

**VSM REST API Developer Guide**

Version 0.4

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This document describes the REST API exposed by VSM, includes the input/output form, possible scenarios to apply, and current status, etc.

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**Revision History**

| **Revision** | **Date** | **Description** |
| --- | --- | --- |
| 0.1 | Oct. 15, 2015 | Initial version |
| 0.2 | Nov. 03, 2015 | Change according to initial review, format changed. |
| 0.3 | Dec. 09, 2015 | Change the format. |
| 0.4 | Jan. 25, 2016 | Update the doc according to vsm2.1 |

# Introduction

VSM (Virtual Storage Manager) is an open source Ceph management tool, it targets to lower the barrier to adopt Ceph in production environment.

VSM includes a few modules inside, there are

* **python-vsmclient**
  + This is a client for the vsm API, it consists of
  + A Python API (the vsmclient module),
  + A command-line script (vsm). Each implements 100% of the vsm API.
* **vsm**
  + A major module for ceph management
* **vsm-dashboard**
  + Web based management interface for VSM.
* **vsm-deploy**
  + The ceph deployment tool kit provided by VSM .

VSM opens the possibility for third-party integration by exposing a set of REST API in python-vsmclient modules. Below diagram depicts the basic architecture of VSM and the relationships between modules.

Vsmclient

API

conductor

scheduler



Dashboard

**storage**

agent

**storage**

agent

**storage**

agent

VSM consists of two key Roles:

* Controller (also referred to as VSM Controller):
  + Runs on dedicated server (or server instance)
  + Connects to Ceph cluster through VSM agent
  + Connects to OpenStack Nova controller (optional) via SSH
* Agent (also referred to as VSM node):
* Runs on every server in the Ceph cluster
* Accepts VSM controller’s commands and execute locally
* Relays server configuration & status information to VSM controller

The controller and agents could be running on physical machines or virtual machine (VM) instances.

VSM is being released under the Apache 2.0 license, and hosted at <http://github.com/01org/virtual-storage-manager/>.

A mailing list has been established for VSM at the following location: <http://vsm-discuss.33411.n7.nabble.com/>.

## System Requirements

VSM development team takes diversity into account, so far the supporting matrix is as following:

* OS:
  + CentOS 6.5 (1.x only)/7 (Basic Web Server)
  + Ubuntu 14.04.2 LTS Server
* Ceph
  + Firefly,
  + Giant,
  + Hammer
* Openstack
  + Havana
  + Icehouse
  + Juno
  + Kilo
  + Liberty

***NOTE:***

* Other combos might also be working, but the development team didn't try yet. If you are sure some unlisted combos could work, it’s appreciated to make the development team and community aware of.
* Throughout this document, command line is **bolded** and *italicized;* yellow text is used for emphasis, to draw attention to specific information*.*

## What’s in the Rest of This Guide

This document describes how to install, configure, and use COSBench, a cloud storage benchmarking tool.

* Section 2 covers the REST API definitions
* Section 3 instructs how to test API through tools

# REST API Definition

## General guidelines

The REST API is still rapid evolving, the development team is cleaning up it and formulating it, it’s expected to see changes without prior notice.

## API Definitions

This document supports the vsm API v1 base version.

|  |  |  |  |
| --- | --- | --- | --- |
| Method | URI | Description | |
| VSM(Appnode) | | | | |
| POST | [/v1/{tenant\_id}/appnodes](#_Create_appnode) | | Creates an appnode that connects to openstack | |
| GET | [/v1/{tenant\_id}/appnodes](#_List_appnodes) | | Lists details for all appnodes | |
| DELETE | [/v1/{tenant\_id}/appnodes/{appnode\_id}](#_Delete_appnode) | | Deletes an appnode | |
| PUT | [/v1/{tenant\_id}/appnodes/{appnode\_id}](#_Update_appnode) | | Updates an appnode | |
| VSM(Cluster) | | | | |
| POST | [/v1/{tenant\_id}/clusters](#_Create_cluster) | | Creates a ceph cluster | |
| GET | [/v1/{tenant\_id}/clusters](#_List_clusters) | | Lists details for all ceph clusters | |
| GET | [/v1/{tenant\_id}/clusters/summary](#_Summary_cluster) | | The summary info of ceph cluster | |
| POST | [/v1/{tenant\_id}/clusters/refresh](#_Refresh_cluster) | | Refreshes the ceph cluster status | |
| POST | [/v1/{tenant\_id}/clusters/import\_ceph\_conf](#_Import_ceph_conf) | | Imports ceph config | |
| POST | [/v1/{tenant\_id}/clusters/stop\_cluster](#_Stop_cluster) | | Stops the ceph cluster | |
| POST | [/v1/{tenant\_id}/clusters/start\_cluster](#_Start_cluster) | | Starts the ceph cluster | |
| VSM(Device) | | | | |
| GET | [/v1/{tenant\_id}/devices](#_List_devices) | | Lists detail for all devices | |
| GET | [/v1/{tenant\_id}/devices/ get\_available\_disks?server\_id={server\_id}](#_Get_available_disks) | | Gets available disks | |
| GET | [/v1/{tenant\_id}/devices/get\_smart\_info](#_Get_smart_info)  [?device\_path={path}&device\_id={device\_id}](#_Get_smart_info) | | Gets smart info of a device | |
| VSM(Mds) | | | | |
| GET | [/v1/{tenant\_id}/mdses](#_List_mdses) | | Lists detail for all mdses | |
| GET | [/v1/{tenant\_id}/mdses/summary](#_Summary_mds) | | Summary info of mds | |
| VSM(Monitor) | | | | |
| GET | [/v1/{tenant\_id}/monitors](#_List_monitors) | | Lists detail for all monitors | |
| GET | [/v1/{tenant\_id}/monitors/summary](#_Summary_monitor) | | Summary info of monitor | |
| POST | [/v1/{tenant\_id}/monitors/{monitor\_id}/action](#_Restart_monitor) | | Restart a monitor by monitor id | |
| VSM(Osd) | | | | |
| GET | [/v1/{tenant\_id}/osds/{osd\_id}](#_Get_osd) | | Gets an osd by osd id | |
| GET | [/v1/{tenant\_id}/osds](#_List_osds) | | Lists detail for all osds | |
| POST | [/v1/{tenant\_id}/osds/{osd\_id}/action](#_Restart_osd) | | Restarts an osd by osd id | |
| POST | [/v1/{tenant\_id}/osds/{osd\_id}/action](#_Remove_osd) | | Removes an osd by osd id | |
| POST | [/v1/{tenant\_id}/osds/add\_new\_disks\_to\_cluster](#_Add_new_disks_to_cluster) | | Adds new disks to ceph cluster | |
| POST | [/v1/{tenant\_id}/osds/{osd\_id}/action](#_Restore_osd) | | Restores an osd by osd id | |
| POST | [/v1/{tenant\_id}/osds/{osd\_id}/action](#_Refresh_osd) | | Refreshes an osd by osd id | |
| GET | [/v1/{tenant\_id}/osds/summary](#_Summary_osd) | | Gets summary info of osd | |
| VSM(Performance\_metric) | | | | |
| GET | [/v1/{tenant\_id}/performance\_metrics/](#_Get_metrics)  [get\_metics{?query\_string}](#_Get_metrics) | | Gets a list of metric by metric name and timestamp | |
| VSM(Placement\_group) | | | | |
| GET | [/v1/{tenant\_id}/placement\_groups](#_List_placement_groups) | | Lists detail for all placement groups | |
| GET | [/v1/{tenant\_id}/placement\_groups/summary](#_Summary_placement_group) | | Gets summary info of placement groups | |
| VSM(Poolusage) | | | | |
| POST | [/v1/{tenant\_id}/poolusages](#_Create_poolusage) | | Presents pools to openstack | |
| GET | [/v1/{tenant\_id}/poolusages](#_List_poolusages) | | Lists detail for all pool usages | |
| POST | [/v1/{tenant\_id}/poolusages/revoke\_pool](#_Revoke_pool) | | Revokes pool from openstack | |
| VSM(Rbd\_pool) | | | | |
| GET | [/v1/{tenant\_id}/rbd\_pools](#_List_rbd_pools) | | Lists detail for all rbd pools | |
| GET | [/v1/{tenant\_id}/rbd\_pools/summary](#_Summary_rbd_pools) | | Gets summary info of rbd pool | |
| VSM(Server) | | | | |
| GET | [/v1/{tenant\_id}/servers/{server\_id}](#_Get_server) | | Gets a server by server id | |
| GET | [/v1/{tenant\_id}/servers](#_List_servers) | | Lists detail for all osds | |
| POST | [/v1/{tenant\_id}/servers/add](#_Add_server) | | Adds a server | |
| POST | [/v1/{tenant\_id }/servers/remove](#_Remove_server) | | Removes a server | |
| POST | [/v1/{tenant\_id }/servers/reset\_status](#_Reset_status) | | Resets a server’s status | |
| POST | [/v1/{tenant\_id }/servers/start](#_Start_server) | | Starts a server | |
| POST | [/v1/{tenant\_id }/servers/stop](#_Stop_server) | | Stops a server | |
| POST | [/v1/{tenant\_id }/servers/ceph\_upgrade](#_Ceph_upgrade) | | Ceph upgrade | |
| VSM(Storage\_group) | | | | |
| POST | [/v1/{tenant\_id}/storage\_groups](#_Create_storage_group) | | Creates a storage group | |
| GET | [/v1/{tenant\_id}/storage\_groups{/detail}{?query\_string}](#_List_storage_groups) | | Lists detail for all storage groups | |
| GET | [/v1/{tenant\_id}/storage\_groups/summary](#_Summary_storage_group) | | Gets summary info of storage group | |
| VSM(Storage\_pool) | | | | |
| GET | [/v1/{tenant\_id}/storage\_pools{/detail}{?query\_string}](#_List_storage_pool) | | Lists detail for all storage pools | |
| POST | [/v1/{tenant\_id}/storage\_pools/add\_cache\_tier](#_Add_cache_tier) | | Adds cache tier | |
| POST | [/v1/{tenant\_id }/storage\_pools/remove\_cache\_tier](#_Remove_cache_tier) | | Removes cache tier | |
| GET | [/v1/{tenant\_id }/storage\_pools/ec\_profiles](#_Ec_profiles) | | Lists all ec profiles | |
| POST | [/v1/{tenant\_id }/storage\_pools/create](#_Create_storage_pool) | | Creates storage pool | |
| GET | [/v1/{tenant\_id }/storage\_pools/{pool\_id}](#_Get_storage_pool) | | Gets details of storage pool | |
| VSM(Vsm\_setting) | | | | |
| GET | [/v1/{tenant\_id}/vsm\_settings/get\_by\_name{?query\_string}](#_Get_vsm_setting) | | Gets vsm setting by name | |
| GET | [/v1/{tenant\_id}/vsm\_settings](#_List_vsm_settings) | | Lists detail for all settings | |
| POST | [/v1/{tenant\_id }/vsm\_settings](#_Create_vsm_setting) | | Creates vsm setting[Now used for update] | |
| VSM(Zone) | | | | |
| POST | [/v1/{tenant\_id }/zones](#_Create) | | Creates zone | |
| GET | [/v1/{tenant\_id}/zones](#_List_zones) | | Lists detail for all zones | |

