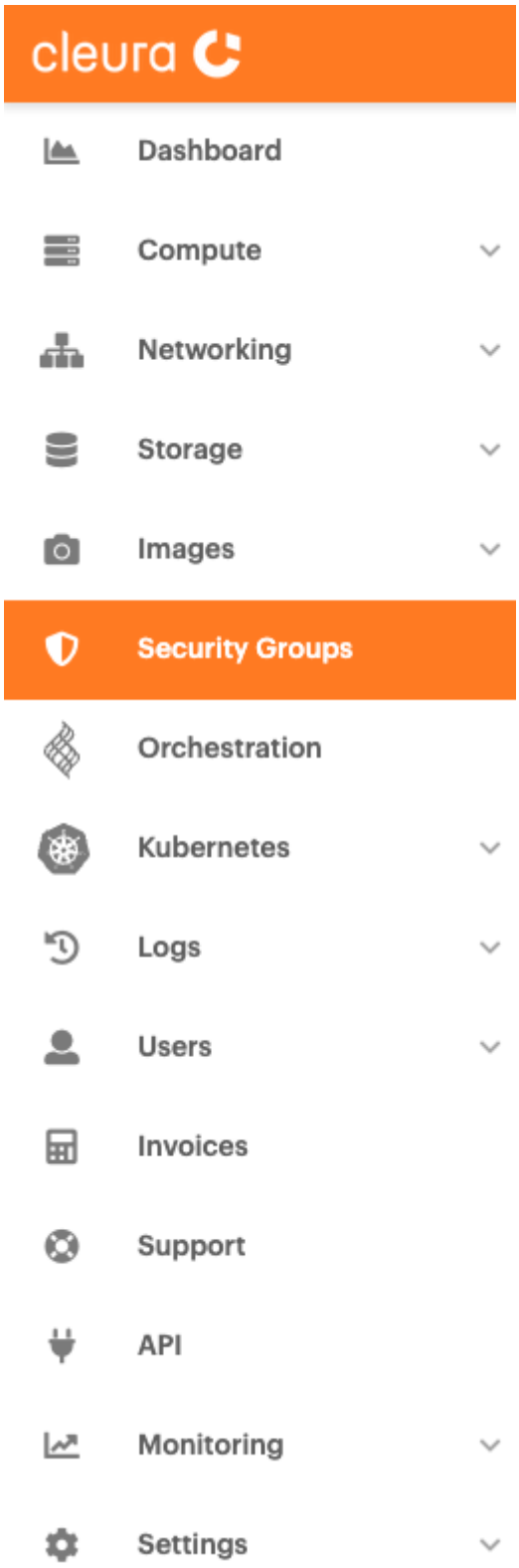
Creating security groups

By definition, security groups are *"[…] sets of IP filter rules that are applied to all project instances, which define networking access to the instance. Group rules are project specific; project members can edit the default rules for their group and add new rule sets."*

Creating a security group

Navigate to the Cleura Cloud Management Panel page, and log into your Cleura Cloud account. On the other hand, if you prefer to work with the OpenStack CLI, please do not forget to source the RC file first.

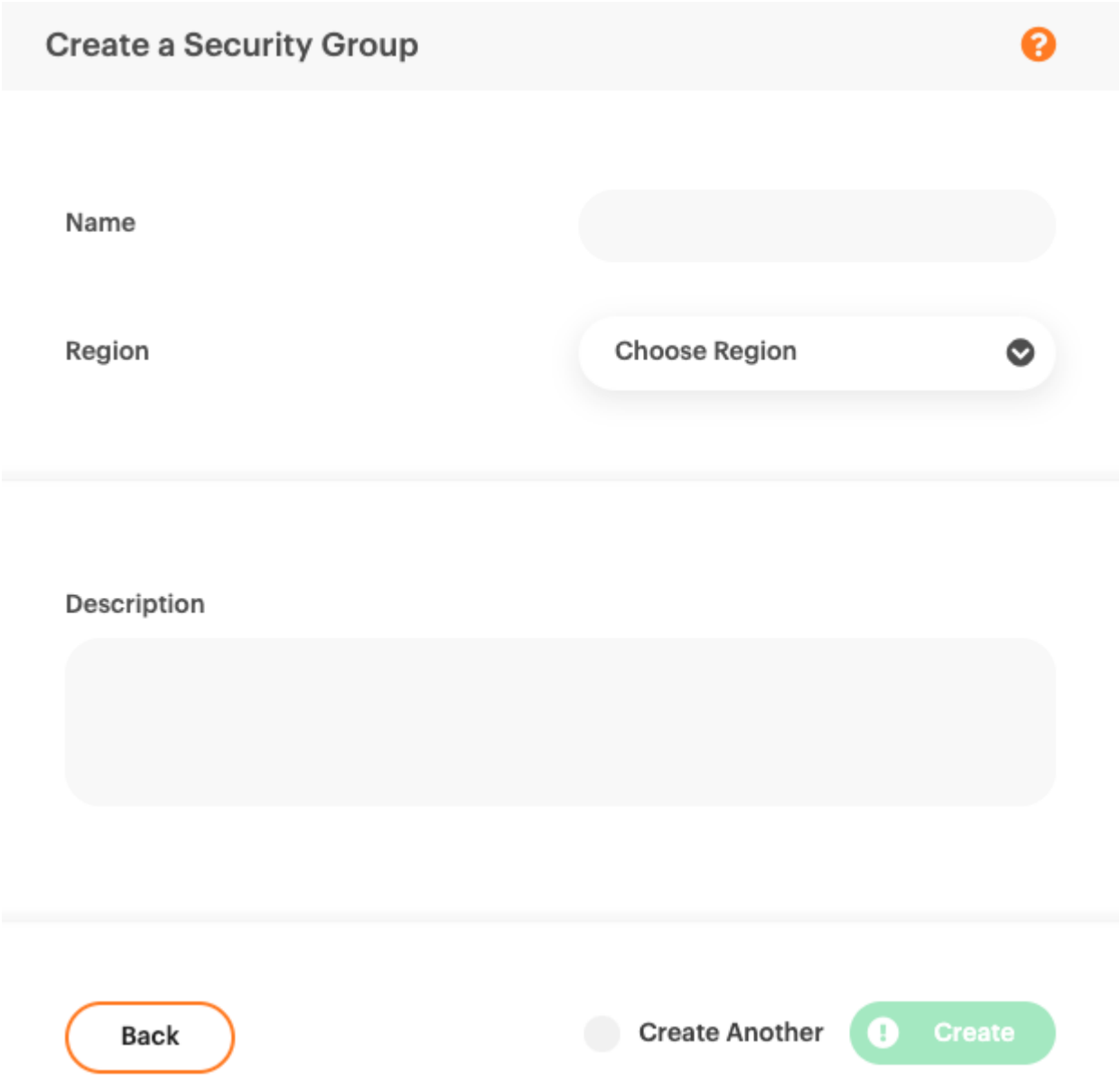
To create a security group click on *Security Groups* in the left-hand side navigation menu:



