Creating a VPN connection between regions

Thanks to the Openstack Neutron VPN as a Service (VPNaaS) feature, you can bridge two different regions via a site-to-site IPSec VPN connection. This is made possible without setting up and configuring a virtual machine in any one of the regions. On the contrary, you can quickly establish such a connection using the Cleura Cloud Management Panel or the OpenStack CLI. Let us demonstrate the process following both approaches.

Prerequisites

Whether you choose to work from the Cleura Cloud Management Panel or with the OpenStack CLI, you need to have an account in Cleura Cloud. If you prefer to work with the OpenStack CLI, then in addition to the Python `openstackclient` module, you need to install the Python `neutronclient` module also. Use either the package manager of your operating system or `pip`:

Debian/Ubuntu **Mac OS X with Homebrew** **Python Package**

```
apt install python3-neutronclient
```

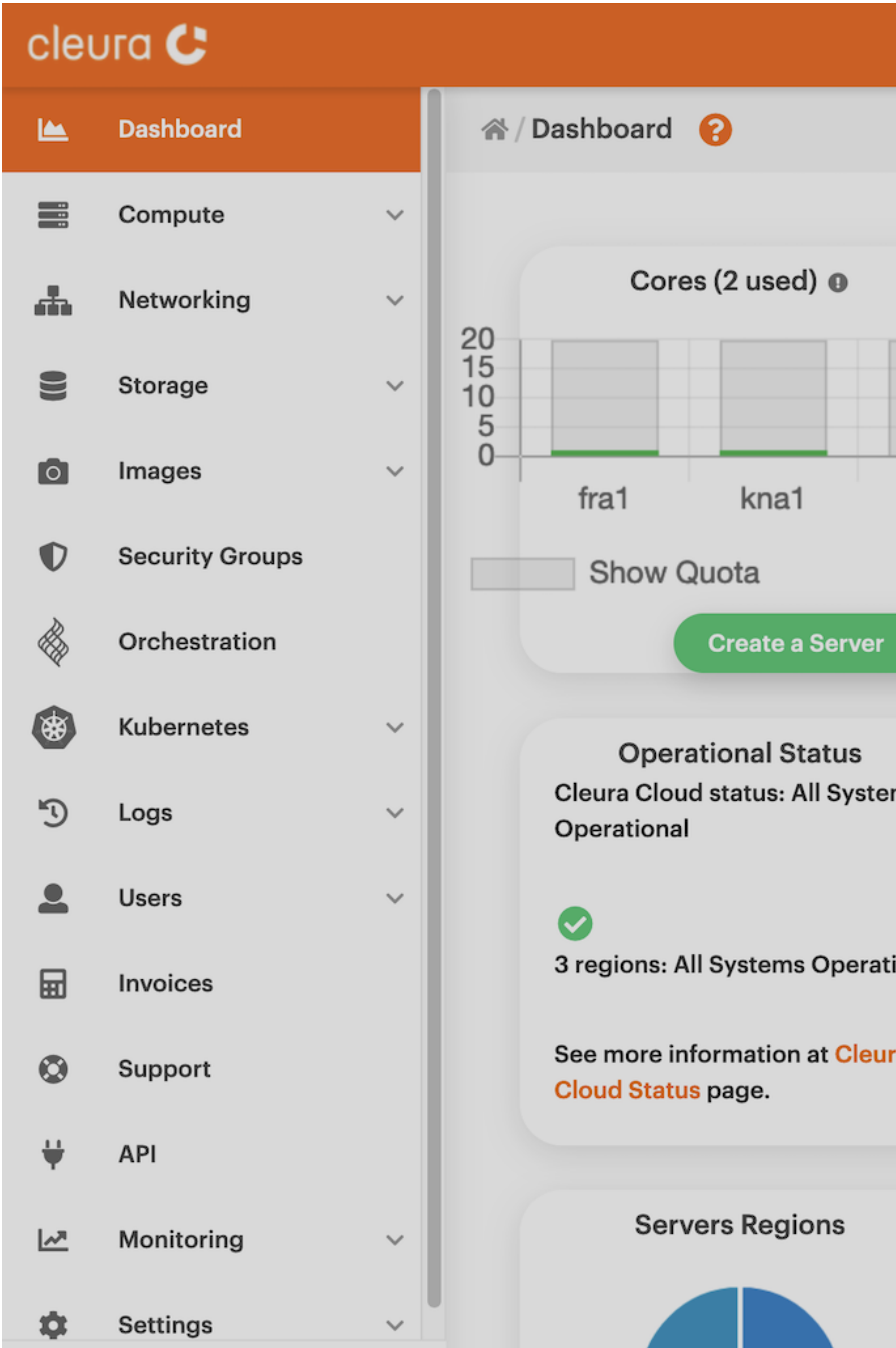
This Python module is unavailable via `brew`, but you can install it via `pip`:

```
pip install python-neutronclient
```

Creating a VPN connection between two regions

To create and establish such a connection from the Cleura Cloud Management Panel, fire up your favorite web browser, navigate to the Cleura Cloud Management Panel start page, and log into your Cleura Cloud account. Should you prefer to follow the OpenStack CLI route instead, please make sure you have the appropriate RC file for each region involved.

On the top right-hand side of the Cleura Cloud Management Panel, click the *Create* button. A verti
instantiating a different Cleura Cloud object. Go ahead and click the *VPN* box.



