OpenShift Container Platform 4.4

Release notes

Highlights of what is new and what has changed with this OpenShift Container Platform release

Last Updated: 2021-02-14

OpenShift Container Platform 4.4 Release notes

Highlights of what is new and what has changed with this OpenShift Container Platform release

Legal Notice

Abstract

The release notes for OpenShift Container Platform summarize all new features and enhancements, notable technical changes, major corrections from the previous version, and any known bugs upon general availability.

Table of Contents

CHAPTER 1. OPENSHIFT CONTAINER PLATFORM 4.4 RELEASE NOTES

Red Hat OpenShift Container Platform provides developers and IT organizations with a hybrid cloud application platform for deploying both new and existing applications on secure, scalable resources with minimal configuration and management overhead. OpenShift Container Platform supports a wide selection of programming languages and frameworks, such as Java, JavaScript, Python, Ruby, and PHP.

Built on Red Hat Enterprise Linux and Kubernetes, OpenShift Container Platform provides a more secure and scalable multi-tenant operating system for today's enterprise-class applications, while delivering integrated application runtimes and libraries. OpenShift Container Platform enables organizations to meet security, privacy, compliance, and governance requirements.

1.1. ABOUT THIS RELEASE

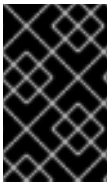
Red Hat OpenShift Container Platform (RHBA-2020:0581) is now available. This release uses Kubernetes 1.17 with CRI-O runtime. New features, changes, and known issues that pertain to OpenShift Container Platform 4.4 are included in this topic.

Red Hat did not publicly release OpenShift Container Platform 4.4.0 as the GA version and, instead, is releasing OpenShift Container Platform 4.4.3 as the GA version.

OpenShift Container Platform 4.4 clusters are available at https://cloud.redhat.com/openshift. The Red Hat OpenShift Cluster Manager application for OpenShift Container Platform allows you to deploy OpenShift Container Platform clusters to either on-premise or cloud environments.

OpenShift Container Platform 4.4 is supported on Red Hat Enterprise Linux 7.6 or later, as well as Red Hat Enterprise Linux CoreOS (RHCOS) 4.4.

You must use RHCOS for the control plane, which are also known as master machines, and can use either RHCOS or Red Hat Enterprise Linux 7.6 or later for compute machines, which are also known as worker machines.



IMPORTANT

Because only Red Hat Enterprise Linux version 7.6 or later is supported for compute machines, you must not upgrade the Red Hat Enterprise Linux compute machines to version 8.

With the release of OpenShift Container Platform 4.4, version 4.1 is now end of life. For more information, see the Red Hat OpenShift Container Platform Life Cycle Policy .

1.2. NEW FEATURES AND ENHANCEMENTS

This release adds improvements related to the following components and concepts.

1.2.1. Installation and upgrade

1.2.1.1. Installing a cluster on Microsoft Azure using user-provisioned infrastructure

OpenShift Container Platform 4.4 introduces support for installing a cluster on Azure using user-provisioned infrastructure. Running user-provisioned infrastructure on Azure lets you use customizations your environment might require, like regulatory, security, and operational control.

You can incorporate example Azure Resource Manager (ARM) templates provided by Red Hat to assist in the deployment process, or create your own. You are also free to create the required resources through other methods; the ARM templates are just an example.

See Installing a cluster on Azure using ARM templates for details.

1.2.1.2. Installing a cluster on Red Hat Virtualization using installer-provisioned infrastructure

OpenShift Container Platform 4.4 introduces support for installing a cluster in a Red Hat Virtualization (RHV) environment using installer-provisioned infrastructure.

For more information, see Installing a cluster quickly on RHV .

1.2.1.3. Installing a cluster on OpenStack using user-provisioned infrastructure

OpenShift Container Platform 4.4 introduces support for installing a cluster on Red Hat OpenStack Platform (RHOSP) that runs on infrastructure that you provide. Using your own infrastructure allows you to integrate your cluster with existing infrastructure and modifications. For example, you must create all RHOSP resources, like Nova servers, Neutron ports, and security groups. Red Hat provides Ansible playbooks to help you with the deployment process.

You can also install a cluster on RHOSP with Kuryr using your own infrastructure.

For more information, see Installing a cluster on OpenStack on your own infrastructure or Installing a cluster on OpenStack with Kuryr on your own infrastructure.

1.2.1.4. Installing a cluster on OpenStack no longer requires the Swift object storage service

Beginning with version 4.4, OpenShift Container Platform no longer requires that the Swift object storage service be present on the RHOSP cloud where it is installed. If Swift is not available for the OpenShift Container Platform installation, the installer uses the Cinder block storage and Glance image registry services in its place.

For more information, see Installing a cluster on OpenStack using your own infrastructure .

1.2.1.5. Clusters installed on OpenStack support self-signed certificates

OpenShift Container Platform 4.4 can now be installed on RHOSP clouds that use self-signed certificates for authorization.

For more information, see Installing a cluster on OpenStack using your own infrastructure .

1.2.1.6. OpenStack validates RHCOS images by checking sha256 checksum

On RHOSP, the installer now performs automatic checksum validation of Red Hat Enterprise Linux CoreOS (RHCOS) images.

1.2.1.7. Support for east-west traffic with OVN load balancing on OpenStack with Kuryr

OpenShift Container Platform installations that use Kuryr on RHOSP 16 can now use the OVN load-balancing provider driver instead of the Amphora driver. If OVN and the OVN Octavia driver are present in the environment, OVN is used automatically. As a result, load balancer performance and resource utilization are improved. The need for a load balancer VM for each service is also removed.

1.2.1.8. Using upgrade channels for 4.4 release

Upgrades from the latest OpenShift Container Platform 4.3.z release to 4.4 will be available at GA for clusters that have switched to the **fast-4.4** channel. Telemetry data from early adopters in the **fast-4.4** channel will be monitored to inform when the upgrade is promoted into the **stable-4.4** channel. This monitoring is above and beyond our extensive enterprise-grade testing and may take several weeks.

1.2.2. Security

1.2.2.1. Support for bound service account tokens

OpenShift Container Platform 4.4 provides support for bound service account tokens, which improves the ability to integrate with cloud provider identity access management (IAM) services, such as AWS IAM.

For more information, see Using bound service account tokens .

1.2.2.2. The oauth-proxy image stream is now available

OpenShift Container Platform 4.4 introduces the **oauth-proxy** image stream for third party authentication integration. You should no longer use the **oauth-proxy** image from the Red Hat Registry. You should instead use the **openshift/oauth-proxy:v4.4** image stream if you target OpenShift Container Platform 4.4 clusters and newer. This guarantees backwards compatibility and allows you to add image stream triggers to get critical fixes. The **v4.4** tag will be available for at least the next three OpenShift Container Platform minor releases without breaking changes. Each minor release will also introduce its own tag.

1.2.2.3. kube-apiserver checks client certificates before tokens

In previous versions of OpenShift Container Platform, the **kube-apiserver** checked tokens before client certificates for authentication. Now **kube-apiserver** checks client certificates before tokens.

For example, if you had a **system:admin** kube config and ran the **oc --token=foo get pod** command in previous versions of OpenShift Container Platform, it would authenticate as a user with token **foo**. Now it authenticates as **system:admin**. The recommendation for past releases was to impersonate a user with the parameter **--as** in such cases instead of overriding the token when using a client certificate; this is no longer necessary.

1.2.3. Nodes

1.2.3.1. Evicting pods using the descheduler (Technology Preview)

The descheduler provides the ability to evict a running pod so that the pod can be rescheduled onto a more suitable node.

You can benefit from descheduling pods in situations such as the following:

- Nodes are underutilized or overutilized.
- Pod and node affinity requirements, such as taints or labels, have changed and the original scheduling decisions are no longer appropriate for certain nodes.
- Node failure requires pods to be moved.

- New nodes are added to clusters.

See Evicting pods using the descheduler for more information.

1.2.3.2. Controlling overcommit and managing container density on nodes

OpenShift Container Platform administrators can now control the level of overcommit and manage container density on nodes. You can configure cluster-level overcommit using the Cluster Resource Override Operator to override the ratio between requests and limits set on developer containers.

For more information, see Configuring your cluster to place pods on overcommitted nodes .

1.2.4. Cluster monitoring

1.2.4.1. Monitoring Dashboards in web console

The **Dashboards** view is now available from the **Monitoring** section in the web console. This lets you view metrics that bring transparency to the OpenShift Container Platform cluster and its dependent components.

1.2.4.2. hwmon collector disabled in node-exporter

The **hwmon** collector has been disabled in the node-exporter monitoring component because it is no longer used to collect cluster metrics.

1.2.4.3. cluster-reader can read node metrics

The **cluster-reader** role can now read node metrics by default.

1.2.4.4. Cluster alert for when multiple containers are killed

You are notified with a **MultipleContainersOOMKilled** alert when multiple containers are killed within 15 minutes due to memory outages.

1.2.4.5. New API server alerts

There are two new API server alerts available for OpenShift Container Platform 4.4:

- **ErrorBudgetBurn**: fires when the API server issues **5xx** request responses.
- **AggregatedAPIErrors**: fires when the number of errors have increased for the aggregated API servers.

1.2.4.6. Permission updates for Prometheus Operator

The custom resource definitions (CRD) managed by the Prometheus Operator now have more restrictive permissions.

The custom resources (CR) the Prometheus Operator manages include:

- **Prometheus**
- **ServiceMonitor**

- **PodMonitor**
- **Alertmanager**
- **PrometheusRule**

1.2.4.7. Cluster monitoring component version updates

The following monitoring components have been upgraded:

- Prometheus: version upgrade from 2.14.0 to 2.15.2
- Alertmanager: version upgrade from 0.19.0 to 0.20.0
- Prometheus Operator: version upgrade from 0.34.0 to 0.35.1
- kube-state-metrics: version upgrade from 1.8.0 to 1.9.5
- Grafana: version upgrade from 6.4.3 to 6.5.3

1.2.5. Web console

1.2.5.1. IBM Marketplace integration in OperatorHub

IBM Marketplace is now integrated with the OperatorHub, which is located in the OpenShift Container Platform web console. This integration allows you to install and manage Operators hosted on the IBM Marketplace from within the OperatorHub interface.

1.2.5.2. Edit applications in the Topology view

You can now edit applications from the **Developer** perspective by using the **Topology** view.

1.2.5.3. Create Helm releases

You can now create Helm releases from the Helm charts that are provided in the **Developer Catalog**.

1.2.6. Networking

1.2.6.1. Stream Control Transmission Protocol (SCTP) on OpenShift Container Platform

SCTP is a reliable message based protocol that runs on top of an IP network. When enabled, you can use SCTP as a protocol with both pods and services. For more information, see Using SCTP.

1.2.6.2. Using DNS forwarding

You can use DNS forwarding to override the forwarding default configuration on a per-zone basis by specifying which name server should be used for a given zone.

For more information, see Using DNS forwarding.

1.2.6.3. HAProxy upgraded to version 2.0

The HAProxy used for ingress has been upgraded from version 1.8.17 to 2.0.13. This upgrade introduces no new APIs or supported user-facing capabilities to OpenShift Container Platform. The upgrade does

provide significant performance improvements and many bug fixes. HAProxy 2.0 also adds native Prometheus metrics and provides full IPv6 support when other OpenShift Container Platform components are configured to support it.

1.2.6.4. Ingress enhancements

There are two noteworthy enhancements introduced to the **Ingress** object in OpenShift Container Platform 4.4:

- The **Ingress** object gains a Route admission policy API : allows you to run applications in multiple namespaces with the same domain name.
- The **Ingress** object can be exposed by a NodePort service : facilitates integration of your existing load balancer so that you can have granular control over your load balancing solution.

1.2.7. Storage

1.2.7.1. Persistent storage using CSI snapshots (Technology Preview)

You can now use the Container Storage Interface (CSI) to create, restore, and delete a volume snapshot. This feature is enabled by default in Technology Preview.

For more information, see Using CSI volume snapshots .

1.2.7.2. Persistent storage using CSI cloning (Technology Preview)

You can now use the Container Storage Interface (CSI) to clone storage volumes after they have already been created. This feature is enabled by default in Technology Preview.

For more information, see Using CSI volume cloning .

1.2.8. Scale

1.2.8.1. Cluster maximums

Updated guidance around cluster maximums for OpenShift Container Platform 4.4 is now available.

The 4.4 tested maximum for the number of pods per node is 500.

Use the OpenShift Container Platform Limit Calculator to estimate cluster limits for your environment.

1.2.9. Developer experience

1.2.9.1. Automatic image pruning

You can now enable automatic image pruning. This is not enabled by default; you will be notified of this option after installing or upgrading to OpenShift Container Platform 4.4. This automation is managed by the Image Registry Operator, which creates a cron job to run periodic image pruning.

1.2.9.2. Build objects report conditions in status

Build conditions have been added for each existing OpenShift Container Platform build phase. These conditions contain information about the build during its build lifecycle. You can also use commands like **oc wait** to wait for a specific build phase to be reached.

1.2.9.3. Recreate rollouts for image registry

You can now use the **Recreate** rollout strategy when deploying the image registry. This lets you use **ReadWriteOnce** persistent volumes, such as AWS Elastic Block Store. When using these storage types, you must use the **Recreate** rollout strategy to successfully upgrade an OpenShift Container Platform cluster.

