Managing Red Hat Gluster Storage using the Web Console

Perform common Red Hat Gluster Storage management tasks in the Web Console
Managing Red Hat Gluster Storage using the Web Console

Perform common Red Hat Gluster Storage management tasks in the Web Console

Laura Bailey
lbailey@redhat.com
Abstract

After Red Hat Hyperconverged Infrastructure for Virtualization has been deployed, you can perform many operational and management tasks for Red Hat Gluster Storage using the Web Console. Read this book to understand how to manage storage using the Web Console. This document explains how to perform maintenance tasks specific to Red Hat Hyperconverged Infrastructure for Virtualization.
# Table of Contents

**CHAPTER 1. UNDERSTANDING THE WEB CONSOLE** ............................................. 3  
  1.1. UNDERSTANDING THE STORAGE DASHBOARD ........................................ 3  
  1.2. UNDERSTANDING THE VOLUME GROUP OVERVIEW PAGE ....................... 7  
  1.3. UNDERSTANDING THE VDO OVERVIEW PAGE ...................................... 8  
  1.4. UNDERSTANDING THE DRIVE OVERVIEW PAGE .................................... 10

**CHAPTER 2. MANAGING PHYSICAL DEVICE DRIVES USING THE WEB CONSOLE** ............. 11  
  2.1. CREATING A PARTITION TABLE USING THE WEB CONSOLE .................... 11  
  2.2. FORMATTING A DISK PARTITION USING THE WEB CONSOLE .................. 11

**CHAPTER 3. MANAGING RAID DEVICES USING THE WEB CONSOLE** .......................... 13  
  3.1. CONFIGURING A NEW RAID DEVICE USING THE WEB CONSOLE ............... 13

**CHAPTER 4. MANAGING VIRTUAL DATA OPTIMIZERS USING THE WEB CONSOLE** .......... 14  
  4.1. CREATING A VIRTUAL DATA OPTIMIZER USING THE WEB CONSOLE .......... 14  
  4.2. GROWING THE LOGICAL SIZE OF A VDO DEVICE USING THE WEB CONSOLE .... 15  
  4.3. DISABLING COMPRESSION ON A VDO DEVICE USING THE WEB CONSOLE .... 15  
  4.4. DISABLING DEDUPLICATION ON A VDO DEVICE USING THE WEB CONSOLE .... 16  
  4.5. STOPPING A VDO DEVICE USING THE WEB CONSOLE .......................... 16  
  4.6. DELETING A VDO DEVICE USING THE WEB CONSOLE .......................... 16

**CHAPTER 5. MANAGING VOLUME GROUPS USING THE WEB CONSOLE** ....................... 18  
  5.1. CREATING A VOLUME GROUP USING THE WEB CONSOLE ....................... 18  
  5.2. ADDING PHYSICAL VOLUMES TO A VOLUME GROUP USING THE WEB CONSOLE .... 18  
  5.3. RENAMING A VOLUME GROUP USING THE WEB CONSOLE ........................ 19  
  5.4. DELETING A VOLUME GROUP USING THE WEB CONSOLE ........................ 19

**CHAPTER 6. MANAGING THIN POOLS USING THE WEB CONSOLE** ............................ 21  
  6.1. CREATING A THIN POOL USING THE WEB CONSOLE ............................. 21  
  6.2. GROWING A THIN POOL USING THE WEB CONSOLE ................................ 21  
  6.3. DEACTIVATING A THIN POOL USING THE WEB CONSOLE ......................... 21  
  6.4. ACTIVATING A THIN POOL USING THE WEB CONSOLE ............................ 22

**CHAPTER 7. MANAGING LOGICAL VOLUMES USING THE WEB CONSOLE** ..................... 23  
  7.1. ACTIVATING A LOGICAL VOLUME USING THE WEB CONSOLE .................... 23  
  7.2. CREATING A THINLY PROVISIONED LOGICAL VOLUME USING THE WEB CONSOLE .... 23  
  7.3. CREATING A THICKLY PROVISIONED LOGICAL VOLUME USING THE WEB CONSOLE .... 23  
  7.4. DEACTIVATING A LOGICAL VOLUME USING THE WEB CONSOLE ................. 24  
  7.5. DELETING A LOGICAL VOLUME USING THE WEB CONSOLE ....................... 24  
  7.6. GROWING A LOGICAL VOLUME USING THE WEB CONSOLE ....................... 25

