Red Hat OpenShift Container Storage 4.8

Updating OpenShift Container Storage

Instructions for cluster and storage administrators

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Legal Notice

Abstract

This document explains how to update Red Hat OpenShift Container Storage.

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MAKING OPEN SOURCE MORE INCLUSIVE

Red Hat is committed to replacing problematic language in our code, documentation, and web properties. We are beginning with these four terms: master, slave, blacklist, and whitelist. Because of the enormity of this endeavor, these changes will be implemented gradually over several upcoming releases. For more details, see our CTO Chris Wright's message .

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We appreciate your input on our documentation. Do let us know how we can make it better. To give feedback:

- For simple comments on specific passages:

    1. Make sure you are viewing the documentation in the *Multi-page HTML* format. In addition, ensure you see the **Feedback** button in the upper right corner of the document.

    2. Use your mouse cursor to highlight the part of text that you want to comment on.

    3. Click the **Add Feedback** pop-up that appears below the highlighted text.

    4. Follow the displayed instructions.

- For submitting more complex feedback, create a Bugzilla ticket:

    1. Go to the Bugzilla website.

    2. In the **Component** section, choose **documentation**.

    3. Fill in the **Description** field with your suggestion for improvement. Include a link to the relevant part(s) of documentation.

    4. Click **Submit Bug**.

CHAPTER 1. OVERVIEW OF THE OPENSHIFT CONTAINER STORAGE UPDATE PROCESS

You can upgrade Red Hat OpenShift Container Storage and its components, either between minor releases like 4.7 and 4.8, or between batch updates like 4.8.0 and 4.8.1.

You need to upgrade the different parts of OpenShift Container Storage in a specific order.

1. **Update OpenShift Container Platform** according to the Updating clusters documentation for OpenShift Container Platform.

2. **Update OpenShift Container Storage.**

   a. **To prepare a disconnected environment for updates,** see Operators guide to using Operator Lifecycle Manager on restricted networks to be able to update Openshift Container Storage as well as Local Storage Operator when in use.

   b. **Update the OpenShift Container Storage operator,** using the appropriate process for your setup:

      - Update OpenShift Container Storage in internal mode

      - Update OpenShift Container Storage in external mode

   > **NOTE**
   >
   > To know whether your cluster was deployed in internal or external mode, refer to the knowledgebase article on *How to determine if ODF cluster has storage in internal or external mode*.

   a. **If you use local storage:**

      i. **Update the Local Storage operator**
         See Checking for Local Storage Operator deployments if you are unsure.

      ii. **Perform post-update configuration changes** for clusters backed by local storage. See Post-update configuration for clusters backed by local storage for details.

Update considerations

Review the following important considerations before you begin.

- Red Hat recommends using the same version of Red Hat OpenShift Container Platform with Red Hat OpenShift Container Storage.
  See the Interoperability Matrix for more information about supported combinations of OpenShift Container Platform and OpenShift Container Storage.

- The Local Storage Operator is fully supported only when the Local Storage Operator version matches the Red Hat OpenShift Container Platform version.

CHAPTER 2. OPENSHIFT CONTAINER STORAGE UPGRADE CHANNELS AND RELEASES

In OpenShift Container Platform 4.1, Red Hat introduced the concept of channels for recommending the appropriate release versions for cluster upgrades. By controlling the pace of upgrades, these upgrade channels allow you to choose an upgrade strategy. As OpenShift Container Storage gets deployed as an Operator in OpenShift Container Platform, it follows the same strategy to control the pace of upgrades by shipping the fixes in multiple channels. Upgrade channels are tied to a minor version of OpenShift Container Storage. For example, OpenShift Container Storage 4.8 upgrade channels recommend upgrades from 4.7 to 4.8 and upgrades within 4.8. They do not recommend upgrades to 4.9 or later releases. This strategy ensures that administrators can explicitly decide to upgrade to the next minor version of OpenShift Container Storage.