1.2.9.4. odo enhancements

odo has several enhancements and improvements that focus on the user experience:

- An **odo debug info** command is now available.
- The **odo url** command now has a **--secure** flag to specify HTTPS URLs.
- The **odo create**, **odo url**, and **odo config** commands now have a **--now** flag to apply changes on the cluster immediately.
- The **odo debug port-forward** command now selects a port automatically if the default port is occupied.
- The output of the **odo storage** and **odo push** commands is restructured for better readability.
- Experimental mode is now available, in which you may use Technology Preview features, such as creating applications using devfiles.
- Technology Preview feature - support of devfiles is now available. To learn more, see the odo Release Notes.

1.2.9.5. OpenShift Pipelines (Technology Preview)

OpenShift Pipelines use Tekton custom resources (CR) to create extensible CI/CD solutions for automating deployments. These CRs serve as the building blocks to assemble the Pipeline. OpenShift Pipelines provide a catalog of reusable Tasks that can be used to easily build Pipelines. Each Pipeline runs in an isolated container without requiring the maintenance of a CI server and is portable across multiple platforms.

1.2.9.6. Helm 3 GA support

Helm is a package manager for Kubernetes and OpenShift Container Platform applications. It uses a packaging format called Helm charts to simplify defining, installing, and upgrading of applications and services.

Helm CLI is built and shipped with OpenShift Container Platform and is available to download from the web console's **CLI** menu.

1.2.10. Operators

1.2.10.1. etcd cluster Operator

OpenShift Container Platform 4.4 introduces the etcd cluster Operator, which handles the scaling of

etcd and provisioning etcd dependencies such as TLS certificates. The etcd cluster Operator simplifies the disaster recovery procedure to restore to a previous cluster state, automates the addition of etcd members, provides more accurate etcd member health reporting, and reports events to assist with debugging the etcd cluster.

With this update, the names of the following disaster recovery scripts were changed:

- **etcd-snapshot-backup.sh** is now **cluster-backup.sh**.
- **etcd-snapshot-restore.sh** is now **cluster-restore.sh**.

For more information, see About disaster recovery.

1.2.10.2. Insights Operator now collects anonymized CSRs

With this enhancement, the Insights Operator periodically collects anonymized certificate signing requests (CSR) to identify CSRs that are not verified in Kubernetes or have not been approved. Additionally, the Insights Operator collects data if certificates are valid. As a result, this helps improve the OpenShift Container Platform customer support experience.

1.2.10.3. Remove Samples Operator if it cannot connect to registry.redhat.io

Sample image streams are not created if the Samples Operator cannot connect to **registry.redhat.io** during installation. This ensures that sample content installation does not fail OpenShift Container Platform cluster installation.

You can configure alternate or mirrored registries to bypass this issue if it arises during your cluster installation.

1.2.11. Documentation updates and conventions

1.2.11.1. OpenShift Container Platform documentation licensed under Apache license 2.0

The OpenShift Container Platform documentation is now licensed under Apache license 2.0. It was previously licensed under the Creative Commons Attribution-ShareAlike 3.0 Unported license.

1.2.11.2. Copy button for docs.openshift.com site

All code blocks on **docs.openshift.com** now provide a **Copy** button that lets you copy all text in a code block to your machine's clipboard. This capability is not available on the Customer Portal version of OpenShift Container Platform documentation.

1.2.11.3. OpenShift Container Engine renamed to OpenShift Kubernetes Engine

Red Hat has decided to rename Red Hat OpenShift Container Engine to Red Hat OpenShift Kubernetes Engine in order to better communicate what value the product offering delivers. For more information, see About OpenShift Kubernetes Engine.

1.2.11.4. Documentation is now available for the 4.3 version of Azure Red Hat OpenShift

This new version is jointly managed, supported, and documented by both Red Hat and Microsoft:

- Microsoft documentation

- Red Hat documentation

1.3. NOTABLE TECHNICAL CHANGES

OpenShift Container Platform 4.4 introduces the following notable technical changes.

Sending cluster logs using the Fluentd syslog plug-in (RFC 3164)
Due to changes introduced with the Log Forwarding feature in OpenShift Container Platform 4.3, you could no longer use the Fluentd syslog plug-in to forward logs to an external syslog server. In OpenShift Container Platform 4.4, this functionality is restored and you can use the syslog plug-in. The procedure to configure the plug-in is different in OpenShift Container Platform version 4.4 than it was in version 4.2. For more information, see Sending logs using the Fluentd syslog plug-in (RFC 3164) .

Operator SDK v0.15.0
OpenShift Container Platform 4.4 supports Operator SDK v0.15.0, which introduces the following notable technical changes:

- The **olm-catalog gen-csv** subcommand is now moved to the **generate csv** subcommand.
- The **up local** subcommand is now moved to the **run --local** subcommand.

Binary sha256sum.txt.sig file has been renamed for OpenShift Container Platform releases
The **sha256sum.txt.sig** file included in OpenShift Container Platform releases has been renamed to **sha256sum.txt.gpg**. This binary file contains a hash of each of the installer and client binaries, which are used to verify their integrity.

The renamed binary file allows for GPG to correctly verify **sha256sum.txt**, which was not possible previously due to naming conflicts.

1.4. DEPRECATED AND REMOVED FEATURES

Some features available in previous releases have been deprecated or removed.

Deprecated functionality is still included in OpenShift Container Platform and continues to be supported; however, it will be removed in a future release of this product and is not recommended for new deployments. For the most recent list of major functionality deprecated and removed within OpenShift Container Platform 4.4, refer to the table below. Additional details for more fine-grained functionality that has been deprecated and removed are listed after the table.

In the table, features are marked with the following statuses:

- **GA**: *General Availability*
- **DEP**: *Deprecated*
- **-**: *Removed*

Table 1.1. Deprecated and removed features tracker

Feature	OCP 4.2	OCP 4.3	OCP 4.4
Service Catalog	DEP	DEP	DEP
Template Service Broker	DEP	DEP	DEP

Feature	OCP 4.2	OCP 4.3	OCP 4.4
OpenShift Ansible Service Broker	DEP	DEP	-
OperatorSources	DEP	DEP	DEP
CatalogSourceConfigs	DEP	DEP	DEP
Operator Framework's Package Manifest Format	GA	GA	DEP
System containers for Docker, CRI-O	-	-	-
Hawkular agent	-	-	-
Pod presets	-	-	-
Audit policy	-	-	-
Clustered MongoDB template	-	-	-
Clustered MySQL template	-	-	-
CephFS provisioner	-	-	-
Manila provisioner	-	-	-

1.4.1. Deprecated features

1.4.1.1. OpenShift CLI config flag

The **--config** flag used with **oc** is deprecated. You should start using the **--kubeconfig** flag instead.

1.4.1.2. OpenShift CLI timeout flag

The **--timeout** flag used with **oc rsh** is deprecated. You should start using the **--request-timeout** flag instead.

1.4.1.3. OpenShift editor

The **OS_EDITOR** is deprecated. Users should start using **KUBE_EDITOR** or **EDITOR** instead.

1.4.1.4. machineCIDR network parameter

The **machineCIDR** network parameter used in the **install-config.yaml** file is now deprecated. You should use **machineNetwork.cidr** instead.

1.4.1.5. Service Catalog, Template Service Broker, Ansible Service Broker, and their Operators

NOTE

Service Catalog is not installed by default in OpenShift Container Platform 4.

Service Catalog, Template Service Broker, Ansible Service Broker, and their associated Operators were deprecated starting in OpenShift Container Platform 4.2.

Ansible Service Broker, the Ansible Service Broker Operator, and the following APBs are now removed in OpenShift Container Platform 4.4:

- APB base image
- APB tools container
- PostgreSQL APB
- MySQL APB
- MariaDB APB

The following related APIs have also been removed:

- **.automationbroker.io/v1alpha1**
- **.osb.openshift.io/v1**

Service Catalog and Template Service Broker will be removed in a future OpenShift Container Platform release, as well as the following related API:

- **.servicecatalog.k8s.io/v1beta1**

If they are enabled in 4.4, the web console warns cluster administrators that these features are still enabled. The following alerts can be viewed from the **Monitoring → Alerting** page and have a **Warning** severity:

- **ServiceCatalogAPIServerEnabled**
- **ServiceCatalogControllerManagerEnabled**
- **TemplateServiceBrokerEnabled**

The **service-catalog-controller-manager** and **service-catalog-apiserver** cluster Operators are also now set to **Upgradeable=false** in 4.4. This means that they will block future cluster upgrades to the next minor version, for example 4.5, if they are still installed at that time. Upgrading to z-stream releases such as 4.4.z, however, are still permitted in this state.

If Service Catalog is installed, cluster administrators can see Uninstalling Service Catalog to uninstall it before the next minor version of OpenShift Container Platform is released.

1.4.1.6. Deprecation of OperatorSources, CatalogSourceConfigs, and packaging format

The **OperatorSources** and **CatalogSourceConfigs** objects are deprecated from OperatorHub. The following related APIs will be removed in a future release:

- **operatorsources.operators.coreos.com/v1**
- **catalogsourceconfigs.operators.coreos.com/v2**

- **catalogsourceconfigs.operators.coreos.com/v1**

The Operator Framework's current packaging format, the *Package Manifest Format*, is also deprecated in this release, to be replaced by the new *Bundle Format* in a future release. As a result, the **oc adm catalog build** command, which builds catalogs in the Package Manifest Format, is also deprecated.

For more information on the upcoming Bundle Format and the **opm** CLI, see the upstream OKD documentation.

1.4.1.6.1. Converting custom OperatorSources and CatalogSourceConfigs objects

If there are any custom **OperatorSources** or **CatalogSourceConfigs** objects present on the cluster in OpenShift Container Platform 4.4, the **marketplace** cluster Operator now sets an **Upgradeable=false** condition and issues a **Warning** alert. This means that it will block future cluster upgrades to the next minor version, for example 4.5, if they are still installed at that time. Upgrades to z-stream releases such as 4.4.z, however, are still permitted in this state.

Cluster administrators can convert custom **OperatorSources** or **CatalogSourceConfigs** objects to using **CatalogSource** objects directly to clear this alert:

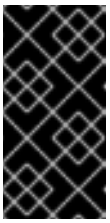
Procedure

1. Remove your custom **OperatorSources** or **CatalogSourceConfigs** objects.
   a. Search for **OperatorSources** or **CatalogSourceConfigs** objects across all namespaces:

```
$ oc get opsrc --all-namespaces
$ oc get csc --all-namespaces
```

   b. Remove all custom objects from all relevant namespaces:

```
$ oc delete opsrc <custom_opsrc_name> -n <namespace>
$ oc delete csc <custom_csc_name> -n <namespace>
```



IMPORTANT

Do not remove the default **OperatorSources** objects in the **openshift-marketplace** namespace: **redhat-operators**, **community-operators**, **certified-operators**, and **redhat-marketplace**. They are bootstrapped if accidentally removed, however.

2. Use the procedure as described in Building an Operator catalog image from the restricted network documentation to create and push a new catalog image, making the following changes at the **oc adm catalog build** command step:
   - Change **--appregistry-org** to your namespace on the App Registry instance, for example on Quay.io.
   - Change **--to** to your image repository tag, which is applied to the built catalog image and pushed.

   For example:

```
$ oc adm catalog build \
```

```
--appregistry-org <namespace> \
--from=registry.redhat.io/openshift4/ose-operator-registry:v4.4 \
--to=quay.io/<namespace>/<catalog_name>:<tag> \
[-a ${REG_CREDS}]
```

NOTE

The **oc adm catalog build** command is deprecated; however, deprecated features are still supported.

3. Apply a **CatalogSource** object to your cluster that references your new catalog image:

```
cat <<EOF | oc apply -f -

apiVersion: operators.coreos.com/v1alpha1
kind: CatalogSource
metadata:
  name: my-operator-catalog
  namespace: openshift-marketplace
spec:
  sourceType: grpc
  image: quay.io/<namespace>/<catalog_name>:<tag> 1
  displayName: My Operator Catalog
  updateStrategy:
    registryPoll: 2
      interval: 30m
EOF
```

1. Specify your custom Operator catalog image.
2. **CatalogSource** objects can now automatically check for new versions to keep up to date.

1.4.2. Removed features

1.4.2.1. OpenShift CLI secrets subcommands

The following **oc secrets** subcommands that were deprecated in OpenShift Container Platform 3.9 are no longer available:

- **new**
- **new-basicauth**
- **new-dockercfg**
- **new-sshauth**

You must use the **oc create secret** command instead.

1.4.2.2. OpenShift CLI build-logs command

The **oc build-logs** command was deprecated in OpenShift Container Platform 3.11 and has been removed. You must use **oc logs** instead.

1.4.2.3. Deprecated upstream Kubernetes metrics have been removed

All deprecated upstream Kubernetes metrics have been removed. The complete list of removed metrics follows.

