RHUG Intro and Agenda

Red Hat

Agenda

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

Red Hat

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

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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

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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)

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Red Hat Advanced Cluster Management for Kubernetes

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

- 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-*).

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Red Hat Quay 3.12

Boosting Security and Efficiency
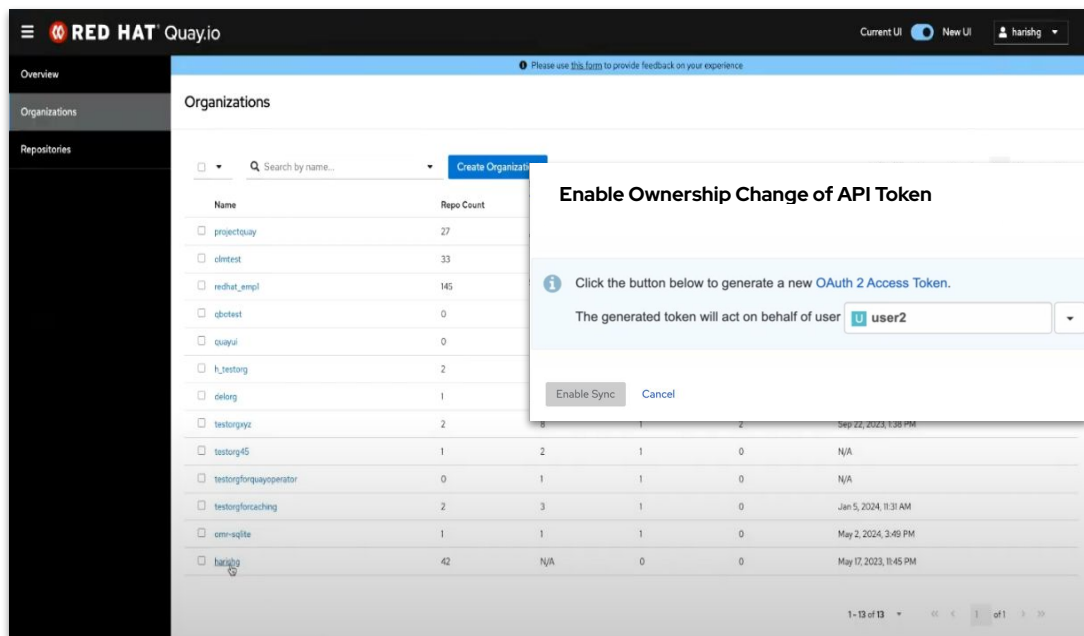
Global Registry Wide Image Pruning

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
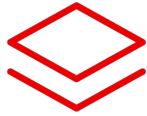
Platform

- 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)
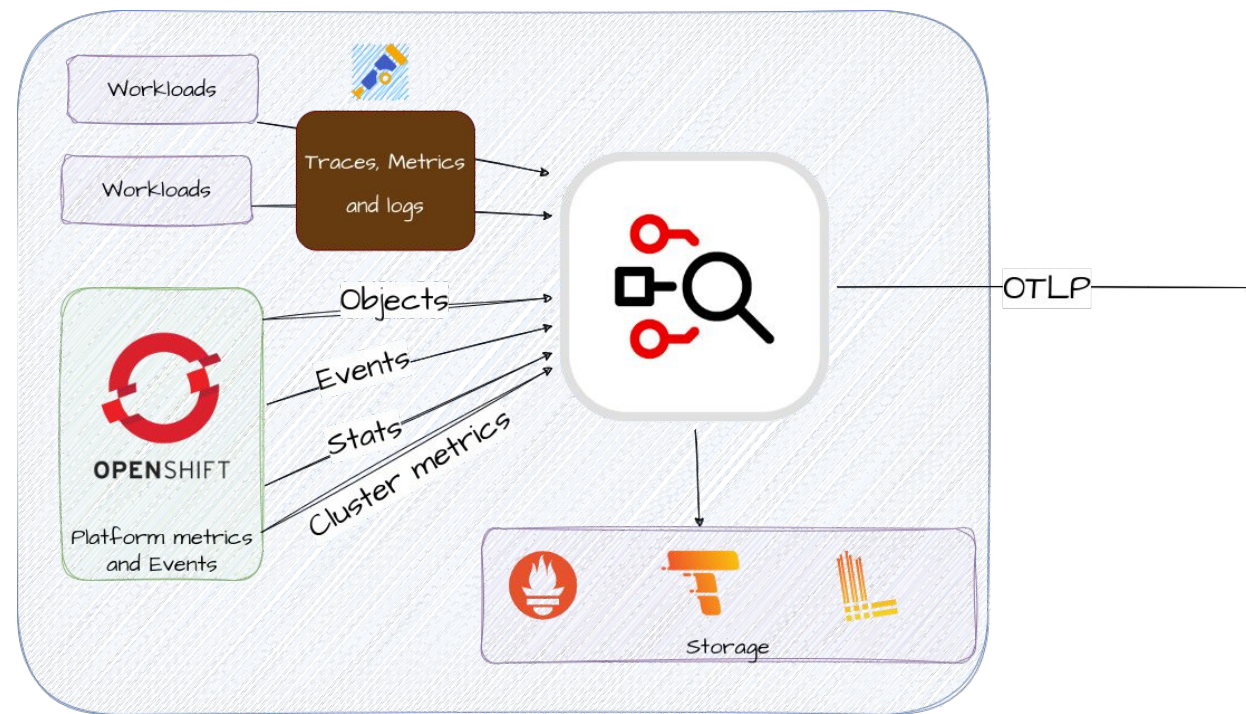 - Enhanced API for CVE export

