift.io/sa.scc.supplemental-groups: 1000000000/10000
  openshift.io/sa.scc.uid-range: 1000000000/10000
  creationTimestamp: "2024-06-03T06:14:23Z"
  labels:
+ city: Raleigh
  kubernetes.io/metadata.name: default
  pod-security.kubernetes.io/audit: privileged
  pod-security.kubernetes.io/enforce: privileged
  pod-security.kubernetes.io/warn: privileged
+ state: NC
  name: default
  
```

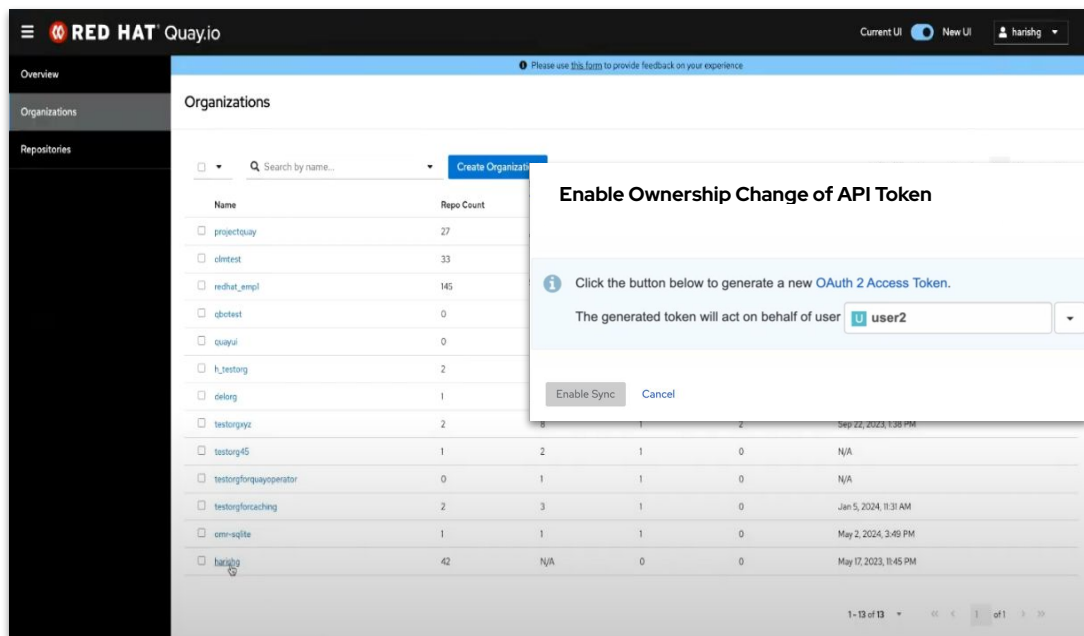
Annotations in the screenshot:

- Two green arrows point to the lines `+ city: Raleigh` and `+ state: NC` with the label "Policy desired state (values missing)".

- ▶ Expedited troubleshooting of Policy non-compliance reasons
 - Visualize the “diff”-erence between the current state of configured resources vs. the desired state of the Policy in the UI & API.
- ▶ GitOps-ified operator management with OperatorPolicy (GA)
 - Painless “manual” mode operator upgrades with fine-grained control of install plan approvals by just specifying a new version for upgrade.
 - Thorough uninstall support including configurability to clean up leftover artifacts such as the operator’s installed CRDs.
 - Non-compliance configurability to include when new upgrades are available, unhealthy deployments, or unhealthy catalog sources.
- ▶ Gatekeeper operator uplift to 3.15.1
 - Alignment with upstream community; added constraint enforcement exclusion support for default namespaces (e.g. openshift-*).

Red Hat Quay 3.12

Boosting Security and Efficiency



Global Registry Wide Image Pruning

Apply policies globally to automatically manage old or unused images ensuring efficient storage management and organization in your registry environment

Image Expiration Alerting

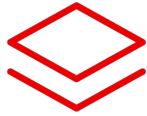
Notifies users with timely alerts on upcoming expirations, preventing unexpected pull failures and ensuring uninterrupted access to essential resources.

API Token Ownership Transfer

Enhance security with controlled access and accurate user attribution. This reduces unauthorized use and improves audit trails, ensuring compliance and system integrity.

4.5 Highlights

Enhancements and new features



Platform

- ACS CS: Default email service
- Extend GitHub Action support in roxctl
- CO-RE BPF default collection method
- ACS on ROSA Hosted Control Plane
- UI Wizard to add secured cluster
- ACS integration with Paladin Cloud



Vulnerability Management and Security

- Scanner V4: (Tech Preview → **GA**)
- VM 2.0 **GA**
 - Vulnerability exception management
 - Workload CVEs
 - Default filters (Fixable, Critical & Important)
 - Enhanced API for CVE export

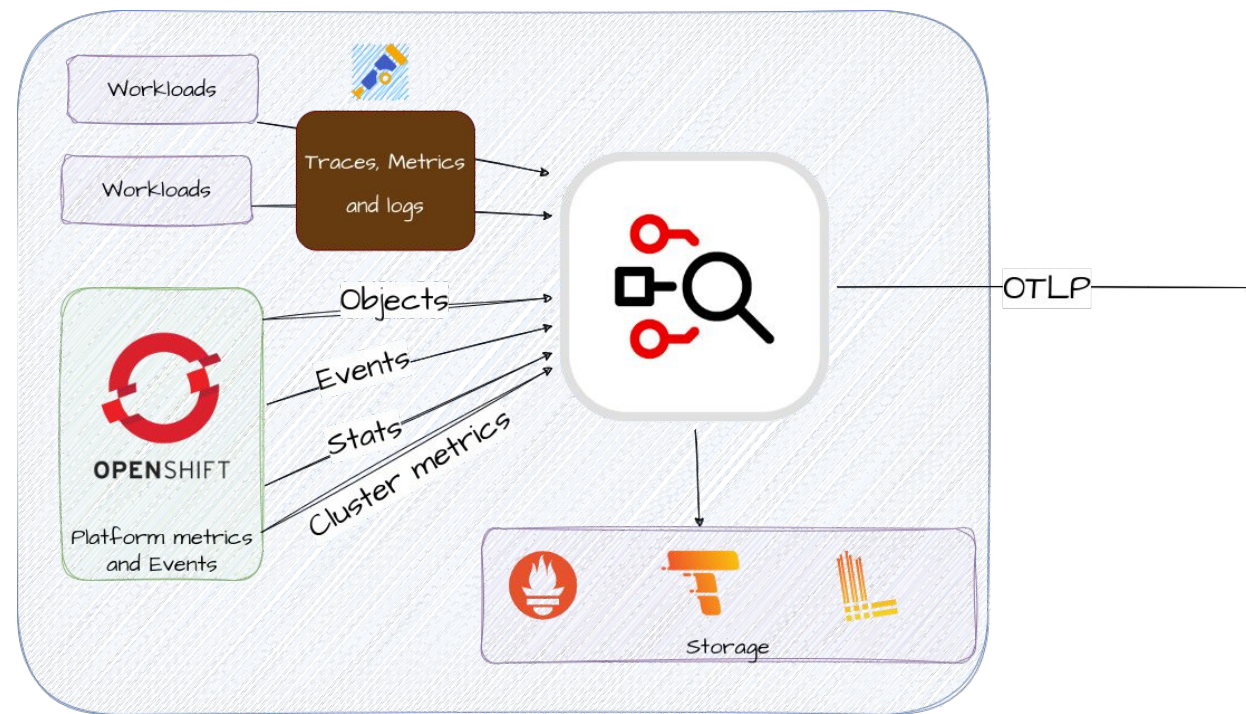


Compliance 2.0 Tech Preview

- Schedule Compliance Operator (CO) scans from ACS UI and API
- View CO results by standard, profile
- View CO controls & rules
- Export compliance reports

What's new for OpenTelemetry?