### Appnode

The appnode of vsm is the module which integrates with openstack.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | [/v1/{tenant\_id}/appnodes](#_Create_appnode) | Creates an appnode that connects to openstack |
| GET | [/v1/{tenant\_id}/appnodes](#_List_appnodes) | Lists details for all appnodes |
| DELETE | [/v1/{tenant\_id}/appnodes/{appnode\_id}](#_Delete_appnode) | Deletes an appnode |
| PUT | [/v1/{tenant\_id}/appnodes/{appnode\_id}](#_Update_appnode) | Updates an appnode |

#### Create appnode

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/appnodes | Creates an appnode that connects to openstack |

**Normal response codes:** 201

**Error response codes:** badRequest(400)

##### Request

This table shows the URI parameters for the create appnode request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This list shows the body parameters for the request:

* **parameters**:
  + **os\_tenant\_name**: string. Required.

The tenant name of openstack, like admin.

* + **os\_username**: string. Required.

The username of openstack, like admin.

* + **os\_password**: string. Required.

The password of openstack, like admin.

* + **os\_auth\_url**: string. Required.

The auth url of openstack, like http://192.168.100.100:5000/v2.0

* + **os\_region\_name**: string. Not required.

The region name of openstack, like RegionOne. If not one region, it can be blank.

* + **ssh\_user**: string. Required.

The user can login openstack keystone node without password. At the same time, the user can login from openstack keystone node to other nodes of openstack, includes itself.

**Example 2.1. Create appnode: JSON request**

{

"appnodes": {

"os\_tenant\_name": "admin",

"os\_username": "admin",

"os\_password": "intel@123",

"os\_auth\_url": "http://192.168.100.100:5000/v2.0",

"os\_region\_name": "RegionOne",

"ssh\_user": "intel"

}

}

##### Response

This operation does not return a response body.

#### List appnodes

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/appnodes | Lists details for all appnodes |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the list appnodes request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.2. List appnodes: JSON response**

{

"appnodes": [

{

"os\_username": "admin",

"ssh\_user": "jack",

"os\_tenant\_name": "admin",

"os\_auth\_url": "http://192.168.81.232:5000/v2.0",

"os\_region\_name": "RegionOne",

"os\_password": "admin",

"vsmapp\_id": 1,

"id": 1,

"uuid": "1515c24e-5ba6-42fd-ae2b-64c0ad3be215",

"ssh\_status": "reachable",

"log\_info": null

}

]

}

#### Delete appnode

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| DELETE | /v1/{tenant\_id}/appnodes/{appnode\_id} | Deletes an appnode |

**Normal response codes:** 201

**Error response codes:** badRequest(400)

##### Request

This table shows the URI parameters for the delete appnode request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |
| {appnode\_id} | Int | The id of appnode. |

This operation does not accept a request body.

##### Response

This operation does not return a response body.

#### Update appnode

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| PUT | /v1/{tenant\_id}/appnodes/{appnode\_id} | Updates an appnode |

**Normal response codes:** 201

**Error response codes:** badRequest(400)

##### Request

This table shows the URI parameters for the update appnode request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |
| {appnode\_id} | Int | The id of appnode. |

This list shows the body parameters for the request:

* **parameters**:
  + **os\_tenant\_name**: string. Required.

The tenant name of openstack, like admin.

* + **os\_username**: string. Required.

The username of openstack, like admin.

* + **os\_password**: string. Required.

The password of openstack, like admin.

* + **os\_auth\_url**: string. Required.

The auth url of openstack, like http://192.168.100.100:5000/v2.0

* + **os\_region\_name**: string. Not required.

The region name of openstack, like RegionOne. If not one region, it can be blank.

* + **ssh\_user**: string. Required.

The user can login openstack keystone node without password. At the same time, the user can login from openstack keystone node to other nodes of openstack, includes itself.

* + **ssh\_status**: string. Required.

It is blank.

* + **log\_info**: string. Required

It is blank.

**Example 2.3. Update appnode: JSON request**

{

"appnode": {

"os\_tenant\_name": "admin",

"os\_username": "admin",

"os\_password": "intel@123",

"os\_auth\_url": "http://192.168.100.100:5000/v2.0",

"os\_region\_name": "RegionOne",

"ssh\_user": "intel",

"ssh\_status": "",

"log\_info": ""

}

}

##### Response

This operation does not return a response body.