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

Red Hat Advanced Cluster Security for Kubernetes

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

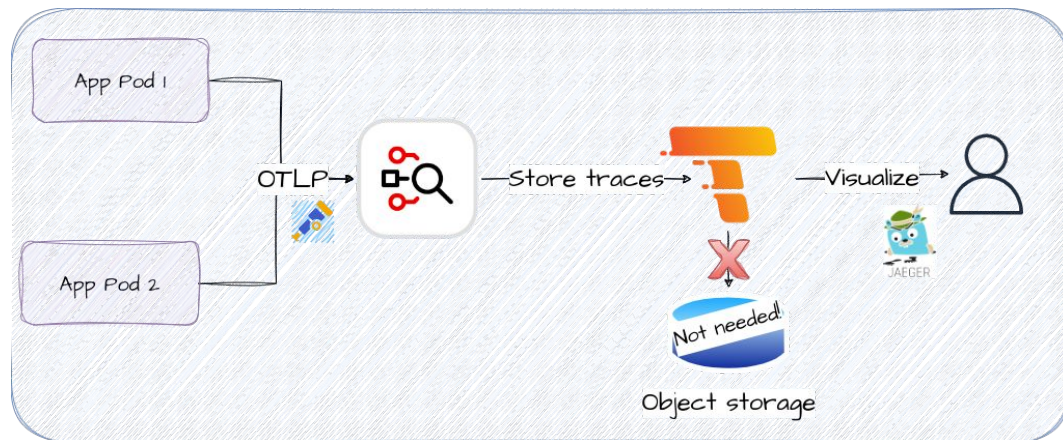▸ Export at scale with the load-balancing exporter and experiment with the **developer preview** of the Loki exporter

