



# **Red Hat Enterprise Linux OpenStack Platform 5 Cloud Administrator Guide**

---

Managing and troubleshooting a Red Hat Enterprise Linux OpenStack Platform environment

8 Jul 2014

Red Hat Documentation Team



## Managing and troubleshooting a Red Hat Enterprise Linux OpenStack Platform environment

8 Jul 2014

Red Hat Documentation Team

## Legal Notice

Copyright © 2014 Red Hat, Inc.

The text of and illustrations in this document are licensed by Red Hat under a Creative Commons Attribution–Share Alike 3.0 Unported license ("CC-BY-SA"). An explanation of CC-BY-SA is available at <http://creativecommons.org/licenses/by-sa/3.0/>

. In accordance with CC-BY-SA, if you distribute this document or an adaptation of it, you must provide the URL for the original version.

Red Hat, as the licensor of this document, waives the right to enforce, and agrees not to assert, Section 4d of CC-BY-SA to the fullest extent permitted by applicable law.

Red Hat, Red Hat Enterprise Linux, the Shadowman logo, JBoss, MetaMatrix, Fedora, the Infinity Logo, and RHCE are trademarks of Red Hat, Inc., registered in the United States and other countries.

Linux® is the registered trademark of Linus Torvalds in the United States and other countries.

Java® is a registered trademark of Oracle and/or its affiliates.

XFS® is a trademark of Silicon Graphics International Corp. or its subsidiaries in the United States and/or other countries.

MySQL® is a registered trademark of MySQL AB in the United States, the European Union and other countries.

Node.js® is an official trademark of Joyent. Red Hat Software Collections is not formally related to or endorsed by the official Joyent Node.js open source or commercial project.

The OpenStack® Word Mark and OpenStack Logo are either registered trademarks/service marks or trademarks/service marks of the OpenStack Foundation, in the United States and other countries and are used with the OpenStack Foundation's permission. We are not affiliated with, endorsed or sponsored by the OpenStack Foundation, or the OpenStack community.

All other trademarks are the property of their respective owners.

## Abstract

This guide covers the software administrators can use to manage and troubleshoot a Red Hat Enterprise Linux OpenStack Platform cloud.

## Table of Contents

<b>Chapter 1. Block Storage</b> .....	<b>2</b>
1.1. Addressing discrepancies in reported volume sizes for EqualLogic storage	2

## Chapter 1. Block Storage

### 1.1. Addressing discrepancies in reported volume sizes for EqualLogic storage

#### 1.1.1. Problem

There is a discrepancy between both the actual volume size in EqualLogic (EQL) storage and the image size in the Image Service, with what is reported by the Red Hat Enterprise Linux OpenStack Platform databases. This could lead to confusion if a user is creating volumes from an image that was uploaded from an EQL volume (through the Image Service). The image size is slightly larger than the target volume size; this is because EQL size reporting accounts for additional storage used by EQL for internal volume metadata.

To illustrate:

#### Example 1.1. Demonstrating the effects of volume size reporting discrepancies for EQL storage

This procedure assumes that the EQL array is provisioned, and that appropriate configuration settings have been included in `/etc/cinder/cinder.conf` to connect to the EQL array.



#### Note

Both the Block Storage and Image services should also be already configured to properly authenticate through the Identity service. For more information, see the *Installation and Configuration Guide*:

- ▶ [https://access.redhat.com/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux\\_OpenStack\\_Platform/5/html/Installation\\_and\\_Configuration\\_Guide/sect-Common\\_Block\\_Storage\\_Configuration.html#Configuring\\_Authentication3](https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux_OpenStack_Platform/5/html/Installation_and_Configuration_Guide/sect-Common_Block_Storage_Configuration.html#Configuring_Authentication3)
- ▶ [https://access.redhat.com/documentation/en-US/Red\\_Hat\\_Enterprise\\_Linux\\_OpenStack\\_Platform/5/html/Installation\\_and\\_Configuration\\_Guide/sect-Configuring\\_the\\_Image\\_Service.html#Creating\\_the\\_Image\\_Storage\\_Service\\_Endpoint](https://access.redhat.com/documentation/en-US/Red_Hat_Enterprise_Linux_OpenStack_Platform/5/html/Installation_and_Configuration_Guide/sect-Configuring_the_Image_Service.html#Creating_the_Image_Storage_Service_Endpoint)

1. Create a new volume. Note the ID and size of the volume. In the following example, the ID and size are **74cf9c04-4543-47ae-a937-a9b7c6c921e7** and **1GB**, respectively:

```
# cinder create --display-name volume1 1
```

Property	Value
attachments	[]
availability zone	nova
bootable	false
created_at	2014-03-21T18:31:54.248775
display_description	None
display_name	volume1
id	74cf9c04-4543-47ae-a937-a9b7c6c921e7

metadata	U
size	1
snapshot_id	None
source_volid	None
status	creating
volume_type	None