**CHAPTER 8. MANAGING FILE SYSTEMS USING THE WEB CONSOLE** ............................ 26  
  8.1. FORMATTING A LOGICAL VOLUME USING THE WEB CONSOLE .................... 26  
  8.2. CONFIGURING A MOUNT POINT USING THE WEB CONSOLE ....................... 26  
  8.3. MOUNTING A FILE SYSTEM USING THE WEB CONSOLE ........................... 27  
  8.4. UNMOUNTING A FILE SYSTEM USING THE WEB CONSOLE ........................ 27

**CHAPTER 9. MANAGING GLUSTER VOLUMES USING THE WEB CONSOLE** ....................... 29  
  9.1. ACCESSING THE GLUSTER MANAGEMENT DASHBOARD .............................. 29  
  9.2. EXPANDING VOLUME FROM WEB CONSOLE ........................................ 30  
  9.3. EXPANDING VOLUME FROM RED HAT VIRTUALIZATION MANAGER .................. 33  
  9.4. EXPANDING THE HYPERCONVERGED CLUSTER BY ADDING A NEW VOLUME ON NEW NODES USING THE WEB CONSOLE ............................................................. 34  
  9.5. CREATING AN ADDITIONAL GLUSTER VOLUME USING THE WEB CONSOLE ........ 37
CHAPTER 1. UNDERSTANDING THE WEB CONSOLE

1.1. UNDERSTANDING THE STORAGE DASHBOARD

The Storage Dashboard in the Web Console provides an overview of I/O operations, volumes, and devices available to the server.

Navigate to the Storage Dashboard by logging into the Web Console and clicking the hostname, followed by Storage.

Figure 1.1. Storage Dashboard

The Storage Dashboard is divided into a number of sections.

Reading

A graph of the amount of data read in the last five minutes. The scale of the graph adjusts automatically according to server load.
Writing

A graph of the amount of data written in the last five minutes. The scale of the graph adjusts automatically according to server load.

Filesystems

A list of file systems hosted on this server showing their name, mount point, size, and used versus total storage capacity. Clicking on a file system opens the Volume Group Overview page. See Section 1.2, “Understanding the Volume Group Overview page” for more information.

<table>
<thead>
<tr>
<th>Name</th>
<th>Mount Point</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>/dev/gluster_vg_sdd/glu...</td>
<td>/gluster_bricks/data</td>
<td>0.001 / 4.88 TiB</td>
</tr>
<tr>
<td>/dev/gluster_vg_sdd/glu...</td>
<td>/gluster_bricks/engine</td>
<td>10.8 / 99.9 GiB</td>
</tr>
<tr>
<td>/dev/gluster_vg_sdd/glu...</td>
<td>/gluster_bricks/vmstore</td>
<td>0.134 / 8.79 TiB</td>
</tr>
<tr>
<td>/dev/rhel_rhsdev-grafto...</td>
<td>/home</td>
<td>0.0314 / 876 GiB</td>
</tr>
<tr>
<td>/dev/rhel_rhsdev-grafto...</td>
<td>/</td>
<td>5.74 / 50.0 GiB</td>
</tr>
<tr>
<td>/dev/sda1</td>
<td>/boot</td>
<td>184 / 1014 MiB</td>
</tr>
</tbody>
</table>

NFS Mounts
A list of exported file systems that have been mounted by client systems.

**Figure 1.5. Mounts**

<table>
<thead>
<tr>
<th>Server</th>
<th>Mount Point</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.70.37.28</td>
<td>/rhev/data-center/mnt/gl...</td>
<td>11.8 / 99.9 GiB</td>
</tr>
<tr>
<td>10.70.37.28</td>
<td>/rhev/data-center/mnt/gl...</td>
<td>0.222 / 8.79 TiB</td>
</tr>
<tr>
<td>10.70.37.28</td>
<td>/rhev/data-center/mnt/gl...</td>
<td>0.0496 / 4.88 TiB</td>
</tr>
</tbody>
</table>

**Storage Logs**

A list of recent events and log messages related to storage.

**Figure 1.6. Logs**

- May 24, 2018
- `12:17 g_object_notify: object class 'UDisksLinuxBlockOb... udisksd`
- `12:17 g_object_notify: object class 'UDisksLinuxBlockOb... udisksd` (3)
- `12:17 g_object_notify: object class 'UDisksLinuxLogical... udisksd` (3)
- `12:17 g_object_notify: object class 'UDisksLinuxBlockOb... udisksd`
- `12:17 g_object_notify: object class 'UDisksLinuxBlockOb... udisksd` (2)

**RAID Devices**

A list of RAID devices configured on the server. Clicking a RAID device opens the RAID Device Summary page. Clicking + opens the Create RAID Device window. See Section 3.1, “Configuring a new RAID Device using the Web Console” for more information.