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
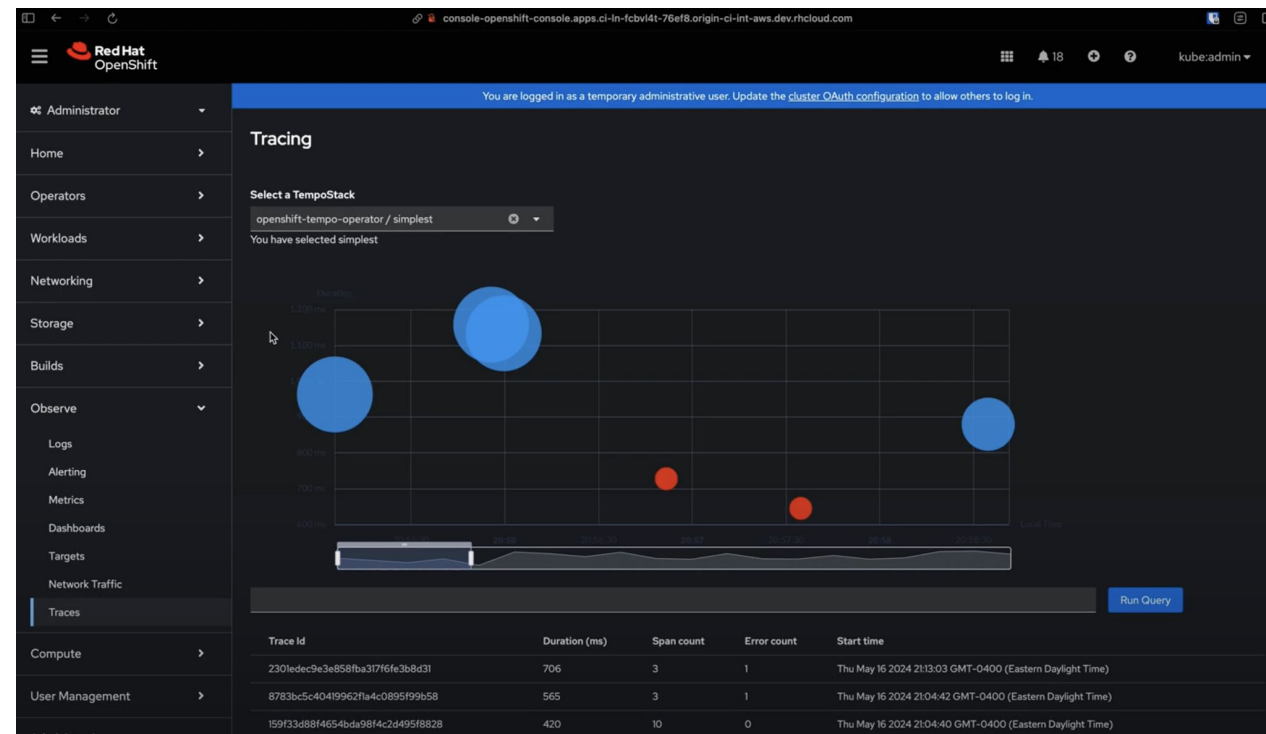
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Red Hat Insights – updates

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

▶ **Update risks – multicluster view:** Identify clusters with existing update risks by and easy to see label.
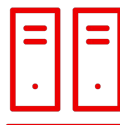
What's new in Red Hat Insights cost management?

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.
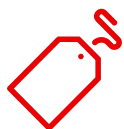
Tag mapping

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.
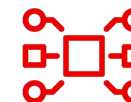
Custom platform costs

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

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IDE Portfolio

OpenShift Developer Experience

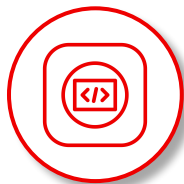IDE Extensions and Cloud Developer
Environment

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 Serveless & Helm Chart Management within IDE

- ▸ Available here: VS Code, IntelliJ
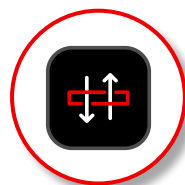
Quarkus and EAP

- ▸ **JBoss EAP 8.x** support in VS Code and IntelliJ

- ▸ **NEW** Quarkus Plugin for IntelliJ

- ▸ Full Support for Java 22 in VS Code extension

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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
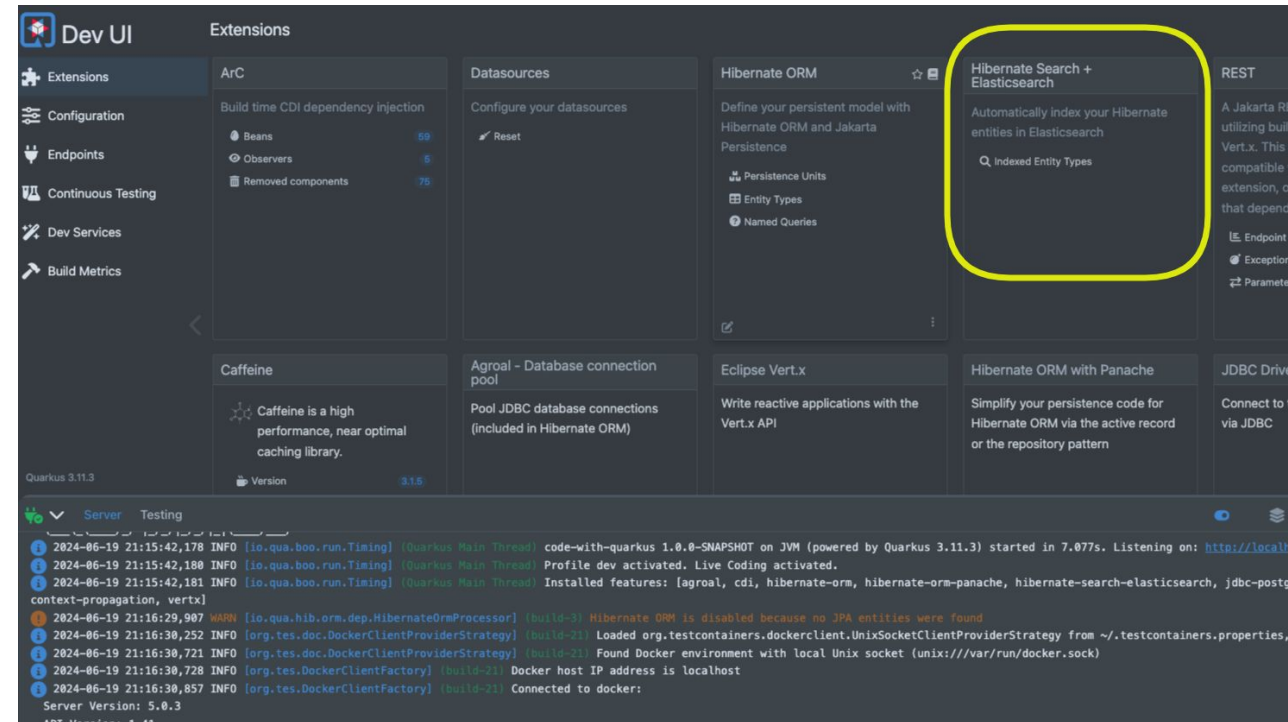- Test and validate prompt workflows before using in your application