Operational Status

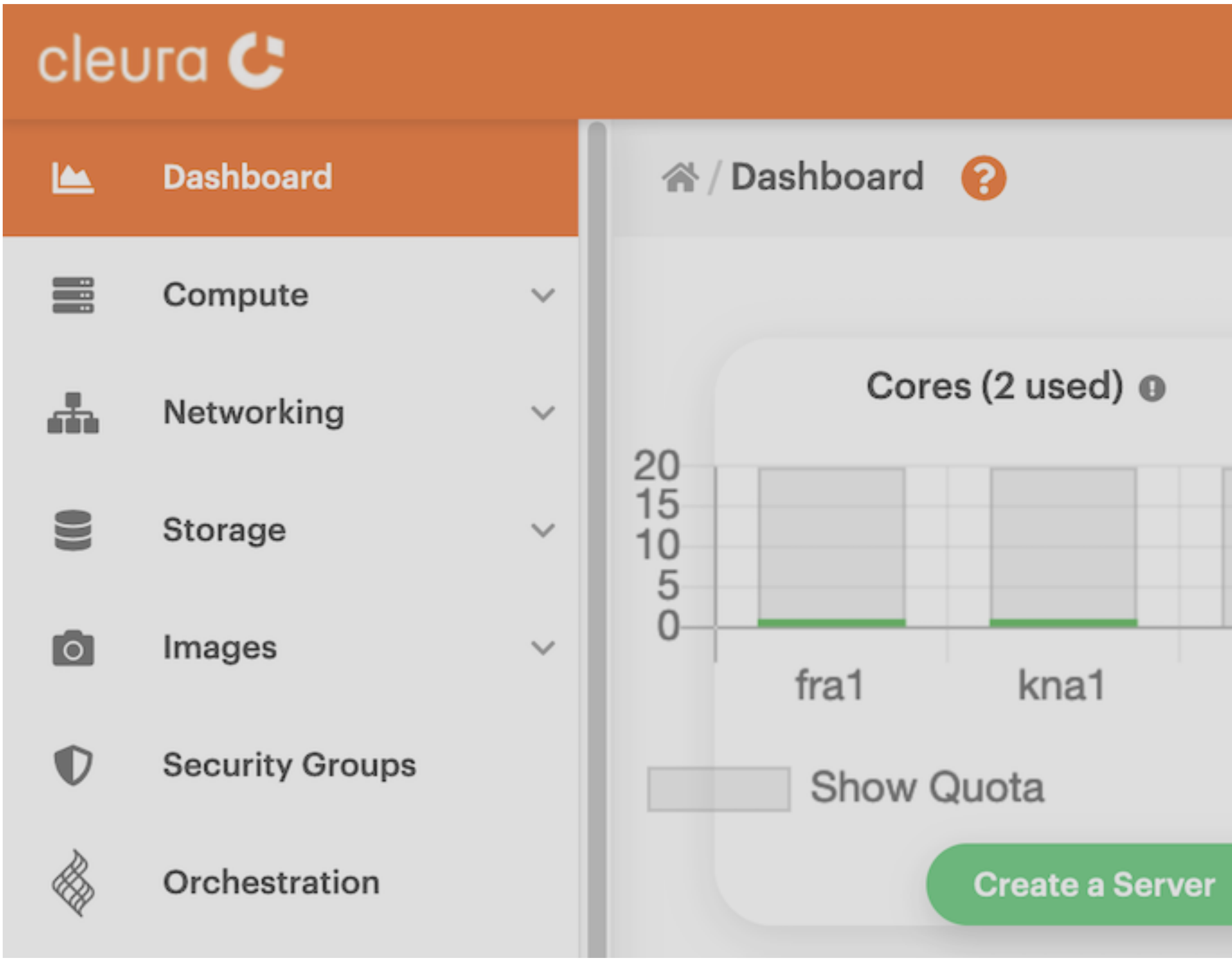
Cleura Cloud status: All Syster Operational

✓

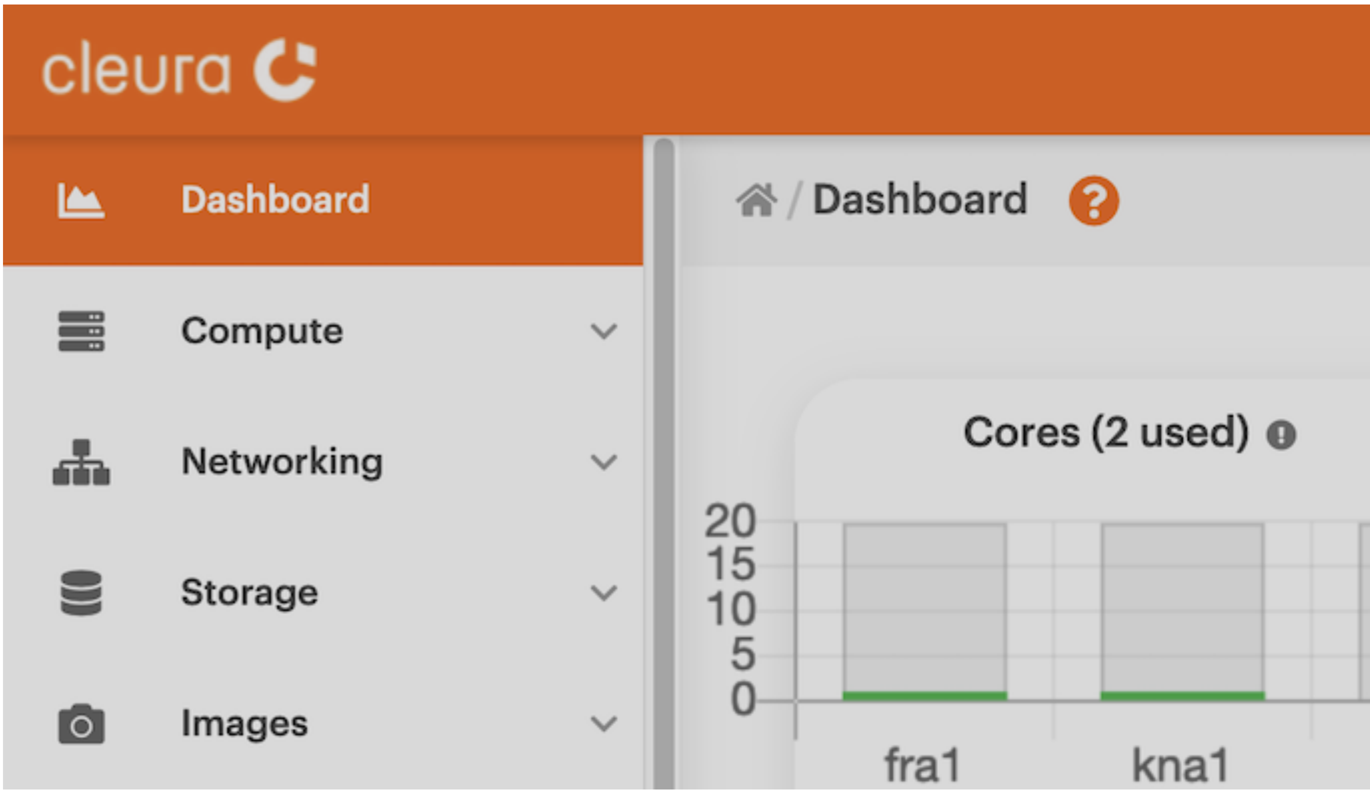
3 regions: All Systems Operati

See more information at Cleur Cloud Status page.