**Figure 1.7. RAID Devices**

- No storage set up as RAID

**Volume Groups**

A list of volume groups configured on the server. Clicking a volume group opens the Volume Group Overview page. Clicking + opens the Create Volume Group window. See Section 3.1 and ref:ref-cockpit-vg_overview for more information.
VDO Devices
A list of Virtual Data Optimizer devices configured on the server. Clicking a VDO device opens the VDO Device Summary page. Clicking + opens the Create VDO Device window. See [xref:ref-cockpit-vdo_overview] for more information.

Drives
A list of drives in use by the server. Clicking a drive opens the Drive Summary page. See Section 1.4, "Understanding the Drive Overview page" for more information.
1.2. UNDERSTANDING THE VOLUME GROUP OVERVIEW PAGE

The Volume Group Overview page in the Web Console provides an overview of a volume group, the physical volume it resides on, and the logical volumes that are part of that volume group.

Navigate to the Volume Group Summary page for a file system or volume group by logging into the Web Console and clicking the hostname, followed by Storage, and clicking any file system or volume group.
The Volume Group Overview page is divided into several sections.

**Volume Group summary**

A summary of volume group details, showing name, UUID and capacity. You can also rename or delete the volume group from here.

**Physical Volumes**

A list of physical volumes underlying this volume group. Clicking + opens the Add Disks window, which lets you add more disks to the volume group.

**Logical Volumes**

A list of logical volumes in this volume group, with volume management operations. Clicking a volume shows more details and operations for that volume. See *Chapter 7, Managing logical volumes using the Web Console* for more information.

### 1.3. UNDERSTANDING THE VDO OVERVIEW PAGE

The VDO Overview page provides an overview of Virtual Disk Optimizer devices and their contents.

Navigate to the VDO Overview page for a VDO device by logging into the Web Console and clicking the hostname, followed by *Storage*, and clicking any device listed under *VDO Devices*. 
The VDO Overview page is divided into several sections.

**VDO Device summary**
A summary of the details of this VDO device, showing the device file location, the drive backing the VDO device, and the physical and logical space available. Several VDO management operations are also available.

**Content**
A summary of the volumes residing on this VDO device.

The VDO Overview page also provides access to a number of VDO management operations.

See the following sections for more information about each operation.

- Growing the logical size of a VDO device
- Disabling compression on a VDO device
- Disabling deduplication on a VDO device
- Stopping a VDO device
- Deleting a VDO device
See Understanding VDO for more information about VDO devices.

1.4. UNDERSTANDING THE DRIVE OVERVIEW PAGE

The Drive Overview page provides an overview of any drives or disks attached to the server, and any partitions on those drives.

Navigate to the Drive Overview page for any drive by logging into the Web Console and clicking the hostname, followed by Storage, and clicking any drive listed under Drives.

Figure 1.14. Drive Overview page

The Drive Overview page is divided into several sections.

Drive
A summary of drive details, including the drive model, firmware version, serial number, capacity, and device location.

Content
A summary of partitions on this drive. You can modify the partition table on the drive, or format a partition here.
CHAPTER 2. MANAGING PHYSICAL DEVICE DRIVES USING THE WEB CONSOLE

2.1. CREATING A PARTITION TABLE USING THE WEB CONSOLE

Follow these steps to create a new partition table on a drive using the Web Console.

1. Log in to the Web Console.
2. Click the hostname → Storage.
3. Click any drive under Drives. The Drive Overview page opens.
4. Click Create partition table.

Figure 2.1. Drive Content

The Format device window opens.

a. Specify whether to Erase existing data completely by overwriting it with zeroes.

b. Specify the Partitioning style to use.

c. Click Format.

2.2. FORMATTING A DISK PARTITION USING THE WEB CONSOLE

Follow these steps to format a partition with a file system using the Web Console.

1. Log in to the Web Console.
2. Click the hostname → Storage.
3. Click any drive under Drives. The Drive Overview page opens.
4. Click the device under Content.
5. In the Filesystem subtab, click Format.

The Filesystem subtab
The *Format Device* window appears.

- a. Specify whether to **Erase** existing data completely by overwriting it with zeroes.
- b. Specify the file system **Type** to use.
- c. Specify a **Name** for the file system.
- d. Specify whether to use default or customized **Mounting** behavior.
  
  If you selected **Custom**, specify a **Mount Point** and check any **Mount options** you want this file system to use.
- e. Click **Format**.
CHAPTER 3. MANAGING RAID DEVICES USING THE WEB CONSOLE

3.1. CONFIGURING A NEW RAID DEVICE USING THE WEB CONSOLE

1. Log in to the Web Console.

2. Click the hostname → **Storage**.

3. Click the + button beside **RAID Devices**.

   **Figure 3.1. RAID Devices**

   ![RAID Devices](image)

   The Create RAID Device window opens.