- ▶ Observe OpenShift with **Kubernetes receivers**
 - Objects, Events, Stats, cluster and host metrics
- ▶ **Receive logs** with filelog and journald receivers
- ▶ Cache data with **file storage extension**
- ▶ Connect observability pipelines with **forward connector**
- ▶ Export at scale with the **load-balancing exporter** and experiment with the **developer preview** of the **Loki exporter**

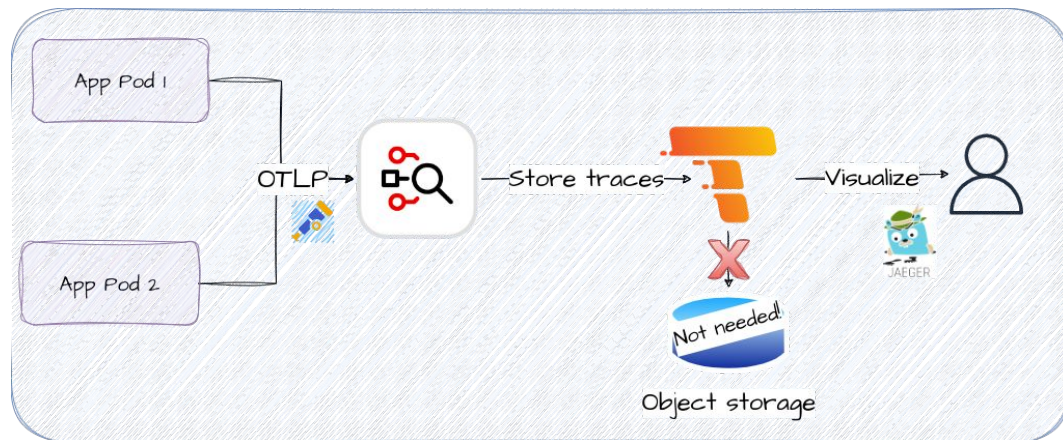


Read more at:

<https://www.redhat.com/en/blog/announcing-red-hat-build-opentelemetry-and-distributed-tracing-3.2-release>

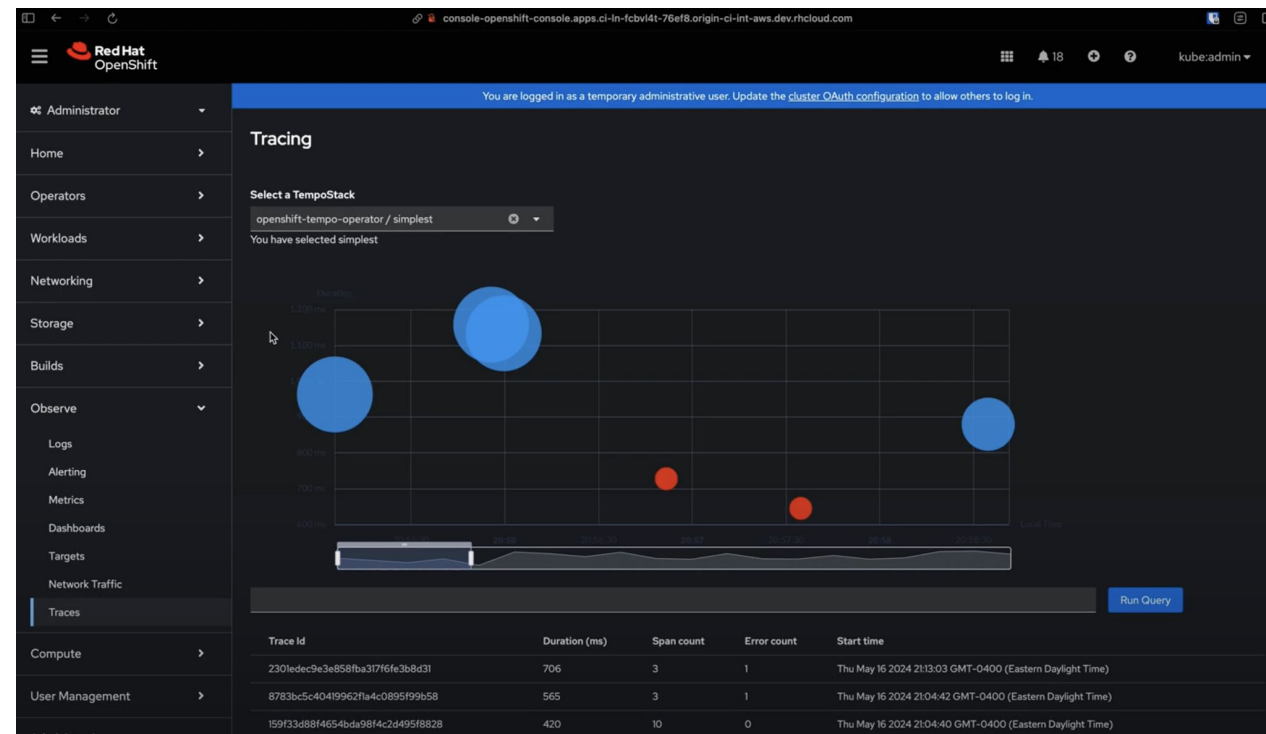


What's new for Distributed Tracing?