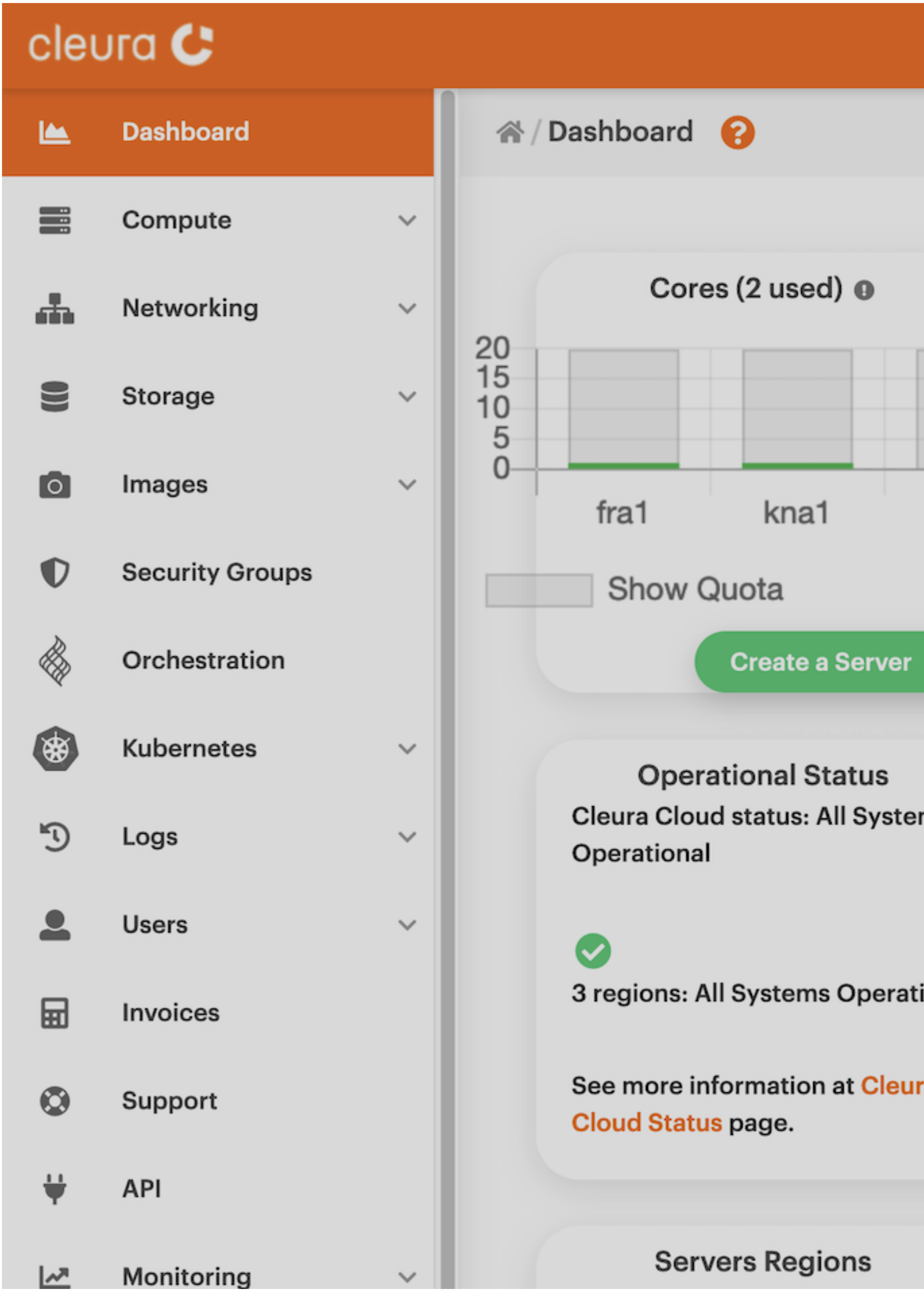
A new pane titled *Create a VPN Service* will slide over. Between the two boxes, click the one titled



Type in a name for the new site-to-site VPN connection.



Select a region, project, and network for each of the two data centers involved.



Operational Status

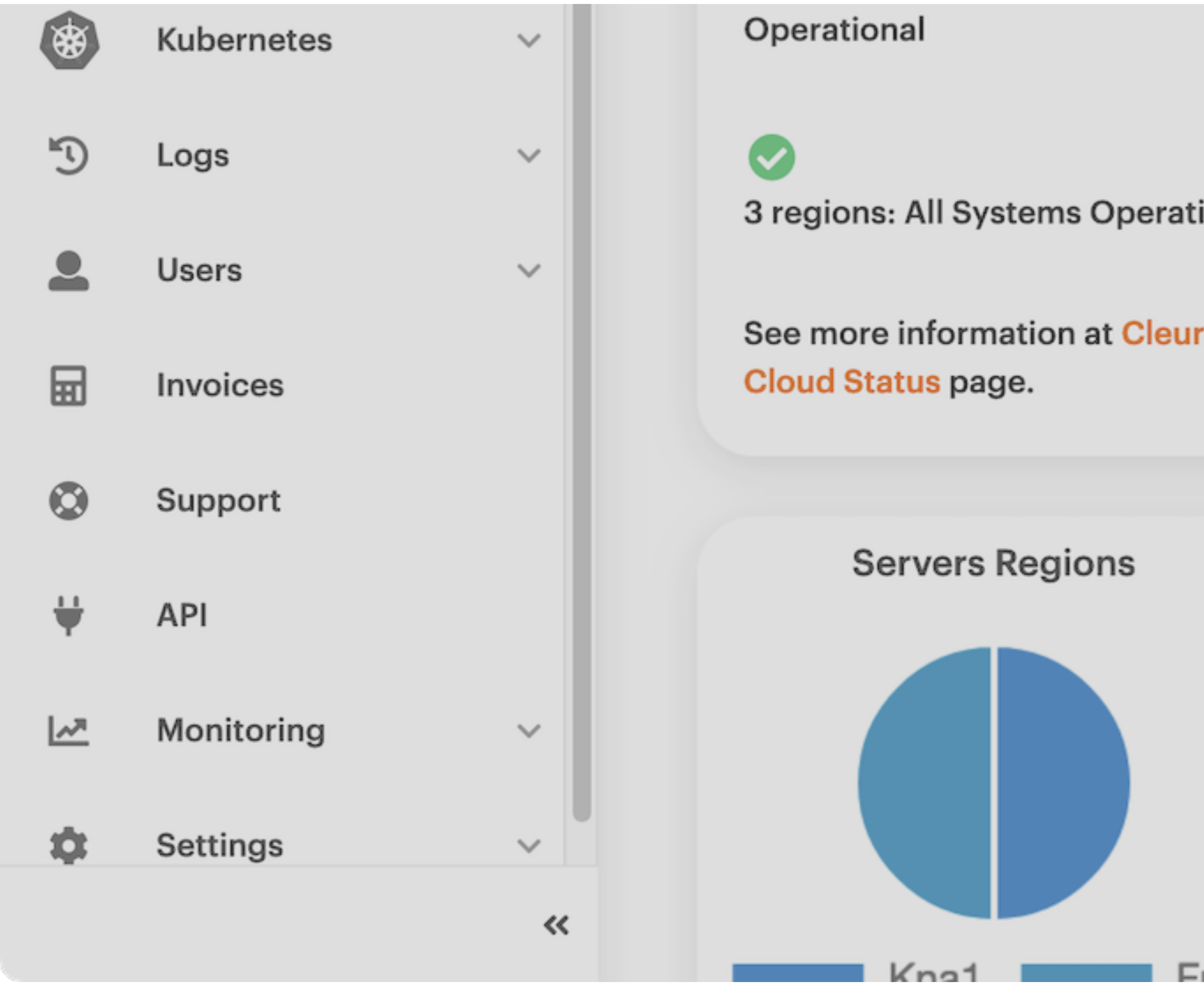
Cleura Cloud status: All Syster Operational

3 regions: All Systems Operati

See more information at Cleur Cloud Status page.