   **Figure 3.2. Create Raid Device window**

   ![Create RAID Device](image)

   a. Specify a **Name** for your RAID device.

   b. Specify the **RAID Level** to use.

   **NOTE**

   Only RAID5 and RAID6 are supported for RHHI for Virtualization.

   c. Leave the **Chunk Size** as the default value.

   d. Check the **Disks** to use in creating the RAID device.

   e. Click **Create**.
CHAPTER 4. MANAGING VIRTUAL DATA OPTIMIZERS USING THE WEB CONSOLE

4.1. CREATING A VIRTUAL DATA OPTIMIZER USING THE WEB CONSOLE

Follow these steps to create a new VDO device.

1. Log in to the Web Console.
2. Click the hostname ➔ Storage.
3. Click the + button beside VDO Devices. The Create VDO Device window opens.

![VDO Devices](image1)

**Figure 4.1. VDO Devices**

**Figure 4.2. Create VDO Device window**

![Create VDO Device](image2)

a. Specify a **Name** for the new VDO device.

b. Specify the **Disk** to use for the new VDO device.

c. Specify the **Logical Size** for the new VDO device.
d. Specify the Index Memory size for the new VDO device.

   e. Check any Options you want the new VDO device to use.

   f. Click Create.

4.2. GROWING THE LOGICAL SIZE OF A VDO DEVICE USING THE WEB CONSOLE

Follow these steps to increase the logical size (the amount of data it can store by using compression and deduplication) of a VDO device.

1. Log in to the Web Console.

2. Click the hostname → Storage. The Storage Dashboard page opens.

3. Under VDO Devices, click the VDO device. The VDO Device Overview page opens.

4. Click Grow.

   Figure 4.3. VDO device summary

   The Grow logical size of device window opens.

5. Drag the slider or enter a numeric value to set the new logical size of the VDO device, and click Grow.

4.3. DISABLING COMPRESSION ON A VDO DEVICE USING THE WEB CONSOLE

Follow these steps to prevent future writes to the VDO device being compressed. This does not affect the compression of existing data on the VDO device.

1. Log in to the Web Console.

2. Click the hostname → Storage. The Storage Dashboard page opens.

3. Under VDO Devices, click the VDO device. The VDO Device Overview page opens.

4. Locate the Compression toggle.
4.4. DISABLING DEDUPLICATION ON A VDO DEVICE USING THE WEB CONSOLE

Follow these steps to prevent future writes to the VDO device being checked for duplication. This does not affect the deduplication of existing data on the VDO device.

1. Log in to the Web Console.
2. Click the hostname → Storage. The Storage Dashboard page opens.
3. Under VDO Devices, click the VDO device. The VDO Device Overview page opens.
4. Locate the Deduplication toggle.
5. Click the Deduplication toggle under the device summary so that OFF is displayed.

4.5. STOPPING A VDO DEVICE USING THE WEB CONSOLE

Follow these steps to stop a VDO device for maintenance operations or deletion.

Prerequisites

- Stop any volumes running on the VDO device.

Procedure

1. Log in to the Web Console.
2. Click the hostname → Storage. The Storage Dashboard page opens.
3. Under VDO Devices, click the VDO device. The VDO Device Overview page opens.
4. Click Stop.

4.6. DELETING A VDO DEVICE USING THE WEB CONSOLE

Follow these steps to delete a VDO device.
Prerequisites

- Stop any volumes running on the VDO device.
- Stop the VDO device.

Procedure

1. Log in to the Web Console.

2. Click the hostname → **Storage**. The **Storage Dashboard** page opens.

3. Under **VDO Devices**, click the VDO device. The **VDO Device Overview** page opens.

4. Click **Delete**.

**Figure 4.7. The VDO device**

![VDO Device vdo_sdb](VDO Device vdo_sdb)
CHAPTER 5. MANAGING VOLUME GROUPS USING THE WEB CONSOLE

5.1. CREATING A VOLUME GROUP USING THE WEB CONSOLE

1. Log in to the Web Console.

2. Click the hostname → Storage.

3. Click the + button beside Volume Groups.

Figure 5.1. Volume Groups section

The Create Volume Group window opens.

a. Specify a Name for the volume group.

b. Check the Disks to use for the volume group.

c. Click Create.

5.2. ADDING PHYSICAL VOLUMES TO A VOLUME GROUP USING THE WEB CONSOLE

Follow these instructions to expand a volume group using the Web Console.