- ▶ **Tempo Monolithic deployment** in tech preview, as the drop in replacement for Jaeger all-in-one, without the need of attached storage.

- ▶ Developer preview, for the first time of **Tracing UI in the OCP web console**
 - Coexists with Jaeger UI shipped in Tempo
 - First showing spans bubble chart
 - Next step: Gantt chart



Red Hat Insights - updates

- ▶ **Workloads Advisor:** Easily identify workload configuration issues and obtain recommendations on how to proceed

Recommendations

3 Recommendations

▼ Description Filter by description

► Description Total risk Objects Modified

▼ The cluster cannot spread load across nodes evenly when workloads do not specify container memory requests and limits Moderate 2 2 years ago

Detected issues

The Deployment Validation Operator has detected workloads that do not specify container memory requests and limits. The cluster needs these hints to spread load across nodes evenly and to prevent malfunctioning containers from affecting all workloads on a node.
Kube-linter check: [unset-memory-requirements](#)

Steps to resolve

Red Hat recommends that you set [container memory requests and limits](#) in the affected workloads:

Object ID	Kind
79e8ac5-dc84-4c3e-b25a-af5f97e52ab4	Deployment
17146cc4-76c6-4031-ba20-53ef7bf322e2	Deployment

[View all objects](#)

Additional info

- For more information about resource requests and limits, see [Resource Management for Pods and Containers](#) in Kubernetes documentation.
- [Deploying Highly Available Applications on OpenShift and Kubernetes](#), a Red Hat blog post, suggests best practices on the subject.
- For more information about the KubeLinter check performed by the Deployment Validation Operator, see [unset-memory-requirements](#) in KubeLinter documentation.

- ▶ **Update risks - multicluster view:** Identify clusters with existing update risks by and easy to see label.

Clusters

Name	Version	Recommendations	Critical	Important	Moderate	Low	Last seen
1c1f9e9-0283-4075-a743-4f45c4c23c2e	4.12.55	1	0	0	0	1	7 minutes ago
09f3b22c-3e4e-4ae1-af62-629f8c4cd6ea	4.15.10	1	0	0	1	0	8 minutes ago
a5279a61-036d-4575-a437-c725e57b42fa	4.15.0	0	0	0	0	0	8 minutes ago
cfa0a5ae-2694-42f2-a851-78e8fe63d855	4.15.15	0	0	0	0	0	8 minutes ago
3c2c9a15-cb53-4d81-8963-09a46ad1e3f2	4.15.6	0	0	0	0	0	8 minutes ago
57f566f2-7c32-4a7e-93c2-e763ecc8b5e	4.14.21	0	0	0	0	0	8 minutes ago
ala4ac6f-ba49-484f-8b03-85322005ae79	4.15.12	0	0	0	0	0	8 minutes ago
2d8d5907-7fc0-4669-88c9-d89cb19db0b3	4.13.26	0	0	0	0	0	9 minutes ago
46c62fe-8978-42eb-89b8-bd5994815f1	4.15.9	0	0	0	0	0	10 minutes ago
431b89ba-6e52-4de0-9cb9-d0167d08109a	4.15.9	0	0	0	0	0	10 minutes ago
kevinhcp2	Not available	0	0	0	0	0	10 minutes ago
5edbcc21-esdc-4240-ab7e-42efedf695e9	Not available	0	0	0	0	0	10 minutes ago
4ce09fc2-cbbe-4e98-85bd-972da8c304da	4.12.56	0	0	0	0	0	10 minutes ago
c55d8710-fc35-4b8c-9975-85df3d374a14	4.13.28	0	0	0	0	0	10 minutes ago
bd81b589-310a-4875-83d5-843661424186	Not available	0	0	0	0	0	11 minutes ago
23ed7bed-bf71-464d-9b84-347b7fea098d	4.15.9	0	0	0	0	0	11 minutes ago
b9a5aeeb-2ea1-437a-8fc8-c8f671896ea4	4.14.0	0	0	0	0	0	12 minutes ago
bd8e08fb-12a9-4873-8f4f-6eb0b0a531fc	4.15.9	0	0	0	0	0	12 minutes ago

1 - 50 of 3809

What's new in Red Hat Insights cost management?

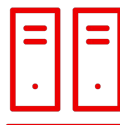


Resource Optimization for OpenShift GA

CPU & RAM request & limit recommendations

Profile-based recommendations (cost/perf)

1, 7, 14-day timeframes



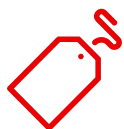
Cost Management for ARM, POWER and Z

All features of Cost Management, available for x86-64, ARM, POWER and Z, including resource optimization.



Excel and Power BI sample reports

Quickstart to producing your own cost and usage reports in your favorite tools. Implements token authentication, data storage, split data fetch and other good practices.



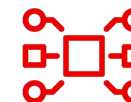
Tag mapping

Combine and reconcile tags and labels from OCP, AWS, Azure, GCP and OCI to simplify and consolidate your cost reports.



Cluster information page

Self-diagnostics page to visualize when cost and usage data was read from each cluster/cloud, processed and made available in Cost Management.



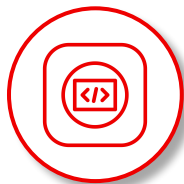
Custom platform costs

Select any number of namespaces "platform cross-services" to share their costs across the rest of the tenants.

IDE Portfolio

OpenShift Developer Experience

IDE Extensions and Cloud Developer Environment



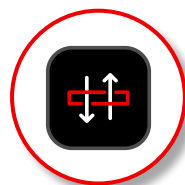
OpenShift Dev Spaces

- ▶ Red Hat OpenShift [Dev Spaces 3.14.0](#) is out
- ▶ Add **initContainer** for initializing persistent home when \$HOME persistence is enabled.