and then click on *Create new Security Group* in the top-right corner:

> An alternative way to create a Security Group is by clicking on *Create ...* button in the top bar.

Now give the security group a name and description, and choose in which region to create it, then click *create*:



To create a security group use the following command:

```
openstack security group create <name>
```

When the command is executed successfully, you will get information regarding your new security group:

```
+-----------------+-------------------------------------------------------------------------------+
| Field           | Value                                                                         |
+-----------------+-------------------------------------------------------------------------------+
| created_at      | 2022-11-14T09:15:14Z                                                          |
| description     | <name>                                                                        |
| id              | 736da1d1-aa98-4da4-9ba4-2ab9aeea6a57                                          |
| name            | <name>                                                                        |
| project_id      | cb43f189f7904fb88f3bbcfa22653ab8                                              |
| revision_number | 1                                                                             |
| rules           | created_at='2022-11-14T09:15:14Z', direction='egress', ethertype='IPv4',      |
|                 | id='1f4c57cb-8e34-420c-a7e3-3b5625c79481', standard_attr_id='10579829',       |
|                 | updated_at='2022-11-14T09:15:14Z'                                             |
|                 | created_at='2022-11-14T09:15:14Z', direction='egress', ethertype='IPv6',      |
|                 | id='7c2c287e-9596-42ef-a5a8-0b09e38b206a', standard_attr_id='10579832',       |
|                 | updated_at='2022-11-14T09:15:14Z'                                             |
| stateful        | True                                                                          |
| tags            | []                                                                            |
| updated_at      | 2022-11-14T09:15:14Z                                                          |
+-----------------+-------------------------------------------------------------------------------+
```