### Cluster

The ceph cluster of the VSM.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | [/v1/{tenant\_id}/clusters](#_Create_cluster) | Creates a ceph cluster |
| GET | [/v1/{tenant\_id}/clusters](#_List_clusters) | Lists details for all ceph clusters |
| GET | [/v1/{tenant\_id}/clusters/summary](#_Summary_cluster) | Lists summary info of ceph cluster |
| POST | [/v1/{tenant\_id}/clusters/refresh](#_Refresh_cluster) | Refresh the ceph cluster status |
| POST | [/v1/{tenant\_id}/clusters/import\_ceph\_conf](#_Import_ceph_conf) | Imports ceph config |
| POST | [/v1/{tenant\_id}/clusters/stop\_cluster](#_Stop_cluster) | Stopsthe ceph cluster |
| POST | [/v1/{tenant\_id}/clusters/start\_cluster](#_Start_cluster) | Starts the ceph cluster |

#### Create cluster

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/clusters | Creates a ceph cluster |

**Normal response codes:** 201

##### Request

This table shows the URI parameters for the create cluster request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This list shows the body parameters for the request:

* **parameters**:
  + **is\_storage**: boolean. Required.

The server is as storage node.

* + **is\_monitor**: boolean. Required.

The server is as monitor node.

**Example 2.4. Create cluster: JSON request**

{

"cluster": {

"name": "default",

"file\_system": "xfs",

"journal\_size": "",

"size": "",

"management\_network": "",

"ceph\_public\_network": "",

"cluster\_network": "",

"primary\_public\_netmask": "",

"secondary\_public\_netmask": "",

"cluster\_netmask": "",

"servers": [

{"is\_storage": "True", "is\_monitor": "True", "id": "1"},

{"is\_storage": "True", "is\_monitor": "True", "id": "2"},

{"is\_storage": "True", "is\_monitor": "True", "id": "3"}

]

}

}

##### Response

This operation does not return a response body.

#### List clusters

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/clusters | Lists details for all ceph clusters |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the list clusters request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.5. List clusters: JSON response**

{

"clusters": [

{

"cluster\_ip\_netmask": "",

"id": 1,

"size": "",

"management\_network": "",

"name": "cluster\_a",

"scecondary\_public\_ip\_netmask": "",

"primary\_public\_ip\_netmask": "",

"file\_system": "",

"ceph\_public\_network": "1",

"cluster\_network": "14",

"journal\_size": ""

}

]

}

#### Summary cluster

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/clusters/summary | Lists summary info of ceph cluster |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the summary cluster request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.6. Summary cluster: JSON response**

{

"cluster-summary": {

"status": [],

"cluster": "c658028e-7d64-11e5-9495-000c296d7a45",

"health\_list": [

"HEALTH\_WARN",

"clock skew detected on mon.2, mon.0"

],

"detail": [

"mon.2 addr 192.168.81.236:6789/0 clock skew 0.782834s > max 0.2s (latency 0.00442355s)",

"mon.0 addr 192.168.81.238:6789/0 clock skew 0.466396s > max 0.2s (latency 0.00393478s)"

],

"updated\_at": "2015-10-28 13:30:49"

}

}

#### Refresh cluster

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/clusters/refresh | Refresh the ceph cluster status |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the refresh cluster request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

This operation does not return a response body.

#### Import\_ceph\_conf

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/clusters/import\_ceph\_conf | Import ceph config |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the import ceph conf request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

**Example 2.7. Import ceph conf: JSON request**

{

"cluster": {

"cluster\_name": "cluster\_a",

"ceph\_conf\_path": ""

}

}

##### Response

If no cluster can be found from the db by the cluster name, then:

**Example 2.8. Import ceph conf: JSON response**

{

"message": "No such cluster which named {cluster\_name} in DB"

}

If the cluster can be found from the db by the cluster name, then:

**Example 2.9. Import ceph conf: JSON response**

{

"message": "Success"

}

#### Stop\_cluster

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/clusters/stop\_cluster | Stop the ceph cluster |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the stop cluster request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

**Example 2.10. Stop cluster: JSON request**

{

"cluster": {

"id": 1

}

}

##### Response

**Example 2.11. Stop cluster: JSON response**

{

"message": "Success"

}

#### Start\_cluster

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/clusters/start\_cluster | Start the ceph cluster |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the start cluster request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

**Example 2.12. Start cluster: JSON request**

{

"cluster": {

"id": 1

}

}

##### Response

**Example 2.13. Start cluster: JSON response**

{

"message": "Success"

}

### Device

The device is used for osd as data and journal.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | [/v1/{tenant\_id}/devices](#_List_devices) | Lists detail for all devices |
| GET | [/v1/{tenant\_id}/devices/ get\_available\_disks?server\_id={server\_id}](#_Get_available_disks) | Gets available disks |
| GET | [/v1/{tenant\_id}/devices/get\_smart\_info](#_Get_smart_info)  [?device\_path={path}&device\_id={device\_id}](#_Get_smart_info) | Gets smart info of a device |

#### List devices

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/devices | Lists detail for all devices |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the list devices request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.14. List devices: JSON response**

{

"devices": [

{

"journal\_state": "OK",

"state": "OK",

"name": "/dev/sdb1",

"device\_type": "10krpm\_sas",

"used\_capacity\_kb": 37508,

"path": "/dev/sdb1",

"journal": "/dev/sdc1",

"total\_capacity\_kb": 10473472,

"id": 1,

"avail\_capacity\_kb": 10435964

},

{

"journal\_state": "OK",

"state": "OK",

"name": "/dev/sdb1",

"device\_type": "10krpm\_sas",

"used\_capacity\_kb": 37704,

"path": "/dev/sdb1",

"journal": "/dev/sdc1",

"total\_capacity\_kb": 10473472,

"id": 2,

"avail\_capacity\_kb": 10435768

},

{

"journal\_state": "OK",

"state": "OK",

"name": "/dev/sdb1",

"device\_type": "10krpm\_sas",

"used\_capacity\_kb": 36956,

"path": "/dev/sdb1",

"journal": "/dev/sdc1",

"total\_capacity\_kb": 10473472,

"id": 3,

"avail\_capacity\_kb": 10436516

}

]

}

#### Get\_available\_disks

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/devices/ get\_available\_disks?server\_id={server\_id} | Gets available disks |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the get available disks request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This table shows the query parameters for the get available disks request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {server\_id} | Int | The id of server. |

This operation does not accept a request body.

##### Response

**Example 2.15. Get availables disks: JSON response**

{

"available\_disks": [

"/dev/disk/by-path/pci-0000:00:10.0-scsi-0:0:0:0",

"/dev/disk/by-path/pci-0000:00:10.0-scsi-0:0:0:0-part5",

"/dev/disk/by-path/pci-0000:00:10.0-scsi-0:0:2:0",

"/dev/disk/by-path/pci-0000:00:10.0-scsi-0:0:0:0-part2",

"/dev/disk/by-path/pci-0000:00:10.0-scsi-0:0:1:0",

"/dev/sda5",

"/dev/disk/by-path/pci-0000:00:10.0-scsi-0:0:2:0-part1",

"/dev/sdb",

"/dev/sdc",

"/dev/sda2",

"/dev/sda"

]

}

#### Get\_smart\_info

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/devices/get\_smart\_info  ?device\_path={path}&device\_id={device\_id} | Gets smart info of a device |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the get available disks request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This table shows the query parameters for the get available disks request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {path} | String | The path of device. |
| {device\_id} | Int | The id of device. |

This operation does not accept a request body.