Servers Regions

Look at the pre-shared key and, optionally, expand the *Advanced Options* section to see all presets.



First, you need to have the RC files of the two regions you will be connecting. In the example that f source the RC file for `fra1`, and before working in `kna1` you need to source the RC file for `kna1`.

> It helps to imagine the site-to-site connection schematically, with `fra1` being on the left side and

You also have to decide which subnets from either side you will connect. Additionally, you need to k right side we have subnet `subnet-kna1` with CIDR `10.15.20.0/24` and router `router-kna1`. For convenie

```
SUBNET_FRA1="10.15.25.0/24"
SUBNET_KNA1="10.15.20.0/24"
```

Prepare the left side (region `fra1`)

Begin by creating a new IKE policy:

```
openstack vpn ike policy create ike-pol-fra1
```

```
+-------------------------------+--------------------------------------+
| Field                         | Value                                |
+-------------------------------+--------------------------------------+
| Authentication Algorithm      | sha1                                 |
| Description                   |                                      |
| Encryption Algorithm          | aes-128                              |
| ID                            | 5782b141-afcc-4327-9ac5-b8cd2e110c6a |
| IKE Version                   | v1                                   |
| Lifetime                      | {'units': 'seconds', 'value': 3600}  |
| Name                          | ike-pol-fra1                         |
| Perfect Forward Secrecy (PFS) | group5                               |
| Phase1 Negotiation Mode       | main                                 |
| Project                       | dfc700467396428bacba4376e72cc3e9     |
| project_id                    | dfc700467396428bacba4376e72cc3e9     |
+-------------------------------+--------------------------------------+
```

Then, create a new IPSec policy:

```
openstack vpn ipsec policy create ipsec-pol-fra1
```

```
+-------------------------------+--------------------------------------+
| Field                         | Value                                |
+-------------------------------+--------------------------------------+
| Authentication Algorithm      | sha1                                 |
| Description                   |                                      |
| Encapsulation Mode            | tunnel                               |
| Encryption Algorithm          | aes-128                              |
| ID                            | 15ec761f-1642-49b6-b5a2-e43624c5752d |
| Lifetime                      | {'units': 'seconds', 'value': 3600}  |
| Name                          | ipsec-pol-fra1                       |
| Perfect Forward Secrecy (PFS) | group5                               |
| Project                       | dfc700467396428bacba4376e72cc3e9     |
| Transform Protocol            | esp                                  |
| project_id                    | dfc700467396428bacba4376e72cc3e9     |
+-------------------------------+--------------------------------------+
```

You are ready to create a new VPN service:

```
openstack vpn service create --router router-fra1 vpn-service-fra1
```

```
+----------------+--------------------------------------+
| Field          | Value                                |
+----------------+--------------------------------------+
| Description    |                                      |
| Flavor         | None                                 |
| ID             | d74d51f0-182d-4d88-952a-1d593ce696fd |
| Name           | vpn-service-fra1                     |
| Project        | dfc700467396428bacba4376e72cc3e9     |
| Router         | 62f885d8-6b13-4161-89d1-003c4fafec55 |
| State          | True                                 |
| Status         | PENDING_CREATE                       |
| Subnet         | None                                 |
| external_v4_ip | 198.51.100.50                        |
| external_v6_ip | 2a03:b000:701:5:f816:3eff:feb5:be0e  |
| project_id     | dfc700467396428bacba4376e72cc3e9     |
+----------------+--------------------------------------+
```

Notice in the command output that the `Status` is `PENDING_CREATE`. This is expected. Also, jot down

```
EXT_IP_FRA1="198.51.100.50"
```

The site-to-site connection you are about to create needs two end-point groups on the left, and two (remote) subnet. You are now on the left side of the connection (region `fra1`), so begin with the left

```
openstack vpn endpoint group create \
    --type subnet --value subnet-fra1 local-epg-fra1
```

```
+-------------+------------------------------------------+
| Field       | Value                                    |
+-------------+------------------------------------------+
| Description |                                          |
| Endpoints   | ['df6fb6ca-4751-4b74-8b3e-5fbda0117cea'] |
| ID          | 51895e0e-fa3a-43d3-8037-5eea073fb77f     |
| Name        | local-epg-fra1                           |
| Project     | dfc700467396428bacba4376e72cc3e9         |
| Type        | subnet                                   |
| project_id  | dfc700467396428bacba4376e72cc3e9         |
+-------------+------------------------------------------+
```

…and then move on to creating the left peer end-point group:

```
openstack vpn endpoint group create \
    --type cidr --value $SUBNET_KNA1 peer-epg-fra1
```

```
+-------------+--------------------------------------+
| Field       | Value                                |
+-------------+--------------------------------------+
| Description |                                      |
| Endpoints   | ['10.15.20.0/24']                    |
| ID          | a96bb9ef-d0ec-4174-93ae-a8e655910f94 |
| Name        | peer-epg-fra1                        |
| Project     | dfc700467396428bacba4376e72cc3e9     |
| Type        | cidr                                 |
| project_id  | dfc700467396428bacba4376e72cc3e9     |
+-------------+--------------------------------------+
```

Prepare the right side (region `kna1`)

Before establishing a site-to-site VPN connection between the two regions, you must make similar these are all the adjusted commands with the respective outputs:

Create a new IKE policy:

```
openstack vpn ike policy create ike-pol-kna1
```

```
+-------------------------------+--------------------------------------+
| Field                         | Value                                |
+-------------------------------+--------------------------------------+
| Authentication Algorithm      | sha1                                 |
| Description                   |                                      |
| Encryption Algorithm          | aes-128                              |
| ID                            | 6af4f52c-6522-483d-bb70-b144657489f3 |
| IKE Version                   | v1                                   |
| Lifetime                      | {'units': 'seconds', 'value': 3600}  |
| Name                          | ike-pol-kna1                         |
| Perfect Forward Secrecy (PFS) | group5                               |
| Phase1 Negotiation Mode       | main                                 |
| Project                       | 94109c764a754e24ac0f6b01aef82359     |
| project_id                    | 94109c764a754e24ac0f6b01aef82359     |
+-------------------------------+--------------------------------------+
```