Upgrade channels control only release selection and do not impact the version of the cluster that you install; the **ocs-operator** decides the version of OpenShift Container Storage to be installed. Out of the box, it always installs the latest OpenShift Container Storage release maintaining the compatibility with OpenShift Container Platform. So on OpenShift Container Platform 4.8, OpenShift Container Storage 4.8 will be the latest version which can be installed.

OpenShift Container Storage upgrades are tied to the OpenShift Container Platform upgrade to ensure that compatibility and interoperability are maintained with the OpenShift Container Platform. For OpenShift Container Storage 4.8, OpenShift Container Platform 4.8 and 4.9 (when generally available) are supported. OpenShift Container Platform 4.9 is supported to maintain forward compatibility with OpenShift Container Platform. Keep the OpenShift Container Storage version the same as OpenShift Container Platform in order to get the benefit of all the features and enhancements in that release.

> **IMPORTANT**
>
> Due to fundamental Kubernetes design, all OpenShift Container Platform updates between minor versions must be serialized. You must update from OpenShift Container Platform 4.8 to 4.9 and then to 4.10. You cannot update from OpenShift Container Platform 4.8 to 4.10 directly. For more information, see *Preparing to perform an EUS-to-EUS update* of the [Updating clusters](#) guide in OpenShift Container Platform documentation.

OpenShift Container Platform 4.8 offers the following upgrade channels:

- **stable-4.8**

- **eus-4.y**

    stable-4.8 channel

    > Once a new version is Generally Available, the stable channel corresponding to the minor version gets updated with the new image which can be used to upgrade. You can use the stable-4.8 channel to upgrade from OpenShift Container storage 4.7 and upgrades within 4.8.

    eus-4.y channel

    > In addition to the stable channel, all even-numbered minor versions of OpenShift Container Storage offer Extended Update Support (EUS). These EUS versions extend the full and maintenance support phases for customers with Standard and Premium Subscriptions to 18 months. There is no difference between stable-4.y and eus-4.y channels, other than the fact that the EUS channels will include the release only once the next EUS release is available.

CHAPTER 3. UPDATING OPENSHIFT CONTAINER STORAGE IN INTERNAL MODE

Use the following procedures to update your OpenShift Container Storage cluster deployed in internal mode.

3.1. ENABLING AUTOMATIC UPDATES FOR OPENSHIFT CONTAINER STORAGE OPERATOR IN INTERNAL MODE

Use this procedure to enable automatic update approval for updating OpenShift Container Storage operator in OpenShift Container Platform.

Prerequisites

- Under **Block and File** in the **Status** card, confirm that the *Storage Cluster* and *Data Resiliency* has a green tick mark.

- Under **Object** in the **Status** card, confirm that both *Object Service* and *Data Resiliency* are in **Ready** state (green tick).

- Update the OpenShift Container Platform cluster to the latest stable release of version 4.8.X, see Updating Clusters.

- Switch the Red Hat OpenShift Container Storage channel from **stable-4.7** to **stable-4.8**. For details about channels, see OpenShift Container Storage upgrade channels and releases .

  > **NOTE**
  >
  > You are required to switch channels only when you are updating minor versions (for example, updating from 4.7 to 4.8) and not when updating between batch updates of 4.8 (for example, updating from 4.8.0 to 4.8.1).

- Ensure that all OpenShift Container Storage Pods, including the operator pods, are in **Running** state in the **openshift-storage namespace**.
  To view the state of the pods, click **Workloads → Pods** from the left pane of the OpenShift Web Console. Select **openshift-storage** from the **Project** drop down list.

- Ensure that you have sufficient time to complete the Openshift Container Storage update process, as the update time varies depending on the number of OSDs that run in the cluster.

Procedure

1. Log in to OpenShift Web Console.

2. Click **Operators → Installed Operators**

3. Select the **openshift-storage** project.

4. Click the OpenShift Container Storage operator name.

5. Click the **Subscription** tab and click the link under **Approval**.

6. Select **Automatic (default)** and click **Save**.

7. Perform one of the following depending on the **Upgrade Status**:

   - **Upgrade Status** *shows* **requires approval**.