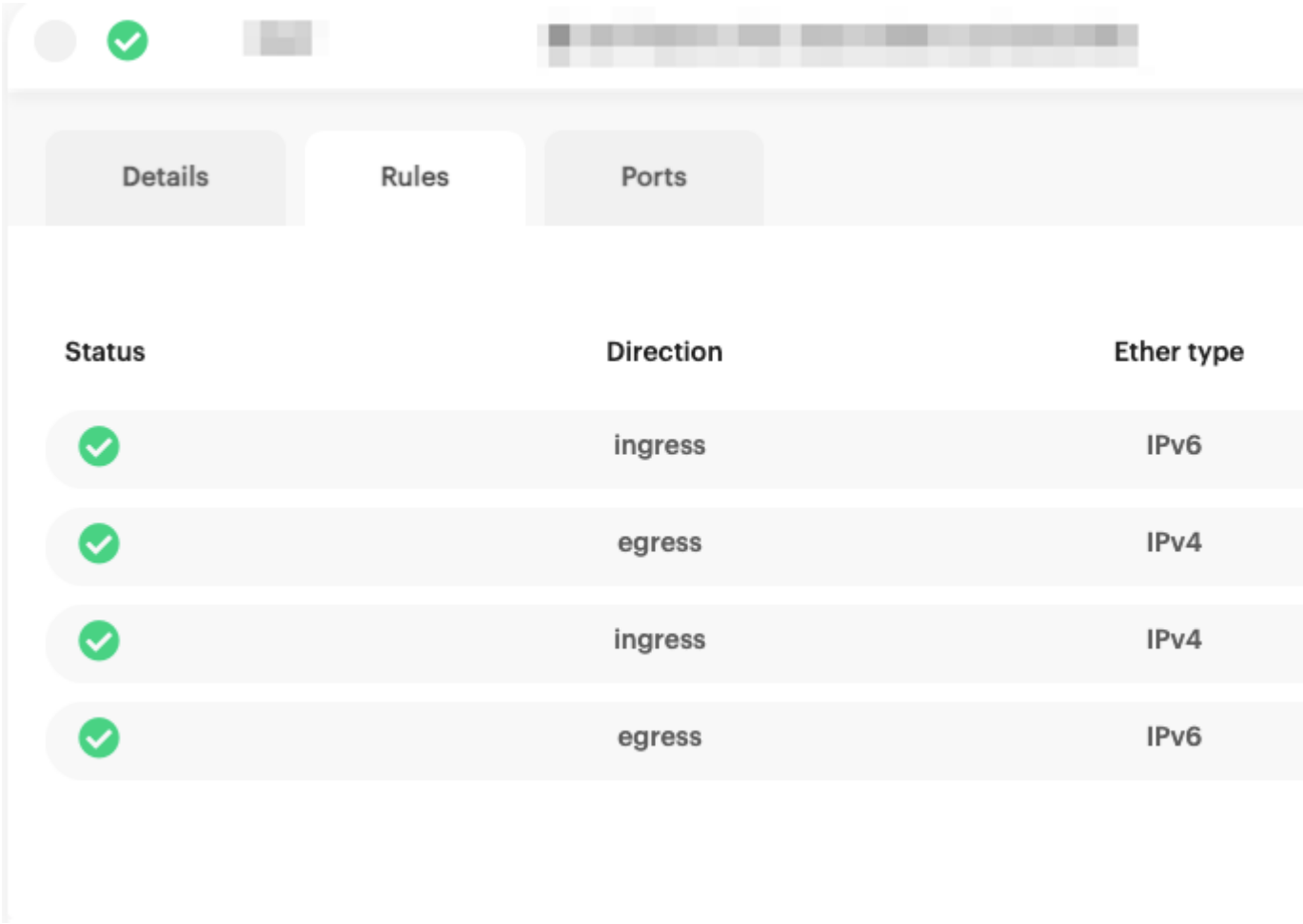
Removing default ingress rules

By default, a security group named `default` has been already created for you, blocking all traffic from any source (ingress), except from servers and ports being in the same security group. All traffic to any destination (egress) is allowed by default.

> For accounts created before 2022-11-16, the default security group ingress rules allow all incoming traffic. See Adjust permissive default security group, to learn how to configure this security group according to our recommendations.

Cleura Cloud Management Panel **OpenStack CLI**

Navigate to the security groups page, click on `default` security group and select the *Rules* tab to vi



View the details of the `default` security group using the following command:

```
openstack security group show default
```

you will get a printout similar to this:

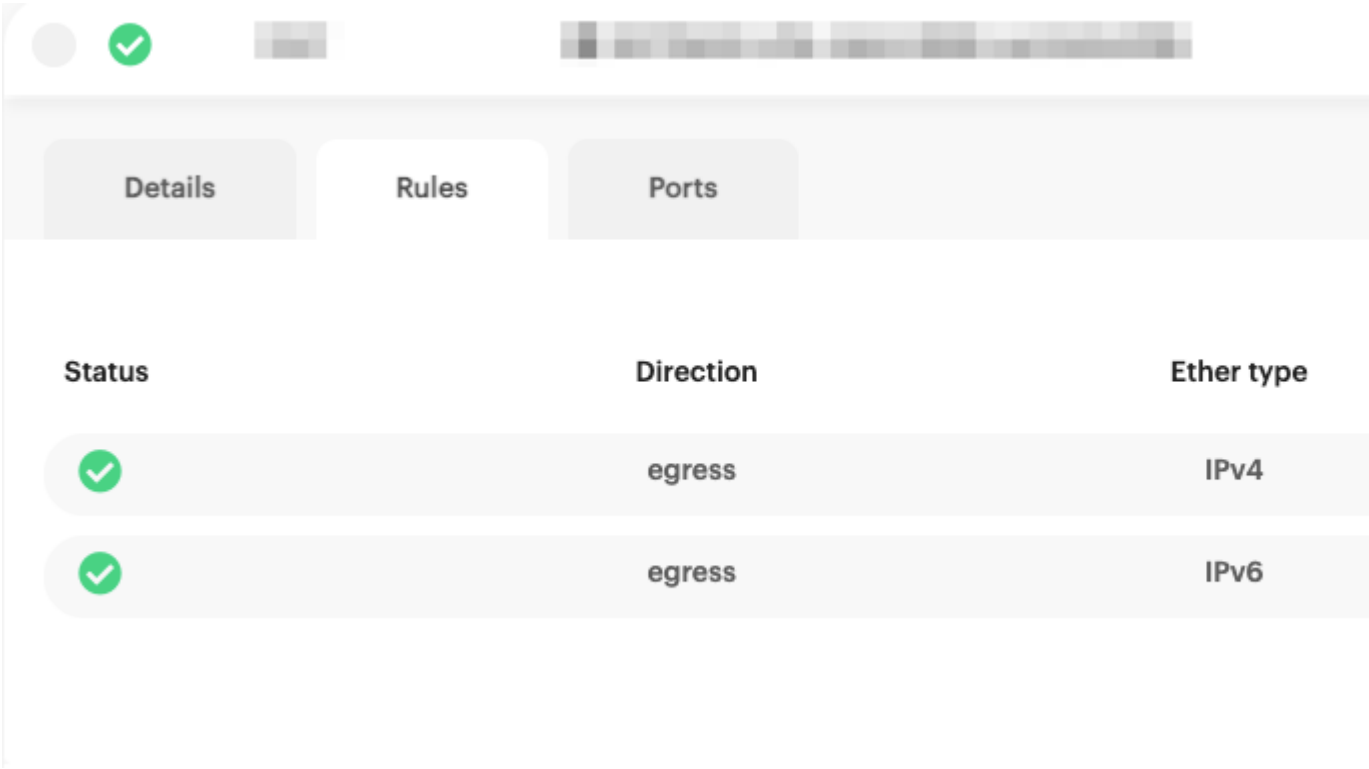
```
+-----------------+-----------------------------------------------------------------------------+
| Field           | Value                                                                       |
+-----------------+-----------------------------------------------------------------------------+
| created_at      | 2022-09-12T15:00:57Z                                                        |
| description     | Default security group                                                      |
| id              | 935b1317-a0c0-42e9-b68d-7cf16637df14                                        |
| name            | default                                                                     |
| project_id      | cb43f189f7904fb88f3bbcfa22653ab8                                            |
| revision_number | 5                                                                           |
| rules           | created_at='2022-09-12T15:00:59Z', direction='ingress', ethertype='IPv4',   |
|                 | id='5e5e9f4d-1faa-492d-91f1-c105b464072b', protocol='0',                    |
|                 | remote_group_id='60776d43-a78c-4eb4-8998-cea7a04c5f9b',                     |
|                 | standard_attr_id='10422245', updated_at='2022-09-12T15:00:59Z'              |
|                 | created_at='2022-09-12T15:00:59Z', direction='ingress', ethertype='IPv6',   |
|                 | id='86b9413a-ad23-46c4-a35e-9306945dc63c', protocol='0',                    |
```

```
|               | remote_group_id='60776d43-a78c-4eb4-8998-cea7a04c5f9b',                      |
|               | standard_attr_id='10422248', updated_at='2022-09-12T15:00:59Z'               |
|               | created_at='2022-09-12T15:00:57Z', direction='egress', ethertype='IPv6',     |
|               | id='ad4a19ef-7fab-4eba-9982-e5b109be121c', standard_attr_id='10422242',      |
|               | updated_at='2022-09-12T15:00:57Z'                                            |
|               | created_at='2022-09-12T15:00:57Z', direction='egress', ethertype='IPv4',     |
|               | id='f53b1a12-edbb-480b-910b-a71c4836346f', standard_attr_id='10422236',      |
|               | updated_at='2022-09-12T15:00:57Z'                                            |
| stateful      | True                                                                         |
| tags          | []                                                                           |
| updated_at    | 2022-09-12T15:00:59Z                                                         |
+---------------+------------------------------------------------------------------------------+
```