Kubelet metrics

- **kubelet_pod_worker_latency_microseconds**
- **kubelet_pod_start_latency_microseconds**
- **kubelet_cgroup_manager_latency_microseconds**
- **kubelet_pod_worker_start_latency_microseconds**
- **kubelet_pleg_relist_latency_microseconds**
- **kubelet_pleg_relist_interval_microseconds**
- **kubelet_runtime_operations**
- **kubelet_runtime_operations_latency_microseconds**
- **kubelet_runtime_operations_errors**
- **kubelet_eviction_stats_age_microseconds**
- **kubelet_device_plugin_registration_count**
- **kubelet_device_plugin_alloc_latency_microseconds**
- **kubelet_network_plugin_operations_latency_microseconds**

Scheduler metrics

- **scheduler_e2e_scheduling_latency_microseconds**
- **scheduler_scheduling_algorithm_predicate_evaluation**
- **scheduler_scheduling_algorithm_priority_evaluation**
- **scheduler_scheduling_algorithm_preemption_evaluation**
- **scheduler_scheduling_algorithm_latency_microseconds**
- **scheduler_binding_latency_microseconds**
- **scheduler_scheduling_latency_seconds**

API server metrics

- **apiserver_request_count**
- **apiserver_request_latencies**
- **apiserver_request_latencies_summary**
- **apiserver_dropped_requests**

- **apiserver_storage_data_key_generation_latencies_microseconds**
- **apiserver_storage_transformation_failures_total**
- **apiserver_storage_transformation_latencies_microseconds**
- **apiserver_proxy_tunnel_sync_latency_secs**

Docker metrics

- **kubelet_docker_operations**
- **kubelet_docker_operations_latency_microseconds**
- **kubelet_docker_operations_errors**
- **kubelet_docker_operations_timeout**

Reflector metrics

- **reflector_items_per_list**
- **reflector_items_per_watch**
- **reflector_list_duration_seconds**
- **reflector_lists_total**
- **reflector_short_watches_total**
- **reflector_watch_duration_seconds**
- **reflector_watches_total**

etcd metrics

- **etcd_helper_cache_hit_count**
- **etcd_helper_cache_miss_count**
- **etcd_helper_cache_entry_count**
- **etcd_request_cache_get_latencies_summary**
- **etcd_request_cache_add_latencies_summary**
- **etcd_request_latencies_summary**

Transformation metrics

- **transformation_latencies_microseconds**
- **transformation_failures_total**

Other metrics

- **admission_quota_controller_adds**
- **crd_autoregistration_controller_work_duration**

- **APIServiceOpenAPIAggregationControllerQueue1_adds**
- **AvailableConditionController_retries**
- **crd_openapi_controller_unfinished_work_seconds**
- **APIServiceRegistrationController_retries**
- **admission_quota_controller_longest_running_processor_microseconds**
- **crdEstablishing_longest_running_processor_microseconds**
- **crdEstablishing_unfinished_work_seconds**
- **crd_openapi_controller_adds**
- **crd_autoregistration_controller_retries**
- **crd_finalizer_queue_latency**
- **AvailableConditionController_work_duration**
- **non_structural_schema_condition_controller_depth**
- **crd_autoregistration_controller_unfinished_work_seconds**
- **AvailableConditionController_adds**
- **DiscoveryController_longest_running_processor_microseconds**
- **autoregister_queue_latency**
- **crd_autoregistration_controller_adds**
- **non_structural_schema_condition_controller_work_duration**
- **APIServiceRegistrationController_adds**
- **crd_finalizer_work_duration**
- **crd_naming_condition_controller_unfinished_work_seconds**
- **crd_openapi_controller_longest_running_processor_microseconds**
- **DiscoveryController_adds**
- **crd_autoregistration_controller_longest_running_processor_microseconds**
- **autoregister_unfinished_work_seconds**
- **crd_naming_condition_controller_queue_latency**
- **crd_naming_condition_controller_retries**
- **non_structural_schema_condition_controller_queue_latency**
- **crd_naming_condition_controller_depth**

- **AvailableConditionController_longest_running_processor_microseconds**
- **crdEstablishing_depth**
- **crd_finalizer_longest_running_processor_microseconds**
- **crd_naming_condition_controller_adds**
- **APIServiceOpenAPIAggregationControllerQueue1_longest_running_processor_microseconds**
- **DiscoveryController_queue_latency**
- **DiscoveryController_unfinished_work_seconds**
- **crd_openapi_controller_depth**
- **APIServiceOpenAPIAggregationControllerQueue1_queue_latency**
- **APIServiceOpenAPIAggregationControllerQueue1_unfinished_work_seconds**
- **DiscoveryController_work_duration**
- **autoregister_adds**
- **crd_autoregistration_controller_queue_latency**
- **crd_finalizer_retries**
- **AvailableConditionController_unfinished_work_seconds**
- **autoregister_longest_running_processor_microseconds**
- **non_structural_schema_condition_controller_unfinished_work_seconds**
- **APIServiceOpenAPIAggregationControllerQueue1_depth**
- **AvailableConditionController_depth**
- **DiscoveryController_retries**
- **admission_quota_controller_depth**
- **crdEstablishing_adds**
- **APIServiceOpenAPIAggregationControllerQueue1_retries**
- **crdEstablishing_queue_latency**
- **non_structural_schema_condition_controller_longest_running_processor_microseconds**
- **autoregister_work_duration**
- **crd_openapi_controller_retries**
- **APIServiceRegistrationController_work_duration**
- **crdEstablishing_work_duration**

- **crd_finalizer_adds**
- **crd_finalizer_depth**
- **crd_openapi_controller_queue_latency**
- **APIServiceOpenAPIAggregationControllerQueue1_work_duration**
- **APIServiceRegistrationController_queue_latency**
- **crd_autoregistration_controller_depth**
- **AvailableConditionController_queue_latency**
- **admission_quota_controller_queue_latency**
- **crd_naming_condition_controller_work_duration**
- **crd_openapi_controller_work_duration**
- **DiscoveryController_depth**
- **crd_naming_condition_controller_longest_running_processor_microseconds**
- **APIServiceRegistrationController_depth**
- **APIServiceRegistrationController_longest_running_processor_microseconds**
- **crd_finalizer_unfinished_work_seconds**
- **crdEstablishing_retries**
- **admission_quota_controller_unfinished_work_seconds**
- **non_structural_schema_condition_controller_adds**
- **APIServiceRegistrationController_unfinished_work_seconds**
- **admission_quota_controller_work_duration**
- **autoregister_depth**
- **autoregister_retries**
- **kubeproxy_sync_proxy_rules_latency_microseconds**
- **rest_client_request_latency_seconds**
- **non_structural_schema_condition_controller_retries**

1.4.2.4. High granularity request duration buckets in Prometheus

High granularity request duration buckets were dropped in Prometheus, which were tracked with the **apiserver_request_duration_seconds_bucket** metric. This leaves enough buckets for meaningful alerting from other monitoring components, but drastically reduces cardinality.

1.5. BUG FIXES

apiserver-auth

- Previously, if a user attempted to log in from the CLI when only browser-based login was configured, they were prompted for a user name and password. Now, if a user attempts to log in from the CLI when only browser-based login is configured, a message is shown that instructs users how to retrieve the login token. (BZ#1671604)

- Previously, due to a race condition, it went unnoticed when the mounted serving certificate changed or appeared, so the serving certificate was not trusted by metrics scrapers on the HTTPS endpoint. The race condition was removed and Operators based on **library-go** are now able to reload the serving certificate correctly. (BZ#1779438)

- Previously, the Kubernetes API server service network address was not handled properly if an IPv6 address was used. The OAuth proxy can now properly connect to the Kubernetes API server if it serves on an IPv6 address. (BZ#1789462)

Build

- Before starting a build, the OpenShift Container Platform builder would parse the supplied Dockerfile and reconstruct a modified version of it to use for the build, to add labels and handle substitutions of the images named in **FROM** instructions. The generated Dockerfile did not always correctly reconstruct **ENV** and **LABEL** instructions. The generated Dockerfile would sometimes include **=** characters where the original did not, and the build would fail with a syntax error. With this bug fix, when generating the modified Dockerfile, the original text for **ENV** and **LABEL** instructions is now used verbatim. As a result, the build process no longer introduces syntax errors in **ENV** and **LABEL** instructions. (BZ#1821860)

- The **JenkinsPipeline** build strategy is deprecated as of OpenShift Container Platform 4.3.0. Use **Jenkinsfile** object directly on Jenkins or OpenShift Pipelines instead. (BZ#1804976)

- Build label generation and validation was not fully conforming to Kubernetes expectations. Builds could fail with certain **BuildConfig** object names with invalid label errors. This bug fix updates the build controller and build API server to now use complete Kubernetes validation routines to ensure any added build labels will meet Kubernetes label criteria. As a result, builds with any valid **BuildConfig** object name will not fail because of invalid build label values. (BZ#1804934)

- Previously, if the Samples Operator's **samplesRegistry** field was changed and it still led to an image stream import error, it appeared that the Samples Operator did not take the configuration change when viewing the image stream status. Now, if a change to the Samples Operator's **samplesRegistry** field still leads to an image stream import error, the new failure reasons now properly appear in the image stream status. (BZ#1795705)

- Previously, after a **RUN** instruction, the OpenShift Container Platform builder attempted to unmount each of the bind mounts that were created, and logged any errors that were encountered in the process. The builder now only unmounts the top-level directory, and has the kernel unmount the bind mounts. The errors are no longer encountered and therefore no longer reported. (BZ#1772179)

- Previously, setting both **incremental** and **forcePull** flags to **true** on a build strategy could result in builds using push image credentials to pull images. As a result, image pulls from private registries would fail. Now, the build image properly manages registry push and pull credentials when both **incremental** and **forcePull** are set to **true**. (BZ#1774492)

- The command **oc new-build** did not have the same **--insecure-registries** flag available with the **oc new-app** command to allow for the sure of insecure image reference URLs as their source. As a result, **oc new-build** invocations would receive errors when attempting to make HTTPS

connections using HTTP-based image references were supplied as the base image for the build. Now, The **--insecure-registries** option has been added to the **oc new-build** command and users can now create builds that reference insecure registries as their base image. (BZ#1780714)

Cloud Credential Operator

- The Cloud Credential Operator (CCO) would report on **CredentialsRequest** CRs with conditions even when the CCO has been disabled. Alerts would show even when the Operator has been configured to be disabled. With this bug fix, conditions are no longer reported when the CCO is set to disabled. (BZ#1794536)

- Reconciling a **CredentialsRequest** CR would attempt to create a role assignment that already exists, and Microsoft Azure logs would show **create role assignment** errors. This bug fix checks for existing role assignments to avoid creating one that already exists. As a result, there are less error messages in Azure logs. (BZ#1776079)

Console Kubevirt plugin

- When selecting a VM template without annotations, the VM wizard closed unexpectedly. The VM wizard now works with templates that do not have any annotations. (BZ#1776190)

- Previously, when creating a VM template that uses a URL as a disk image source, a persistent volume claim (PVC) was not created for VMs created when using the template. Now when creating a new VM from such a template, the PVC is cloned and used for the disk image. (BZ#1779116)

- Previously, different units were used when interpreting values for memory and storage in a template, causing requests to create a VM to fail on some occasions. The value for memory and storage in a VM template now use Gi units consistently. (BZ#1792101)

- Previously, the VM wizard ignored any disk configuration in a VM template. The VM wizard now uses the disk configuration if specified in a template. (BZ#1782434)

- The UI previously reported that failed VM migrations had succeeded. When migrating a VM, the UI now correctly reports when a VM migration fails. (BZ#1785344)

- Previously, if a VM had multiple CD-ROM drives defined, it was not possible to remove each CD-ROM drive without saving, and then reopening the dialog for each CD-ROM. Now multiple CD-ROM drives can be removed without saving and reopening the dialog. (BZ#1786070)

- Previously, it was not possible to create a VM with the default YAML used by the VM wizard because the YAML was invalid. It is now possible to use the default VM template when creating a VM with the wizard. (BZ#1808304)

- Previously, it was not possible to modify the boot order by using the visual editor because the boot order in the template YAML was unrecognized. It is now possible to modify the boot order when using the visual editor. (BZ#1789269)

Image

- The **oc tag** command did not update image streams when **ImageStreamTag** objects are inaccessible. The command would report that the new tag was created, but it was not. This bug fix updates the **oc tag** command so that it actually creates the tag even if there are no permissions for the **ImageStreamTag** API. (BZ#1746149)

- To detect whether base64 was padded or unpadded, the decoder was relying on the string

length. This made the decoder unable to handle pull secrets that contain whitespaces. This bug fix checks if the string has trailing padding symbols instead. As a result, pull secrets with whitespaces can be used to pull images. (BZ#1776599)

Image Registry

- Previously, the Image Registry Operator did not report a new version if it was in the unmanaged state, which blocked upgrades. With this bug fix the Image Registry Operator now reports the accurate version when it is the unmanaged state, which results in successful upgrades. (BZ#1791934)

- Previously, the **nodeca** daemon set did not tolerate **NoSchedule** taints, which caused missing pods on nodes. This bug fix adds toleration so tainted nodes receive updates from the **nodeca** daemon set. (BZ#1785115

- The Image Registry Operator was using a rolling update strategy that was not compatible with RWO volumes, which meant that RWO volumes could not be used. This bug fix allows the Image Registry Operator to pick up the rolling update strategy, and can now be deployed with RWO volumes in non-high-available configurations (i.e., configurations with only one replica). (BZ#1798759)