     > **NOTE**
     >
     > Upgrade status shows **requires approval** if the new OpenShift Container Storage version is already detected in the channel, and approval strategy was changed from **Manual** to **Automatic** at the time of update.

     a. Click on the **Install Plan** link.

     b. On the **InstallPlan Details** page, click **Preview Install Plan**.

     c. Review the install plan and click **Approve**.

     d. Wait for the **Status** to change from **Unknown** to **Created**.

     e. Click **Operators → Installed Operators**

     f. Select the **openshift-storage** project.

     g. Wait for the **Status** to change to **Up to date**

   - **Upgrade Status** *does not show* **requires approval**:

     a. Wait for the update to initiate. This may take up to 20 minutes.

     b. Click **Operators → Installed Operators**

     c. Select the **openshift-storage** project.

     d. Wait for the **Status** to change to **Up to date**

Verification steps

1. On the OpenShift Web Console, navigate to **Storage → Overview → Object** tab.

   - In the **Status** card, verify that both *Object Service* and *Data Resiliency* are in **Ready** state (green tick).

2. On the OpenShift Web Console, navigate to **Storage → Overview → Block and File** tab.

   - In the **Status** card, verify that the *Storage Cluster* and *Data Resiliency* has a green tick mark.

3. Click **Operators → Installed Operators → OpenShift Container Storage Operator**. Under **Storage Cluster**, verify that the cluster service status is **Ready**.

   > **NOTE**
   >
   > Once updated from OpenShift Container Storage version 4.7 to 4.8, the **Version** field here will still display 4.7. This is because the **ocs-operator** does not update the string represented in this field.

4. Ensure that all OpenShift Container Storage Pods, including the operator pods, are in **Running** state in the **openshift-storage namespace**.

To view the state of the pods, click **Workloads → Pods**. Select **openshift-storage** from the **Project** drop down list.

5. If verification steps fail, contact Red Hat Support .

> **NOTE**
>
> The flexible scaling feature is available only in the new deployments of Red Hat OpenShift Container Storage 4.7. Storage clusters upgraded to the 4.7 version do not support flexible scaling.
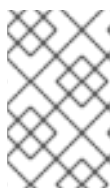
Additional Resources

If you face any issues while updating OpenShift Container Storage, see the *Commonly required logs for troubleshooting* section in the Troubleshooting guide.

3.2. MANUALLY UPDATING OPENSHIFT CONTAINER STORAGE OPERATOR IN INTERNAL MODE

Use this procedure to update OpenShift Container Storage operator by providing manual approval to the install plan.

Prerequisites

- Under **Block and File** in the **Status** card, confirm that the *Storage Cluster* and *Data Resiliency* has a green tick mark.

- Under **Object** in the **Status** card, confirm that both *Object Service* and *Data Resiliency* are in **Ready** state (green tick).

- Update the OpenShift Container Platform cluster to the latest stable release of version 4.8.X, see Updating Clusters.

- Switch the Red Hat OpenShift Container Storage channel from **stable-4.7** to **stable-4.8**. For details about channels, see OpenShift Container Storage upgrade channels and releases .

  > **NOTE**
  >
  > You are required to switch channels only when you are updating minor versions (for example, updating from 4.7 to 4.8) and not when updating between batch updates of 4.8 (for example, updating from 4.8.0 to 4.8.1).

- Ensure that all OpenShift Container Storage Pods, including the operator pods, are in **Running** state in the **openshift-storage namespace**.
  To view the state of the pods, click **Workloads → Pods** from the left pane of the OpenShift Web Console. Select **openshift-storage** from the **Project** drop down list.