If you want to restrict the ingress rules to disallow access from other servers and ports in the group, you need to **remove the default two ingress rules.**

Click on the trashcan action button on the right-hand side for **both ingress** rules.

Your `default` or newly created security group rules will now look like this:



To view the rules use the following command:

```
openstack security group rule list default
```

The printout will be similar to this:

```
+-----------+-------------+-----------+-----------+------------+-----------+----------------------+----------------------+
| ID        | IP Protocol | Ethertype | IP Range  | Port Range | Direction | Remote Security Group | Remote Address G
+-----------+-------------+-----------+-----------+------------+-----------+----------------------+----------------------+
| 5e5e9f4d- | None        | IPv4      | 0.0.0.0/0 |            | ingress   | 60776d43-a78c-4eb4-   | None                 |
| 1faa-     |             |           |           |            |           | 8998-cea7a04c5f9b     |                      |
| 492d-     |             |           |           |            |           |                       |                      |
| 91f1-     |             |           |           |            |           |                       |                      |
| c105b4640 |             |           |           |            |           |                       |                      |
| 72b       |             |           |           |            |           |                       |                      |
| 86b9413a- | None        | IPv6      | ::/0      |            | ingress   | 60776d43-a78c-4eb4-   | None                 |
| ad23-     |             |           |           |            |           | 8998-cea7a04c5f9b     |                      |
| 46c4-     |             |           |           |            |           |                       |                      |
| a35e-     |             |           |           |            |           |                       |                      |
| 9306945dc |             |           |           |            |           |                       |                      |
| 63c       |             |           |           |            |           |                       |                      |
| ad4a19ef- | None        | IPv6      | ::/0      |            | egress    | None                  | None                 |
| 7fab-     |             |           |           |            |           |                       |                      |
| 4eba-     |             |           |           |            |           |                       |                      |
| 9982-     |             |           |           |            |           |                       |                      |
```

```
| e5b109be1 |          |         |         |         |         |                |                |
| 21c       |          |         |         |         |         |                |                |
| f53b1a12- | None       | IPv4      | 0.0.0.0/0 |          | egress    | None              | None              |
| edbb-     |          |         |         |         |         |                |                |
| 480b-     |          |         |         |         |         |                |                |
| 910b-     |          |         |         |         |         |                |                |
| a71c48363 |          |         |         |         |         |                |                |
| 46f       |          |         |         |         |         |                |                |
+-----------+------------+-----------+-----------+------------+-----------+----------------------+----------------------+
```

The IDs of the two ingress rules, one for IPv4 traffic and one for IPv6, in this case are: `5e5e9f4d-1faa`