- The EQL command-line interface should display an actual size (**VolReserve**) as 1.01GB. The **EQL Group Manager** should also report a volume size of 1.01GB.

```
a2beql12> volume select volume-74ct9c04-4S43-4?ae-a931-a9b7c6c921e
a2beql12 (volume_volume-74cf9c04-4543-47ae-a937-a9b7c6c921e7)> show
```

```

_____ Volume Information
Name: volume-74cf9c04-4543-47ae-a937-a9b7c6c921e7
Size: 1GB
VolReserve: 1.01GB
VolReserveInUse: 0MB
ReplReserveInUse: 0MB
iSCSI Alias: volume-74cf9c04-4S43-47ae-a937-a9b7c6c921e7
iSCSI Name: iqn.2001-05.com.equallogic:0-8a0906-19f91850c-
067000000b4532c1-volume-74cf9c04-4543-17ae-a937-a9b7c6c921e7
ActualMembers: 1
Snap-Warn: 10%
Snap-Depletion: delete-oldest
Description:
Snap-Reserve: 100%
Snap-Reserve-Avail: 100% (1.01GB)
Permission: read-write
DesiredStatus: online
Status: online
Connections: 0
Snapshots: 0
Bind:
Type: not-replicated
ReplicationReserveSpace: 0MB
```

- Upload this volume to the Image service:

```
# cinder upload-to-image --disk-format raw \
--container-format bare volume1 image_from_volume1
```

Property	Value
container_format	bare
disk_format	raw
display_description	None
id	74cf9c04-4ae-a937-a9b7c6c921e7
image_id	3020a21d-ba37-4495-8899-07fc201161b9
image_name	image_from_volume1
size	1
status	uploading
updated_at	2014-03-21T18:31:55.000000
volume_type	None

- When you uploaded the volume in the previous step, the Image service will report the volume's size as **1** (GB). However, when using the **glance** tool to list the image the displayed size is 1085276160 bytes, or roughly 1.01GB:

```
# glance image-list
+-----+-----+-----+-----+
| ID | Name | Disk |
+-----+-----+-----+
| 3020.21d-b.37-4195-ee99-07fc20f161b9 | image_from_volume1 | raw |
| bare | 1085276160 | active |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| 3020.21d-b.37-4195-ee99-07fc20f161b9 | image_from_volume1 | raw |
| bare | 1085276160 | active |
+-----+-----+-----+-----+
```

- Create a new volume using the previous image (**image\_id 3020a21d-ba37-4495-8899-07fc201161b9** in this example) as the source. Set the target volume size to 1GB; this is the size reported by the **cinder** tool when you uploaded the volume to the Image service:

```
# cinder create --display-name volume2 \
  --image-id 3020a21d-ba37-4495-8899-07fc201161b9 1
ERROR: Invalid input received: Size of specified image 2 is larger than
volume size 1. (HTTP 400) (Request-ID: req-4b9369c0-dec5-4e16-a114-
c0cd16bSd210)
```

The attempt to create a new volume based on the size reported by the **cinder** tool will then fail.

### 1.1.2. Solution

To work around this, increase the target size of the new image to the next whole number. So in the problem example, if you created a 1GB volume to be used for a volume-backed image, a new volume using this volume-backed image should use a size of 2GB:

```
# cinder create --display-name volume2 \
  --image-id 3020a21d-ba37-4495-8899-07fc201161b9 1
+-----+-----+-----+-----+
| Property | Value |
+-----+-----+-----+-----+
| attachments | [] |
| availability_zone | nova |
| bootable | false |
| created_at | 2014-03-21T19:25:31.564482 |
| display_description | None |
| display_name | volume2 |
| id | 64e8eb18-d23f-437b-bcac-b3S2afa6843a |
| image_id | 3020a21d-ba37-4495-8899-07fc201161b9 |
| metadata | [] |
| size | 2 |
| snapshot_id | None |
| source_vol_id | None |
| status | creating |
| volume_type | None |
+-----+-----+-----+-----+
```





## Note

When using the dashboard to create a new volume based on a volume-backed image, the dashboard will suggest a suitable size for the volume.

You can then check this new volume into the EQL array:

```
a2beql12> volume select volume-64e8eb18-d23f-437b-bcac-b352afa6843a
a2beql12 (volume_volume-61e8eb18-d23f-437b-bcac-b352afa6843a)> show
```

Volume Information
Name: volume-64e8eb18-d23f-437b-bcac-b352afa6843a
Size: 2GB
VolReserve: 2.01GB
VolReserveInUse: 1.01GB
ReplReserveInUse: 0MB
iSCSI Alias: volume-64e8eb18-d23f-437b-bcac-b352afa6843a
iSCSI Name: iqn.2001-05.com.equallogic:0-8a0906-e3091850e-eae000000b7S32c1-volume-64e8eb18-d23f-437b-bcac-b3S2afa6B13a
ActualMembers: 1
Snap-Warn: 10%
Snap-Depletion: delete-oldest
Description:
Snap-Reserve: 100%
Snap-Reserve-Avail: 100% (2GB)
Permission: read-write
DesiredStatus: online
Status: online
Connections: 1
Snapshots: 0
Bind:
Type: not-replicated
ReplicationReserveSpace: 0MB