- Ensure that you have sufficient time to complete the Openshift Container Storage update process, as the update time varies depending on the number of OSDs that run in the cluster.
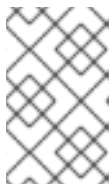
Procedure

1. Log in to OpenShift Web Console.

2. Click **Operators → Installed Operators**

3. Select the **openshift-storage** project.

4. Click the **OpenShift Container Storage** operator name.

5. Click the **Subscription** tab and click the link under **Approval**.

6. Select **Manual** and click **Save**.

7. Wait for the **Upgrade Status** to change to **Upgrading**.

8. If the **Upgrade Status** shows **requires approval**, click on **requires approval**.

9. On the **InstallPlan Details** page, click **Preview Install Plan**.

10. Review the install plan and click **Approve**.

11. Wait for the **Status** to change from **Unknown** to **Created**.

12. Click **Operators → Installed Operators**

13. Select the **openshift-storage** project.

14. Wait for the **Status** to change to **Up to date**

Verification steps

1. On the OpenShift Web Console, navigate to **Storage → Overview → Object**tab.

   - In the **Status** card, verify that both *Object Service* and *Data Resiliency* are in **Ready** state (green tick).

2. On the OpenShift Web Console, navigate to **Storage → Overview → Block and File**tab.

   - In the **Status** card, verify that the *Storage Cluster* and *Data Resiliency* has a green tick mark.

3. Click **Operators → Installed Operators → OpenShift Container Storage Operator**. Under **Storage Cluster**, verify that the cluster service status is **Ready**.

   > **NOTE**
   >
   > Once updated from OpenShift Container Storage version 4.7 to 4.8, the **Version** field here will still display 4.7. This is because the **ocs-operator** does not update the string represented in this field.

4. Ensure that all OpenShift Container Storage Pods, including the operator pods, are in **Running** state in the **openshift-storage namespace**.
   To view the state of the pods, click **Workloads → Pods** from the left pane of the OpenShift Web Console. Select **openshift-storage** from the **Project** drop down list.

5. If verification steps fail, contact Red Hat Support .

Additional Resources

If you face any issues while updating OpenShift Container Storage, see the *Commonly required logs for troubleshooting* section in the Troubleshooting guide.

CHAPTER 4. UPDATING OPENSHIFT CONTAINER STORAGE IN EXTERNAL MODE

Use the following procedures to update your OpenShift Container Storage cluster deployed in external mode.
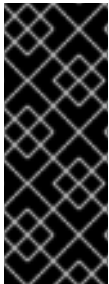
> **IMPORTANT**
>
> Upgrading Red Hat OpenShift Container Storage Operator does not upgrade the external Red Hat Ceph Storage cluster. It only upgrades the Red Hat OpenShift Container Storage Services running on the OpenShift Container Platform.
>
> To upgrade the external Red Hat Ceph Storage cluster contact your Red Hat Ceph Storage administrator.

4.1. CREATING A NEW OBJECT STORE USER TO INTERACT WITH THE CEPH OBJECT STORE ADMINISTRATIVE API

For clusters that operate in external mode and consume object storage, when updating from a previous OpenShift Container Storage version to 4.8, you must create a new object store user. This user interacts with the Ceph Object Store Administrative API to ensure all operations work as expected.

Prerequisites

- Update the OpenShift Container Platform cluster to the latest stable release of 4.8.z, see Updating Clusters.

- Under **Block and File** in the **Status** card, confirm that the *Storage Cluster* has a green tick mark.

- Under **Object** in the **Status** card, confirm that both *Object Service* and *Data Resiliency* are in **Ready** state (green tick).

Procedure

1. Run the following command on the Red Hat Ceph Storage cluster:

   ```
   radosgw-admin user create --uid rgw-admin-ops-user --display-name "Rook RGW Admin
   Ops user" --caps "buckets=*;users=*;usage=read;metadata=read;zone=read"
   ```

2. From the output, get the **access_key** and **secret_key**.

3. Run the following command on the OpenShift Container Platform cluster:

   ```
   oc -n openshift-storage \
   create \
   secret \
   generic \
   --type="kubernetes.io/rook" \
   "rgw-admin-ops-user" \
   --from-literal=accessKey="$RGW_ADMIN_OPS_USER_ACCESS_KEY" \
   --from-literal=secretKey="$RGW_ADMIN_OPS_USER_SECRET_KEY"
   ```

Where **RGW_ADMIN_OPS_USER_ACCESS_KEY** and **RGW_ADMIN_OPS_USER_SECRET_KEY** are variables that contain the user's access and secret key.