- Previously, the Image Registry Operator did not clean up the storage status when it was removing storage. When the registry was switched back to the **Managed** state, it was not able to detect that storage needed to be bootstrapped. With this bug fix the Image Registry Operator cleans up the storage status, allowing the Operator to create storage when it is switched back to the **Managed** state. (BZ#1787488)

Installer

- Earlier versions of clusters that you provisioned on AWS with installer-provisioned infrastructure do not include security group rules that allow traffic from control plane hosts to workers on TCP and UDP ports 30000-32767. Because of this, new OVN Networking components cannot work as intended. Now, the required security group rules will be added to these clusters to allow communication between control plane and worker machines on TCP and UDP ports 30000-32767, and OVN Networking components work as intended. (BZ#1763936)

- Previously, the upgrade process on Red Hat Enterprise Linux (RHEL) nodes was blocked. An unnecessary machine config apply step failed when it could not pull images from behind the proxy. The unnecessary step was removed, and upgrades to RHEL nodes behind a proxy can succeed. (BZ#1786297)

- Previously, when you upgraded RHEL 7 nodes from version 4.2.12, the machine config was not properly updated by the MCO. Because package installs updated files on the local disk, the MCO did not process config updates on RHEL nodes. Now, the machine config apply step has been restored, and the image pull process can complete behind a proxy. Machine configs are correctly applied after package updates, and upgrades on RHEL 7 nodes succeed. (BZ#1792139)

kube-apiserver

- Although metrics for metrics for aggregated API server status existed, alerts for them did not. Now, an error displays when an aggregated API reports too many errors in a short period of time because that indicates that the availability of the services changes too often. (BZ#1772564)

kube-controller-manager

- Previously, certificates were not propagated correctly, so the cloud provider was unable to

initialize behind a man-in-the-middle proxy. Now, the certificates are correctly propagated to the **kube-controller-manager**, and the cloud provider works as expected with a man-in-the-middle proxy. (BZ#1772756)

Logging

- Previously, you could use Fluentd plug-ins to forward logs to external systems using syslog protocol (RFC 3164). The Log Forwarding API added to OpenShift Container Platform 4.3 changed the process for configuring log forwarding using syslog. As a result, you could not forward logs using the same method as in OpenShift Container Platform 4.2. To address this change, a new process was devised to allow log forwarding using the syslog protocol. This change was backported to OpenShift Container Platform 4.3.7. As a result, you can continue to forward logs to an external syslog server. (BZ#1799024)

Machine Config Operator

- Because some applications, such as Kuryr, are sensitive to HAProxy timeout values, 24-hour timeout values were used for the API LB. If an HAProxy reload operation was triggered many times in a short period, it was possible for many HAProxy processes to accumulate. This bug fix forces sending **SIGTERM** after a default timeout of 120 seconds to old HAProxy processes which have not yet terminated. As a result, the number of long lived duplicate HAProxy processes is reduced. (BZ#1771566)

Metering Operator

- Metering does not manage or delete any S3 bucket data. When deleting a report, any S3 buckets used to store metering data must be manually cleaned up. If reporting data stored in an S3 bucket is not manually cleaned up and the same report is re-created, the original reporting data will still exist and will cause duplicate row entries. (BZ#1728350)

Monitoring

- Because the OAuth proxy container readiness probe was misconfigured, the container logs were flooded by error messages every 10 seconds. The readiness probe has been configured with the proper settings. As a result, the error messages are not appearing in the logs. (BZ#1658899)

- Because the **cluster-reader** role does not have the permission to view node or pod metrics, users bound to that role could not access metrics using commands such as **oc top node**. The **cluster-reader** role has been updated to include permissions to allow viewing metrics. (BZ#1723662)

- A new experimental Prometheus user interface was introduced upstream. The new experimental interface that was not fully tested and not stable. As a result, switching from the experimental interface to the default interface returned an empty page. To prevent this issue, the link to the experimental UI has been hidden. As a result, it is no longer possible to access the experimental Prometheus interface. (BZ#1781415)

- OpenShift Container Platform was evaluating some recording rules incorrectly, As a result, the metrics generated from the recording rules are missing. The recording rules have been fixed. All recording rules now evaluate successfully. (BZ#1807843, BZ#1779324)

Networking

- A previous Egress IP bug fix did not fully clean up after removed Egress IPs resulting in the possibility that harmless extra iptables rules could be left behind on a node. With this bug fix, the extra rules are now removed if they are no longer being used. (BZ#1787488)

- Previously, using the **httpProxy** or **httpsProxy** hostname with uppercase letters makes the CNO fatal, which is a violation of RFC 3986. As a result, CNO was not operational. This bug fix parses it with the **golang url.ParseRequestURI**, which implemented RFC 3986 correctly and a few more RFCs. As a result, capital case is now allowed in **httpProxy** and **httpsProxy**. (BZ#1802606)

- Previously, the Kube config used by the kubelet, which is used on the SDN, changed its path causing SDN to have a null deference trying to parse the empty file. This bug fix made SDN able to handle both old and new paths. (BZ#1781707)

Node

- Previously, no alerts were issued when kubelet certificates expired. This caused kubelets to stop working without administrators realizing it. This fix adds a **server_expiration_renew_errors** metric to report expired certificates. (BZ#1767523)

- Conmon was timing out on kubelet exec liveness probes. This caused some exec probes to fail, forcing the container to be killed and restarted. The exec liveness probes now work as expected. (BZ#1817568)

- On node reboot, CRI-O was not cleaning up IP addresses correctly when pods could not be restored. This led to node IP exhaustion, causing pods to not start. Now if a pod cannot be restored after restart, the pod network is destroyed, releasing the IP addresses for future use. (BZ#1781824)

- RHEL 7 could not be added to an OpenShift Container Platform cluster because CRI-O would not start. This was caused by a Conmon package issue. This release fixes Conmon and RHEL 7 can now join an OpenShift Container Platform cluster. (BZ#1809906)

- The horizontal pod autoscaler (HPA) was not receiving metrics from exited init containers. This is fixed by submitting zero-based metrics for exited init containers, allowing the HPA to perform analysis on pods with an init container. (BZ#1814283)

- The kubelet metrics endpoint was periodically returning a **500** status code, which prevented Prometheus from gathering metrics for the kubelet endpoint and node. The **500** code was caused by dead containers mixing into the metrics stream, causing duplicate metrics to be injected. This bug is fixed and metrics are now correctly reported from the kubelet. (BZ#1748073)

oc

- The **oc logs** command was returning errors for some resources due to OpenShift CLI's internal code not accounting for new versions of APIs. OpenShift CLI now supports all known API types and versions, allowing **oc logs** to work for all resources. (BZ#1774366)

- When running the **oc adm node-logs** command with the **--since** argument, an error occurred. This was caused by a typo in the expected timestamp format. The typo has been corrected and the **oc adm node-logs** now works with the **--since** argument. (BZ#1779563)

openshift-apiserver

- Previously, Helm 3.0.0+ did not work with OpenShift Container Platform objects. This resulted in an error when trying to deploy valid Helm charts. With this update it is now possible to deploy Helm charts with OpenShift Container Platform objects. (BZ#1773682)

openshift-controller-manager

- Previously, **openshift-controller-manager** metrics were not properly registered with the 1.16 Kubernetes Prometheus registry. This caused missing metrics for the OpenShift Container Platform control plane. With this update the **openshift-controller-manager** metrics are now properly registered and the missing OpenShift Container Platform control plane metrics have been restored. (BZ#1810304)

- Previously, pull secrets were sometimes not deleted when their associated token was deleted. This caused pull secrets to remain associated with Kubernetes service accounts. With this update references to the owner of a pull secret and the associated token secret have been established. Now, when a pull secret is deleted the associated token is deleted as well. (BZ#1806792)

- Previously, the rate limit for creating pull secrets in the internal registry was low. This caused long wait times when a large number of namespaces were created in a short time period. With this update the rate limit for creating pull secrets in the internal registry has been increased. Pull secrets can now be created quickly even during heavy load. (BZ#1819849)

RHCOS

- Network teaming is now supported in Red Hat Enterprise Linux CoreOS (RHCOS). The **teamd** and **NetworkManager-team** RPMs have been added to RHCOS, enabling the setup and management of teamed network devices. (BZ#1758162)

Samples

- IPv6 was not supported by **registry.redhat.io**, which meant that the Samples Operator was not supposed to attempt to install image streams, as all Red Hat samples are hosted on **registry.redhat.io**. Because IPv6 is a key initiative for Red Hat and for OpenShift Container Platform, the Samples Operator will no longer break OpenShift Container Platform installs on IPv6. (BZ#1788676)

- The Samples Operator was previously failing to report its version when running on s390x or ppc64le, so installs on those architectures would not complete successfully. With this fix, the Samples Operator now reports its version correctly and no longer prevents installs on s390x or ppc64le. (BZ#1779933)

- Previously, the latest Java 11 image stream tag did not correctly link to the version on the image stream details page, which meant that that **ImageStreamTag** object could not be inspected from the web console. With this fix, the correct **ImageStreamTag** specification for Java 11 can now be properly inspected from the web console. (BZ#1778613)

- Previously, local reference settings on image streams could be ignored if the image stream was accessed by controller manager shortly after startup but before the image stream metadata was updated. This resulted in failed requests to image streams backed by private registries. With this update the controller manager refreshes its image stream cache after metadata initialization is complete. This results in accurate local reference image stream policies even immediately after startup. (BZ#1775973)

Storage

- Pods could not be scheduled and PVCs remained pending if the **storage-class** annotation was used instead of **storageClassName** for the Local Storage Operator. With this fix, the Kubernetes scheduler now checks both **volume.beta.kubernetes.io/storage-class** and the **PVC.Spec.StorageClassName** when evaluating a pod and its PVCs. Pods that use the beta annotation to refer to a StorageClass can now be scheduled and will now run. (BZ#1791786)

- Previously, Kubernetes did not unmount a CSI volume when a pod was deleted while the volume

mount timed out before eventually being completed by the CSI driver. This caused a volume to be mounted on a node without Kubernetes knowing about it. As a result, the volume could not be mounted anywhere else. With this fix, Kubernetes waits for a final success or error after the CSI driver returns a timeout or other similar transient error. Now, Kubernetes knows if a volume was mounted or unmounted and cleans up possible stray mounts when a pod is deleted. (BZ#1745776)

Templates

- When using the **--param-file** option with template processing commands like **oc new-app** or **oc process**, if the file was greater than 64K in size, it would not be fully read in. This caused the the **oc**-based template processing with **--param-file** to fail. OpenShift Container Platform now checks the size of the file specified by **--process-file** and augments the parameters used to read the entire file. The **oc**-based template processing with **--param-file** pointing to files greater than 64K now works. (BZ#1748061)

- Previously, one of the **new-app**/**new-build** examples used for project creation would cause an error in a FIPS environment because the example was not FIPS-compliant. Now, only FIPS-compliant **new-app**/**new-build** examples are shown on new project creation and users can use any of the examples in a FIPS environment. (BZ#1774318)

Web console (Administrator perspective)

- Previously, the **Rebuild** action on the OpenShift Console build page was incorrectly disabled for users who were did not have **cluster-admin** privileges. Now, this issue has been resolved and the action is now correctly enabled for normal users who should have permission to clone builds. (BZ#1774842)

- Previously, only cluster administrators could see example YAML templates created using the **ConsoleYAMLSample** resource in console YAML editor. Now, all users can see these templates. (BZ#1783163)

- On the cron jobs list page, sorting by **Starting Deadlines Seconds** or **Concurrency Policy** fields were not sorted correctly. Now, the **sortField** has been updated and you can now sort cron jobs correctly. (BZ#1787096)

- The **Local Volumes** page would display duplicate content due to conditions that created content duplication. Now, the conditions are removed from the status descriptors and content is not duplicated. (BZ#1776131)

- The **Role Bindings** page had a non-clickable **Create Binding** button for users who did not have any projects. Now, the **Create Binding** button is hidden for users who do not have any projects. (BZ#1785487)

- Previously, some required fields that have OLM descriptors were missing the required red asterisk in the web console **Create Operand** form. Now, all of the required fields are correctly labeled. (BZ#1779858)

- Previously, you could set a negative value for the machine or replica count values in the web console. Now, you cannot set a value that is less than 0. (BZ#1780367)

- Previously, the **PodRing** GUI component did not reflect the correct pod count when the count was updated on the **Deployment Config Page** and then updated again on the same page by clicking **Actions** then **Edit Count**. For example, if the pod count was increased from 5 to 10 pods by using **Edit Count** on the **Deployment Config Page** and the user then increased the count on the **PodRing** component by using the *up* arrow, the **PodRing** counter incorrectly increased from 5 to 6 pods instead of from 10 to 11. With this update, when a change is made using **Edit**

Count on the **Deployment Config Page**, the **PodRing** component now shows the correct, updated pod count. Additionally, when the user clicks the *up* or *down* arrow on the **PodRing** component, the pod count accurately updates. (BZ#1787210)

- Previously, a user could not edit a cluster-scoped operand on the Installed Operators page in the web console. Instead, an HTTP **404 Not Found** client error response code occurred in the web browser for the operand YAML editor. With this update, the web console correctly opens a new web browser for the operand YAML editor, in which a user can update a cluster-scoped operand. (BZ#1781246)

- Previously, the web console did not replace all instances of a variable when it occurred multiple times in a **ConsoleExternalLogLink** URL template. Instead, only the first expression of the variable was replaced. With this update, the console correctly replaces every instance of the variable in the template with the correct value. (BZ#1781827)

- Previously on the **Operator Details** page in the web console, the link to the **InstallPlan** resource from the **Subscription Overview** was broken. This made it difficult for users to approve **InstallPlan** resources in the web console. The link to approve **InstallPlan** resources (for example, a link showing output that **1 requires approval**) now works as expected. (BZ#1783651)

- Previously, an error occurred when a user filtered by source name in the **Source** tab on the **OperatorHub Details** page in the web console. The filter has been fixed and now works as expected when a user inputs a source name. (BZ#1786418)

- Previously, API documentation was missing for the **Endpoints** resource on the **Explore** page in the web console. API documentation, such as descriptions and schema information, is now available for the **Endpoints** resource. (BZ#1794754)

- Previously, the web console failed to show an operand if an invalid OLM descriptor was set by an Operator. As a result, an error occurred on the expected web console page. With this update, invalid OLM descriptors are tolerated and the console correctly displays the operand details. (BZ#1797727)

- Previously, some status values did not have an icon associated with them. As a result, some values appeared with an icon and others did not. Icons are now defined for and will appear with all values. (BZ#1780629)

- Previously, the console did not check for special characters in routing labels, which could result in the following error:

  > AlertmanagerFailedReload Alert:
  > Reloading Alertmanager's configuration has failed for openshift-monitoring/alertmanager-main-x.