- ▶ Work with ollama [devfile](#) and Dev Spaces
- ▶ *devfile v1* is deprecated and is not supported anymore.



OpenShift Toolkit IDE extension

- ▶ Provision any OpenShift cluster using sandbox, directly from VS Code
- ▶ Creating routes, port forwarding for connected OCP from IDE
- ▶ OpenShift Serverless & Helm Chart Management within IDE
- ▶ Available here: [VS Code](#), [IntelliJ](#)



Quarkus and EAP

- ▶ **JBoss EAP 8.x** support in [VS Code](#) and [IntelliJ](#)
- ▶ **NEW** Quarkus Plugin for [IntelliJ](#)
- ▶ Full Support for Java 22 in [VS Code](#) extension

Introducing: [Podman AI Lab](#)

Your developer environment for working with GenAI

Discover GenAI

- Get inspired by AI use cases
- Learn how to integrate AI in an optimal way
- Experiment with different compatible Models

Model Catalog

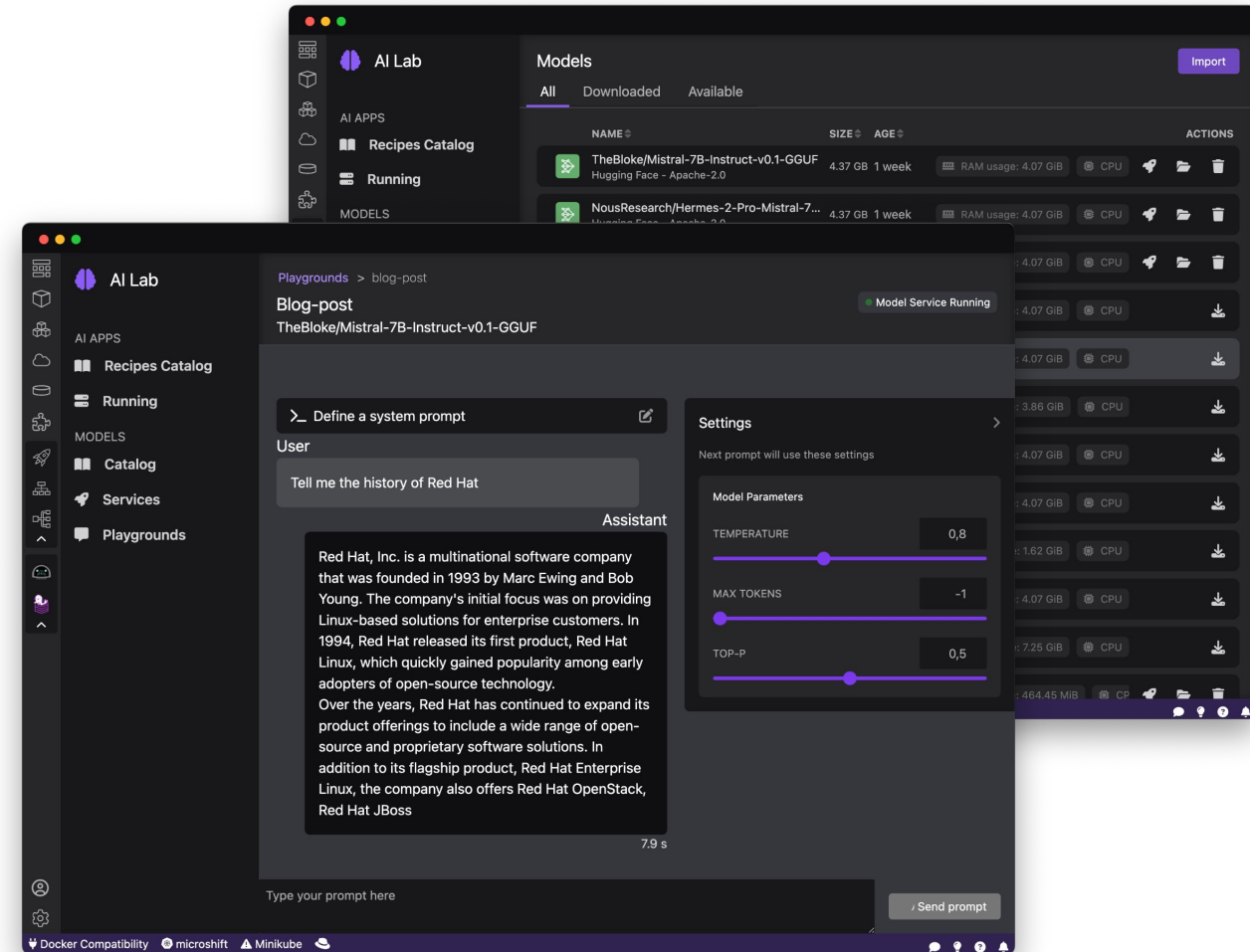
- Leverage a curated list of open source large language models available out of the box
- Import your own models

Run Models Locally

- Run models with an inference server running in UBI image
- Get OpenAI compatible API
- Use code snippets

Playground Environment

- Experiment with models and prompts
- Configure settings and system prompts
- Test and validate prompt workflows before using in your application

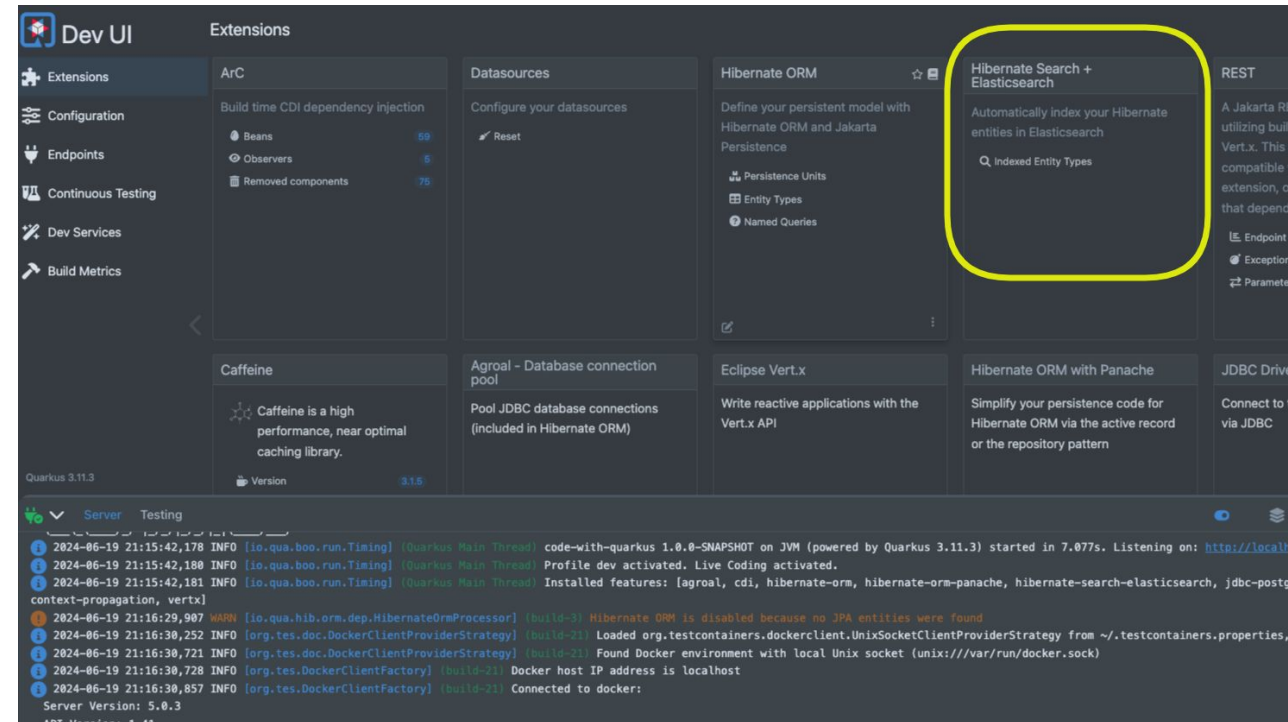


Red Hat build of Quarkus

What's New in 3.8 (April 29)