4. Proceed with the upgrade.

4.2. ENABLING AUTOMATIC UPDATES FOR OPENSHIFT CONTAINER STORAGE OPERATOR IN EXTERNAL MODE

Use this procedure to enable automatic update approval for updating OpenShift Container Storage operator in OpenShift Container Platform.

> **NOTE**
>
> Updating OpenShift Container Storage will not update the external Red Hat Ceph Storage cluster.

Prerequisites

- Red Hat Ceph Storage version 4.2z1 or later is required for the external cluster. For more information, see this knowledge base article on Red Hat Ceph Storage releases and corresponding Ceph package versions.

- Update the OpenShift Container Platform cluster to the latest stable release of version 4.8.X, see Updating Clusters.

- Switch the Red Hat OpenShift Container Storage channel from **stable-4.7** to **stable-4.8**. For details about channels, see OpenShift Container Storage upgrade channels and releases .

> **NOTE**
>
> You are required to switch channels only when you are updating minor versions (for example, updating from 4.7 to 4.8) and not when updating between batch updates of 4.8 (for example, updating from 4.8.0 to 4.8.1).

- Ensure that all OpenShift Container Storage Pods, including the operator pods, are in **Running** state in the **openshift-storage namespace**.
  To view the state of the pods, click **Workloads → Pods** from the left pane of the OpenShift Web Console. Select **openshift-storage** from the **Project** drop down list.

- Under **Block and File** in the **Status** card, confirm that the *Storage Cluster* has a green tick mark.

- Under **Object** in the **Status** card, confirm that both *Object Service* and *Data Resiliency* are in **Ready** state (green tick).

- Ensure that you have sufficient time to complete the Openshift Container Storage update process.

Procedure

1. Log in to OpenShift Web Console.

2. Click **Operators → Installed Operators**

3. Select the **openshift-storage** project.

4. Click on the OpenShift Container Storage operator name.

5. Click the **Subscription** tab and click the link under **Approval**.

6. Select **Automatic (default)** and click **Save**.

7. Perform one of the following depending on the **Upgrade Status**:

   - Upgrade Status *shows* **requires approval**.

     > **NOTE**
     >
     > Upgrade status shows **requires approval** if the new OpenShift Container Storage version is already detected in the channel, and approval strategy was changed from **Manual** to **Automatic** at the time of update.

     a. Click the **Install Plan** link.

     b. On the **InstallPlan Details** page, click **Preview Install Plan**.

     c. Review the install plan and click **Approve**.

     d. Wait for the **Status** to change from **Unknown** to **Created**.

     e. Click **Operators → Installed Operators**

     f. Select the **openshift-storage** project.

     g. Wait for the **Status** to change to **Up to date**

   - Upgrade Status *does not show* **requires approval**:

     a. Wait for the update to initiate. This may take up to 20 minutes.

     b. Click **Operators → Installed Operators**

     c. Select the **openshift-storage** project.

     d. Wait for the **Status** to change to **Up to date**

Verification steps

1. On the OpenShift Web Console, navigate to **Storage → Overview → Object** tab.

   - In the **Status** card, verify that both *Object Service* and *Data Resiliency* are in **Ready** state (green tick).

2. On the OpenShift Web Console, navigate to **Storage → Overview → Block and File** tab.

   - In the **Status** card, verify that the *Storage Cluster* has a green tick mark.

3. Click **Operators → Installed Operators → OpenShift Container Storage Operator**. Under **Storage Cluster**, verify that the cluster service status in **Ready**.

NOTE

Once updated from OpenShift Container Storage version 4.7 to 4.8, the **Version** field here will still display 4.7. This is because the **ocs-operator** does not update the string represented in this field.

4. Ensure that all OpenShift Container Storage Pods, including the operator pods, are in **Running** state in the **openshift-storage** namespace.
   To view the state of the pods, click **Workloads → Pods** from the left pane of the OpenShift Web Console. Select **openshift-storage** from the **Project** drop down list.