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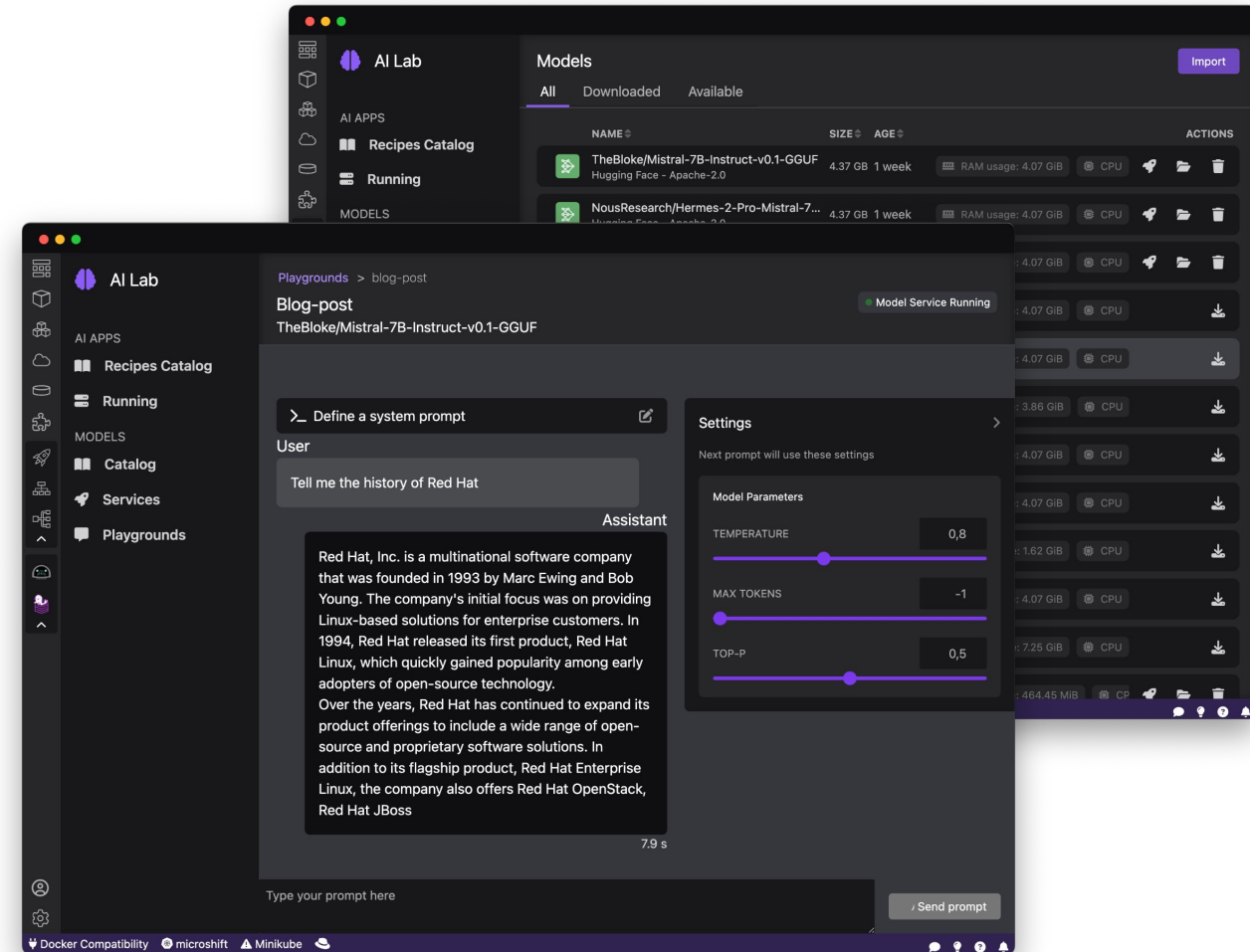
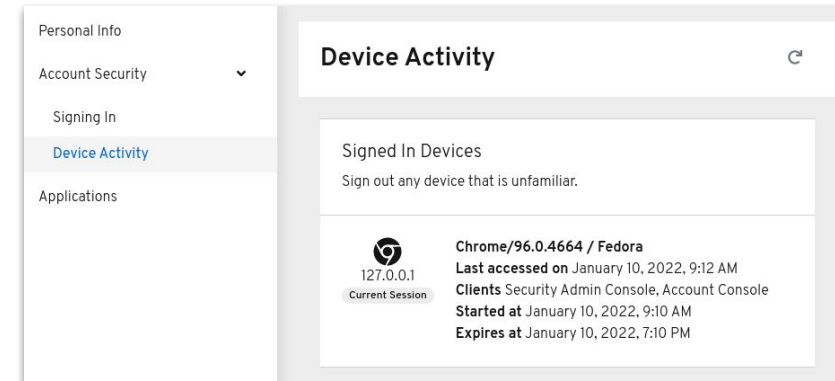# Red Hat build of Quarkus