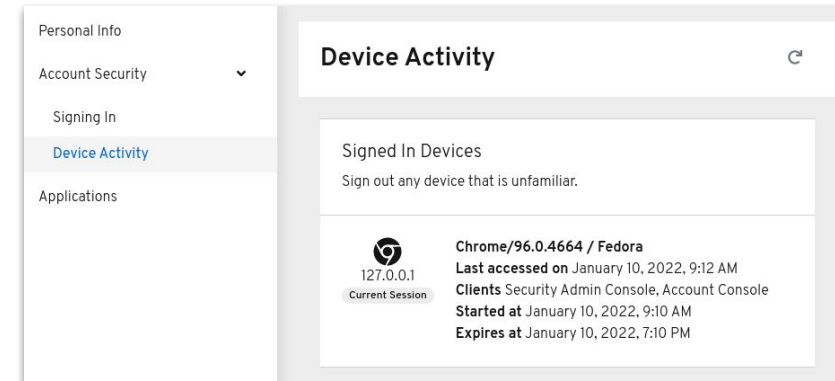
- ▶ A new 3 year life-cycle based on major version
- ▶ New OpenSearch/Elasticsearch Dev Service
- ▶ Support for Java 21
- ▶ Support for Virtual Threads
- ▶ Support for ARM64 (both JVM and Native)



Red Hat build of Keycloak

▶ New for Red Hat build of Keycloak 24 GA

- ▶ User profile and progressive profiling
 - ▶ Multi-Site active-passive deployments
 - ▶ User Account Management Console GA
 - ▶ OAuth/OIDC improvements
 - Lightweight access tokens support
 - OAuth 2.1 support
 - ▶ Passkeys support (Tech Preview)
 - ▶ Maximum authentication time as password policy
 - ▶ Group scalability
 - ▶ Enhanced Keycloak CR for Operator
- ## ▶ Container images and zip distros available
- ## ▶ Migration guide & tooling for prior versions



User Account Management Console

```
Keycloak - Open Source Identity and Access Management
Find more information at: https://www.keycloak.org/docs/latest

Usage:
kc.sh [OPTIONS] [COMMAND]

Use this command-line tool to manage your Keycloak cluster.
Make sure the command is available on your "PATH" or prefix it with "./" (e.g.:
"./kc.sh") to execute from the current folder.

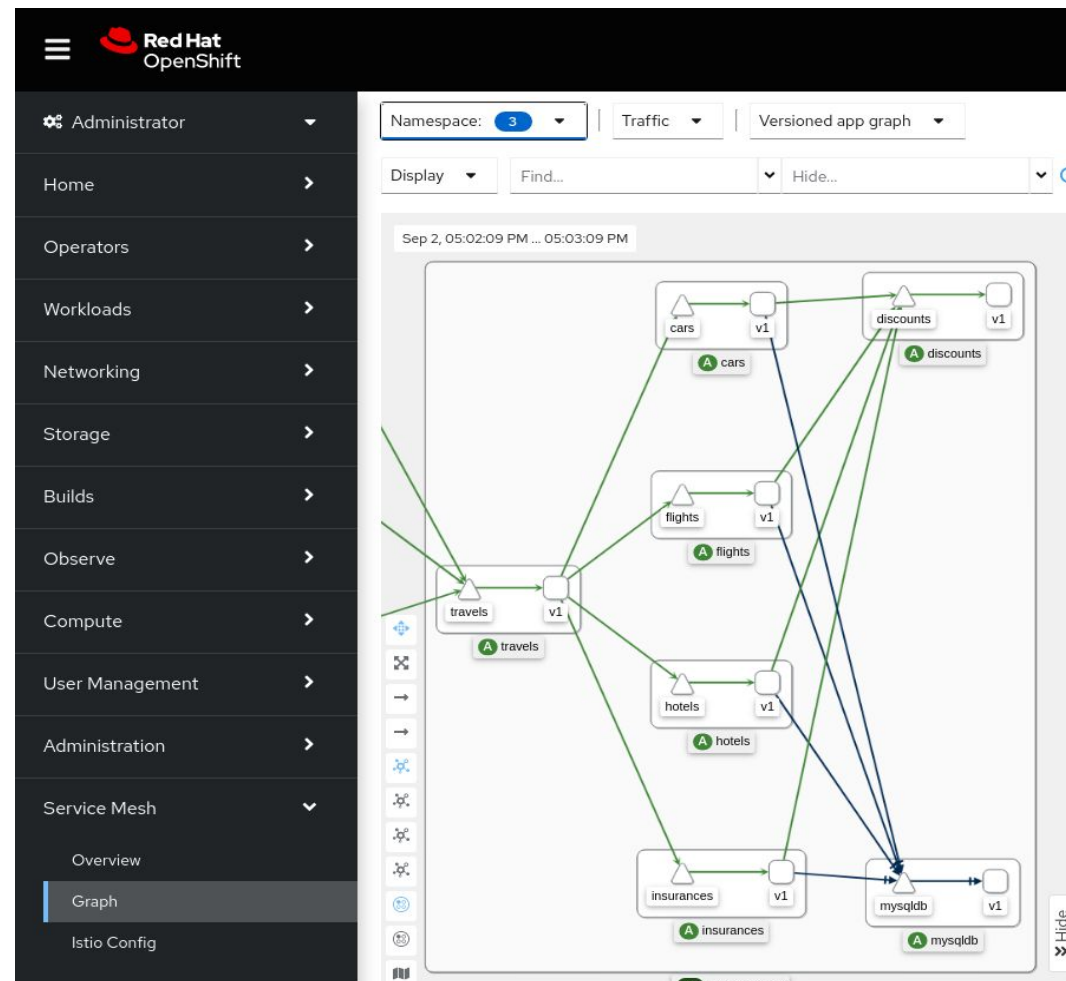
Options:
-cf, --config-file <file>
    Set the path to a configuration file. By default, configuration properties are
    read from the "keycloak.conf" file in the "conf" directory.