Delete them by using the following command:

```
openstack security group rule delete \
  5e5e9f4d-1faa-492d-91f1-c105b464072b 86b9413a-ad23-46c4-a35e-9306945dc63c
```

Print the rules again:

```
openstack security group rule list default
```

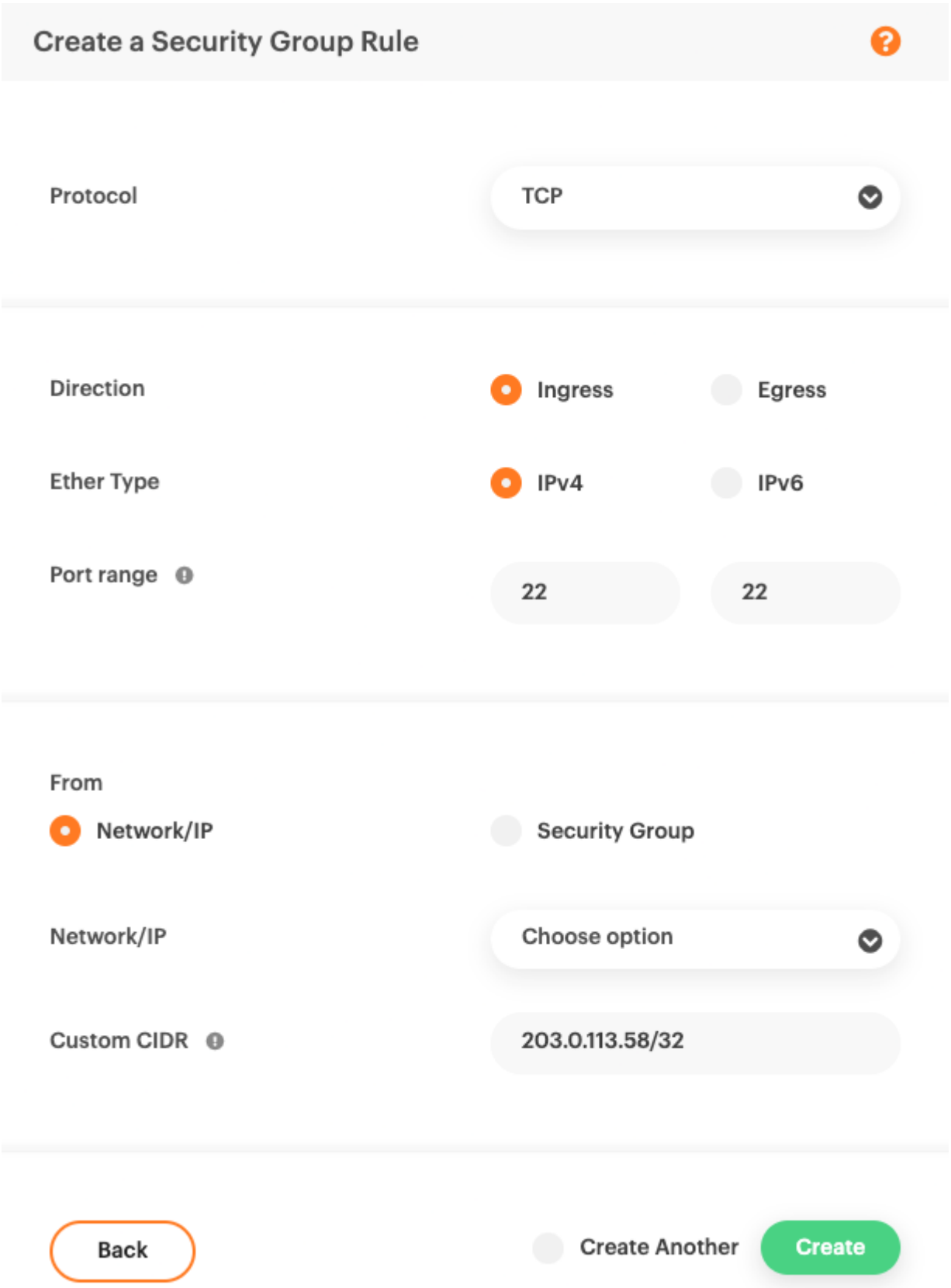
Now the remaining rules are only the egress ones.

```
+-----------+------------+-----------+-----------+------------+-----------+----------------------+----------------------+
| ID        | IP Protocol | Ethertype | IP Range  | Port Range | Direction | Remote Security Group | Remote Address G
+-----------+------------+-----------+-----------+------------+-----------+----------------------+----------------------+
| ad4a19ef- | None       | IPv6      | ::/0      |          | egress    | None              | None              |
| 7fab-     |          |         |         |         |         |                |                |
| 4eba-     |          |         |         |         |         |                |                |
| 9982-     |          |         |         |         |         |                |                |
| e5b109be1 |          |         |         |         |         |                |                |
| 21c       |          |         |         |         |         |                |                |
| f53b1a12- | None       | IPv4      | 0.0.0.0/0 |          | egress    | None              | None              |
| edbb-     |          |         |         |         |         |                |                |
| 480b-     |          |         |         |         |         |                |                |
| 910b-     |          |         |         |         |         |                |                |
| a71c48363 |          |         |         |         |         |                |                |
| 46f       |          |         |         |         |         |                |                |
+-----------+------------+-----------+-----------+------------+-----------+----------------------+----------------------+
```

Allowing SSH access

The next thing to do, is to allow SSH access on **port 22** to the server, only from specific networks.