  The **Create Receiver** form now restricts label names to valid characters only. (BZ#1784725)

- Previously, the web console would show a blank page if an Operator declared an invalid **K8sResourceLink** OLM descriptor. The console now tolerates incorrect **K8sResourceLink** descriptors, which prevents the appearance of blank pages. (BZ#1795407)

- Previously, modifying required Operator resources from the web UI would not update those Operators' YAML files. The YAML files now update as expected. (BZ#1797769)

- Previously, alerts remained in the notifications drawer after they were silenced. Silenced alerts no longer remain in the notifications drawer. (BZ#1808062)

- A bug in web console builds occasionally resulted in runtime errors on certain pages. The bug was fixed. (BZ#1818978)

- The query browser results in the web console are rendered with a hard-coded sort, rendering a different result than might be intended with a custom sort. The hard-coded sort has been removed, allowing for the query results to reflect any custom sort. (BZ#1808437)

- Creating a new **MachineConfigPool** using the console's **Compute → Machine Config Pools → Create Machine Config Pool**button results in a **MachineConfigPool** that does not match the node. This is caused by the template using the **spec.machineSelector** key for selecting the nodes to match. However, this key is not recognized by the API; the correct one for selecting a node is **spec.nodeSelector**. The key for selecting nodes has been updated, allowing the GUI to display a Machine Selector which now matches the appropriate node. (BZ#1818944)

- Previously, the web console pod terminal did not correctly handle Unicode characters. This problem has been fixed, and Unicode characters now display correctly. (BZ#1821285)

- Previously, the volumes table on the web console workload pages could partially disappear when scrolling the page. This bug has been fixed. (BZ#1822195)

- Previously, the default templates used to create reports and report queries were using **apiVersion v1alpha** instead of **v1**. Although the alpha versioned templates still worked, their case support could be dropped at any time. The templates have been updated to use **apiVersion: metering.openshift.io/v1**. (BZ#1772694)

- When clicking the web console's **Dashboard** and selecting a navigation item within the **Dashboard**, both navigation items that were selected remain highlighted. This bug fix applies new CSS rules to eliminate multiple navigation items from being highlighted at the same time, ensuring only the active navigation item is highlighted. (BZ#1774702)

Web console (Developer perspective)

- The Microsoft Edge browser did not recognize the functionality used for scrolling. The Log screen was unable to load and would result in an error. Screen reader support was enabled and the logs now render. (BZ#1777980)

- Serverless resources like the **Service** YAML file are listed as **v1beta1** instead of **v1**. However, **v1beta1** is deprecated. With this bug fix, the **apiVersion** is updated to **v1**. (BZ#1796421)

- A service binding request (SBR) in the topology is associated with **Revisions** in the **Topology** view. Therefore, no new revision will get the associated secrets. The SBR should go through the Knative service; secrets would be injected and new revisions would be created. (BZ#1798288

- The API group of **KnativeServing** resources **serving.knative.dev** is deprecated and it has changed to **operator.knative.dev** in the Serverless Operator version 1.4. In the next release of the Serverless Operator, **serving.knative.dev** will be obsolete. (BZ#1800598

- In container image deployment, if an internal image stream is selected for Knative, then Knative tries to create a new image stream, which might fail. You are unable to deploy the internal image stream as a Knative service. Do not create a new image stream for internal image selection; it already exists. (BZ#1808280

- In a Kubernetes deployment, if the images from the external image registry had tags such as **openshift/hello-world:1.0**, then the tags were not being applied. The user was unable to import external images with tags. With this bug fix, the proper tag for the deployment is now passed. (BZ#1801736

- Previously, when two consecutive rollouts failed, the **Topology** view showed failed pods instead of displaying the last active revision. With this bug fix, when a rollout fails, the last active revision is displayed. (BZ#1760828)

- Previously, existing image streams in a namespace were not detected when creating an application. This occurred when users with limited cluster-wide permissions used the **Container Image → Image** name from the internal registry options in the **Add** page. Now, the image stream fetching logic has been moved from the cluster level to the namespace level, which enables a user with permission to a namespace to see image streams in that namespace. (BZ#1784264)

- Knative service and revision resources did not have binding or visual connectors in the **Topology** view and therefore Knative workloads could not connect to other workloads. These resources now have connectors in the **Topology** view and can connect to other workloads. (BZ#1779201)

- When the Eclipse Che Operator was installed and configured, the **Topology** view showed the Git icon instead of the Che icon. This provided no indication to the user that they could click the icon to access the Che workspace. The **Topology** view now correctly displays the Che icon when Che is configured, making it easier for the user to access the Che workspace. (BZ#1780338)

- Creating a Knative service using the CLI while the **Topology** view was open caused a GUI error. Checks have been added to handle this workload without causing a GUI error. (BZ#1781188)

- The internal registry feature had an unclear error message when there was a server-side error. Improved error messaging helps the user identify the cause of the problem. (BZ#1787492)

1.6. TECHNOLOGY PREVIEW FEATURES

Some features in this release are currently in Technology Preview. These experimental features are not intended for production use. Note the following scope of support on the Red Hat Customer Portal for these features:

Technology Preview Features Support Scope

In the table below, features are marked with the following statuses:

- **TP**: *Technology Preview*
- **GA**: *General Availability*
- **-**: *Not Available*

Table 1.2. Technology Preview tracker

Feature	OCP 4.2	OCP 4.3	OCP 4.4
Prometheus Cluster Monitoring	GA	GA	GA
Precision Time Protocol (PTP)	-	TP	TP
CRI-O for runtime pods	GA	GA	GA
oc CLI plug-ins	TP	TP	TP

Feature	OCP 4.2	OCP 4.3	OCP 4.4
Network Policy	GA	GA	GA
Multus	GA	GA	GA
New Add Project Flow	GA	GA	GA
Search Catalog	GA	GA	GA
Cron jobs	GA	GA	GA
Kubernetes deployments	GA	GA	GA
Stateful sets	GA	GA	GA
Explicit quota	GA	GA	GA
Mount options	GA	GA	GA
experimental-qos-reserved	TP	TP	TP
Pod sysctls	GA	GA	GA
Static IPs for external project traffic	GA	GA	GA
Template Completion Detection	GA	GA	GA
replicaSet	GA	GA	GA
Image streams with Kubernetes resources	GA	GA	GA
Device Manager	GA	GA	GA
Persistent Volume resize	GA	GA	GA
Huge pages	GA	GA	GA
CPU pinning	GA	GA	GA
Admission webhooks	GA	GA	GA
External provisioner for AWS EFS	TP	TP	TP
Pod Unidler	TP	TP	TP

Feature	OCP 4.2	OCP 4.3	OCP 4.4
Ephemeral Storage Limit/Requests	TP	TP	TP
Descheduler	-	-	TP
Podman	TP	TP	TP
Kuryr CNI plug-in	TP	GA	GA
Sharing Control of the PID namespace	TP	TP	TP
Cluster Administrator console	GA	GA	GA
Cluster autoscaling	GA	GA	GA
Container Storage Interface (CSI)	GA	GA	GA
Operator Lifecycle Manager	GA	GA	GA
Red Hat OpenShift Service Mesh	GA	GA	GA
"Fully Automatic" Egress IPs	GA	GA	GA
Pod Priority and Preemption	GA	GA	GA
Multi-stage builds in **Dockerfiles**	GA	GA	GA
OVN-Kubernetes pod network provider	TP	TP	TP
HPA custom metrics adapter based on Prometheus	TP	TP	TP
Machine health checks	TP	GA	GA
Persistent storage with iSCSI	TP	GA	GA
Raw block with iSCSI	TP	GA	GA
Raw block with Cinder	-	TP	TP
OperatorHub	GA	GA	GA
Three-node bare metal deployments	TP	TP	TP
SR-IOV Network Operator	TP	GA	GA

Feature	OCP 4.2	OCP 4.3	OCP 4.4
Helm CLI	-	TP	GA
Service Binding	-	TP	TP
Log forwarding	-	TP	TP
User workload monitoring	-	TP	TP
OpenShift Serverless	TP	TP	GA
Compute Node Topology Manager	-	TP	TP
CSI volume snapshots	-	-	TP
CSI volume cloning	-	-	TP
CSI volume expansion	-	-	TP
OpenShift Pipelines	-	-	TP
Cost Management	TP	GA	GA

1.7. KNOWN ISSUES

- There is an issue with the Machine Config Operator (MCO) supporting Day 2 proxy support, which describes when an existing non-proxied cluster is reconfigured to use a proxy. The MCO should apply newly configured proxy CA certificates in a config map to the RHCOS trust bundle; this is not working. As a workaround, you must manually add the proxy CA certificate to your trust bundle and then update the trust bundle:

```
$ cp /opt/registry/certs/<my_root_ca>.crt /etc/pki/ca-trust/source/anchors/
$ update-ca-trust extract
$ oc adm drain <node>
$ systemctl reboot
```

(BZ#1784201)

- When using a self-signed Red Hat OpenStack Platform (RHOSP) 16 cluster, you cannot pull from or push to an internal image registry. As a workaround, you must set **spec.disableRedirect** to **true** in the **configs.imageregistry/cluster** resource. This allows the client to pull the image layers from the image registry rather than from links directly from Swift. (BZ#1810461)

- The cluster proxy configuration **HTTP_PROXY** is only available for OpenShift Container Platform components, not user applications. As a workaround, you must run the following command to enable cluster proxy configuration for user applications:

```
$ oc set env dc/jenkins \
```

```
http_proxy=$(oc get proxy cluster -o jsonpath='{.status.httpProxy}') \
https_proxy=$(oc get proxy cluster -o jsonpath='{.status.httpsProxy}') \
no_proxy=$(oc get proxy cluster -o jsonpath='{.status.noProxy}')
```

(BZ#1780125)

- All **git clone** operations that go through an HTTPS proxy fail. HTTP proxies can be used successfully. (BZ#1750650)
- All **git clone** operations fail in builds running behind a proxy if the source URIs use the **git://** or **ssh://** scheme. (BZ#1751738)
- When using a mirror to build images, the build fails when the pull secret for the mirror registry only links to the builder service account. The pull secret must also link to the build config object. (BZ#1810904)
- In Red Hat OpenStack Platform (RHOSP) 13 with Kuryr, if FIPS is disabled, you cannot enable Service Catalog. Pods for Service Catalog's controller manager and API server components show a status of **CrashLoopBackOff**. This is due to the **https://etcd.openshift-etcd.svc.cluster.local:2379** URL not always resolving. There is a new technique for getting the etcd cluster URL in OpenShift Container Platform 4. (BZ#1821589)
- Installing RHOSP 16 with Kuryr does not work due to the **ovn_controller** crashing after initial setup. (BZ#1812009, BZ#1818844)
- The Red Hat Virtualization (RHV) machine **instance-state** annotation and the **providerStatus.instanceState** status do not always match. This mismatch causes the client to fail or incorrectly patch the RHV machine status. (BZ#1815394)
- When scaling up a machine set on RHV, the new machine cannot exit the **Provisioned** phase. This causes the machine to never run. (BZ#1815435, BZ#1817853)
- OpenShift Container Platform cluster autoscaling on RHV fails due to cluster resource computation errors. (BZ#1822118)
- When using the Firefox browser to select a node or a group of nodes in the **Topology** view, the backgrounds of all the associated labels and nodes become transparent. (BZ#1822337)
- In the **Topology view**, when a user selects a node or workload, and then clicks **Monitoring → View monitoring dashboard** on the side panel, the user sees the monitoring dashboard for that specific workload. This filtered workload dashboard view is not clearly named, which causes confusion with the generic dashboard that displays metrics for all the workloads. (BZ#1822331)
- When invalid characters such as a period (**.**) are entered in the serverless traffic distribution tag from the **Developer** perspective, the traffic distribution feature stops working. However, it displays no error messages to prevent invalid characters from being entered in the tag. (BZ#1822344)
- If an identity provider (IDP) takes longer than 60 seconds to authenticate a user, the authentication might fail before trying other IDPs. As a workaround, you can remove the faulty IDP from the list of IDPs so that users can use a successful IDP to authenticate. (BZ#1826484)
- When updating cluster logging from version 4.3 to 4.4, the Elasticsearch pods might get stuck in the **CrashLoopBackOff** status. You can work around this issue by deleting the Elasticsearch deployments in sequence. (BZ#1824006)