-h, --help
    This help message.
-v, --verbose
    Print out error details when running this command.
-V, --version
    Show version information

Commands:
build
    Creates a new and optimized server image.
start
    Start the server.
start-dev
    Start the server in development mode.
export
    Export data from realms to a file or directory.
import
    Import data from a directory or a file.
show-config
    Print out the current configuration.
tools
    Utilities for use and interaction with the server.
completion
    Generate bash/zsh completion script for kc.sh.
```

User-friendly CLI

OpenShift Service Mesh

- ▶ OpenShift **Service Mesh 2.6**:
 - ▶ Based on **Istio 1.20**
 - ▶ GA of Kubernetes Gateway API support for cluster-wide meshes
 - ▶ Distributed Tracing integration updates:
 - OpenTelemetry Collector and Tempo distributed tracing integration is GA
 - Jaeger and Elasticsearch are no longer installed by default
- ▶ OpenShift **Service Mesh 3.0 Technology Preview**:
 - ▶ A new service mesh operator based on community Istio - the "Sail Operator"
 - ▶ Calling all early adopters!



OpenShift Pipelines

OpenShift Pipelines 1.15 released

▶ Red Hat Tekton Catalog GA

Curated list of supported Tekton tasks/pipelines for various Red Hat product portfolios

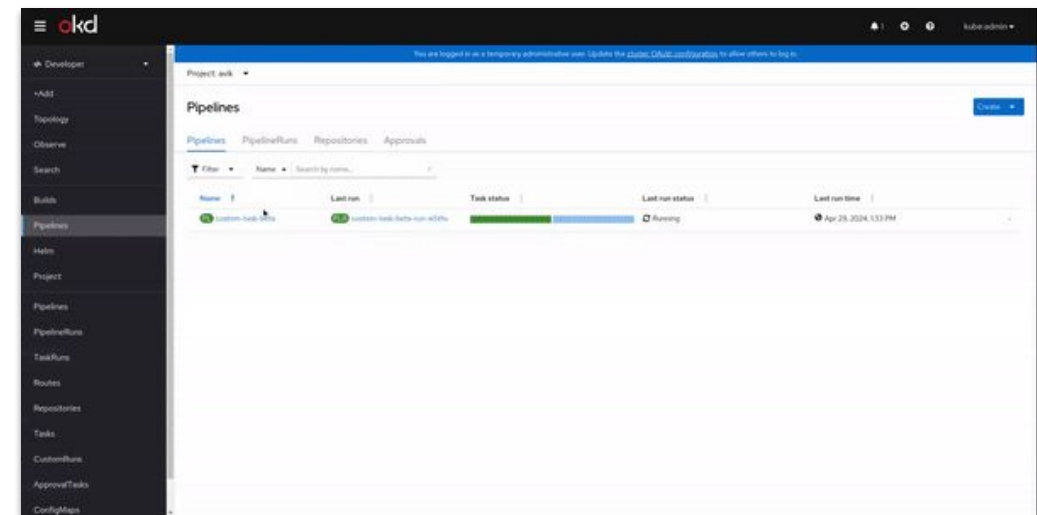
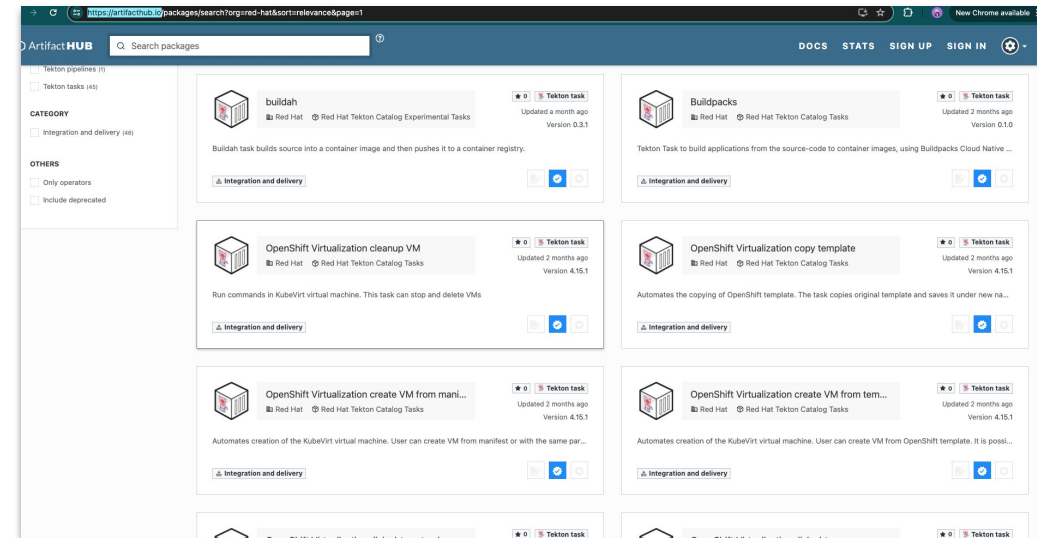
- ▶ Includes tasks for OpenShift Virtualization cleanup VM, Windows UEFI installer, Maven, Buildah, etc.