1. Log in to the Web Console.

2. Click the hostname → Storage.

3. Click the volume group. The Volume Group Overview page opens.

4. Click the + button beside Physical Volumes.
The Add Disks window opens.

a. Check the Disks you want to add to the volume group.

b. Click Add.

The capacity of the volume group is extended automatically.

Now that you’ve added new storage to the volume group, you may want to grow your thin pool or grow your logical volume.

5.3. RENAMING A VOLUME GROUP USING THE WEB CONSOLE

Follow these instructions to rename a volume group using the Web Console.

1. Log in to the Web Console.
2. Click the hostname → Storage.
3. Click the volume group. The Volume Group Overview page opens.
4. Click Rename.

The Rename Volume Group window opens. .. Specify a new Name .. Click Rename.

The volume group is renamed, and the change is propagated to all logical volumes in the volume group. This does not affect the naming of thin pools.

5.4. DELETING A VOLUME GROUP USING THE WEB CONSOLE

Follow these instructions to delete a volume group using the Web Console.

1. Log in to the Web Console.
2. Click the hostname → **Storage**.

3. Click the volume group. The *Volume Group Overview* page opens.

4. In the Volume Group summary, click **Delete**.

   **Figure 5.4. Volume group summary**

   ![Volume Group Summary](image)

   The confirmation window opens.

5. Click **Delete** to confirm deletion.
CHAPTER 6. MANAGING THIN POOLS USING THE WEB CONSOLE

6.1. CREATING A THIN POOL USING THE WEB CONSOLE

Follow these instructions to create a logical thin pool using the Web Console.

1. Log in to the Web Console.
2. Click the hostname → Storage.
3. Click the volume group. The Volume Group Overview page opens.
4. Click + Create new Logical Volume The Create Logical Volume window opens.
   a. Specify a Name for your thin pool.
   b. Set Purpose to Pool for thinly provisioned volumes.
   c. Specify a Size for your thin pool.
   d. Click Create.

Your new thin pool appears in the list of logical volumes in this volume group.

6.2. GROWING A THIN POOL USING THE WEB CONSOLE

Follow these instructions to increase the size of a logical thin pool using the Web Console.

1. Log in to the Web Console.
2. Click the hostname → Storage.
3. Click the volume group. The Volume Group Overview page opens.
4. Click the thin pool.
   a. Specify the new Size of the thin pool.
   b. Click Grow.

6.3. DEACTIVATING A THIN POOL USING THE WEB CONSOLE

Follow these instructions to deactivate a logical thin pool using the Web Console. This deactivates all thinly provisioned logical volumes in the pool.

1. Log in to the Web Console.
2. Click the hostname → Storage.
3. Click the volume group. The Volume Group Overview page opens.
4. Click the thin pool.
5. Click **Deactivate**.

The thin pool is deactivated.

### 6.4. ACTIVATING A THIN POOL USING THE WEB CONSOLE

Follow these instructions to activate a logical thin pool using the Web Console.

1. Log in to the Web Console.
2. Click the hostname → **Storage**.
3. Click the volume group. The *Volume Group Overview* page opens.
4. Click the thin pool.
5. Click **Activate**.

The thin pool is activated. This does not activate thin provisioned logical volumes in the pool.
CHAPTER 7. MANAGING LOGICAL VOLUMES USING THE WEB CONSOLE

7.1. ACTIVATING A LOGICAL VOLUME USING THE WEB CONSOLE

Follow these instructions to activate a logical volume using the Web Console.

1. Log in to the Web Console.
2. Click the hostname → Storage.
3. Click the volume group. The Volume Group Overview page opens.
4. Click the logical volume.
5. Click Activate.

7.2. CREATING A THINLY PROVISIONED LOGICAL VOLUME USING THE WEB CONSOLE

1. Log in to the Web Console.
2. Click the hostname → Storage.
3. Click the volume group. The Volume Group Overview page opens.
4. Click Create Thin Volume beside the thin pool that should host the volume.
   
   Figure 7.1. A thin pool

   | 13.7 TiB Pool for Thin Volumes | gluster_thinpool.sdd | Create Thin Volume |

   The Create Thin Volume window opens.
   a. Specify a Name for the new volume.
   b. Specify a Size for the new volume.
   c. Click Create.

   The new volume appears in the list of logical volumes.

7.3. CREATING A THICKLY PROVISIONED LOGICAL VOLUME USING THE WEB CONSOLE

Follow these instructions to create a logical thin pool using the Web Console.