##### Response

**Example 2.16. Get smart info: JSON response**

{

"smart\_info": {

"smart": {},

"basic": {

"Serial Number": "",

"Drive Family": " VMware,",

"Drive Status": " OK",

"Firmware Version": ""

}

}

}

### Mds

The MDS of ceph cluster.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | [/v1/{tenant\_id}/mdses](#_List_mdses) | Lists detail for all mdses |
| GET | [/v1/{tenant\_id}/mdses/summary](#_Summary_mds) | Summary info of mds |

#### List mdses

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/mdses | Lists detail for all mdses |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the list mdses request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.17. List mdses: JSON response**

{

"mdses": [

{

"name": "mds\_name",

"updated\_at": "2015-10-28 14:33:48",

"state": "state",

"gid": 1234,

"address": "address",

"id": 1234

}

]

}

#### Summary mds

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/mdses/summary | Summary info of mds |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the summary mds request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.18. Summary mds: JSON response**

{

"mds-summary": {

"num\_stopped\_mdses": 0,

"num\_max\_mdses": 1,

"epoch": 11,

"metadata\_pool": 1,

"updated\_at": "2015-10-28 14:45:38",

"data\_pools": [

0

],

"num\_failed\_mdses": 0,

"num\_in\_mdses": 1,

"num\_up\_mdses": 1

}

}

### Monitor

The Monitor of ceph cluster.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | [/v1/{tenant\_id}/monitors](#_List_monitors) | Lists detail for all monitors |
| GET | [/v1/{tenant\_id}/monitors/summary](#_Summary_monitor) | Summary info of monitor |
| POST | [/v1/{tenant\_id}/monitors/{monitor\_id}/action](#_Restart_monitor) | Restart a monitor by monitor id |

#### List monitors

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/monitors | Lists detail for all monitors |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the list monitors request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.19. List monitors: JSON response**

{

"monitors": [

{

"details": "-",

"address": "192.168.81.235:6789/0",

"health": "HEALTH\_OK",

"id": 1,

"name": "1"

},

{

"details": "clock skew 0.784328s > max 0.2s",

"address": "192.168.81.236:6789/0",

"health": "HEALTH\_WARN",

"id": 2,

"name": "2"

},

{

"details": "clock skew 0.464823s > max 0.2s",

"address": "192.168.81.238:6789/0",

"health": "HEALTH\_WARN",

"id": 3,

"name": "0"

}

]

}

#### Summary monitor

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/monitors/summary | Summary info of monitor |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the summary monitor request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.20. Summary monitor: JSON response**

{

"monitor-summary": {

"election\_epoch": 10,

"quorum": "1 2 0",

"monmap\_epoch": 1,

"updated\_at": "2015-10-28 14:56:22",

"overall\_status": "HEALTH\_WARN",

"quorum\_leader\_name": "1",

"monitors": 3

}

}

#### Restart monitor

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/monitors/{monitor\_id}/action | Restart a monitor by monitor id |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the restart monitor request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |
| {monitor\_id} | Int | The id of a monitor. |

* Action:
  + restart

**Example 2.21. Restart monitor: JSON request**

{

"restart": ""

}

##### Response

This operation does not return a response body.

### Osd

The OSD of ceph cluster.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | [/v1/{tenant\_id}/osds/{osd\_id}](#_Get_osd) | Gets an osd by osd id |
| GET | [/v1/{tenant\_id}/osds](#_List_osds) | Lists detail for all osds |
| POST | [/v1/{tenant\_id}/osds/{osd\_id}/action](#_Restart_osd) | Restarts an osd by osd id |
| POST | [/v1/{tenant\_id}/osds/{osd\_id}/action](#_Remove_osd) | Removes an osd by osd id |
| POST | [/v1/{tenant\_id}/osds/add\_new\_disks\_to\_cluster](#_Add_new_disks_to_cluster) | Adds new disks to ceph cluster |
| POST | [/v1/{tenant\_id}/osds/{osd\_id}/action](#_Restore_osd) | Restores an osd by osd id |
| POST | [/v1/{tenant\_id}/osds/{osd\_id}/action](#_Refresh_osd) | Refreshes an osd by osd id |
| GET | [/v1/{tenant\_id}/osds/summary](#_Summary_osd) | Gets summary info of osd |

#### Get osd

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/osds/{osd\_id} | Gets an osd by osd id |

**Normal response codes:** 200

**Error response codes:** badRequest(400)

##### Request

This table shows the URI parameters for the get osd request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |
| {osd\_id} | Int | The id of an osd. |

This operation does not accept a request body.

##### Response

**Example 2.22. Get osd: JSON response**

{

"osd": {

"cluster\_ip": "192.168.81.238",

"storage\_group": {

"status": "IN",

"name": "performance",

"deleted": false,

"created\_at": "2015-10-28T11:00:49.000000",

"friendly\_name": "Performance\_Disk",

"updated\_at": "2015-10-28T11:12:56.000000",

"rule\_id": 0,

"drive\_extended\_threshold": 3,

"storage\_class": "10krpm\_sas",

"deleted\_at": null,

"id": 1

},

"zone\_id": 1,

"weight": 1,

"deleted": false,

"storage\_group\_id": 1,

"created\_at": "2015-10-28T11:01:35.000000",

"osd\_name": "osd.0",

"updated\_at": "2015-10-28T15:09:10.000000",

"public\_ip": "192.168.81.238",

"state": "In-Up",

"operation\_status": "Present",

"service\_id": 3,

"device": {

"mount\_point": "/var/lib/ceph/osd/osd0",

"name": "/dev/sdb1",

"used\_capacity\_kb": 37520,

"deleted": false,

"created\_at": "2015-10-28T11:01:35.000000",

"updated\_at": "2015-10-28T15:11:17.000000",

"interface\_type": null,

"id": 1,

"journal\_state": "OK",

"state": "OK",

"fs\_type": "xfs",

"device\_type": "10krpm\_sas",

"service\_id": 3,

"journal": "/dev/sdc1",

"path": "/dev/sdb1",

"deleted\_at": null,

"total\_capacity\_kb": 10473472,

"avail\_capacity\_kb": 10435952

},

"cluster\_id": 1,

"deleted\_at": null,

"id": 1,

"device\_id": 1

}

}

#### List osds

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/osds | Lists detail for all osds |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the list osds request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.23. List osds: JSON response**

{

"osds": [

{

"state": "In-Up",

"operation\_status": "Present",

"weight": 1,

"updated\_at": "2015-10-27T18:39:59.000000",

"service\_id": 3,

"osd\_name": "osd.0",

"id": 1,

"device\_id": 1

},

{

"state": "In-Up",

"operation\_status": "Present",

"weight": 1,

"updated\_at": "2015-10-27T18:39:59.000000",

"service\_id": 5,

"osd\_name": "osd.1",

"id": 2,

"device\_id": 2

},

{

"state": "In-Up",

"operation\_status": "Present",

"weight": 1,

"updated\_at": "2015-10-27T18:39:59.000000",

"service\_id": 7,

"osd\_name": "osd.2",

"id": 3,

"device\_id": 3

}

]

}

#### Restart osd

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/osds/{osd\_id}/action | Restarts an osd by osd id |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for restart osd request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |
| {osd\_id} | Int | The id of an osd. |

* Action
  + restart

**Example 2.24. Restart osd: JSON request**

{

"restart": ""

}

##### Response

This operation does not return a response body.

#### Remove osd

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/osds/{osd\_id}/action | Removes an osd by osd id |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the remove osd request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |
| {osd\_id} | Int | The id of an osd. |

* Action
  + remove

**Example 2.25. Remove osd: JSON request**

{

"remove": ""

}

##### Response

This operation does not return a response body.

#### Add\_new\_disks\_to\_cluster

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/osds/add\_new\_disks\_to\_cluster | Adds new disks to ceph cluster |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the add new disks to cluster request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This list shows some body parameters for the request:

* **parameters**:
  + **weight**: string. Required.