Create a new IPSec policy:

```
openstack vpn ipsec policy create ipsec-pol-kna1
```

```
+-------------------------------+--------------------------------------+
| Field                         | Value                                |
+-------------------------------+--------------------------------------+
| Authentication Algorithm      | sha1                                 |
| Description                   |                                      |
| Encapsulation Mode            | tunnel                               |
| Encryption Algorithm          | aes-128                              |
| ID                            | 8f9c2219-a931-46eb-b3f5-22d76cbc89d0 |
| Lifetime                      | {'units': 'seconds', 'value': 3600}  |
| Name                          | ipsec-pol-kna1                       |
| Perfect Forward Secrecy (PFS) | group5                               |
| Project                       | 94109c764a754e24ac0f6b01aef82359     |
| Transform Protocol            | esp                                  |
| project_id                    | 94109c764a754e24ac0f6b01aef82359     |
+-------------------------------+--------------------------------------+
```

Create a new VPN service:

```
openstack vpn service create --router router-kna1 vpn-service-kna1
```

```
+----------------+--------------------------------------+
| Field          | Value                                |
+----------------+--------------------------------------+
| Description    |                                      |
| Flavor         | None                                 |
| ID             | bb1a307d-6f8f-4a0a-83db-7c705403485d |
| Name           | vpn-service-kna1                     |
| Project        | 94109c764a754e24ac0f6b01aef82359     |
| Router         | 5ac45739-a379-4936-8b1b-67d10e017f4d |
| State          | True                                 |
| Status         | PENDING_CREATE                       |
| Subnet         | None                                 |
| external_v4_ip | 203.0.113.101                        |
| external_v6_ip | 2a00:16d8:0:3b:f816:3eff:fe0e:2074   |
| project_id     | 94109c764a754e24ac0f6b01aef82359     |
+----------------+--------------------------------------+
```

For convenience, set the value of parameter `external_v4_ip` to a shell variable:

```
EXT_IP_KNA1="203.0.113.101"
```

Create a local end-point group:

```
openstack vpn endpoint group create \
    --type subnet --value subnet-kna1 local-epg-kna1
```

```
+-------------+------------------------------------------+
| Field       | Value                                    |
+-------------+------------------------------------------+
| Description |                                          |
| Endpoints   | ['421d8fd2-dd7f-4f7c-9a51-42ef4a866dd9'] |
| ID          | c1937c3d-77e7-4f2c-842d-70b5e10df9a8     |
| Name        | local-epg-kna1                           |
| Project     | 94109c764a754e24ac0f6b01aef82359         |
| Type        | subnet                                   |
| project_id  | 94109c764a754e24ac0f6b01aef82359         |
+-------------+------------------------------------------+
```

Create a peer (remote) end-point group:

```
openstack vpn endpoint group create \
    --type cidr --value $SUBNET_FRA1 peer-epg-kna1
```

```
+-------------+--------------------------------------+
| Field       | Value                                |
+-------------+--------------------------------------+
| Description |                                      |
| Endpoints   | ['10.15.25.0/24']                    |
| ID          | 2e627315-02f0-4d68-8683-14230b166060 |
| Name        | peer-epg-kna1                        |
| Project     | 94109c764a754e24ac0f6b01aef82359     |
| Type        | cidr                             |
| project_id  | 94109c764a754e24ac0f6b01aef82359 |
+-------------+----------------------------------+
```

Instantiate a pre-shared key

Before establishing a site-to-site IPSec VPN connection, you must have a randomly generated pre-s

```
PRE_SHARED_KEY=$(openssl rand -hex 24)
```

The above is just an example. The key should not necessarily be a hexadecimal string, nor do you h

```
PRE_SHARED_KEY=$(pwgen 64 1)
```

Establish a left-to-right connection (region `fra1`)

To create a VPN connection from left to right, i.e., from region `fra1` to region `kna1`, issue the follow

```
openstack vpn ipsec site connection create \
  --vpnservice vpn-service-fra1 \
  --ikepolicy ike-pol-fra1 \
  --ipsecpolicy ipsec-pol-fra1 \
  --local-endpoint-group local-epg-fra1 \
  --peer-address $EXT_IP_KNA1 \
  --peer-id $EXT_IP_KNA1 \
  --peer-endpoint-group peer-epg-fra1 \
  --psk $PRE_SHARED_KEY \
  vpn-conn-to-kna1
```

```
+--------------------------+--------------------------------------------------+
| Field                    | Value                                            |
+--------------------------+--------------------------------------------------+
| Authentication Algorithm | psk                                              |
| Description              |                                                  |
| ID                       | 5f44be31-0588-4f33-883d-9e2d97be55e1             |
| IKE Policy               | 5782b141-afcc-4327-9ac5-b8cd2e110c6a             |
| IPSec Policy             | 15ec761f-1642-49b6-b5a2-e43624c5752d             |
| Initiator                | bi-directional                                   |
| Local Endpoint Group ID  | 51895e0e-fa3a-43d3-8037-5eea073fb77f             |
| Local ID                 |                                                  |
| MTU                      | 1500                                             |
| Name                     | vpn-conn-to-kna1                                 |
| Peer Address             | 203.0.113.101                                    |
| Peer CIDRs               |                                                  |
| Peer Endpoint Group ID   | a96bb9ef-d0ec-4174-93ae-a8e655910f94             |
| Peer ID                  | 203.0.113.101                                    |
| Pre-shared Key           | de12db260ee1b9c0b9e624d910c9a9dbddec13dc24d60332 |
| Project                  | dfc700467396428bacba4376e72cc3e9                 |
| Route Mode               | static                                           |
| State                    | True                                             |
| Status                   | PENDING_CREATE                                     |
| VPN Service              | d74d51f0-182d-4d88-952a-1d593ce696fd               |
| dpd                      | {'action': 'hold', 'interval': 30, 'timeout': 120} |
| project_id               | dfc700467396428bacba4376e72cc3e9                   |
+--------------------------+----------------------------------------------------+
```

Establish a right-to-left connection (region `kna1`)