5. If verification steps fail, contact Red Hat Support .

Additional Resources

If you face any issues while updating OpenShift Container Storage, see the *Commonly required logs for troubleshooting* section in the Troubleshooting guide.

Next steps

- Updating the OpenShift Container Storage external secret

4.3. MANUALLY UPDATING OPENSHIFT CONTAINER STORAGE OPERATOR IN EXTERNAL MODE

Use this procedure to update OpenShift Container Storage operator by providing manual approval to the install plan.

NOTE

Updating OpenShift Container Storage will not update the external Red Hat Ceph Storage cluster.

Prerequisites

- Red Hat Ceph Storage version 4.2z1 or later is required for the external cluster. For more information, see this knowledge base article on Red Hat Ceph Storage releases and corresponding Ceph package versions.

- Update the OpenShift Container Platform cluster to the latest stable release of version 4.8.X, see Updating Clusters.

- Switch the Red Hat OpenShift Container Storage channel from **stable-4.7** to **stable-4.8**. For details about channels, see OpenShift Container Storage upgrade channels and releases .

  NOTE

  You are required to switch channels only when you are updating minor versions (for example, updating from 4.7 to 4.8) and not when updating between batch updates of 4.8 (for example, updating from 4.8.0 to 4.8.1).

- Ensure that all OpenShift Container Storage Pods, including the operator pods, are in **Running** state in the **openshift-storage** namespace.

To view the state of the pods, click **Workloads → Pods** from the left pane of the OpenShift Web Console. Select **openshift-storage** from the **Project** drop down list.

- Under **Block and File** in the **Status** card, confirm that the *Storage Cluster* has a green tick mark.

- Under **Object** in the **Status** card, confirm that both *Object Service* and *Data Resiliency* are in **Ready** state (green tick).

- Ensure that you have sufficient time to complete the Openshift Container Storage update process.

Procedure

1. Log in to OpenShift Web Console.

2. Click **Operators → Installed Operators**

3. Select the **openshift-storage** project.

4. Click the **OpenShift Container Storage** operator name.

5. Click **Subscription** tab and click the link under **Approval**.

6. Select **Manual** and click **Save**.

7. Wait for the **Upgrade Status** to change to **Upgrading**.

8. If the **Upgrade Status** shows **requires approval**, click on **requires approval**.

9. On the **InstallPlan Details** page, click **Preview Install Plan**.

10. Review the install plan and click **Approve**.

11. Wait for the **Status** to change from **Unknown** to **Created**.

12. Click **Operators → Installed Operators**

13. Select the **openshift-storage** project.

14. Wait for the **Status** to change to **Up to date**

Verification steps

1. On the OpenShift Web Console, navigate to **Storage → Overview → Object** tab.

   - In the **Status** card, verify that both *Object Service* and *Data Resiliency* are in **Ready** state (green tick).

2. On the OpenShift Web Console, navigate to **Storage → Overview → Block and File** tab.

   - In the **Status** card, verify that the *Storage Cluster* has a green tick mark.

3. Click **Operators → Installed Operators → OpenShift Container Storage Operator**. Under **Storage Cluster**, verify that the cluster service status in **Ready**.

4. Ensure that all OpenShift Container Storage Pods, including the operator pods, are in **Running** state in the **openshift-storage** namespace.

To view the state of the pods, click **Workloads → Pods** from the left pane of the OpenShift Web Console. Select **openshift-storage** from the **Project** drop down list.

> **NOTE**
>
> Once updated from OpenShift Container Storage version 4.7 to 4.8, the **Version** field here will still display 4.7. This is because the **ocs-operator** does not update the string represented in this field.

5. If verification steps fail, contact Red Hat Support .

Additional Resources

If you face any issues while updating OpenShift Container Storage, see the *Commonly required logs for troubleshooting* section in the Troubleshooting guide.