- OpenShift Container Platform 4.4 is not shipping with a v.4.4 Metering Operator. Customers can install or continue to run the v.4.3 Metering Operator on OpenShift Container Platform 4.4 clusters. (BZ#1829035)

- When updating an OpenShift Container Platform cluster from version 4.3 to 4.4, the etcd Operator sometimes fails to upgrade because it is in a degraded state. This is caused by an **InstallerPod** failure. As a workaround, you must force a new revision on etcd to overcome the **InstallerPod** failure, which allows the etcd Operator to recover:

  1. Force a new revision on etcd:

     ```
     $ oc patch etcd cluster -p='{"spec": {"forceRedeploymentReason": "recovery-'"$( date --rfc-3339=ns )"'"}}' --type=merge
     ```

  2. Verify the nodes are at the latest revision:

     ```
     $ oc get etcd '-o=jsonpath={range .items[0].status.conditions[?(@.type=="NodeInstallerProgressing")]}{.reason}{"\n"}{.message}{"\n"}'
     ```

  (BZ#1830789)

- The web console downloads deployment will fail on nodes configured with **ipv6.disable=1**. (BZ1795325)

- An issue in **Topology Manager** could result in NUMA resources not being aligned to the same NUMA node if guaranteed QoS pods are created simultaneously on the same node. As a result, the resources requested in the pod spec might not be NUMA aligned.
  To avoid this issue in 4.4, do not spin up multiple pods with a Guaranteed QoS on a node simultaneously.

  If you encounter this issue, delete and then recreate the pod. (BZ#1834979)

- VMs with the **runStrategy** attribute set to **Manual** do not indicate whether they are running or stopped, and the web console incorrectly assumes they are running. To avoid this issue, do not set **runStrategy** to **Manual** when working with VMs in the web console. Instead, use the **running** attribute or set **runStrategy** to **Always**, **RerunOnFailure**, or **Halted**. (BZ#1834717)

- When upgrading to a new OpenShift Container Platform z-stream release, connectivity to the API server might be interrupted as nodes are upgraded, causing API requests to fail. (BZ#1791162)

- When upgrading to a new OpenShift Container Platform z-stream release, connectivity to routers might be interrupted as router pods are updated. For the duration of the upgrade, some applications might not be consistently reachable. (BZ#1809665)

- Due to an issue related to expiring OAuth tokens, you might receive a **security_exception** error in the Kibana console and not be able to access your Kibana indices. If you see this error, log out of the Kibana console then log back in. This will refresh your OAuth tokens and you should be able to access your indices. (BZ#1791837)

- Git clone operations that go through an HTTPS proxy fail. Non-TLS (HTTP) proxies can be used successfully. (BZ#1750650)

- Git clone operations fail in builds running behind a proxy if the source URIs use the **git://** or **ssh://** scheme. (BZ#1751738)

- In OpenShift Container Platform 4.1, anonymous users could access discovery endpoints. Later releases revoked this access to reduce the possible attack surface for security exploits because some discovery endpoints are forwarded to aggregated API servers. However, unauthenticated access is preserved in upgraded clusters so that existing use cases are not broken.
  If you are a cluster administrator for a cluster that has been upgraded from OpenShift Container Platform 4.1 to 4.4, you can either revoke or continue to allow unauthenticated access. It is recommended to revoke unauthenticated access unless there is a specific need for it. If you do continue to allow unauthenticated access, be aware of the increased risks.

WARNING

If you have applications that rely on unauthenticated access, they might receive HTTP **403** errors if you revoke unauthenticated access.

Use the following script to revoke unauthenticated access to discovery endpoints:

```
## Snippet to remove unauthenticated group from all the cluster role bindings
$ for clusterrolebinding in cluster-status-binding discovery system:basic-user
system:discovery system:openshift:discovery ;
do
### Find the index of unauthenticated group in list of subjects
index=$(oc get clusterrolebinding ${clusterrolebinding} -o json | jq 'select(.subjects!=null) |
.subjects | map(.name=="system:unauthenticated") | index(true)');
### Remove the element at index from subjects array
oc patch clusterrolebinding ${clusterrolebinding} --type=json --patch "[{'op': 'remove','path':
'/subjects/$index'}]";
done
```

This script removes unauthenticated subjects from the following cluster role bindings:

- **cluster-status-binding**
- **discovery**
- **system:basic-user**
- **system:discovery**
- **system:openshift:discovery**

(BZ#1821771)

1.8. ASYNCHRONOUS ERRATA UPDATES

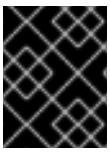
Security, bug fix, and enhancement updates for OpenShift Container Platform 4.4 are released as asynchronous errata through the Red Hat Network. All OpenShift Container Platform 4.4 errata is available on the Red Hat Customer Portal . See the OpenShift Container Platform Life Cycle for more information about asynchronous errata.

Red Hat Customer Portal users can enable errata notifications in the account settings for Red Hat Subscription Management (RHSM). When errata notifications are enabled, users are notified via email whenever new errata relevant to their registered systems are released.

NOTE

Red Hat Customer Portal user accounts must have systems registered and consuming OpenShift Container Platform entitlements for OpenShift Container Platform errata notification emails to generate.

This section will continue to be updated over time to provide notes on enhancements and bug fixes for future asynchronous errata releases of OpenShift Container Platform 4.4. Versioned asynchronous releases, for example with the form OpenShift Container Platform 4.4.z, will be detailed in subsections. In addition, releases in which the errata text cannot fit in the space provided by the advisory will be detailed in subsections that follow.



IMPORTANT

For any OpenShift Container Platform release, always review the instructions on updating your cluster properly.

1.8.1. RHBA-2020:0581 - OpenShift Container Platform 4.4 Image release and bug fix advisory

Issued: 2020-05-04

OpenShift Container Platform release 4.4 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:0581 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:0582 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.3 container image list

1.8.2. RHSA-2020:1936 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-05-04

An update for **haproxy** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:1936 advisory.

1.8.3. RHSA-2020:1937 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-05-04

An update for **cri-o** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:1937 advisory.

1.8.4. RHSA-2020:1938 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-05-04

An update for **hadoop-container** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:1938 advisory.

1.8.5. RHSA-2020:1939 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-05-04

An update for **ose-machine-config-operator-container** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:1939 advisory.

1.8.6. RHSA-2020:1940 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-05-04

An update for **ose-cluster-policy-controller-container** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:1940 advisory.

1.8.7. RHSA-2020:1942 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-05-04

An update for **presto-container** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:1942 advisory.

1.8.8. RHBA-2020:2133 - OpenShift Container Platform 4.4.4 Bug Fix Update

Issued: 2020-05-18

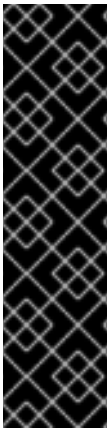
OpenShift Container Platform release 4.4.4 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:2133 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:2132 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.4 container image list

1.8.8.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.



IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.9. RHSA-2020:2136 - Important: OpenShift Container Platform 4.4 Security Update

Issued: 2020-05-18

An update for **cluster-image-registry-operator** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:2136 advisory.

1.8.10. RHBA-2020:2180 - OpenShift Container Platform 4.4.5 Bug Fix Update

Issued: 2020-05-26

OpenShift Container Platform release 4.4.5 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:2180 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:2179 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.5 container image list

1.8.10.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.

IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.11. RHBA-2020:2310 - OpenShift Container Platform 4.4.6 Bug Fix Update

Issued: 2020-06-01

OpenShift Container Platform release 4.4.6 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:2310 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:2309 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.6 container image list

1.8.11.1. Bug Fixes

- Previously, the implementation of disconnected support for the Samples Operator caused problems for some users. The implementation allowed the **samplesRegistry** override to be applied to the CVO-based Jenkins image streams, which made using the **samplesRegistry** override in other scenarios more difficult. With this update, the **samplesRegistry** override is no longer needed and the associated problems with the previous implementation are avoided. (BZ#1824280)

- Previously, the operand list in the **Installed Operators** page could show a status from the custom resource **status.conditions** where the condition did not have **status: true**, meaning the status shown could be incorrect. The web console now only shows a status for a condition with **status: true**. (BZ#1829591)

- Previously, if a sample template from an earlier release was removed in a subsequent release, an upgrade to the subsequent release could fail if the missing template was incorrectly tracked as needing to be updated. With this release, the upgrade process no longer attempts to update templates that existed in a prior release but not in the release being upgraded to. (BZ#1832344)

- Previously, when a Cluster Version Operator tried to serve metrics over HTTPS but could not find a TLS key and certificate, the action failed. With this update, the monitoring Operator creates a TLS key and certificate so that the Cluster Version Operator can serve metrics over HTTPS. (BZ#1835483)

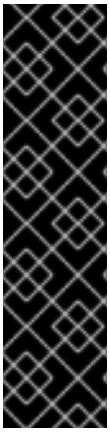
- Previously, the only way to customize worker or master VM specifications was to customize the RHV or oVirt template before installation and then configure an environment variable to make the installer use that template. With this release, the **MachinePool** object has been implemented for this platform and exposed in the **install-config.yaml** file. Worker and master VM instances are now created with the specifications included in the **MachinePool** configuration. Because different disk sizes are now supported, the default disk size is updated to 120 GB. (BZ#1835795)

- Previously, incorrect quota behavior could cause deploying or building pods to fail. With this release, the build controller is updated so that quotas are handled properly for builds. (BZ#1835913)

- Previously, the web console stopped responding when a user created a **PipelineRun** object using the CLI or YAML. With this update, checks have been added to avoid the web console error. (BZ#1838792)

1.8.11.2. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.



IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.12. RHBA-2020:2445 - OpenShift Container Platform 4.4.8 Bug Fix Update

Issued: 2020-06-15

OpenShift Container Platform release 4.4.8 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:2445 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:2444 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.8 container image list

1.8.12.1. Features

1.8.12.1.1. Automatic control plane certificate recovery

OpenShift Container Platform can now automatically recover from expired control plane certificates. The exception is that you must manually approve pending **node-bootstrapper** certificate signing requests (CSRs) to recover kubelet certificates.

See Recovering from expired control plane certificates for more information.

1.8.12.2. Bug Fixes

- Previously, the installation program required the user to manually create a virtual machine template before it could create an OpenShift Container Platform cluster on Red Hat Virtualization (RHV). This is because the installation program did not meet the following requirements in RHV version 4.3.9:
  - The installation program must pass the ignition to the virtual machine.
  - The template must specify its OS type as Red Hat Enterprise Linux CoreOS (RHCOS).

  The installation program now creates a template that specifies RHCOS as the OS type, and it passes the ignition to the VM. The user no longer needs to create a virtual machine template. (BZ#1821638)

- Previously, the Elasticsearch Operator and Cluster Logging Operator did not reconcile the injected CA Bundle contents for Fluentd. This caused Fluentd and Kibana to have missing volume mounts to config maps with an injected CA bundle. Now the config map contents are

fetched during reconciliation to make sure the volumes mount. This allows Fluentd and Kibana to mount the CA bundle config maps appropriately and certification to work again. (BZ#1833288)

- The **oc adm node drain** command was not properly accounting for daemon sets and local data attached to pods when draining a node due to an incorrect condition in the OpenShift Container Platform code. The logic has been fixed, so all pods are accounted for when draining a node. When trying to drain a node that has a daemon set's pod running, or when a pod has local volume data attached, the **oc adm node drain** command now fails, advising to use flags that will ignore the two cases. (BZ#1835739)

- Previously in the web console when attempting to edit a YAML file, a JavaScript exception in the Safari web browser would cause the YAML editing page to never load. This bug is now fixed, allowing YAML file editing to work in the Safari web browser. (BZ#1838815)

- Previously, the **Installed Operators** column in the web console assumed that all installed Operators had a subscription. Since the Package Server Operator does not have a subscription, its status was being incorrectly displayed as removed, even though it was present. The Package Server Operator status has been fixed to not rely on its subscription status, so it now correctly displays on the Installed Operators page. (BZ#1840647)

- When navigating to the **Advanced → Project Details → Inventory** section from the **Developer** perspective of the web console, deployment configs were not listed. The deployment configs are now tracked and are included in the **Inventory** section of the dashboard. (BZ#1825975)

- Previously, pod log pages did not include a query string parameter indicating the selected container. This caused pods with more than one container to report incorrect container logs when refreshing the page or visiting the page's URL. A new query string parameter has been added so the URL indicates which container's logs should display. (BZ#1827197)

- Previously, the web console only showed the name, namespace, and creation date when listing OLM Subscriptions on the **Search** page. The web console now shows additional OLM Subscription details. (BZ#1827746)