The weight of the osd.

* + **journal**: string. Required.

The disk path to use for journal.

* + **data**: string. Required.

The disk path to use for data.

**Example 2.26. Add new disks to cluster: JSON request**

{

"server\_id": 1,

"osdinfo": [

{"storage\_group\_id": 1, "weight": 1.0, "journal": "/dev/sde1", "data": "/dev/sdd1"}

]

}

##### Response

This operation does not return a response body.

#### Restore osd

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/osds/{osd\_id}/action | Restores an osd by osd id |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the restore osd request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |
| {osd\_id} | Int | The id of an osd. |

* Action
  + restore

**Example 2.27. Restore osd: JSON request**

{

"restore": ""

}

##### Response

This operation does not return a response body.

#### Refresh osd

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/osds/{osd\_id}/action | Refreshes an osd by osd id |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the refresh osd request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |
| {osd\_id} | Int | The id of an osd. |

This operation does not accept a request body.

##### Response

This operation does not return a response body.

#### Summary osd

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/osds/summary | Gets summary info of osd |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the summary osd request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.28. Summary osd: JSON response**

{

"osd-summary": {

"full": false,

"nearfull": false,

"num\_osds": 4,

"updated\_at": "2015-10-28 15:32:14",

"num\_up\_osds": 4,

"epoch": 72,

"num\_in\_osds": 4

}

}

### Performance\_metric

The performance metric collects for dashboard.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | [/v1/{tenant\_id}/performance\_metrics/](#_Get_metrics)  [get\_metics{?query\_string}](#_Get_metrics) | Gets a list of metric by metric name and timestamp |

#### Get\_metrics

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/performance\_metrics/  get\_metics{?query\_string} | Gets a list of metric by metric name and timestamp |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the get metrics request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |
| {?query\_string} | String | The query string of metric. |

This operation does not accept a request body.

##### Response

**Example 2.29. Get metrics: JSON response**

{

"metrics": [

{

"deleted": null,

"timestamp": 1446475096,

"created\_at": null,

"hostname": "vsm-node1",

"updated\_at": null,

"value": "4638",

"instance": "osd\_0",

"deleted\_at": null,

"id": 197,

"metric": "osd\_op\_in\_bytes"

},

{

"deleted": null,

"timestamp": 1446475096,

"created\_at": null,

"hostname": "vsm-node1",

"updated\_at": null,

"value": "0",

"instance": "osd\_0",

"deleted\_at": null,

"id": 198,

"metric": "osd\_op\_out\_bytes"

},

……

]

}

### Placement\_group

The placement group of vsm cluster.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | [/v1/{tenant\_id}/placement\_groups](#_List_placement_groups) | Lists detail for all placement groups |
| GET | [/v1/{tenant\_id}/placement\_groups/summary](#_Summary_placement_group) | Gets summary info of placement groups |

#### List placement\_groups

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/placement\_groups | Lists detail for all placement groups |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the list placement groups request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.30. List placement groups: JSON response**

{

"placement\_groups": [

{

"acting": "abc",

"state": "st",

"pg\_id": 12345,

"id": 1234,

"up": "true"

},

{

"acting": "abc",

"state": "st",

"pg\_id": 12345,

"id": 1234,

"up": "true"

}

]

}

#### Summary placement\_group

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/placement\_groups/summary | Gets summary info of placement groups |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the summary placement group request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.31. Summary placement group: JSON response**

{

"placement\_group-summary": {

"bytes\_total": 42899341312,

"degraded\_objects": 0,

"num\_pgs": 399,

"data\_bytes": 1878,

"degraded\_total": 0,

"bytes\_used": 162758656,

"unfound\_ratio": 0,

"op\_per\_sec": 0,

"write\_bytes\_sec": 0,

"updated\_at": "2015-10-28 15:50:34",

"unfound\_objects": 0,

"version": 338,

"pgs\_by\_state": [

{

"count": 399,

"state\_name": "active+clean"

}

],

"read\_bytes\_sec": 0,

"degraded\_ratio": 0,

"bytes\_avail": 42736582656,

"unfound\_total": 0

}

}

### Poolusage

The pool usage of vsm cluster.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | [/v1/{tenant\_id}/poolusages](#_Create_poolusage) | Presents pools to openstack |
| GET | [/v1/{tenant\_id}/poolusages](#_List_poolusages) | Lists detail for all pool usages |
| POST | [/v1/{tenant\_id}/poolusages/revoke\_pool](#_Revoke_pool) | Revokes pool from openstack |

#### Create poolusage

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/poolusages | Presents pools to openstack |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the create poolusage request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

**Example 2.32. Create poolusage: JSON request**

{

"poolusages": [

{"pool\_id": 1, "cinder\_volume\_host": "volume", "appnode\_id": 2}

]

}

##### Response

**Example 2.33. Create poolusage: JSON response**

{

"status": "ok",

"host": []

}

#### List poolusages

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/poolusages | Lists detail for all pool usages |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the list poolusages request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.34. List poolusages: JSON response**

{

"poolusages": [

{

"attach\_at": "2015-10-28T16:00:16.000000",

"attach\_status": "success",

"cinder\_volume\_host": "node1",

"vsmapp\_id": 1,

"id": 1,

"pool\_id": 4

}

]

}

#### Revoke pool

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/poolusages/revoke\_pool | Revokes pool from openstack |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the revoke pool request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

**Example 2.35. Revoke Pool: JSON request**

{

"poolusage": {

"id": "1"

}

}

##### Response

This operation does not return a response body.

### Rbd\_pool

The rbd pool of vsm cluster.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | [/v1/{tenant\_id}/rbd\_pools](#_List_rbd_pools) | Lists detail for all rbd pools |
| GET | [/v1/{tenant\_id}/rbd\_pools/summary](#_Summary_rbd_pools) | Gets summary info of rbd pool |

#### List rbd\_pools

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/rbd\_pools | Lists detail for all rbd pools |

**Normal response codes:** 200

**Error response codes:** badRequest(400)

##### Request

This table shows the URI parameters for the list rbd pools request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.36. List rbd pools: JSON response**

{

"rbd\_pools": []

}

#### Summary rbd\_pool

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/rbd\_pools/summary | Gets summary info of rbd pool |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the summary rbd pool request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.37. Summary rbd pool: JSON response**

{

"rbd-summary": {

"full": false,

"num\_up\_rbd\_pools": 8,

"num\_rbd\_pools": 12,

"nearfull": false,

"epoch": 123,

"num\_in\_rbd\_pools": 8

}

}

### Server

The server of ceph cluster.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | [/v1/{tenant\_id}/servers/{server\_id}](#_Get_server) | Gets a server by server id |
| GET | [/v1/{tenant\_id}/servers](#_List_servers) | Lists detail for all osds |
| POST | [/v1/{tenant\_id}/servers/add](#_Add_server) | Adds a server |
| POST | [/v1/{tenant\_id }/servers/remove](#_Remove_server) | Removes a server |
| POST | [/v1/{tenant\_id }/servers/reset\_status](#_Reset_status) | Reset a server’s status |
| POST | [/v1/{tenant\_id }/servers/start](#_Start_server) | Starts a server |
| POST | [/v1/{tenant\_id }/servers/stop](#_Stop_server) | Stops a server |
| POST | [/v1/{tenant\_id }/servers/ceph\_upgrade](#_Ceph_upgrade) | Ceph upgrade |

#### Get server

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/servers/{server\_id} | Gets a server by server id |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the get server request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |
| {server\_id} | Int | The id of a server. |

This operation does not accept a request body.