Similarly, to create a VPN connection from right to left, i.e., from region `kna1` to region `fra1`, issue

```
openstack vpn ipsec site connection create \
  --vpnservice vpn-service-kna1 \
  --ikepolicy ike-pol-kna1 \
  --ipsecpolicy ipsec-pol-kna1 \
  --local-endpoint-group local-epg-kna1 \
  --peer-address $EXT_IP_FRA1 \
  --peer-id $EXT_IP_FRA1 \
  --peer-endpoint-group peer-epg-kna1 \
  --psk $PRE_SHARED_KEY \
  vpn-conn-to-fra1
```

```
+--------------------------+----------------------------------------------------+
| Field                    | Value                                              |
+--------------------------+----------------------------------------------------+
| Authentication Algorithm | psk                                                |
| Description              |                                                    |
| ID                       | 7705afc7-d0ff-444a-9474-3614e21d2399               |
| IKE Policy               | 6af4f52c-6522-483d-bb70-b144657489f3               |
| IPSec Policy             | 8f9c2219-a931-46eb-b3f5-22d76cbc89d0               |
| Initiator                | bi-directional                                     |
| Local Endpoint Group ID  | c1937c3d-77e7-4f2c-842d-70b5e10df9a8               |
| Local ID                 |                                                    |
| MTU                      | 1500                                               |
| Name                     | vpn-conn-to-fra1                                   |
| Peer Address             | 198.51.100.50                                      |
| Peer CIDRs               |                                                    |
| Peer Endpoint Group ID   | 2e627315-02f0-4d68-8683-14230b166060               |
| Peer ID                  | 198.51.100.50                                      |
| Pre-shared Key           | de12db260ee1b9c0b9e624d910c9a9dbddec13dc24d60332   |
| Project                  | 94109c764a754e24ac0f6b01aef82359                   |
| Route Mode               | static                                             |
| State                    | True                                               |
| Status                   | PENDING_CREATE                                     |
| VPN Service              | bb1a307d-6f8f-4a0a-83db-7c705403485d               |
| dpd                      | {'action': 'hold', 'interval': 30, 'timeout': 120} |
| project_id               | 94109c764a754e24ac0f6b01aef82359                   |
+--------------------------+----------------------------------------------------+
```

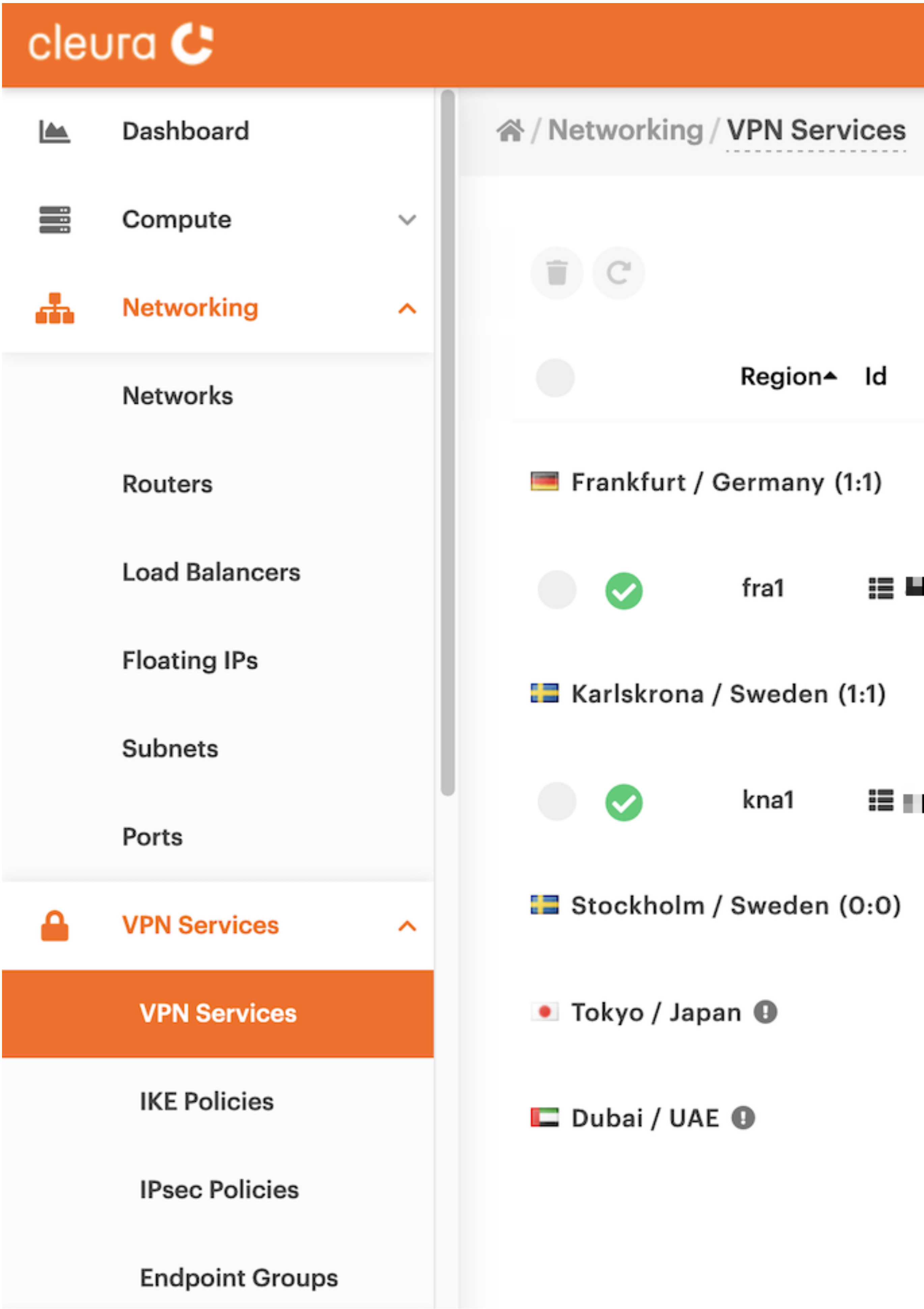
Viewing VPN connections and getting details

No matter if you use the Cleura Cloud Management Panel or the OpenStack CLI, you may at any time list all VPN connections and get relevant details.

Cleura Cloud Management Panel OpenStack CLI

In the vertical pane on the left-hand side of the Cleura Cloud Management Panel, expand the *Netw*