1. Log in to the Web Console.
2. Click the hostname → Storage.
3. Click the volume group. The Volume Group Overview page opens.
4. Click **Create new Logical Volume** The *Create Logical Volume* window opens.

**Figure 7.2. The Create Logical Volume window**

<table>
<thead>
<tr>
<th>Name</th>
<th>vol0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>Block device for filesystems</td>
</tr>
<tr>
<td>Size</td>
<td>186 GiB</td>
</tr>
</tbody>
</table>

a. Specify a **Name** for your logical volume.

b. Set **Purpose** to *Block device for filesystems*.

c. Specify a **Size** for your logical volume.

d. Click **Create**.

Your new logical volume appears in the list of logical volumes in this volume group.

### 7.4. DEACTIVATING A LOGICAL VOLUME USING THE WEB CONSOLE

Follow these instructions to deactivate a logical volume using the Web Console.

1. Log in to the Web Console.

2. Click the hostname → **Storage**.

3. Click the volume group. The *Volume Group Overview* page opens.

4. Click the logical volume.

5. Click **Deactivate**.

**Figure 7.3. The logical volume summary**

<table>
<thead>
<tr>
<th>Volume</th>
<th>Filesystem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>gluster_lv_engine</td>
</tr>
<tr>
<td>Size</td>
<td>100 GiB</td>
</tr>
</tbody>
</table>

### 7.5. DELETING A LOGICAL VOLUME USING THE WEB CONSOLE

Follow these instructions to delete a thinly- or thickly-provisioned logical volume.
1. Log in to the Web Console.
2. Click the hostname → Storage.
3. Click the volume group. The Volume Group Overview page opens.
4. Click the logical volume.
5. Click Delete in the logical volume summary.
6. Click Delete to confirm deletion.

7.6. GROWING A LOGICAL VOLUME USING THE WEB CONSOLE

Follow these instructions to increase the size of a logical volume using the Web Console.

1. Log in to the Web Console.
2. Click the hostname → Storage.
3. Click the volume group. The Volume Group Overview page opens.
4. Click the logical volume.
5. On the Volume subtab, click Grow.

Figure 7.4. Logical Volume section expanded

![Logical Volume section expanded](image)

The Grow Logical Volume window opens.

Figure 7.5. The Grow Logical Volume window

![Grow Logical Volume window](image)

a. Specify the new Size of the logical volume.
b. Click Grow.
CHAPTER 8. MANAGING FILE SYSTEMS USING THE WEB CONSOLE

8.1. FORMATTING A LOGICAL VOLUME USING THE WEB CONSOLE

Follow these steps to format a logical volume with a file system using the Web Console.

1. Log in to the Web Console.
2. Click the hostname → Storage.
3. Click any volume group under Volume Group. The Volume Group Overview page opens.
4. Click the logical volume.
5. On the Filesystem subtab, click Format.

Figure 8.1. The logical volume summary

NOTE
If this logical volume does not have an existing file system, this tab is labelled Unrecognised Data.

a. Specify whether to Erase existing data completely by overwriting it with zeroes.

b. Specify the file system Type to use.

c. Specify a Name for the file system.

d. Specify whether to use default or customized Mounting behavior.
   If you selected Custom, specify a Mount Point and check any Mount options you want this file system to use.

e. Click Format.

8.2. CONFIGURING A MOUNT POINT USING THE WEB CONSOLE

1. Log in to the Web Console.
2. Click the hostname → **Storage**.

3. Click any volume group under **Volume Group**. The **Volume Group Overview** page opens.

4. Click the logical volume.

5. On the **Filesystem** subtab, click the value of **Mount Point**.

![Figure 8.2. The logical volume summary](image)

For this volume the mount point is `/gluster_bricks/engine`

The **Filesystem Mounting** window opens.

a. Specify a behavior to use for **Mounting**.
   
   If you select **Custom**, specify a **Mount Point** and check any **Mount Options** you want to use.

b. Click **Apply**.

### 8.3. MOUNTING A FILE SYSTEM USING THE WEB CONSOLE

1. Log in to the Web Console.

2. Click the hostname → **Storage**.

3. Click any volume group under **Volume Group**. The **Volume Group Overview** page opens.

4. Click the logical volume.

5. On the **Filesystem** subtab, click **Mount**.

### 8.4. UNMOUNTING A FILE SYSTEM USING THE WEB CONSOLE

1. Log in to the Web Console.

2. Click the hostname → **Storage**.

3. Click any volume group under **Volume Group**. The **Volume Group Overview** page opens.

4. Click the logical volume.
5. On the **Filesystem** subtab, click **Unmount**.

**Figure 8.3. The logical volume summary**

<table>
<thead>
<tr>
<th>Volume</th>
<th>Filesystem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td></td>
</tr>
<tr>
<td>Mount Point</td>
<td>/gluster_bricks/engine</td>
</tr>
<tr>
<td>Mount Options</td>
<td>ino64,noatime,nodiratime,x-systemd.requires=vdo.service</td>
</tr>
<tr>
<td>Mounted At</td>
<td>/gluster_bricks/engine</td>
</tr>
<tr>
<td>Used</td>
<td>10.8 GiB of 99.9 GiB</td>
</tr>
</tbody>
</table>
9.1. ACCESSING THE GLUSTER MANAGEMENT DASHBOARD