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

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!
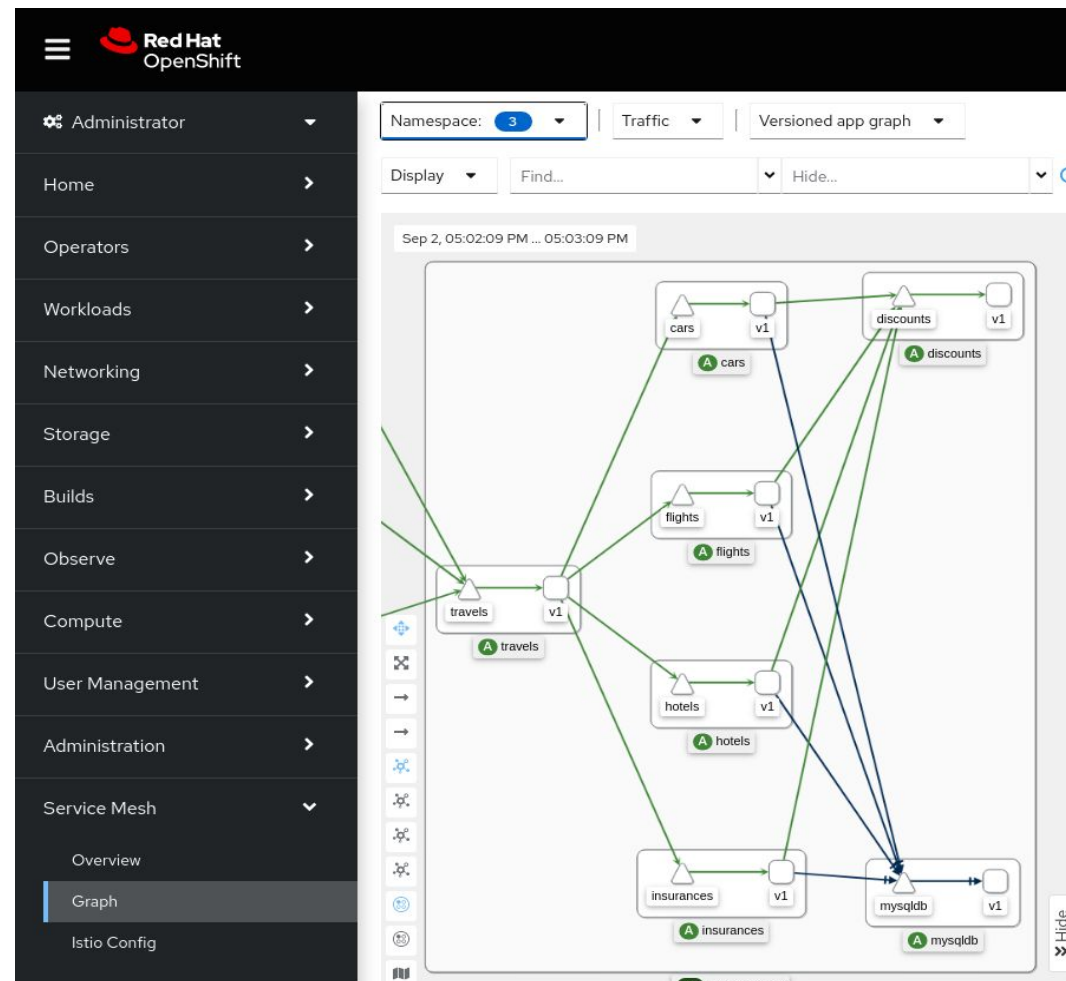
OpenShift Pipelines

