

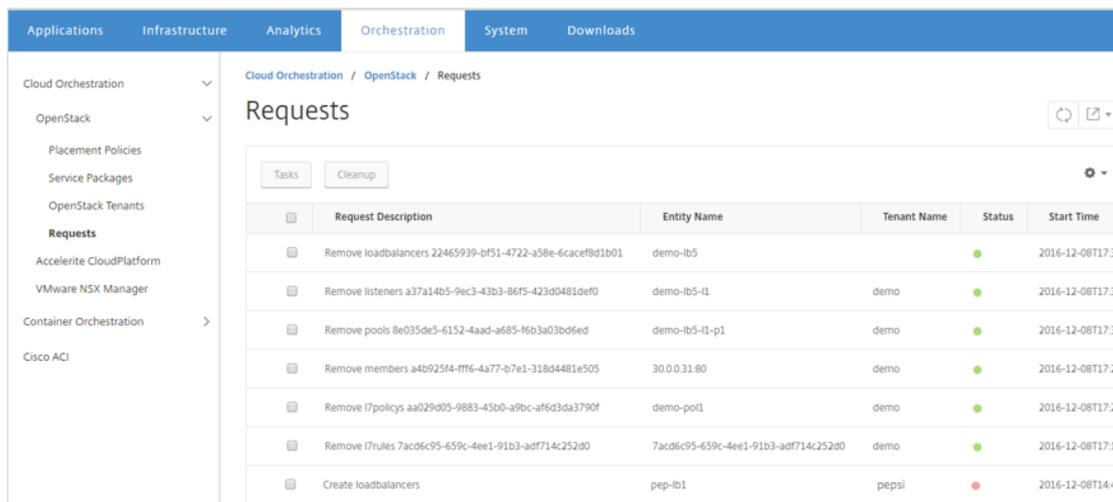
How to debug OpenStack Integration

Introduction

Once NetScalers are integrated with OpenStack through NetScaler MAS, OpenStack tenants can use the integrated NetScaler ADCs for load balancing (LBaaS) their virtual machines. When these tenants configure load balancing on OpenStack cloud, OpenStack uses the MAS APIs to push the load balancing configuration to the MAS, which in turn creates the configuration on the NetScaler ADCs assigned to the tenants. During this process, lot of OpenStack API's, MAS API's, and NetScaler NITRO API's are called, database operations are performed, and a lot of information is exchanged between OpenStack, MAS, and NetScaler instances. If part of the OpenStack configuration fails to get pushed to NetScaler instances, finding the location and root cause of the issue becomes very critical.

To easily locate the problems or to monitor the progress of the information exchange between OpenStack, MAS, and NetScaler instances, do the following:

1. Log on to MAS and, on the **Orchestration tab**, go to **Cloud Orchestration > OpenStack > Requests** to see the list of configurations that are getting pushed from OpenStack.



Request Description	Entity Name	Tenant Name	Status	Start Time
Remove loadbalancers 22465939-bf51-4722-a58e-6cacef8d1b01	demo-lb5		●	2016-12-08T17:30:00.000Z
Remove listeners a37a14b5-9ec3-43b3-86f5-423d0481def0	demo-lb5-l1	demo	●	2016-12-08T17:30:00.000Z
Remove pools 8e035de5-6152-4aad-a685-f6b3a03bd6ed	demo-lb5-l1-p1	demo	●	2016-12-08T17:30:00.000Z
Remove members a4b925f4-ff6-4a77-b7e1-318d4481e505	30.0.0.31.80	demo	●	2016-12-08T17:29:00.000Z
Remove l7policies aa029d05-9883-45b0-a9bc-af6d3da3790f	demo-pol1	demo	●	2016-12-08T17:29:00.000Z
Remove l7rules 7acd6c95-659c-4ee1-91b3-adf714c252d0	7acd6c95-659c-4ee1-91b3-adf714c252d0	demo	●	2016-12-08T17:11:00.000Z
Create loadbalancers	pep-lb1	pepsi	●	2016-12-08T14:40:00.000Z

As shown above, you can clearly see the requests, such as remove loadbalancers, remove listeners, Create loadbalancers etc along with tenant information, status of the request, and status description. If there is a failure in executing a request, the status of the request is shown in red, and the reason for the failure appears in the status description.

Here for example, Create loadbalancers request has failed and the status of the request is shown in red. Scroll the bar to right to see the error description as shown in the below screenshot. "Tenant '52550' is not part of any service package and there is no default service package.

Status	Start Time	Node	Status Description
●	2016-12-08T17:32:22.798626	10.106.43.14	Done
●	2016-12-08T17:31:32.000525	10.106.43.14	Done
●	2016-12-08T17:30:03.659620	10.106.43.14	Done
●	2016-12-08T17:29:37.257282	10.106.43.14	Done
●	2016-12-08T17:26:25.020203	10.106.43.14	Done
●	2016-12-08T17:17:18.959346	10.106.43.14	Done
●	2016-12-08T00:48:42.700341	10.106.43.14	Tenant '52550' is not part of any Service Package and there is no default Service Package

2. To resolve the error, make the tenant part of some service package or create a default package and then create a loadbalancer.

3. Select a particular Request Description that has status red and click the **Tasks** button to drill down on the details of the requests, as shown in the following screen shots.

Request Description	Entity Name	Tenant Name	Status	Start Time	Node	Status Description
Create listeners	pep-lb9-l1	pepsi	●	2016-12-10T00:47:07.192050	10.106.43.46	Instance HA-Node2-pepsi-NetScal

Task Description	Task Type	Status	Error Description
Stored virtual server with ip and port 80	Database	Finished	
Created port in openstack subnet-97679900-a31b-40a7-b2c9-88c4ebc1726b	OpenStack	Finished	
Acquired management ip 10.102.122.80	Database	Finished	
Added NetScaler on SDX device 10.102.122.122	SDX	Error	Instance HA-Node2-pepsi-NetScalerVPX already exists

If a task failed, its status is `ERROR`, and the error description describes the reason.

For example in the above screen shot the error says “Instance HA-Node2-pepsi-NetScalerVPX already exists”, which means that for a particular tenant instance with same name already exists. Login to SDX and delete the particular instance and repeat the command that failed, to successfully complete the execution of the command.

By using this method, you can easily monitor and debug the interactions between OpenStack, MAS, and NetScaler instances.