Overview

This chapter contains the following sections:

Information About the Cisco Nexus 1000V OpenStack REST API

Note OpenStack supports configuring all of the core Neutron resources, such as the network, subnet, and port, by using the REST APIs. The Cisco plug-in for OpenStack supports all of these core resources and also the resources that Cisco added to support Nexus 1000v, such as **cisco-network-profile** and **cisco-policy-profile**.

Accessing the core OpenStack resources through the REST APIs is thoroughly documented on the OpenStack Website. This document describes the resources that Cisco newly added or extended. The REST APIs can be accessed by using a Web browser or using the cURL tool.

Accessing the REST APIs for OpenStack is a two step process. You must authenticate with the Keystone service and obtain an authorization token. You use this token with the **curl** command to access the Neutron resources.

- To authenticate with the Keystone service:

```
curl -k -X 'POST' -v http://Controller's_public_IP:Keystone's_public_port/v2.0/tokens \
-d '{"auth":{"passwordCredentials":{"username": "userName", "password":"password"}, \
"tenantId":"tenant-ID"}}' -H 'Content-type: application/json'
```

- To request access to the Neutron resources:

```
curl -H "X-Auth-Token:Token" \
http://Controller's_public_port:neutron's_public_port/v2.0/networks
```

The following example authenticates with the Keystone service and fetches all of the networks configured on Neutron in JSON format:

```
$ curl -k -X 'POST' -v http://192.168.10.25:5000/v2.0/tokens -d \
'{"auth":{"passwordCredentials":{"username": "admin", "password":"pw1"}, \
"tenantId":"36c7867df9d24ab38fef45475a0a0c17"}}' -H 'Content-type: application/json'
```

```
$ curl -H "X-Auth-Token: 5788dc57e14036c7867df9d24ab38fef45475a0" \
-X GET http://192.168.10.25:9696/v2.0/networks
{
"networks":
    [
    {"status": "ACTIVE", "subnets": [], "name": "extnet", "provider:physical_network":
"net1", "admin_state_up": true, "tenant_id": "36c7867df9d24ab38fef45475a0a0c17",
"provider:network_type": "vlan", "router:external": true, "n1kv:profile_id":
"cb027858-d3e7-4c73-a631-5788dc57e140", "shared": false, "id":
"081e4573-2cf5-4abc-97a4-cb4860e642e4", "provider:segmentation_id": 14}
    ]
}
```

Finding Supported OpenStack Resource Names

Every OpenStack REST API function is associated with a resource name

To find the list of Cisco Nexus 1000V OpenStack resource names, use the following command:

```
curl -H "X-Auth-Token:Authorization_token" -X GET http://172.23.231.25:9696/v2.0/
```
You get the following output:

```
{
 "resources":
 [
  {
   "links": [{"href": "http://172.23.231.25:9696/v2.0/subnets", "rel": "self"}],
   "name": "subnet", "collection": "subnets"
  },
  {
   "links": [{"href": "http://172.23.231.25:9696/v2.0/networks", "rel": "self"}],
   "name": "network", "collection": "networks"
  },
  {
   "links": [{"href": "http://172.23.231.25:9696/v2.0/ports", "rel": "self"}],
   "name": "port",
   "collection": "ports"
  }
 ]
}
```

List of Available OpenStack Resource Names for the Cisco Nexus 1000V

Table 1: Available Resource Names

Namespace	Description
cisco-policy-profile-list	Retrieves the list of policy profiles of a Cisco Nexus 1000V switch.
cisco-policy-profile-show	Retrieves information about a port profile of a Cisco Nexus 1000V switch.
cisco-network-profile-create	Creates a network profile on a Cisco Nexus 1000V switch.

Namespace	Description
cisco-network-profile-list	Retrieves a list of network profiles from a Cisco Nexus 1000V switch.
cisco-network-profile-show	Gets information about a network profile on a Cisco Nexus 1000V switch.
cisco-network-profile-update	Updates a network profile on a Cisco Nexus 1000V switch.
cisco-network-profile-delete	Deletes a network profile from a Cisco Nexus 1000V switch.
net-create	Creates a network on a Cisco Nexus 1000V switch.
port-create	Creates a port on a Cisco Nexus 1000V switch.