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
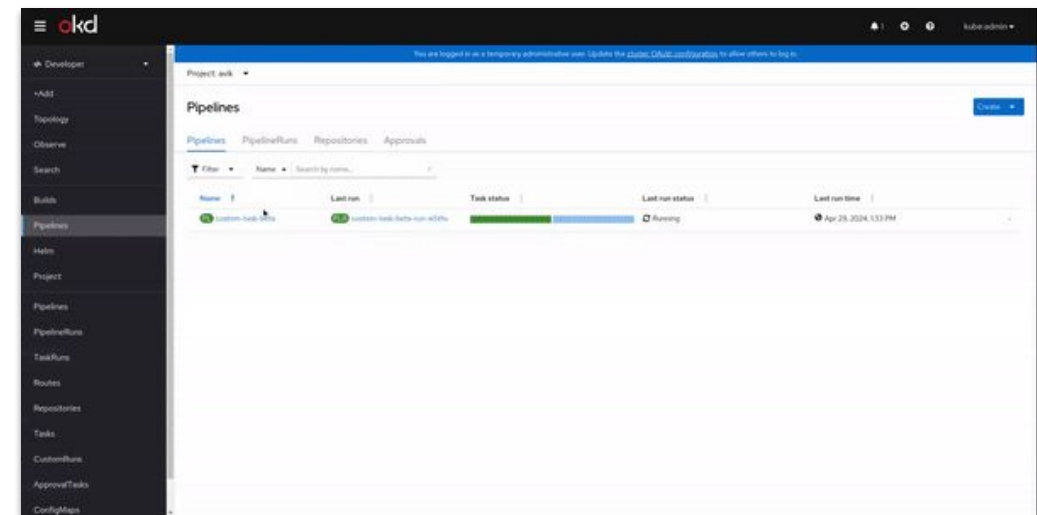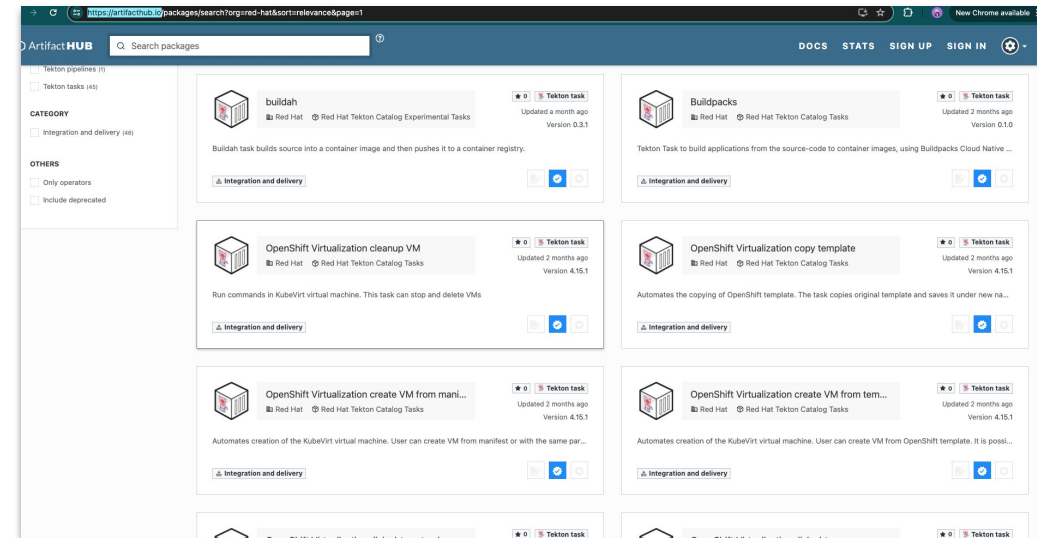
OpenShift Serverless