##### Response

**Example 2.38. Get server: JSON response**

{

"server": {

"cluster\_ip": "192.168.81.235",

"raw\_ip": "192.168.1.3,192.168.2.3,192.168.3.3",

"secondary\_public\_ip": "192.168.81.235",

"primary\_public\_ip": "192.168.81.235",

"host": "vsm-node2",

"ceph\_ver": "0.80.10",

"id": 2,

"zone\_id": 1,

"osds": "1",

"status": "Active",

"type": ""

}

}

#### List servers

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/servers | Lists detail for all osds |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the list servers request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.39. List servers: JSON response**

{

"servers": [

{

"cluster\_ip": "192.168.81.238",

"raw\_ip": "192.168.1.3,192.168.2.3,192.168.3.3",

"secondary\_public\_ip": "192.168.81.238",

"primary\_public\_ip": "192.168.81.238",

"host": "vsm-node1",

"ceph\_ver": "0.80.10",

"id": 1,

"zone\_id": 1,

"osds": "2",

"status": "Active",

"service\_id": 3,

"type": "monitor,storage,"

},

{

"cluster\_ip": "192.168.81.235",

"raw\_ip": "192.168.1.3,192.168.2.3,192.168.3.3",

"secondary\_public\_ip": "192.168.81.235",

"primary\_public\_ip": "192.168.81.235",

"host": "vsm-node2",

"ceph\_ver": "0.80.10",

"id": 2,

"zone\_id": 1,

"osds": "1",

"status": "Active",

"service\_id": 5,

"type": ""

},

{

"cluster\_ip": "192.168.81.236",

"raw\_ip": "192.168.1.3,192.168.2.3,192.168.3.3",

"secondary\_public\_ip": "192.168.81.236",

"primary\_public\_ip": "192.168.81.236",

"host": "vsm-node3",

"ceph\_ver": "0.80.10",

"id": 3,

"zone\_id": 1,

"osds": "1",

"status": "Active",

"service\_id": 7,

"type": ""

},

{

"cluster\_ip": "192.168.81.138",

"raw\_ip": "192.168.1.3,192.168.2.3,192.168.3.3",

"secondary\_public\_ip": "192.168.81.138",

"primary\_public\_ip": "192.168.81.138",

"host": "vsm-node4",

"ceph\_ver": "0.80.10",

"id": 4,

"zone\_id": 1,

"osds": "1",

"status": "available",

"service\_id": 9,

"type": "monitor,storage,"

}

]

}

#### Add server

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/servers/add | Adds a server |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the add server request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This list shows some body parameters for the request:

* **parameters**:
  + **is\_storage**: boolean. Required.

The server is as storage node.

* + **is\_monitor**: boolean. Required.

The server is as monitor node.

**Example 2.40. Add server: JSON request**

{

"servers":[

{"cluster\_id":1,"id":4,"is\_monitor":"true","is\_storage":"true","zone\_id":1}

]

}

##### Response

This operation does not return a response body.

#### Remove server

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id }/servers/remove | Removes a server |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the remove server request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This list shows some body parameters for the request:

* **parameters**:
  + **remove\_storage**: boolean. Required.

The server is not as storage node.

* + **remove\_monitor**: boolean. Required.

The server is not as monitor node.

**Example 2.41. Remove server: JSON request**

{

"servers":[

{"cluster\_id":1,"id":4,"remove\_monitor":"true","remove\_storage":"true"}

]

}

##### Response

This operation does not return a response body.

#### Reset\_status

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id }/servers/reset\_status | Reset a server’s status |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the reset server status request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

**Example 2.42. Reset status: JSON request**

{

"servers": 1

}

##### Response

**Example 2.43. Reset status: JSON response**

{

"status": "ok"

}

#### Start server

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id }/servers/start | Starts a server |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the start server request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

**Example 2.44. Start server: JSON request**

{

"servers":[

{"cluster\_id":1,"id":4}

]

}

##### Response

This operation does not return a response body.

#### Stop server

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id }/servers/stop | Stops a server |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the stop server request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

**Example 2.45. Stop server: JSON request**

{

"servers":[

{"cluster\_id":1,"id":4}

]

}

##### Response

This operation does not return a response body.

#### Ceph\_upgrade

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id }/servers/ceph\_upgrade | Ceph upgrade |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the ceph upgrade request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

**Example 2.46. Ceph upgrade: JSON request**

{

"pkg\_url": "",

"key\_url": "",

"proxy": "",

"ssh\_user": ""

}

##### Response

**Example 2.47. Ceph upgrade: JSON response**

{

"message": "ceph upgrade from 0.80.10 to 0.94.2 success"

}

### Storage group

The storage group of vsm cluster.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | [/v1/{tenant\_id}/storage\_groups](#_Create_storage_group) | Creates a storage group |
| GET | [/v1/{tenant\_id}/storage\_groups{/detail}{?query\_string}](#_List_storage_groups) | Lists detail for all storage groups |
| GET | [/v1/{tenant\_id}/storage\_groups/summary](#_Summary_storage_group) | Get summary info of storage group |

#### Create storage\_group

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/storage\_groups | Creates a storage group |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the create storage group request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This list shows some body parameters for the request:

* **parameters**:
  + **name**: string. Required.

The name of storage group.

* + **friendly\_name**: string. Required.

The friendly name of storage group.

* + **storage\_class**: string. Required.

The storage class is that distinguishs osd.

**Example 2.48. Create storage group: JSON request**

{

"storage\_group": {

"name": "group",

"friendly\_name": "name",

"storage\_class": "ssd",

"cluster\_id": 1

}

}

##### Response

This operation does not return a response body.

#### List storage\_groups

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/storage\_groups{/detail}{?query\_string} | Lists detail for all storage groups |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the list storage groups request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |
| {/detail} | -- | If using detail, then the return info will be detailed. |
| {?query\_string} | -- | The query string to filter storage group. |

This operation does not accept a request body.

##### Response

**Example 2.49. List storage groups: JSON response**

{

"storage\_groups": [

{

"status": "IN",

"capacity\_used": 162596,

"attached\_pools": 4,

"updated\_at": "2015-10-28 15:59:41",

"capacity\_avail": 41731292,

"capacity\_total": 41893888,

"id": 1,

"name": "performance",

"friendly\_name": "Performance Disk",

"largest\_node\_capacity\_used": 77740,

"storage\_class": "10krpm\_sas",

"attached\_osds": 4

},

{

"status": "IN",

"capacity\_used": 0,

"attached\_pools": 0,

"updated\_at": "2015-10-28 15:59:41",

"capacity\_avail": 0,

"capacity\_total": 0,

"id": 2,

"name": "capacity",

"friendly\_name": "Economy Disk",

"largest\_node\_capacity\_used": 0,

"storage\_class": "7200\_rpm\_sata",

"attached\_osds": 0

},

{

"status": "IN",

"capacity\_used": 0,

"attached\_pools": 0,

"updated\_at": "2015-10-28 15:59:41",

"capacity\_avail": 0,

"capacity\_total": 0,

"id": 3,

"name": "high\_performance",

"friendly\_name": "High Performance",

"largest\_node\_capacity\_used": 0,

"storage\_class": "ssd",

"attached\_osds": 0

}

]

}

#### Summary storage\_group

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/storage\_groups/summary | Get summary info of storage group |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the summary storage group request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |
| {/detail} | -- | If using detail, then the return info will be detailed. |
| {?query\_string} | -- | The query string to filter storage group. |

This operation does not accept a request body.