To do this, click on the *Create new rule* button.



To create this rule use the following command:

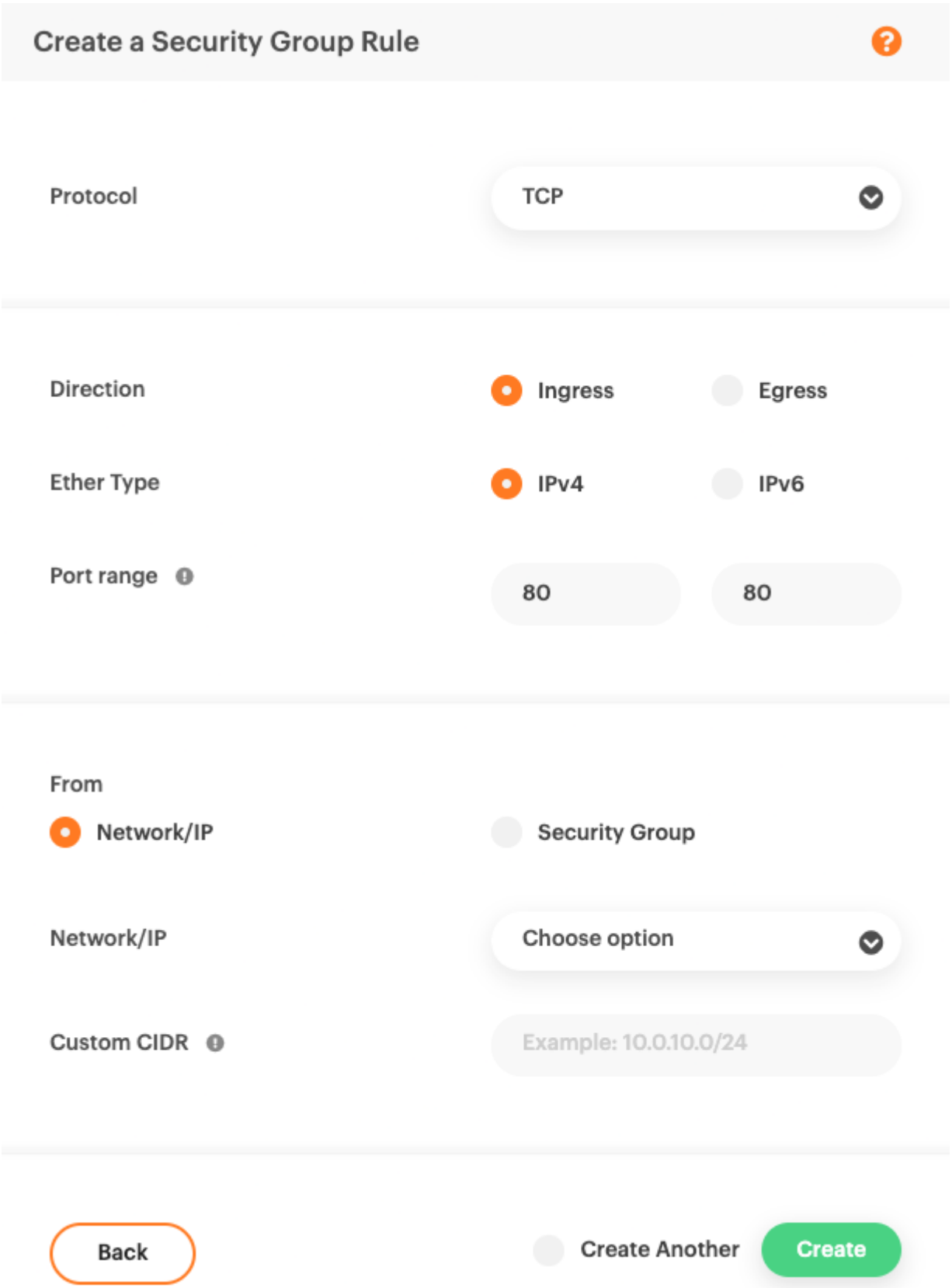
```
openstack security group rule create \
  --protocol tcp --dst-port 22 --remote-ip 203.0.113.58/32 default
```

If you don’t know your IP, simply visit icanhazip.com. In this example your IP is 203.0.113.58, and if you want to allow SSH access from this IP address only, enter `203.0.113.58/32` as CIDR. If you want to allow SSH access from any address in that Class C subnet, instead enter `203.0.113.0/24` as CIDR.

Allowing Web Traffic

Next create the rules that allow anyone to access the server on **port 80** and **port 443**.

Using the same logic as before, click on *Create new rule*. Select TCP Protocol and port 80 as both



The same applies to port 443.