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
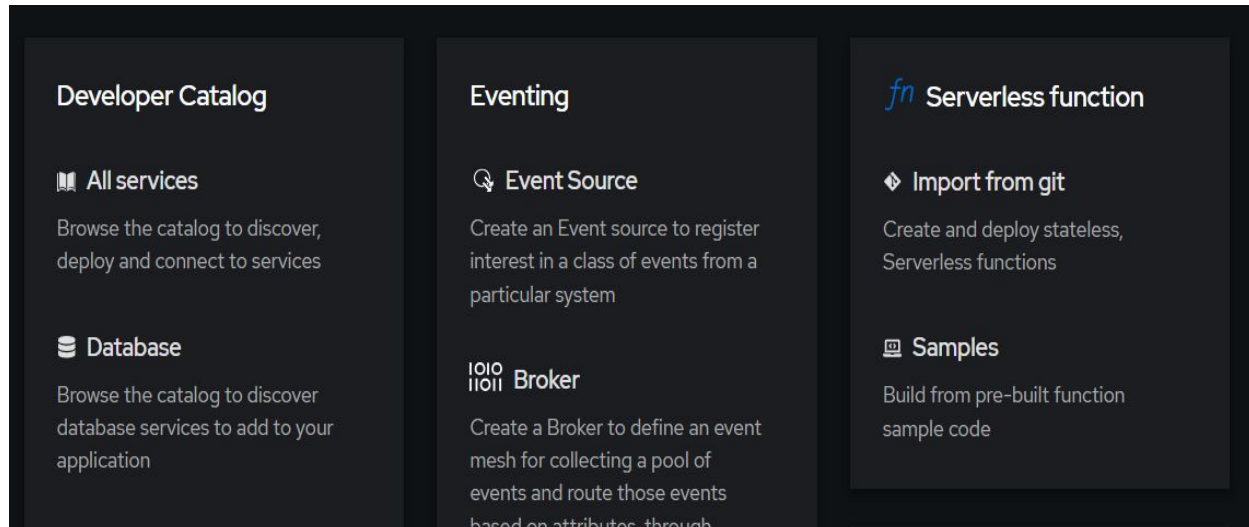
Installation Highlights for On-premises Providers

Bare Metal

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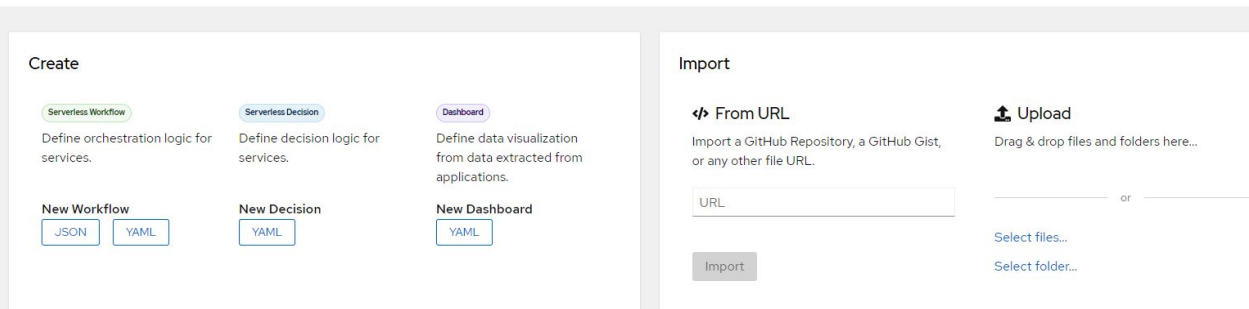- Attach non-bootable ISO
- Control plane nodes on different subnets

vmware vSphere

- 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)

NUTANIX

- 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

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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!