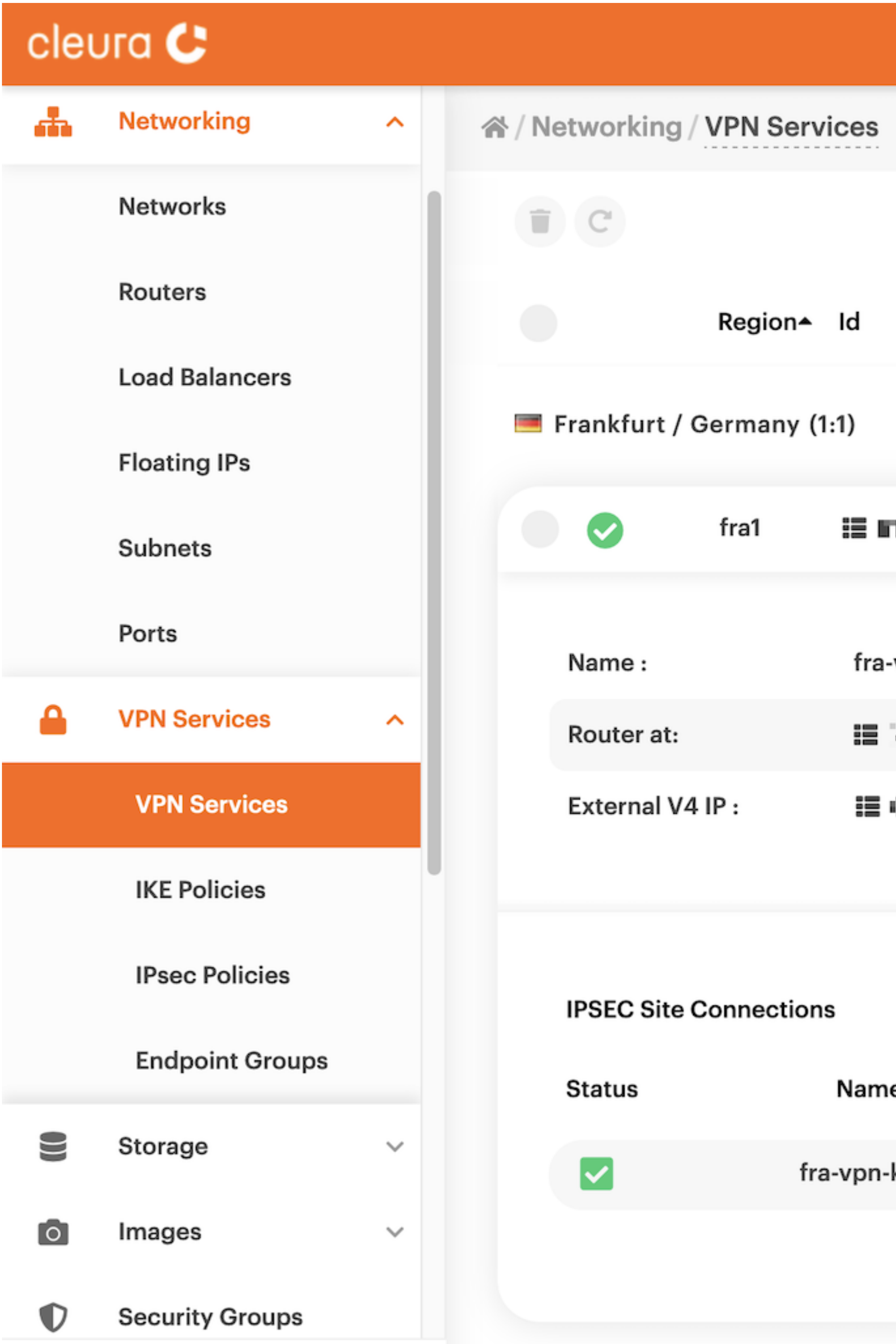
region to the other.



Networking / VPN Services

		Region▲	Id
Frankfurt / Germany (1:1)			
○	✓	fra1	
Karlskrona / Sweden (1:1)			
○	✓	kna1	
Stockholm / Sweden (0:0)			
Tokyo / Japan !			
Dubai / UAE !			

For more information regarding a specific connection, click the corresponding three-dot icon (right



Frankfurt / Germany (1:1)

fra1

Name : fra-

Router at:

External V4 IP :

IPSEC Site Connections

Status	Name
✓	fra-vpn-l

You can list all IPSec VPN connections working from any of the two regions involved. See, for exam

```
openstack vpn ipsec site connection list
```

```
+--------------------------+------------------+---------------+-------------------------+--------+
| ID                       | Name             | Peer Address  | Authentication Algorithm | Status |
+--------------------------+------------------+---------------+-------------------------+--------+
| 5f44be31-0588-4f33-883d- | vpn-conn-to-kna1 | 203.0.113.101 | psk                      | ACTIVE |
| 9e2d97be55e1             |                  |               |                          |        |
+--------------------------+------------------+---------------+-------------------------+--------+
```

If you want more information regarding a specific connection, type something like this:

```
openstack vpn ipsec site connection show vpn-conn-to-kna1
```

```
+--------------------------+-----------------------------------------------------+
| Field                    | Value                                               |
+--------------------------+-----------------------------------------------------+
| Authentication Algorithm | psk                                                 |
| Description              |                                                     |
| ID                       | 5f44be31-0588-4f33-883d-9e2d97be55e1                |
| IKE Policy               | 5782b141-afcc-4327-9ac5-b8cd2e110c6a                |
| IPSec Policy             | 15ec761f-1642-49b6-b5a2-e43624c5752d                |
| Initiator                | bi-directional                                      |
| Local Endpoint Group ID  | 51895e0e-fa3a-43d3-8037-5eea073fb77f                |
| Local ID                 |                                                     |
| MTU                      | 1500                                                |
| Name                     | vpn-conn-to-kna1                                    |
| Peer Address             | 203.0.113.101                                       |
| Peer CIDRs               |                                                     |
| Peer Endpoint Group ID   | a96bb9ef-d0ec-4174-93ae-a8e655910f94                |
| Peer ID                  | 203.0.113.101                                       |
| Pre-shared Key           | de12db260ee1b9c0b9e624d910c9a9dbddec13dc24d60332    |
| Project                  | dfc700467396428bacba4376e72cc3e9                    |
| Route Mode               | static                                              |
| State                    | True                                                |
| Status                   | ACTIVE                                              |
| VPN Service              | d74d51f0-182d-4d88-952a-1d593ce696fd                |
| dpd                      | {'action': 'hold', 'interval': 30, 'timeout': 120}  |
| project_id               | dfc700467396428bacba4376e72cc3e9                    |
+--------------------------+-----------------------------------------------------+
```

Testing the site-to-site VPN connection

One way to test the VPN connection is to have two servers (e.g., `server-fra1` and `server-kna1`), each on a different region (e.g., `fra1` and `kna1` respectively), ping each other using private IP addresses. With no VPN connection between the two regions, pinging should not be possible:

```
ubuntu@server-fra1:~$ ping -c 3 10.15.20.148
PING 10.15.20.148 (10.15.20.148) 56(84) bytes of data.

--- 10.15.20.148 ping statistics ---
3 packets transmitted, 0 received, 100% packet loss, time 2050ms
```

```
ubuntu@server-kna1:~$ ping -c 3 10.15.25.58
PING 10.15.25.58 (10.15.25.58) 56(84) bytes of data.

--- 10.15.25.58 ping statistics ---
3 packets transmitted, 0 received, 100% packet loss, time 2045ms
```

On the other hand, with a VPN connection established between the two regions, pinging should be all possible:

```
ubuntu@server-fra1:~$ ping -c 3 10.15.20.148
PING 10.15.20.148 (10.15.20.148) 56(84) bytes of data.
64 bytes from 10.15.20.148: icmp_seq=1 ttl=62 time=32.8 ms
64 bytes from 10.15.20.148: icmp_seq=2 ttl=62 time=32.5 ms
64 bytes from 10.15.20.148: icmp_seq=3 ttl=62 time=32.6 ms

--- 10.15.20.148 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2003ms
rtt min/avg/max/mdev = 32.544/32.624/32.761/0.096 ms
```

```
ubuntu@server-kna1:~$ ping -c 3 10.15.25.58
PING 10.15.25.58 (10.15.25.58) 56(84) bytes of data.
64 bytes from 10.15.25.58: icmp_seq=1 ttl=62 time=33.3 ms
64 bytes from 10.15.25.58: icmp_seq=2 ttl=62 time=32.5 ms
64 bytes from 10.15.25.58: icmp_seq=3 ttl=62 time=32.6 ms

--- 10.15.25.58 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2003ms
rtt min/avg/max/mdev = 32.533/32.832/33.336/0.358 ms
```

Disabling an active connection

You may, at any time, disable an active site-to-site VPN connection.