##### Response

**Example 2.50. Summary storage group: JSON response**

{

"storage\_group-summary": {

"full": false,

"num\_up\_storage\_groups": 8,

"num\_storage\_groups": 12,

"nearfull": false,

"epoch": 123,

"num\_in\_storage\_groups": 8

}

}

### Storage pool

The server of ceph cluster.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | [/v1/{tenant\_id}/storage\_pools{/detail}{?query\_string}](#_List_storage_pool) | Lists detail for all storage pools |
| POST | [/v1/{tenant\_id}/storage\_pools/add\_cache\_tier](#_Add_cache_tier) | Adds cache tier |
| POST | [/v1/{tenant\_id }/storage\_pools/remove\_cache\_tier](#_Remove_cache_tier) | Removes cache tier |
| GET | [/v1/{tenant\_id }/storage\_pools/ec\_profiles](#_Ec_profiles) | Lists all ec profiles |
| POST | [/v1/{tenant\_id }/storage\_pools/create](#_Create_storage_pool) | Creates storage pool |
| GET | [/v1/{tenant\_id }/storage\_pools/{pool\_id}](#_Get_storage_pool) | Gets details of storage pool |

#### List storage pools

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/storage\_pools{/detail}{?query\_string} | Lists detail for all storage pools |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the list storage pools request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |
| {/detail} | -- | If using detail, then the return info will be detailed. |
| {?query\_string} | -- | The query string to filter storage pool. |

This operation does not accept a request body.

##### Response

**Example 2.51. List storage pools: JSON response**

{

"pool": [

{

"status": "running",

"num\_write\_kb": 0,

"write\_bytes\_sec": null,

"op\_per\_sec": null,

"updated\_at": "2015-10-28 16:39:24",

"num\_objects\_degraded": 0,

"createdDate": "2015-10-28T11:12:57.000000",

"clusterId": 1,

"quota": null,

"replica\_storage\_group": null,

"tag": "SYSTEM",

"num\_read": 0,

"createdBy": "ceph",

"crashRelayInterval": 0,

"pgpNum": 133,

"id": 1,

"size": 3,

"num\_objects\_unfound": 0,

"crushRuleset": 0,

"name": "rbd",

"num\_object\_clones": 0,

"cache\_tier\_status": null,

"recipeId": null,

"num\_objects": 0,

"pool\_id": 2,

"num\_read\_kb": 0,

"minSize": 2,

"erasure\_code\_status": null,

"storageGroup": "performance",

"ruleset": null,

"poolId": 2,

"read\_bytes\_sec": null,

"pgNum": 166,

"num\_write": 0,

"num\_bytes": 0

},

{

"status": "running",

"num\_write\_kb": 0,

"write\_bytes\_sec": null,

"op\_per\_sec": null,

"updated\_at": "2015-10-28 16:39:24",

"num\_objects\_degraded": 0,

"createdDate": "2015-10-28T11:12:57.000000",

"clusterId": 1,

"quota": null,

"replica\_storage\_group": null,

"tag": "SYSTEM",

"num\_read": 0,

"createdBy": "ceph",

"crashRelayInterval": 45,

"pgpNum": 133,

"id": 2,

"size": 3,

"num\_objects\_unfound": 0,

"crushRuleset": 0,

"name": "data",

"num\_object\_clones": 0,

"cache\_tier\_status": null,

"recipeId": null,

"num\_objects": 0,

"pool\_id": 0,

"num\_read\_kb": 0,

"minSize": 2,

"erasure\_code\_status": null,

"storageGroup": "performance",

"ruleset": null,

"poolId": 0,

"read\_bytes\_sec": null,

"pgNum": 133,

"num\_write": 0,

"num\_bytes": 0

},

{

"status": "running",

"num\_write\_kb": 0,

"write\_bytes\_sec": 257,

"op\_per\_sec": 0,

"updated\_at": "2015-10-28 16:39:24",

"num\_objects\_degraded": 0,

"createdDate": "2015-10-28T11:12:57.000000",

"clusterId": 1,

"quota": null,

"replica\_storage\_group": null,

"tag": "SYSTEM",

"num\_read": 0,

"createdBy": "ceph",

"crashRelayInterval": 0,

"pgpNum": 133,

"id": 3,

"size": 3,

"num\_objects\_unfound": 0,

"crushRuleset": 0,

"name": "metadata",

"num\_object\_clones": 0,

"cache\_tier\_status": null,

"recipeId": null,

"num\_objects": 19,

"pool\_id": 1,

"num\_read\_kb": 0,

"minSize": 2,

"erasure\_code\_status": null,

"storageGroup": "performance",

"ruleset": null,

"poolId": 1,

"read\_bytes\_sec": null,

"pgNum": 133,

"num\_write": 0,

"num\_bytes": 1867

},

{

"status": "running",

"num\_write\_kb": 0,

"write\_bytes\_sec": null,

"op\_per\_sec": null,

"updated\_at": "2015-10-28 16:39:24",

"num\_objects\_degraded": 0,

"createdDate": "2015-10-28T15:53:49.000000",

"clusterId": 1,

"quota": 1,

"replica\_storage\_group": null,

"tag": "vsm",

"num\_read": 0,

"createdBy": "VSM",

"crashRelayInterval": 0,

"pgpNum": 133,

"id": 4,

"size": 3,

"num\_objects\_unfound": 0,

"crushRuleset": 0,

"name": "testp1",

"num\_object\_clones": 0,

"cache\_tier\_status": null,

"recipeId": null,

"num\_objects": 0,

"pool\_id": 3,

"num\_read\_kb": 0,

"minSize": 2,

"erasure\_code\_status": "",

"storageGroup": "performance",

"ruleset": null,

"poolId": 3,

"read\_bytes\_sec": null,

"pgNum": 133,

"num\_write": 0,

"num\_bytes": 0

}

]

}

#### Add cache tier

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id}/storage\_pools/add\_cache\_tier | Adds cache tier |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the add cache tier request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This list shows some body parameters for the request:

* **parameters**:
  + **storage\_pool\_id**: string. Required.

The id of storage pool.

* + **cache\_pool\_id**: string. Required.

The id of cache pool.

* + **cache\_mode:** string. Required.

The cache mode.

* + **force\_nonempty**: Boolean. Required.

Whether empty or not.

* + **hit\_set\_type**: Default, bloom.
  + **hit\_set\_count**: Default, 1.
  + **hit**\_**set**\_**period**\_s: Default, 3600.
  + **target**\_**max**\_**mem**\_mb: Default, 1000000.
  + **target**\_**dirty**\_**ratio**: Default, 0.4.
  + **target**\_**full**\_**ratio**: Default, 0.8.
  + **target**\_**max**\_**objects**: Default, 1000000.
  + **target**\_**min**\_**flush**\_**age**\_**m**: Default, 10.
  + **target**\_min\_**evict**\_**age**\_**m**: Default, 20.

**Example 2.52. Add cache tier: JSON request**

{

"cache\_tier":{

"storage\_pool\_id":"4",

"cache\_pool\_id":"3",

"cache\_mode":"readonly",

"force\_nonempty":true,

"options":{

"hit\_set\_type":"bloom",

"hit\_set\_count":"1",

"hit\_set\_period\_s":"3600",

"target\_max\_mem\_mb":"1000000",

"target\_dirty\_ratio":"0.4",

"target\_full\_ratio":"0.8",

"target\_max\_objects":"1000000",

"target\_min\_flush\_age\_m":"10",

"target\_min\_evict\_age\_m":"20"

}

}

}

##### Response

This operation does not return a response body.

#### Remove cache tier

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id }/storage\_pools/remove\_cache\_tier | Removes cache tier |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the remove cache tier request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

**Example 2.53. Remove cache tier: JSON request**

{

"cache\_tier":{

"cache\_pool\_id":"3"

}

}

##### Response

This operation does not return a response body.