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Red = New AAP component or major change

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Learn: Over 100 Interactive courses

https://developers.redhat.com/learn

```
[your@sandbox ~]$ lscpu
RAM: 14GB
Storage: 40GB
Time limit: 30 days
Awesome: YES
```

Learn containers, Kubernetes, and OpenShift in your browser.

Start exploring in the OpenShift Sandbox.

Try Red Hat's products and technologies without setup or configuration.
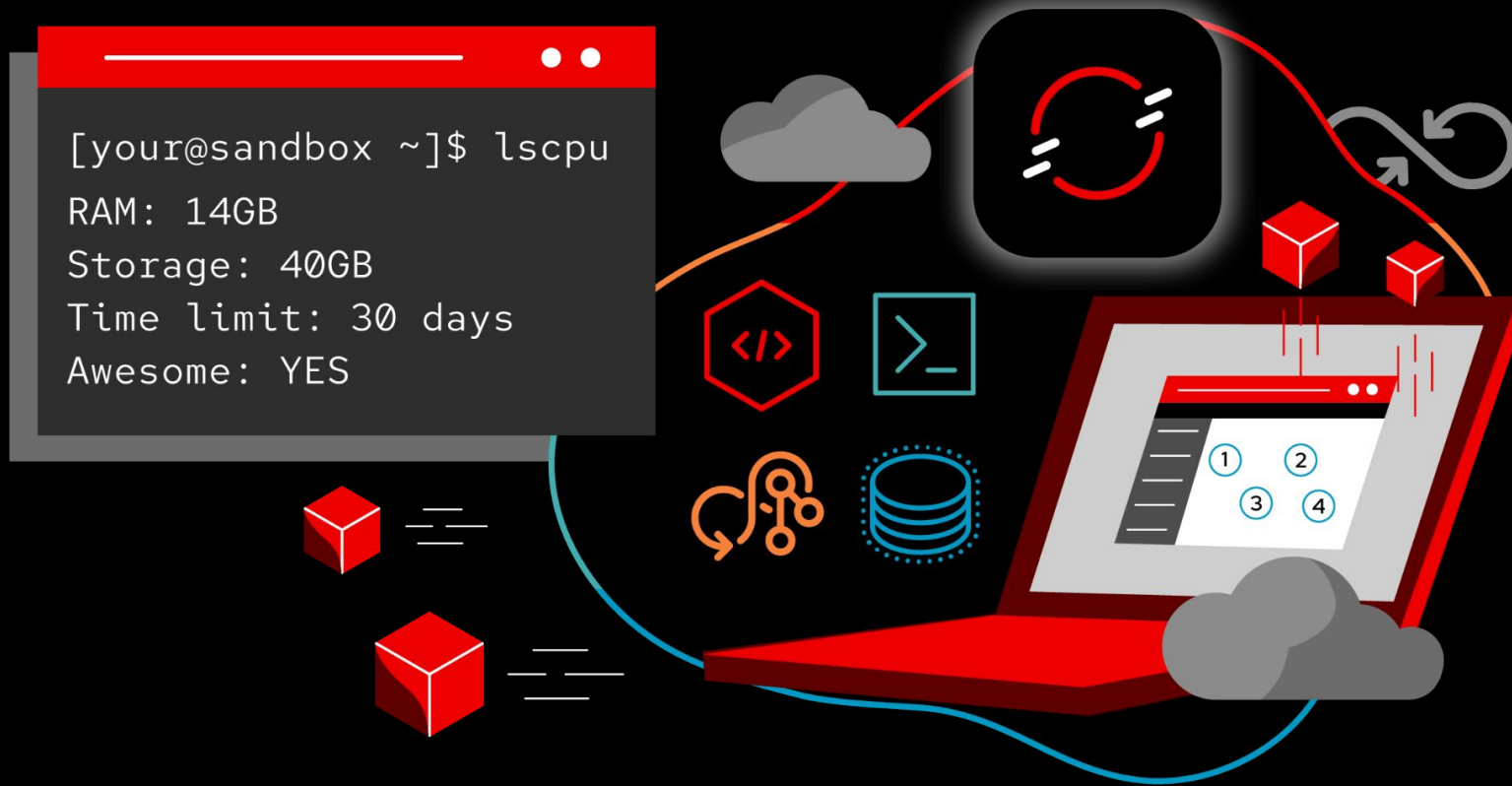
developers.redhat.com/developer-sandbox

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Red Hat Developer

RED.HT/MI-RHUG

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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