Next steps

- Updating the OpenShift Container Storage external secret

4.4. UPDATING THE OPENSHIFT CONTAINER STORAGE EXTERNAL SECRET

Update the OpenShift Container Storage external secret after updating to the latest version of OpenShift Container Storage.

> **NOTE**
>
> Updating the external secret is not required for batch updates. For example, when updating from OpenShift Container Storage 4.8.X to 4.8.Y.

Prerequisites

- Update the OpenShift Container Platform cluster to the latest stable release of 4.8.z, see Updating Clusters.

- The OpenShift Container Storage operator has been upgraded to version 4.8. See Enabling automatic updates for OpenShift Container Storage operator in external mode or Manually updating OpenShift Container Storage operator in external mode for more information.

- Under **Block and File** in the **Status** card, confirm that the *Storage Cluster* has a green tick mark.

- Under **Object** in the **Status** card, confirm that both *Object Service* and *Data Resiliency* are in **Ready** state (green tick).

- Red Hat Ceph Storage must have a Ceph dashboard installed and configured.

Procedure

1. Download the OpenShift Container Storage version of the **ceph-external-cluster-details-exporter.py** python script.

   ```
   # oc get csv $(oc get csv -n openshift-storage | grep ocs-operator | awk '{print $1}') -n
   openshift-storage -o
   ```

```
jsonpath='{.metadata.annotations.external\.features\.ocs\.openshift\.io/export-script}' | base64
--decode > ceph-external-cluster-details-exporter.py
```

2. Update permission caps on the external Red Hat Ceph Storage cluster by running **ceph-external-cluster-details-exporter.py** on any client node in the external Red Hat Ceph Storage cluster. You may need to ask your Red Hat Ceph Storage administrator to do this.

```
# python3 ceph-external-cluster-details-exporter.py --upgrade --run-as-
user=<client_name_used_for_OCS_4.7_install>
```

--run-as-user

The client name used during the OpenShift Container Storage 4.7 deployment. If this option was not used during the deployment of OpenShift Container Storage 4.7, the default client name **client.healthchecker** is set.
The updated permissions for the user are set as:

```
caps: [mgr] allow command config
caps: [mon] allow r, allow command quorum_status, allow command version
caps: [osd] allow rwx pool=RGW_POOL_PREFIX.rgw.meta, allow r pool=.rgw.root, allow
rw pool=RGW_POOL_PREFIX.rgw.control, allow rx pool=RGW_POOL_PREFIX.rgw.log,
allow x pool=RGW_POOL_PREFIX.rgw.buckets.index
```

3. Run the previously downloaded python script and save the JSON output that gets generated, from the external Red Hat Ceph Storage cluster.

   a. Run the previously downloaded python script:

   ```
   # python3 ceph-external-cluster-details-exporter.py --rbd-data-pool-name <rbd block pool
   name> --monitoring-endpoint <ceph mgr prometheus exporter endpoint> --monitoring-
   endpoint-port <ceph mgr prometheus exporter port> --rgw-endpoint <rgw endpoint> --
   run-as-user <client_name_used_for_OCS_4.7_install>  [optional arguments]
   ```

   --rbd-data-pool-name

   Is a mandatory parameter used for providing block storage in OpenShift Container Storage.

   --rgw-endpoint

   Is optional. Provide this parameter if object storage is to be provisioned through Ceph Rados Gateway for OpenShift Container Storage. Provide the endpoint in the following format: **<ip_address>:<port>**.

   --monitoring-endpoint

   Is optional. It is the IP address of the active ceph–mgr reachable from the OpenShift Container Platform cluster. If not provided, the value is automatically populated.

   --monitoring-endpoint-port

   Is optional. It is the port associated with the ceph–mgr Prometheus exporter specified by **--monitoring-endpoint**. If not provided, the value is automatically populated.

   --run-as-user

   The client name used during the OpenShift Container Storage 4.7 deployment. If this option was not used during the deployment of OpenShift Container Storage 4.7, the default client name **client.healthchecker** is set.