#### List ec profiles

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id }/storage\_pools/ec\_profiles | Lists all ec profiles |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the list ec profiles request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.54. Ec profiles: JSON response**

{

"ec\_profiles": [

{

"id": 1,

"name": "default\_profile"

}

]

}

#### Create storage pool

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id }/storage\_pools/create | Creates storage pool |

**Normal response codes:** 200

##### Request(1)

This table shows the URI parameters for the create replicated pool request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This list shows some body parameters for the request of replicated pool:

* **parameters**:
  + **name**: string. Required.
  + **storageGroupId**: string. Required.
  + **replicatedStorageGroupId**: string. Required.
  + **replicationFactor**: string. Required.
  + **max**\_pg\_**num**\_**per**\_**osd**: string. Required.
  + **tag**: string. Required.
  + **clusterId**: string. Required.
  + **createdBy**: string. Required.
  + **enablePoolQuota**: string. Required.
  + **poolQuota**: string. Required.

**Example 2.55. Create replicated pool: JSON request**

{

"pool":{

"name":"tp01",

"storageGroupId":"1",

"replicatedStorageGroupId":"",

"replicationFactor":"3",

"max\_pg\_num\_per\_osd":"100",

"tag":"vsm",

"clusterId":"0",

"createdBy":"VSM",

"enablePoolQuota":true,

"poolQuota":"1"

}

}

##### Response(1)

This operation does not return a response body.

##### Request(2)

This table shows the URI parameters for the create ec pool request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This list shows some body parameters for the request of ec\_pool:

* **parameters**:
  + **name**: string. Required.
  + storageGroupId: string. Required.
  + tag: string. Required.
  + clusterId: string. Required.
  + createdBy: string. Required.
  + ecProfileId: string. Required.
  + ecFailureDomain: string. Required.
  + enablePoolQuota: string. Required.
  + poolQuota: string. Required.

**Example 2.56. Create ec\_pool: JSON request**

{

"pool":{

"name":"ec\_pp",

"storageGroupId":"1",

"tag":"vsm",

"clusterId":"0",

"createdBy":"VSM",

"ecProfileId":"1",

"ecFailureDomain":"osd",

"enablePoolQuota":true,

"poolQuota":"1"

}

}

##### Response(2)

**Example 2.57. Create ec\_pool: JSON response**

{

"message": "pool ec\_ppcreated"

}

#### Get storage pool details

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id }/storage\_pools/{pool\_id} | Gets details of storage pool |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the get storage pool details request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This table shows the query parameters for the get storage pool details request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {pool\_id} | Int | The id of storage pool. |

This operation does not accept a request body.

##### Response

**Example 2.58. Get storage pool details: JSON response**

{

"pool": {

"status": "running",

"storage\_group": {

"status": "IN",

"choose\_num": 0,

"name": "performance",

"drive\_extended\_threshold": 4,

"created\_at": "2016-01-25T07:09:42.000000",

"friendly\_name": "Performance\_Disk",

"updated\_at": "2016-01-25T07:12:27.000000",

"take\_order": 0,

"id": 1,

"deleted": false,

"storage\_class": "10krpm\_sas",

"marker": null,

"take\_id": -16,

"choose\_type": "host",

"deleted\_at": null,

"rule\_id": 0

},

"write\_bytes\_sec": null,

"updated\_at": "2016-01-25T08:09:16.000000",

"pool\_id": 3,

"tag": "testpool01",

"cluster\_id": 1,

"created\_by": "VSM",

"num\_read": 0,

"deleted\_at": null,

"id": 4,

"size": 3,

"num\_write": 0,

"num\_object\_clones": 0,

"ec\_status": "",

"num\_objects": 0,

"op\_per\_sec": null,

"num\_read\_kb": 0,

"pg\_num": 133,

"pgp\_num": 133,

"read\_bytes\_sec": null,

"crush\_ruleset": 0,

"num\_write\_kb": 0,

"auto\_growth\_pg": 133,

"deleted": false,

"num\_objects\_degraded": 0,

"quota": 2,

"replica\_storage\_group": "replicated",

"min\_size": 2,

"crash\_replay\_interval": 0,

"recipe\_id": null,

"num\_objects\_unfound": 0,

"cache\_mode": null,

"primary\_storage\_group\_id": 1,

"name": "testpool01",

"max\_pg\_num\_per\_osd": 100,

"cache\_tier\_status": null,

"created\_at": "2016-01-25T07:16:12.000000",

"num\_bytes": 0

}

}

### Vsm\_setting

The setting of ceph cluster.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | [/v1/{tenant\_id}/vsm\_settings/get\_by\_name{?query\_string}](#_Get_vsm_setting) | Gets vsm setting by name |
| GET | [/v1/{tenant\_id}/vsm\_settings](#_List_vsm_settings) | Lists detail for all settings |
| POST | [/v1/{tenant\_id }/vsm\_settings](#_Create_vsm_setting) | Creates vsm setting[Now used for update] |

#### Get vsm\_setting

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/vsm\_settings/get\_by\_name{?query\_string} | Gets vsm setting by name |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the get vsm setting request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |
| {?query\_string} | -- | The query string to filter vsm setting. |

This operation does not accept a request body.

##### Response

**Example 2.59. Get vsm setting: JSON response**

{

"setting": {

"id": 1,

"value": "65",

"name": "storage\_group\_near\_full\_threshold"

}

}

#### List vsm\_settings

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/vsm\_settings | Lists detail for all settings |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the list vsm settings request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.60. List vsm settings: JSON response**

{

"settings": [

{

"id": 1,

"value": "65",

"name": "storage\_group\_near\_full\_threshold"

},

{

"id": 2,

"value": "85",

"name": "storage\_group\_full\_threshold"

},

{

"id": 3,

"value": "75",

"name": "ceph\_near\_full\_threshold"

},

{

"id": 4,

"value": "90",

"name": "ceph\_full\_threshold"

},

……

]

}

#### Create vsm\_setting

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id }/vsm\_settings | Creates vsm setting[Now used for update] |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the create vsm setting[for update] request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

**Example 2.61. Create(update) vsm setting: JSON request**

{

"setting": {

"name": "storage\_group\_near\_full\_threshold",

"value": "80"

}

}

##### Response

**Example 2.62. Create(update) vsm setting: JSON response**

{

"setting": {

"id": 1,

"value": "80",

"name": "storage\_group\_near\_full\_threshold"

}

}

### Zone

The zone of vsm cluster.

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | [/v1/{tenant\_id }/zones](#_Create) | Creates zone |
| GET | [/v1/{tenant\_id}/zones](#_List_zones) | Lists detail for all zones |

#### Create zone

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| POST | /v1/{tenant\_id }/zones | Creates zone |

**Normal response codes:** 202

##### Request

This table shows the URI parameters for the create zone request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

**Example 2.63. Create zone: JSON request**

{

"zone":{

"name":"testzone",

"cluster\_id":1

}

}

##### Response

This operation does not return a response body.

#### List zones

|  |  |  |
| --- | --- | --- |
| Method | URI | Description |
| GET | /v1/{tenant\_id}/zones | Lists detail for all zones |

**Normal response codes:** 200

##### Request

This table shows the URI parameters for the list zones request:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| {tenant\_id} | UUID | The UUID of the tenant in a multi-tenancy cloud. |

This operation does not accept a request body.

##### Response

**Example 2.64. List zones: JSON response**

{

"zones": [

{

"id": 1,

"name": "zone\_one"

}

]

}

# Example

1. Running “admin-token” command to get token-tenant\_id
2. GET:

curl -XGET --header 'Content-type: application/json' --header 'X-Auth-Token:706683f02dd147e391f2df8d7e7084a4' http://192.168.123.193:8778/v1/733c7b55f69f41a3ac33b046cff111a3/clusters

1. POST:

curl -XPOST --header 'Content-type: application/json' --header 'X-Auth-Token:706683f02dd147e391f2df8d7e7084a4' http://192.168.123.193:8778/v1/733c7b55f69f41a3ac33b046cff111a3/storage\_groups --data '{"storage\_group": {"name": "group","friendly\_name": "name","storage\_class": "ssd","cluster\_id": 1}}'