- ▶ Available in <https://artifacthub.io/> with Red Hat as publisher
- ▶ Some preinstalled in OpenShift Pipelines namespace to use with cluster resolver

▶ Manual Approval workflow in Tekton (Technology Preview)

- ▶ Use ApprovalTask in Tekton pipeline and assign Openshift users
- ▶ Integration with console to view/approve/reject workflow

▶ ChatOps Support in Pipelines As Code (Technology Preview)

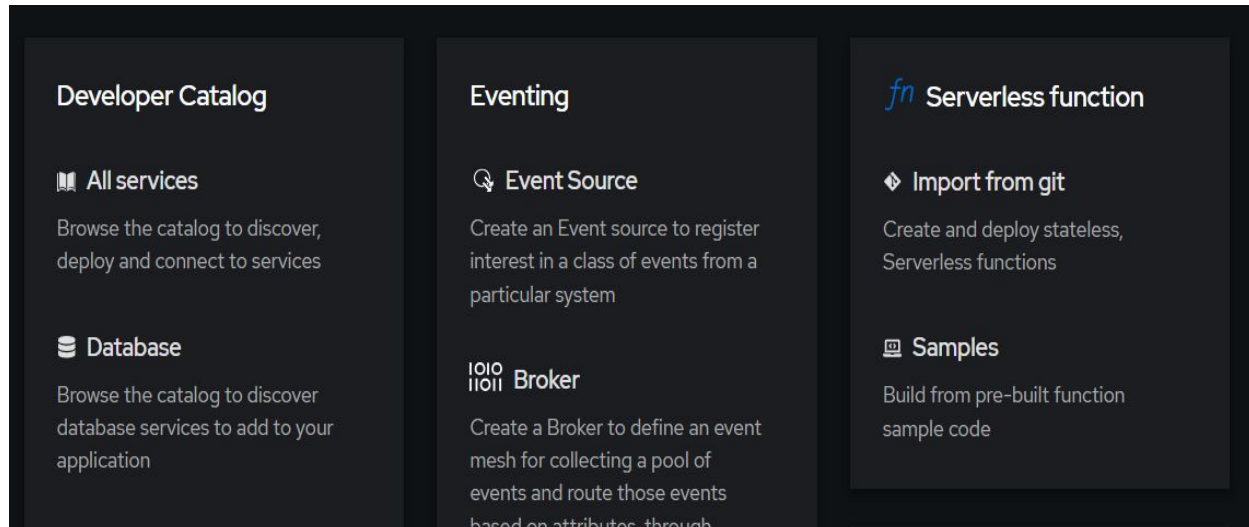
Passing parameters to GitOps commands as arguments to trigger and test pipeline for debugging/testing multiple scenarios



OpenShift Serverless

Key Features & Updates

- ▶ Serverless 1.33 : Update to Knative 1.12
- ▶ Serverless on Arm64- **TP**
- ▶ Eventing for Event Driven apps
 - ▶ Monitoring Dashboard in ODC Developer view
 - ▶ New Trigger filter to specify filter expression - **TP**
 - ▶ Integration with Custom Metrics Autoscaler - **TP**
- ▶ GA -Serverless Logic
 - ▶ orchestrate functions/services, events with low code/no code approach

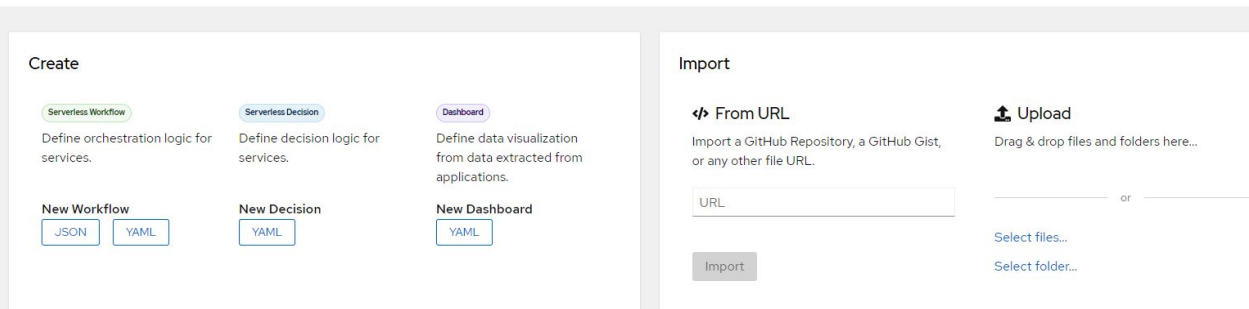


Welcome to Serverless Logic Web Tools

Add-on service to create and synchronize your Serverless Workflow, Decision files, and Dashbuilder files

The Serverless Logic Web Tools is a web application that enables you to create and synchronize your Serverless Workflow, Serverless Decision, and Dashbuilder files in a single interface. Also, the Serverless Logic Web Tools application provides the integrations that are needed to deploy and test the Serverless Workflow models in development mode.