> **NOTE**
>
> Ensure that all the parameters, including the optional arguments, except for monitoring–endpoint and monitoring–endpoint–port, are the same parameters that were used during the deployment of OpenShift Container Storage 4.7 in external mode.

b. Save the JSON output generated after running the script in the previous step. Example output:

```
[{"name": "rook-ceph-mon-endpoints", "kind": "ConfigMap", "data": {"data":
"xxx.xxx.xxx.xxx:xxxx", "maxMonId": "0", "mapping": "{}"}}, {"name": "rook-ceph-mon",
"kind": "Secret", "data": {"admin-secret": "admin-secret", "fsid": "<fs-id>", "mon-secret":
"mon-secret"}}, {"name": "rook-ceph-operator-creds", "kind": "Secret", "data": {"userID":
"client.healthchecker", "userKey": "<user-key>"}}, {"name": "rook-csi-rbd-node", "kind":
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"data": {"endpoint": "xxx.xxx.xxx.xxx:xxxx", "poolPrefix": "default"}}]
```

4. Upload the generated JSON file.

   a. Log in to the OpenShift Web Console.

   b. Click **Workloads → Secrets**

   c. Set project to **openshift-storage**.

   d. Click **rook–ceph–external–cluster–details**.

   e. Click **Actions (⋮) → Edit Secret**

   f. Click **Browse** and upload the JSON file.

   g. Click **Save**.

Verification steps

1. On the OpenShift Web Console, navigate to **Storage → Overview → Object**tab.

   - In the **Status** card, verify that both *Object Service* and *Data Resiliency* are in **Ready** state (green tick).

2. On the OpenShift Web Console, navigate to **Storage → Overview → Block and File**tab.

   - In the **Status** card, verify that the *Storage Cluster* has a green tick mark.

CHAPTER 5. ADDING ANNOTATION TO THE PRE-EXISTING BACKINGSTORES

Adding the correct annotation to the pre-existing backingstores allows the backingstores backed by object gateways (RGWs) to report its actual and free size. The Multicloud Object Gateway (MCG) can retrieve and use this information.

> **NOTE**
>
> If you added the annotations to pre-existing backingstores after upgrading to OpenShift Container Storage version 4.7, then you do not need to add them after upgrading to 4.8. All backingstores created in version 4.7 and above will already have this annotation by default.

Procedure

1. Log in to the OpenShift Container Platform Web Console.

2. Click **Home → Search**.

3. Search for **BackingStore** in **Resources** and click on it.

4. Beside the S3-compatible BackingStore, click **Action Menu (⋮) → Edit annotations**.

5. Add **rgw** for **KEY**.

6. Click **Save**.

CHAPTER 6. POST-UPDATE CONFIGURATION CHANGES FOR CLUSTERS BACKED BY LOCAL STORAGE

In Red Hat OpenShift Container Platform 4.6 and onward, the Local Storage Operator provides new custom resource types for managing local storage:

- **LocalVolumeDiscovery**

- **LocalVolumeSet**

If you upgraded to OpenShift Container Storage version 4.8 from version 4.5 or earlier with Local Storage Operator, and these resources have not yet been created, additional configuration steps are required after an update to ensure that all features work as expected. These resource types are not automatically handled as part of an update from 4.5, and must be created manually. See Post-update configuration changes for clusters backed by local storage for instructions on creating the resources.

> **NOTE**
>
> If you had already created these resources after upgrading from 4.5, then you do not need to create them after upgrading to 4.8.

6.1. ADDING ANNOTATIONS

Use this procedure to add annotations to storage cluster to enable replacing of failed storage devices through the user interface when you upgraded to OpenShift Container Storage 4.8 from a previous version.

Procedure

1. Log in to OpenShift Container Platform Web Console.

2. Click **Home → Search**.

3. Search for **StorageCluster** in **Resources** and click on it.

4. Beside **ocs-storagecluster**, click Action menu **(⋮) → Edit annotations**.

5. Add **cluster.ocs.openshift.io/local-devices** and **true** for **KEY** and **VALUE** respectively.

6. Click **Save**.