- When recovering from an expired control plane certificate, the cluster is unable to connect to the recovery API server on port 7443. This is caused by the recovery API server's port conflicting with the HAProxy port used for OpenStack, oVirt, bare metal, and vSphere. This results in an **Unable to connect to the server: x509: certificate signed by unknown authority** error. HAProxy now listens on port 9443, allowing the recovery API server to use port 7443 to facilitate the recovery process for an expired control plane certificate. (BZ#1831008)

- The Cloud Credential Operator (CCO) had special-case handling for its **CredentialsRequest** CR that required the existence of the cloud root credentials. If the cloud root credentials were missing, the CCO was unable to reconcile its own read-only **CredentialsRequest** CR. This was fixed by using the read-only **CredentialsRequest** credentials to validate the read-only **CredentialsRequest**. Now when removing the cloud root credentials, the CCO is not degraded. (BZ#1838810)

- Previously, when clicking on a **Task** bubble in the Pipeline Builder that did not have an associated task, a blank screen appeared. This has been fixed by converting the node to a list node, allowing you to change it in place. Now you can update task references that no longer point at a **Task** or **ClusterTask** resource. (BZ#1840954)

- Sample Operator file system errors were being incorrectly reported as API server errors in the Cluster Operator reason field. Also, details on the actual API server errors when manipulating API server objects did not provide details on the exact type of failure. This caused incorrect

degraded errors to be reported. Now the Sample Operator file system errors are reported as file system errors in the degraded reason field, and API server errors reported in the degraded reason field include the specific error type. (BZ#1842560)

- The Cluster Version Operator (CVO) had a race condition where it would consider a timed-out update reconciliation cycle a successful update. This only happened for restricted network clusters where the Operator timed out attempting to fetch release image signatures. This bug caused the CVO to enter its shuffled-manifest reconciliation mode, which could break the cluster if the manifests were applied in an order that the components could not handle. The CVO now treats timed-out updates as failures, so it no longer enters reconciling mode before the update succeeds. (BZ#1843732)

- Previously, RHEL 8 VMs in clusters running on Azure could lose network connectivity. This was caused by a defect in the Hyper-V netvsc driver in RHEL. This bug is fixed in RHEL, and that fix is now available for RHEL VMs used in clusters. As a result, clusters running on Azure no longer experience network connectivity issues caused by the netvsc driver defect. (BZ#1841900)

This update also introduces the following enhancement:

- An enhancement has been added for OpenShift Container Platform to extend the **oc adm release mirror** command. A cluster upgrade can be accomplished on a cluster that does not have an active connection to the internet. Previously, however, manual steps were required to create a config map containing the signature data required for the image update verification. The command now creates and applies config map manifests containing the release image signature automatically, which the Cluster Version Operator uses to verify the mirrored release. (BZ#1837675)

1.8.12.3. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.

IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.13. RHSA-2020:2403 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-06-15

An update for **containernetworking-plugins** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:2403 advisory.

1.8.14. RHSA-2020:2448 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-06-15

An update for **openshift** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:2448 advisory.

1.8.15. RHSA-2020:2449 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-06-15

An update for **openshift-enterprise-hyperkube-container** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:2449 advisory.

1.8.16. RHBA-2020:2580 - OpenShift Container Platform 4.4.9 Bug Fix Update

Issued: 2020-06-22

OpenShift Container Platform release 4.4.9 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:2580 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:2579 and RHEA-2020:2623 advisories.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.9 container image list

1.8.16.1. Features

1.8.16.1.1. Added Node.js Jenkins Agent v10 and v12

The **jenkins-agent-nodejs-10-rhel7** and **jenkins-agent-nodejs-12-rhel7** images are now added to OpenShift Container Platform. These new images allow Jenkins Pipelines to be upgraded to use either v10 or v12 of the Node.js Jenkins Agent. The Node.js v8 Jenkins Agent is now deprecated, but will continue to be provided. For existing clusters, you must manually upgrade the Node.js Jenkins Agent, which can be performed on a per namespace basis. Follow these steps to complete the manual upgrade:

1. Select the project for which you want to upgrade the Jenkins Pipelines:

```
$ oc project <project_name>
```

2. Import the new Node.js Jenkins Agent image:

```
$ oc import-image nodejs openshift4/jenkins-agent-nodejs-10-rhel7 --
from=registry.redhat.io/openshift4/jenkins-agent-nodejs-10-rhel7 --confirm
```

   This command imports the v10 image. If you prefer v12, update the image specifications accordingly.

3. Overwrite the current Node.js Jenkins Agent with the new one you imported:

```
$ oc label is nodejs role=jenkins-slave --overwrite
```

4. Verify in the Jenkins log that the new Jenkins Agent template is configured:

```
$ oc logs -f jenkins-1-<pod>
```

See Jenkins agent for more information.

1.8.16.1.2. IBM Power Systems

With this release, IBM Power Systems are now compatible with OpenShift Container Platform 4.4. See Installing a cluster on IBM Power or Installing a cluster on IBM Power in a restricted network .

Restrictions
Note the following restrictions for OpenShift Container Platform on IBM Power:

- OpenShift Container Platform for IBM Power Systems does not include the following Technology Preview features:
  - Container-native virtualization (CNV)
  - OpenShift Serverless
- The following OpenShift Container Platform features are unsupported:
  - Red Hat OpenShift Service Mesh
  - OpenShift Do (**odo**)
  - CodeReady Containers (CRC)
  - OpenShift Pipelines based on Tekton
  - OpenShift Container Platform Metering
  - SR-IOV CNI plug-in
- Worker nodes must run Red Hat Enterprise Linux CoreOS (RHCOS).
- Persistent storage must be of the **Filesystem** mode using local volumes, Network File System (NFS), OpenStack Cinder, or Container Storage Interface (CSI).
- Networking must use either DHCP or static addressing with Red Hat OpenShift SDN.

1.8.16.1.3. IBM Z and LinuxONE

With this release, IBM Z and LinuxONE is now compatible with OpenShift Container Platform 4.4. See Installing a cluster on IBM Z and LinuxONE for installation instructions.

Restrictions
Note the following restrictions for OpenShift Container Platform on IBM Z and LinuxONE:

- OpenShift Container Platform for IBM Z does not include the following Technology Preview features:
  - Container-native virtualization (CNV)
  - Log forwarding
  - Precision Time Protocol (PTP) hardware

    - CSI volume snapshots
    - CSI volume cloning
    - OpenShift Pipelines
- The following OpenShift Container Platform features are unsupported:
    - Red Hat OpenShift Service Mesh
    - OpenShift Do (**odo**)
    - CodeReady Containers (CRC)
    - OpenShift Container Platform Metering
    - Multus CNI plug-in
    - OpenShift Container Platform upgrades phased rollout
    - FIPS cryptography
    - Encrypting data stored in etcd
    - Automatic repair of damaged machines with machine health checking
    - Tang mode disk encryption during OpenShift Container Platform deployment
    - OpenShift Serverless
    - Helm command-line interface (CLI) tool
    - Controlling overcommit and managing container density on nodes
    - etcd cluster operator
- Worker nodes must run Red Hat Enterprise Linux CoreOS (RHCOS).
- Persistent shared storage must be of type Filesystem: NFS.
- These features are available for OpenShift Container Platform on IBM Z for 4.4, but not for OpenShift Container Platform 4.4 on x86:
    - HyperPAV enabled on IBM System Z for the virtual machine for FICON attached ECKD storage.

1.8.16.2. Bug Fixes

- In the virtual machine and virtual machine template wizards, **virtIO** is the default interface when you attach a CD-ROM. However, a **virtIO** CD-ROM does not pass virtual machine validation and cannot be created. As a workaround, select **SATA** as the CD-ROM interface when you create virtual machines and virtual machine templates. (BZ#1817394)
- Previously, when logging out from the Kibana dashboard, it was still possible to log in again from a new browser tab without specifying the login credentials. This was caused by the signoff link pointing to an incorrect handler for the OAuth proxy that provided security for Kibana. The signoff link is now fixed, forcing login credentials when attempting to reaccess the Kibana dashboard. (BZ#1823305)

- The **View more** link on the **Installed Operators** page now links to the correct page. (BZ#1824255)

- With this release, the **Status** column on the operand view in the web console is updated to show the latest status that is available in the **Details** and **YAML** views. (BZ#1831808)

- With this release, the **eventSources** API group is updated to the latest supported API group, **sources.knative.dev**. This update allows sources generated by the new API group to be recognized in the **Topology** view of the web console. (BZ#1836807)

- Previously, environment variables for Knative service could not be specified from the **Add** view of the **Developer** perspective in the web console. As a result, applications that required environment variables might not work as expected. With this release, users can add environment variables from the **Add** view. (BZ#1839115)

- Previously, the web console did not display user details when the user name contained special characters such as **#**. The web console now displays user details regardless of special characters in the user name. (BZ#1840812)

- After upgrading Octavia from OpenStack 13 to 16, the UDP listener is supported and the strategy to enforce DNS resolution over TCP protocol is removed. This change requires adding the new listener to the existent DNS service that specifies the UDP protocol. The old Amphora image for the existent DNS load balancer does not support the new listener and causes the listener creation to fail. With this release, the DNS service that requires UDP is re-created, causing the load balancer to be re-created with the new Amphora version. Re-creating the service and load balancer causes some down time for DNS resolution. When this process is complete, the load balancer for the DNS service is created with all the required listeners. (BZ#1841029)

- Previously, the web console did not create the role binding required for the OpenShift Monitoring Prometheus Operator to collect Operator metrics when the **operatorframework.io/cluster-monitoring=true** annotation was set to **true**. The issue is resolved in this release. (BZ#1841149)

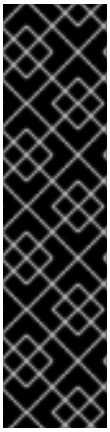
- Previously, autoscaler required provider IDs across Node and Machine objects to match exactly, and if the Machine configuration specified a resource group name with mixed casing, the ID was not an exact match. In this situation, autoscaler did not recognize that a machine had a node and terminated the machine after 15 minutes. With this release, autoscaler ignores the case of letters in provider IDs so that they match regardless of case. (BZ#1841478)

- On the Azure platform, the **cifs-utils** package is required to create volume mounts for pods. With this release, **cifs-utils** is included in the packages installed for RHEL 7 hosts when installing OpenShift Container Platform. (BZ#1845819)

- Previously, SELinux permissions blocked read/write access to mounted volumes on the Azure platform. With this release, SELinux booleans are updated to match RHCOS 8.x and allow proper access. (BZ#1845830)

1.8.16.3. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.



IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.17. RHSA-2020:2583 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-06-22

An update for **python-psutil** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:2583 advisory.

1.8.18. RHBA-2020:2713 - OpenShift Container Platform 4.4.10 Bug Fix Update

Issued: 2020-06-29

OpenShift Container Platform release 4.4.10 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:2713 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:2734 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.10 container image list

1.8.18.1. Bug Fixes

- Previously, the ingress controller added a **Forwarded** HTTP header with a non-standard **proto-version** parameter when forwarding an HTTP request to an application. This non-standard header caused problems when applications tried to parse the header value. With this release, the ingress controller no longer specifies a **proto-version** parameter in the **Forwarded** header. (BZ#1816544)

- Previously, the value for the **maxUnhealthy** field on a MachineHealthCheck accepted multiple value formats, for example **10**, **"10"**, or **"10%"**. Values in quotes were interpreted as a percent value even if they did not contain a percentage sign. This interpretation of the **maxUnhealthy** value might not have matched the user's intention and machines might have been remediated when they were not meant to be or not been remediated when they were meant to be. With this release, only values that contain a percentage sign are interpreted as a percentage. For example, **10** and **"10"** are now interpreted as the same value, and not as 10%. (BZ#1816606)

- Previously, metrics did not bind on an IPv6 address and could not be scraped. With this release, metrics can be scraped correctly on an IPv6 address. (BZ#1819770)

- Previously, **Edit ClusterServiceVersion** was present on the **Actions** menu for the **ClusterServiceVersion** object, which might erroneously give users the impression that **ClusterServiceVersion** object should be edited. With this release, **Edit ClusterServiceVersion**

is removed from the **Actions** menu for the **ClusterServiceVersion** object. (BZ#1827306)

- Previously, some resources did not have the empty state of **None** when no resource was present. The lack of this state was inconsistent with other resources and caused ambiguity. With this release, these resources now have an empty state of **None** when no resource is present. (BZ#1827766)

- Previously, the spacing between masthead dropdown items was larger than it should have been. This display issue has been resolved. (BZ#1829030)

- Previously, Pipeline Builder incorrectly interpreted a default value of an empty string ('') as having no default. However, some Operator-provided tasks cannot work without an empty string as the default value. With this release, any value the OpenShift Pipeline Operator accepts as a default value, including an empty string, is recognized as a valid default value. (BZ#1829568)

- Previously, controllers within the OpenShift Controller Manager Operator did not use named work queues and some metrics, such as **workqueue_depth**, did not appear in Prometheus. With this release, the controllers use named work queues and these metrics appear in Prometheus. (BZ#1832839)

- Previously, Ironic containers in OpenShift Container Platform failed to start if the user-defined **PROV_IFACE** interface was configured for IPv6 and used link-local addressing instead of globally routable addressing. With this release, the container startup script accepts link-local addressing in addition to global addressing. (BZ#1838083)

- Previously, OVN containers requested more CPU and RAM than necessary, leaving less for user workloads. With this release, OVN requests are adjusted to match actual requirements. (BZ#1844245)

- Previously, the Terraform step **openstack_networking_floatingip_associate_v2** did not list all its dependent steps, and the resulting omission of a dependent step sometimes caused a race condition that occasionally caused the Terraform job to fail, especially on overloaded systems. With this release, the dependent Terraform step is listed as **depends_on** to force the Terraform steps to run in the correct order. (BZ#1847957)

1.8.18.2. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.

IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.19. RHSA-2020:2737 - Important: OpenShift Container Platform 4.4 Security Update

Issued: 2020-06-29

An update for **jenkins-2-plugins** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:2737 advisory.

1.8.20. RHBA-2020:2786 - OpenShift Container Platform 4.4.11 Bug Fix Update

Issued: 2020-07-06

OpenShift Container Platform release 4.4.11 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:2786 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:2785 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.11 container image list

1.8.20.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.

IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.21. RHSA-2020:2789 - Low: OpenShift Container Platform 4.4 Security Update

Issued: 2020-07-06

An update for **ose-baremetal-operator-container** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:2789 advisory.

1.8.22. RHSA-2020:2790 - Low: OpenShift Container Platform 4.4 Security Update

Issued: 2020-07-06

An update for **ose-azure-machine-controllers-container** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:2790 advisory.

1.8.23. RHSA-2020:2792 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-07-06

An update for **grafana-container** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:2792 advisory.

1.8.24. RHSA-2020:2793 - Low: OpenShift Container Platform 4.4 Security Update

Issued: 2020-07-06

An update for **atomic-openshift-descheduler-container** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:2793 advisory.

1.8.25. RHBA-2020:2871 - OpenShift Container Platform 4.4.12 Bug Fix Update

Issued: 2020-07-13

OpenShift Container Platform release 4.4.12 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:2871 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:2875 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.12 container image list

1.8.25.1. Bug Fixes

- Previously, having several listeners on different protocols on the same port for the **ovn-octavia** driver was not supported and was blocked. With this release, it is supported and there is no need to block it. Several listeners on different protocols can be exposed in the same port. This means that it is possible to have, for instance, the DNS service to expose port 53 in both TCP and UDP protocols when using **ovn-octavia**. (**BZ#1847558**)

- Previously, the CoreDNS forward plug-in used a random server selection policy by default. As a result, clusters failed to resolve the OpenStack API hostname if given multiple external DNS resolvers. The plug-in now uses DNS servers in the order they are provided. (**BZ#1851267**)

- Previously, if Fluentd was deployed standalone using the CLO, it crashed due to missing configuration details. With this release, an empty Fluentd configuration is provided to enable pods to start, and a status is added to inform users that manual intervention is required. (**BZ#1851381**)

- During installation or upgrade, the **openshift-controller-manager** did not correctly report its progress condition. As a result, an installation or upgrade might fail. Now the Operator correctly reports its progress upon a successful installation or upgrade. (**BZ#1852249**)

1.8.25.2. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.

IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.26. RHSA-2020:2878 - Low: OpenShift Container Platform 4.4 Security Update

Issued: 2020-07-13

An update for **ose-cloud-credential-operator-container** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:2878 advisory.

1.8.27. RHBA-2020:2913 - OpenShift Container Platform 4.4.13 Bug Fix Update

Issued: 2020-07-21

OpenShift Container Platform release 4.4.13 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:2913 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:2912 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.13 container image list

1.8.27.1. Features

1.8.27.1.1. Upgrading the Metering Operator

You can now upgrade the Metering Operator, whereas you previously had to uninstall your current metering installation and then reinstall the new version of the Metering Operator. For more information, see Upgrading metering.

1.8.27.2. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.

IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.28. RHSA-2020:2926 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-07-21

An update for **openshift-enterprise-hyperkube-container** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:2926 advisory.

1.8.29. RHSA-2020:2927 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-07-21

An update for **openshift** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:2927 advisory.

1.8.30. RHBA-2020:3075 - OpenShift Container Platform 4.4.14 Bug Fix Update

Issued: 2020-07-28

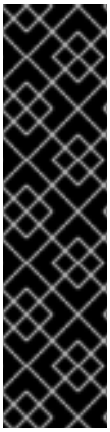
OpenShift Container Platform release 4.4.14 is now available. The lists of bug fixes that are included in the update are documented in the RHBA-2020:3075 and RHBA-2020:3288 advisories. The RPM packages that are included in the update are provided by the RHBA-2020:3074 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.14 container image list

1.8.30.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.



IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.31. RHSA-2020:3078 - Low: OpenShift Container Platform 4.4 Security Update

Issued: 2020-07-28

An update for **ose-cluster-machine-approver-container** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:3078 advisory.

1.8.32. RHBA-2020:3128 - OpenShift Container Platform 4.4.15 Bug Fix Update

Issued: 2020-08-04

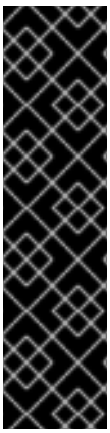
OpenShift Container Platform release 4.4.15 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:3128 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:3127 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.15 container image list

1.8.32.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.



IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.33. RHBA-2020:3237 - OpenShift Container Platform 4.4.16 Bug Fix Update

Issued: 2020-08-06

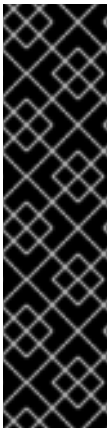
OpenShift Container Platform release 4.4.16 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:3237 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:3238 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.16 container image list

1.8.33.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.



IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.34. RHBA-2020:3334 - OpenShift Container Platform 4.4.17 Bug Fix Update

Issued: 2020-08-18

OpenShift Container Platform release 4.4.17 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:3334 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:3335 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.17 container image list

1.8.34.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.

IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.35. RHBA-2020:3440 - OpenShift Container Platform 4.4.18 Bug Fix Update

Issued: 2020-08-25

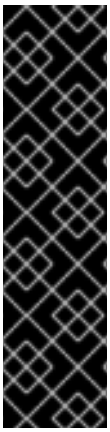
OpenShift Container Platform release 4.4.18 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:3440 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:3441 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.18 container image list

1.8.35.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.



IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.36. RHBA-2020:3514 - OpenShift Container Platform 4.4.19 Bug Fix Update

Issued: 2020-09-01

OpenShift Container Platform release 4.4.19 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:3514 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:3515 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.19 container image list

1.8.36.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.

IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.37. RHSA-2020:3579 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-09-01

An update for **openshift** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:3579 advisory.

1.8.38. RHSA-2020:3580 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-09-01

An update for **openshift-enterprise-hyperkube-container** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:3580 advisory.

1.8.39. RHBA-2020:3564 - OpenShift Container Platform 4.4.20 Bug Fix Update

Issued: 2020-09-08

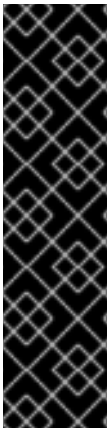
OpenShift Container Platform release 4.4.20 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:3564 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:3565 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.20 container image list

1.8.39.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.



IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.40. RHSA-2020:3625 - Important: OpenShift Container Platform 4.4 Security Update

Issued: 2020-09-08

An update for **jenkins-2-plugins** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:3625 advisory.

1.8.41. RHBA-2020:3605 - OpenShift Container Platform 4.4.21 Bug Fix Update

Issued: 2020-09-15

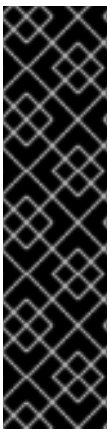
OpenShift Container Platform release 4.4.21 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:3605 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:3606 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.21 container image list

1.8.41.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.



IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.42. RHBA-2020:3715 - OpenShift Container Platform 4.4.23 Bug Fix Update

Issued: 2020-09-22

OpenShift Container Platform release 4.4.23 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:3715 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:3716 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.23 container image list

1.8.42.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.

IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.43. RHSA-2020:3783 - Moderate: OpenShift Container Platform 4.4 Security Update

Issued: 2020-09-22

An update for **golang.org/x/text** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:3783 advisory.

1.8.44. RHBA-2020:3764 - OpenShift Container Platform 4.4.26 Bug Fix Update

Issued: 2020-10-01

OpenShift Container Platform release 4.4.26 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:3764 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:3765 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.26 container image list

1.8.44.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.

IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.45. RHBA-2020:4063 - OpenShift Container Platform 4.4.27 Bug Fix Update

Issued: 2020-10-13

OpenShift Container Platform release 4.4.27 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:4063 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:4064 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.27 container image list

1.8.45.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.

IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.46. RHSA-2020:4220 - Important: OpenShift Container Platform 4.4 Security Update

Issued: 2020-10-13

An update for **openshift-jenkins-2-container** is now available for OpenShift Container Platform 4.4. Details of the update are documented in the RHSA-2020:4220 advisory.

1.8.47. RHBA-2020:4224 - OpenShift Container Platform 4.4.29 Bug Fix Update

Issued: 2020-10-27

OpenShift Container Platform release 4.4.29 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:4224 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:4225 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.29 container image list

1.8.47.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.

IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.48. RHBA-2020:4321 - OpenShift Container Platform 4.4.30 Bug Fix Update

Issued: 2020-11-11

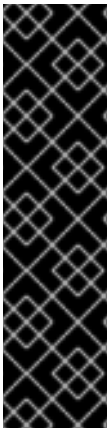
OpenShift Container Platform release 4.4.30 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:4321 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:4322 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.30 container image list

1.8.48.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.



IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.49. RHBA-2020:5122 - OpenShift Container Platform 4.4.31 Bug Fix Update

Issued: 2020-12-02

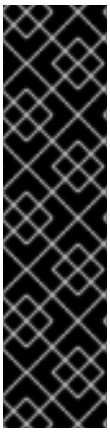
OpenShift Container Platform release 4.4.31 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2020:5122 advisory. The RPM packages that are included in the update are provided by the RHBA-2020:5123 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.31 container image list

1.8.49.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.



IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.50. RHBA-2021:0029 - OpenShift Container Platform 4.4.32 Bug Fix Update

Issued: 2021-01-13

OpenShift Container Platform release 4.4.32 is now available. The list of bug fixes that are included in the update is documented in the RHBA-2021:0029 advisory. The RPM packages that are included in the update are provided by the RHSA-2021:0030 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.32 container image list

1.8.50.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.

IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

1.8.51. RHSA-2021:0281 - OpenShift Container Platform 4.4.33 Bug Fix and Security Update

Issued: 2021-02-02

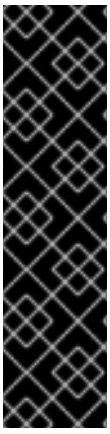
OpenShift Container Platform release 4.4.33, which includes security updates, is now available. The list of bug fixes that are included in the update is documented in the RHSA-2021:0281 advisory. The RPM packages that are included in the update are provided by the RHSA-2021:0282 advisory.

Space precluded documenting all of the container images for this release in the advisory. See the following article for notes on the container images in this release:

OpenShift Container Platform 4.4.33 container image list

1.8.51.1. Upgrading

To upgrade an existing OpenShift Container Platform 4.4 cluster to this latest release, see Updating a cluster by using the web console for instructions.



IMPORTANT

If you are upgrading to this release from OpenShift Container Platform 4.3.3 or earlier, you must restart all pods after the upgrade is complete.

This is because the service CA is automatically rotated as of OpenShift Container Platform 4.3.5. The service CA is rotated during the upgrade, and a restart is required afterward to ensure that all services use the new service CA before the previous service CA expires.

After this one-time manual restart, subsequent upgrades and rotations will ensure restart before the service CA expires without requiring manual intervention.

CHAPTER 2. OPENSHIFT CONTAINER PLATFORM VERSIONING POLICY

OpenShift Container Platform provides strict backwards compatibility guarantees for all supported APIs, excluding alpha APIs (which may be changed without notice) and beta APIs (which may occasionally be changed in a non-backwards compatible manner).

Red Hat did not publicly release OpenShift Container Platform 4.0 and, instead, released OpenShift Container Platform 4.1 directly after version 3.11.

The OpenShift Container Platform version must match between master and node hosts, excluding temporary mismatches during cluster upgrades. For example, in a 4.4 cluster, all masters must be 4.4 and all nodes must be 4.4. If you installed an earlier version of **oc**, you cannot use it to complete all of the commands in OpenShift Container Platform 4.4. You must download and install the new version of **oc**.

Changes of APIs for non-security related reasons will involve, at minimum, two minor releases (4.1 to 4.2 to 4.3, for example) to allow older **oc** to update. Using new capabilities may require newer **oc**. A 4.3 server may have additional capabilities that a 4.2 **oc** cannot use and a 4.3 **oc** may have additional capabilities that are not supported by a 4.2 server.

Table 2.1. Compatibility Matrix

	X.Y (**oc** Client)	**X.Y+N** [a] (**oc** Client)
X.Y (Server)	1	3
X.Y+N [a] (Server)	2	1

[a] Where **N** is a number greater than 1.

1 Fully compatible.

2 **oc** client may not be able to access server features.

3 **oc** client may provide options and features that may not be compatible with the accessed server.