Cleura Cloud Management Panel **OpenStack CLI**

Currently, there is no way to disable an active connection from the Cleura Cloud Management Panel. If you want to disable an active connection, please use the OpenStack CLI.

All you have to do is get on either side of the connection and disable the VPN connection across the other side. Suppose you are on the left side of the connection (region `fra1`), and for whatever reason, you want to disable the site-to-site connection between left and right (regions `fra1` and `kna1`). First, you might want to remember the name of the VPN connection to the right:

```
openstack vpn ipsec site
connection list
```

```
+--------------------------
+------------------+---------------
+-------------------------+--------
+
| ID                       |
Name              | Peer
Address  | Authentication
Algorithm | Status |
+--------------------------
+------------------+---------------
+-------------------------+--------
+
|
5f44be31-0588-4f33-883d-
| vpn-conn-to-kna1 |
203.0.113.101 |
psk                        | ACTIVE
|
| 9e2d97be55e1
|                |
|                      |       |
+-------------------------
+-----------------+--------------
+------------------------+--------
+
```

That would be `vpn-conn-to-kna1`, and according to the command output above, it is active. To disable it, type the following:

```
openstack vpn ipsec site
connection set --disable
vpn-conn-to-kna1
```

Check if it is really disabled:

```
openstack vpn ipsec site
connection show vpn-conn-
to-kna1 -c Status
```

```
+--------+-------+
| Field  | Value |
+--------+-------+
| Status | DOWN  |
+--------+-------+
```

It looks like it is disabled — or `DOWN`.

> You will probably have to wait several seconds before seeing a status change. If you are impatient, try something like this:
>
> ```
> watch "openstack vpn
> ipsec site connection
> show vpn-conn-to-kna1 -
> c Status"
> ```

> Hit CTRL+C as soon as you see the status change you expect.

Now, get on the right side of the connection (region `kna1`), optionally look for the name of the VPN connection to the left (in our example, that would be `vpn-conn-to-fra1`), and check its status:

```
openstack vpn ipsec site
connection show vpn-conn-
to-fra1 -c Status
```

```
+--------+-------+
| Field  | Value |
+--------+-------+
| Status | DOWN  |
+--------+-------+
```

abled site-to-site connection is now disabled, select a server from one region and try to ping a server in another region. Suppose, for ed connection involved regions `fra1` and `kna1`, and that (in `fra1`) and `server-kna1` (in `kna1`). With the VPN o regions now disabled, pinging should not be possible:

```
ubuntu@server-fra1:~$ ping -c 3 10.15.20.148
PING 10.15.20.148 (10.15.20.148) 56(84) bytes of data.

--- 10.15.20.148 ping statistics ---
3 packets transmitted, 0 received, 100% packet loss, time 2055ms
```

```
ubuntu@server-kna1:~$ ping -c 3 10.15.25.58
PING 10.15.25.58 (10.15.25.58) 56(84) bytes of data.

--- 10.15.25.58 ping statistics ---
3 packets transmitted, 0 received, 100% packet loss, time 2050ms
```

Enabling an inactive connection

You can easily enable an inactive site-to-site VPN connection.

Cleura Cloud Management Panel **OpenStack CLI**

Currently, there is no way to enable an inactive connection from the Cleura Cloud Management Panel. If you want to re-enable an inactive connection, please use the OpenStack CLI.

Make sure you hop on the side where you initially disabled the connection. According to the example scenario we described in the previous section, that would be the left side (region `fra1`), and the name of the disabled connection would be `vpn-conn-to-kna1`. Make sure the connection status is `DOWN`:

```
openstack vpn ipsec
site connection
show vpn-conn-to-
kna1 -c Status
```

```
+--------+-------+
| Field  | Value |
+--------+-------+
| Status | DOWN  |
+--------+-------+
```

Note that if you issued a similar command from the right side of the connection (region `kna1`), you would also get a `DOWN` status. Being on the left side, all you have to do to enable the inactive connection is type the following:

```
openstack vpn ipsec site connection set --enable vpn-conn-to-kna1
```

Check the connection status — it should be `ACTIVE`:

```
openstack vpn ipsec site connection show vpn-conn-to-kna1 -c Status
```

```
+--------+--------+
| Field  | Value  |
+--------+--------+
| Status | ACTIVE |
+--------+--------+
```

You get the same status by issuing a similar command from the right side.

> Again, since you may have to wait several seconds before seeing the status change you expect, try something like this:
>
> ```
> watch "openstack vpn ipsec site connection show
> ```

```
vpn-conn-to-kna1
-c Status"
```

Hit CTRL+C to stop watching.

To test that a previously disabled site-to-site connection is now enabled, select a server from one region and try to ping a server in another region. Suppose, for example, that a re-enabled connection involves regions `fra1` and `kna1`, and that we have servers `server-fra1` (in `fra1`) and `server-kna1` (in `kna1`). With the VPN connection between the two regions now re-established, pinging should be possible:

```
ubuntu@server-fra1:~$ ping -c 3 10.15.20.148
PING 10.15.20.148 (10.15.20.148) 56(84) bytes of data.
64 bytes from 10.15.20.148: icmp_seq=1 ttl=62 time=32.6 ms
64 bytes from 10.15.20.148: icmp_seq=2 ttl=62 time=32.6 ms
64 bytes from 10.15.20.148: icmp_seq=3 ttl=62 time=32.7 ms

--- 10.15.20.148 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2003ms
rtt min/avg/max/mdev = 32.619/32.634/32.662/0.019 ms
```

```
ubuntu@server-kna1:~$ ping -c 3 10.15.25.58
PING 10.15.25.58 (10.15.25.58) 56(84) bytes of data.
64 bytes from 10.15.25.58: icmp_seq=1 ttl=62 time=32.8 ms
64 bytes from 10.15.25.58: icmp_seq=2 ttl=62 time=32.6 ms
64 bytes from 10.15.25.58: icmp_seq=3 ttl=62 time=33.4 ms

--- 10.15.25.58 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2003ms
rtt min/avg/max/mdev = 32.560/32.899/33.357/0.336 ms
```

Last update: 2022-12-21

Created: 2022-11-27

Authors: Christos Varelas, Florian Haas