Create a Security Group Rule

Protocol: TCP

Direction: Ingress / Egress

Ether Type: IPv4 / IPv6

Port range: 443 – 443

From

Network/IP / Security Group

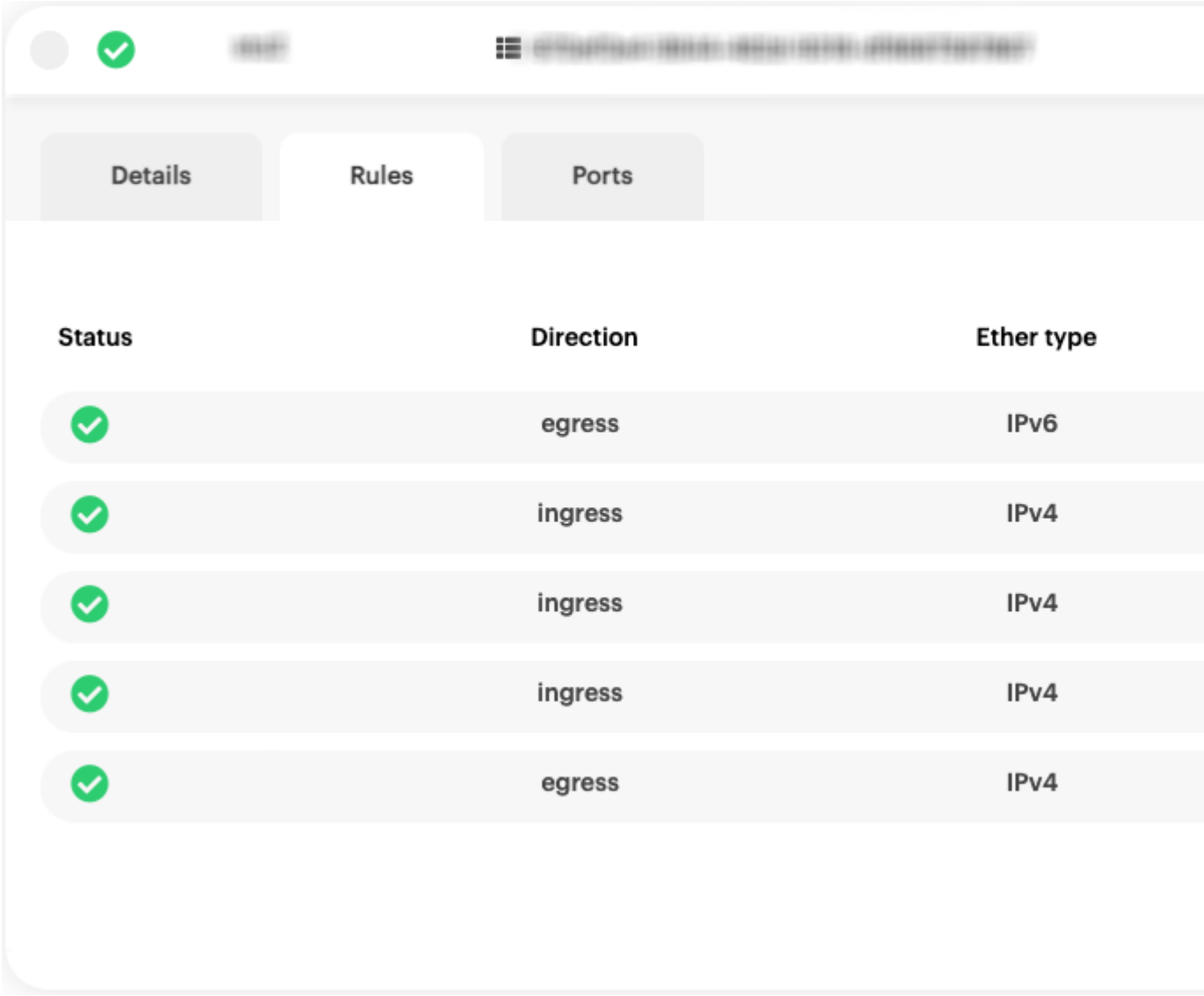
Network/IP: Choose option

Custom CIDR: Example: 10.0.10.0/24

Back

Create Another

Create



This time don't specify *–remote-ip* to allow traffic from all sources, using the following command:

```
openstack security group rule create --protocol tcp --dst-port 80 default
```

One more time for port 443:

```
openstack security group rule create --protocol tcp --dst-port 443 default
```

To view the updated rules, print the them again:

```
openstack security group rule list default
```

```
+-----------+-------------+-----------+-----------+-----------+-----------+----------------------+----------------------+
| ID        | IP Protocol | Ethertype | IP Range  | Port Range | Direction | Remote Security Group | Remote Address G
+-----------+-------------+-----------+-----------+-----------+-----------+----------------------+----------------------+
| 742bcc46- | tcp         | IPv4      | 0.0.0.0/0 | 80:80      | ingress   | None                 | None                 |
| beb5-     |             |           |           |            |           |                      |
```

```
| 47a5-    |          |         |         |         |         |                |                |
| 8eb1-    |          |         |         |         |         |                |                |
| eb35da800 |          |         |         |         |         |                |                |
| 6ed      |          |         |         |         |         |                |                |
| ad4a19ef- | None       | IPv6     | ::/0     |         | egress    | None             | None             |
| 7fab-    |          |         |         |         |         |                |                |
| 4eba-    |          |         |         |         |         |                |                |
| 9982-    |          |         |         |         |         |                |                |
| e5b109be1 |          |         |         |         |         |                |                |
| 21c      |          |         |         |         |         |                |                |
| cef0cd36- | tcp        | IPv4     | 203.0.113 | 22:22     | ingress   | None             | None             |
| ad78-    |          |         | .58/32   |         |         |                |                |
| 4dbd-    |          |         |         |         |         |                |                |
| b806-    |          |         |         |         |         |                |                |
| 597300fd9 |          |         |         |         |         |                |                |
| e6a      |          |         |         |         |         |                |                |
| f53b1a12- | None       | IPv4     | 0.0.0.0/0 |         | egress    | None             | None             |
| edbb-    |          |         |         |         |         |                |                |
| 480b-    |          |         |         |         |         |                |                |
| 910b-    |          |         |         |         |         |                |                |
| a71c48363 |          |         |         |         |         |                |                |
| 46f      |          |         |         |         |         |                |                |
| f90c598c- | tcp        | IPv4     | 0.0.0.0/0 | 443:443   | ingress   | None             | None             |
| 3a5e-    |          |         |         |         |         |                |                |
| 459f-    |          |         |         |         |         |                |                |
| 8ed3-    |          |         |         |         |         |                |                |
| 3c2538e7a |          |         |         |         |         |                |                |
| 24f      |          |         |         |         |         |                |                |
+----------+----------+----------+----------+----------+----------+----------------------+----------------------+
```