The Gluster Management dashboard lets you view information about the currently configured Gluster volumes in your hyperconverged cluster.

To access the Gluster Management dashboard:

1. Click Virtualization → Hosted Engine to reach the Hosted Engine dashboard.

   The Hosted Engine dashboard in the Web Console

   ![Hosted Engine Dashboard]

   - Status of this host (rhsdev-grafton2)
     - Hosted Engine is up!
     - Hosted Engine is running on rhsdev-grafton2.lab.eng.bir.redhat.com
     - Put this host into local maintenance
     - Remove this host from maintenance
     - Put this cluster into global maintenance

   - Hosts in this cluster
     - rhsdev-grafton2...
       - Agent stopped: false
       - Local Maintenance: false
       - VM Status: State: up
     - rhsdev-grafton3...
       - Agent stopped: false
       - Local Maintenance: false
       - VM Status: State: down_unexpected
     - rhsdev-grafton4...
       - Agent stopped: false
       - Local Maintenance: false
       - VM Status: State: down

2. Click Manage Gluster to reach the Gluster Management dashboard.

   The Gluster Management dashboard in the Web Console

   ![Gluster Management Dashboard]
9.2. EXPANDING VOLUME FROM WEB CONSOLE

Follow these instructions to use the Web Console to expand your volume.

Prerequisites

- Verify that your scaling plans are supported: Requirements for scaling.

Procedure

1. Log in to the Web Console.

2. Click Virtualization \(\rightarrow\) Hosted Engine and then click Manage Cluster.

3. Click Expand volume button beside the volume you want to expand. The expand volume data page opens.
4. On the Hosts tab, verify the Host details and click Next.

5. On the Volumes tab, specify the details of the brick path to be configured for the new disk.

6. On the Bricks tab, specify the details of the disks to be used to expand the Gluster volume.
7. On the Review tab, check the generated file for any problems. Here, **Enable debug logging**, runs ansible-playbook in verbose mode, and provides more logs to add information. When you are satisfied, click **Deploy**.
9.3. EXPANDING VOLUME FROM RED HAT VIRTUALIZATION MANAGER

Follow this section to expand an existing volume across new bricks on new hyperconverged nodes.

**Prerequisites**

- Verify that your scaling plans are supported: Requirements for scaling.
- If your existing deployment uses certificates signed by a Certificate Authority for encryption, prepare the certificates required for the new nodes.
- Install three physical machines to serve as the new hyperconverged nodes. Follow the instructions in Install Physical Host Machines.
- Configure key-based SSH authentication without a password. Configure this from the node that is running the Web Console to all new nodes, and from the first new node to all other new nodes.

**IMPORTANT**

RHHI for Virtualization expects key-based SSH authentication without a password between these nodes for both IP addresses and FQDNs. Ensure that you configure key-based SSH authentication between these machines for the IP address and FQDN of all storage and management network interfaces.

Follow the instructions in Using key-based authentication to configure key-based SSH authentication without a password.
Procedure

1. Create new bricks
   Create the bricks on the servers you want to expand your volume across by following the instructions in Creating bricks using ansible or Creating bricks above a VDO layer using ansible depending on your requirements.

   **IMPORTANT**
   
   If the path: defined does not begin with /rhgs the bricks are not detected automatically by the Administration Portal. Synchronize the host storage after running the create_brick.yml playbook to synchronize the new bricks to the Administration Portal.

   1. Click **Compute → Hosts** and select the host.
   2. Click **Storage Devices**
   3. Click **Sync**.

   Repeat for each host that has new bricks.

2. Add new bricks to the volume
   a. Log in to RHV Administration Console.
   b. Click **Storage → Volumes** and select the volume to expand.
   c. Click the **Bricks** tab.
   d. Click **Add**. The **Add Bricks** window opens.
   e. Add new bricks.
      i. Select the brick host from the **Host** dropdown menu.
      ii. Select the brick to add from the **Brick Directory** dropdown menu and click **Add**.
   f. When all bricks are listed, click **OK** to add bricks to the volume.