[Get Started with Serverless Logic Web Tools](#)





On-premises

Installation Highlights for On-premises Providers



Bare Metal

- ▶ Simplify **add nodes on day 2** with Agent-based Installer (Dev Preview)
- ▶ **Upgrade/downgrade host firmware**
- ▶ **BMC address modification** post installation
- ▶ **Attach non-bootable ISO**
- ▶ **Control plane nodes on different subnets**



- ▶ **MachineSet VM Tagging**
- ▶ **ControlPlaneMachineSet (GA)**
- ▶ **Static IP assignments (GA)**
- ▶ Simplify **add nodes on day 2** with Agent-based Installer (Dev Preview)
- ▶ **Control plane nodes on different subnets**
- ▶ Make max vSphere snapshot per volume configurable (storage)



- ▶ **SDN to OVN-Kubernetes migration**
- ▶ **Control plane nodes on different subnets**



IBM Power Systems
IBM Z and
IBM LinuxONE

- ▶ **Secure boot** for IBM Z systems, zVM and LPARs
- ▶ **Ingress node firewall** for IBM Power and IBM Z systems
- ▶ **CPU Manager** support for IBM Power and IBM Z systems

Updates from 2.3 to 2.4



AAP 2.3



AAP 2.4

Create

- Private Automation Hub 4.6
- ansible-navigator 2.0
- LDAP RBAC source in Automation Hub
- Project Signing and Validation



- **Private Automation Hub 4.7**
- **EE's can be pulled from Hub Only**
- **Automation Hub Repository Management**
- **Validated Content Integration**
- **Ansible Builder v3.0**

Manage

- Ansible Controller 4.3
- Private Automation Services Catalog***
- Expanded Cloud Options



- **Automation controller 4.4**
- **Ansible Lightspeed**
- **Power and Z Support for Platform**
- **ARM Support for Platform**

Scale

- External Execution Nodes



- **Event Driven Ansible**

* Tech Preview

** Developer Preview

*** Removed!

Red = New AAP component or major change

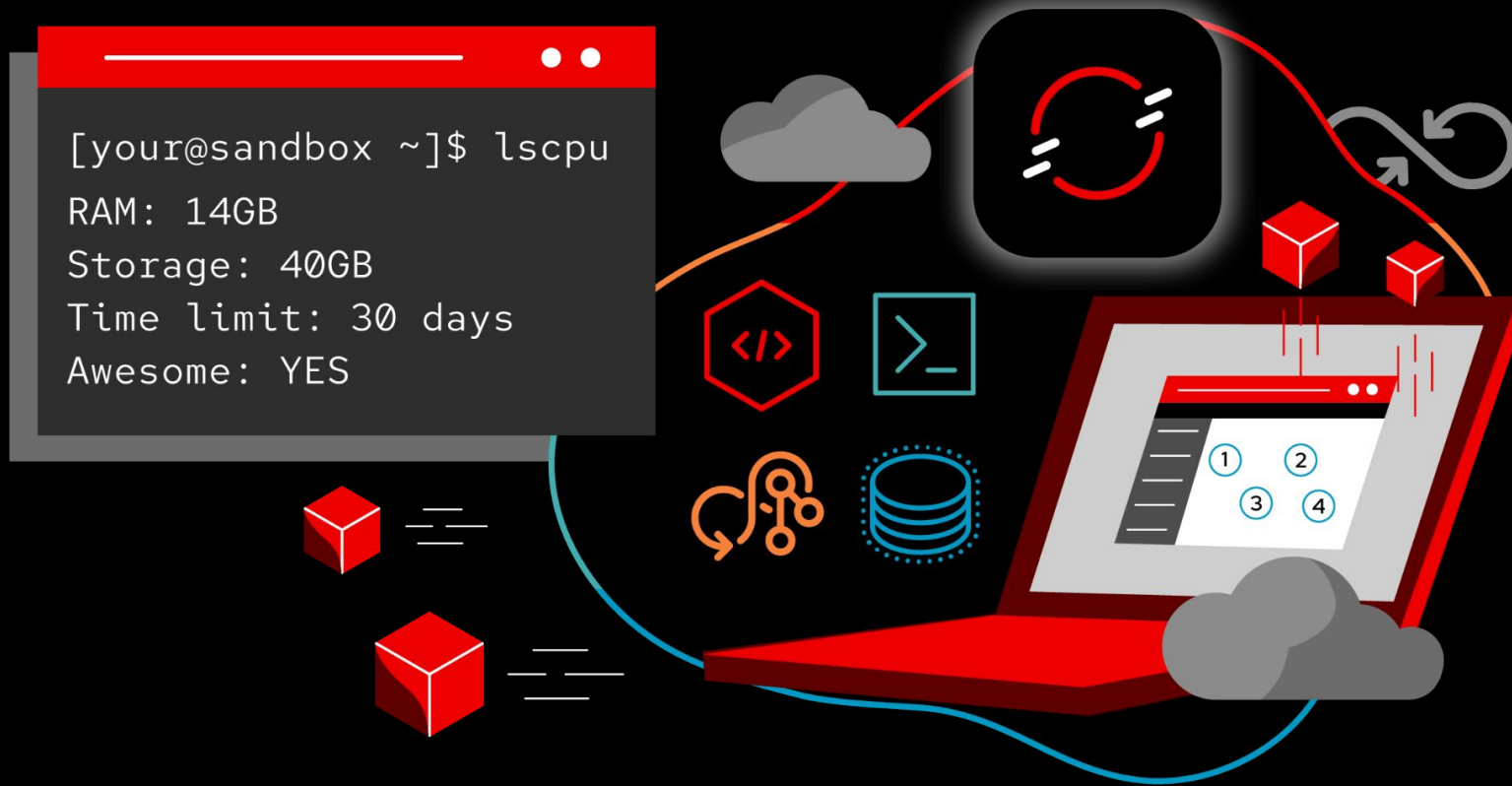


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- Serverless



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Richard Hofmeister

Senior App Dev Solutions Architect :: hofmeister@redhat.com :: 517-927-6303

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Quarter	Speaker	Topic	Slide Deck
Q4 - 2022	Richard Hofmeister	Agenda	pdf
	Brian Dumont	Using the Insights API to apply Compliance Profiles	pdf
	Richard Hofmeister	Application Modernization With Konveyor	pdf
	Patrick Regan	What's New in RHEL 9	pdf
	Brad Krumme	Enterprise Architecture Patterns	pdf
Quarter	Speaker	Topic	Slide Deck
Q3 - 2022	Brian Dumont	Enterprise Automation	pdf
	Alan Patrick	Red Hat Satellite	pdf
	Jay Ryan	Managing Complex Workloads in a Kubernetes Native Environment	pdf
	David Brugger	Empowering Event Driven Architectures Across the Hybrid Cloud	pdf
	Andy Block	Introduction to GitOps and Secrets Management	pdf