   The volume automatically syncs the new bricks.

**9.4. EXPANDING THE HYPERCONVERGED CLUSTER BY ADDING A NEW VOLUME ON NEW NODES USING THE WEB CONSOLE**

Follow these instructions to use the Web Console to expand your hyperconverged cluster with a new volume on new nodes.

**Prerequisites**

- Verify that your scaling plans are supported: [Requirements for scaling](#).
- If your existing deployment uses certificates signed by a Certificate Authority for encryption, prepare the certificates that will be required for the new nodes.
- Install three physical machines to serve as the new hyperconverged nodes.
Follow the instructions in Deploying Red Hat Hyperconverged Infrastructure for Virtualization.

- Configure key-based SSH authentication without a password. Configure this from the node that is running the Web Console to all new nodes, and from the first new node to all other new nodes.

**IMPORTANT**

RHVI for Virtualization expects key-based SSH authentication without a password between these nodes for both IP addresses and FQDNs. Ensure that you configure key-based SSH authentication between these machines for the IP address and FQDN of all storage and management network interfaces.

Follow the instructions in Using key-based authentication to configure key-based SSH authentication without a password.

**Procedure**

1. Log in to the Web Console.

2. Click **Virtualization → Hosted Engine** and then click **Manage Gluster**.

3. Click **Expand Cluster**. The **Gluster Deployment** window opens.
   a. On the **Hosts** tab, enter the FQDN or IP address of the new hyperconverged nodes and click **Next**.

   ![Expand Cluster](image)

   - **Host1**: newhost1.example.com
   - **Host2**: newhost2.example.com
   - **Host3**: newhost3.example.com

   b. On the **Volumes** tab, specify the details of the volume you want to create.
c. On the Bricks tab, specify the details of the disks to be used to create the Gluster volume.

Raid Information

- **Raid Type**: RAID 6
- **Stripe Size(KB)**: 256
- **Data Disk Count**: 12

Brick Configuration

- **Select Host**: newhost1.example.com

<table>
<thead>
<tr>
<th>LV Name</th>
<th>Device Name</th>
<th>Size(GB)</th>
<th>Thinp</th>
<th>Mount Point</th>
<th>Enable Dedupe &amp; Compression</th>
</tr>
</thead>
<tbody>
<tr>
<td>new_volume</td>
<td>sdb</td>
<td>500</td>
<td></td>
<td>/gluster_bricks/new_volume</td>
<td></td>
</tr>
</tbody>
</table>

- **Add Bricks**: Add the bricks configuration.

- **Configure LV Cache**: Configure the LV cache.

Arbiter bricks will be created on the third host in the host list.


d. On the Review tab, check the generated file for any problems. When you are satisfied, click Deploy.
Deployment takes some time to complete. The following screen appears when the cluster has been successfully expanded.

9.5. CREATING AN ADDITIONAL GLUSTER VOLUME USING THE WEB CONSOLE

Follow these instructions to use the Web Console to create a new Red Hat Gluster Storage volume using raw disks that are available on hyperconverged hosts in your cluster.

**Prerequisites**

- Verify that the raw disk drives you plan to use for the new volume are visible under the **Drives** section of the **Storage Dashboard**, and do not have any file systems listed on their **Drive Overview** page.
Procedure

1. Log in to the Web Console.

2. Click **Virtualization → Hosted Engine** and then click **Manage Gluster**.

3. Click **Create Volume**. The **Create Volume** window opens.
   
a. On the **Hosts** tab, select three different hyperconverged hosts with unused disks and click **Next**.
   
   ![Create Volume host selection](image)
   
   - **Host1**: host1.example.com
   - **Host2**: host2.example.com
   - **Host3**: host3.example.com
   
   **Tip**: Ansible will login to gluster hosts as root user using passwordless ssh connections. Make sure, passwordless ssh is configured for all gluster hosts from the first host.

   ![Ansible login](image)

   ![Next button](image)

   b. On the **Volumes** tab, specify the details of the volume you want to create and click **Next**.
   
   ![Create Volume volume details](image)
   
   - **Name**: vol2
   - **Volume Type**: Replicate
   - **Arbiter**: gluster_bricks/vol2/vol2
   
   ![Add Volume](image)

   ![Next button](image)

   c. On the **Bricks** tab, specify the details of the disks to be used to create the volume and click **Next**.
d. On the Review tab, check the generated configuration file for any incorrect information. When you are satisfied, click **Deploy**.

**Successfully created volume** is displayed when deployment completes successfully.