All the rules for a simple web server are now in place.

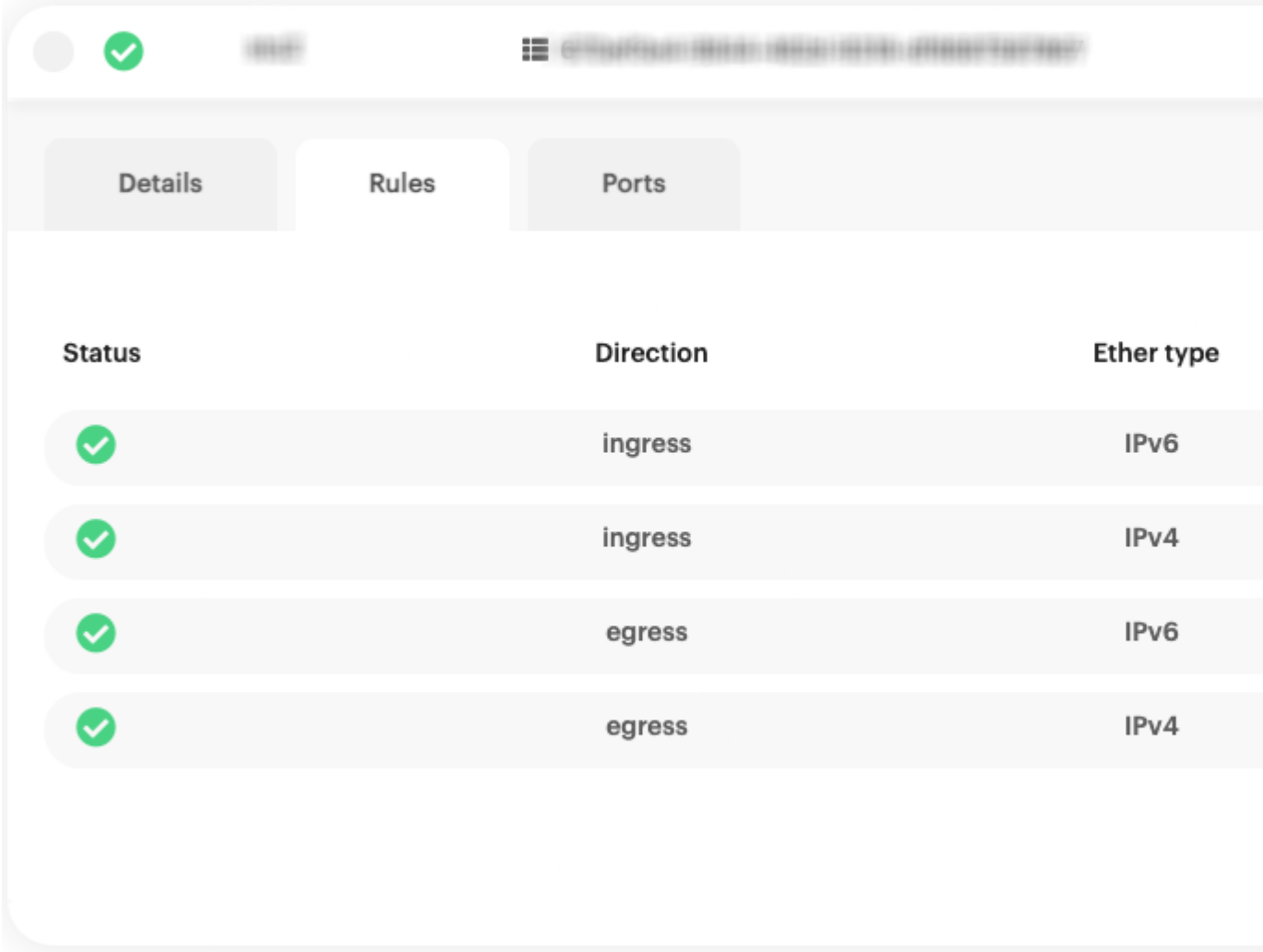
For any additional protocol or ingress rule, simply follow the same procedure as above.

Adjust permissive default security group

If your account was created before 2022-11-16, and you didn't configure the `default` security group, it is most likely permissive for all incoming traffic. We recommend to either create and use a new security group, other than the default one, or restrict ingress traffic to specific ports and sources.

Cloura Cloud Management Panel OpenStack CLI

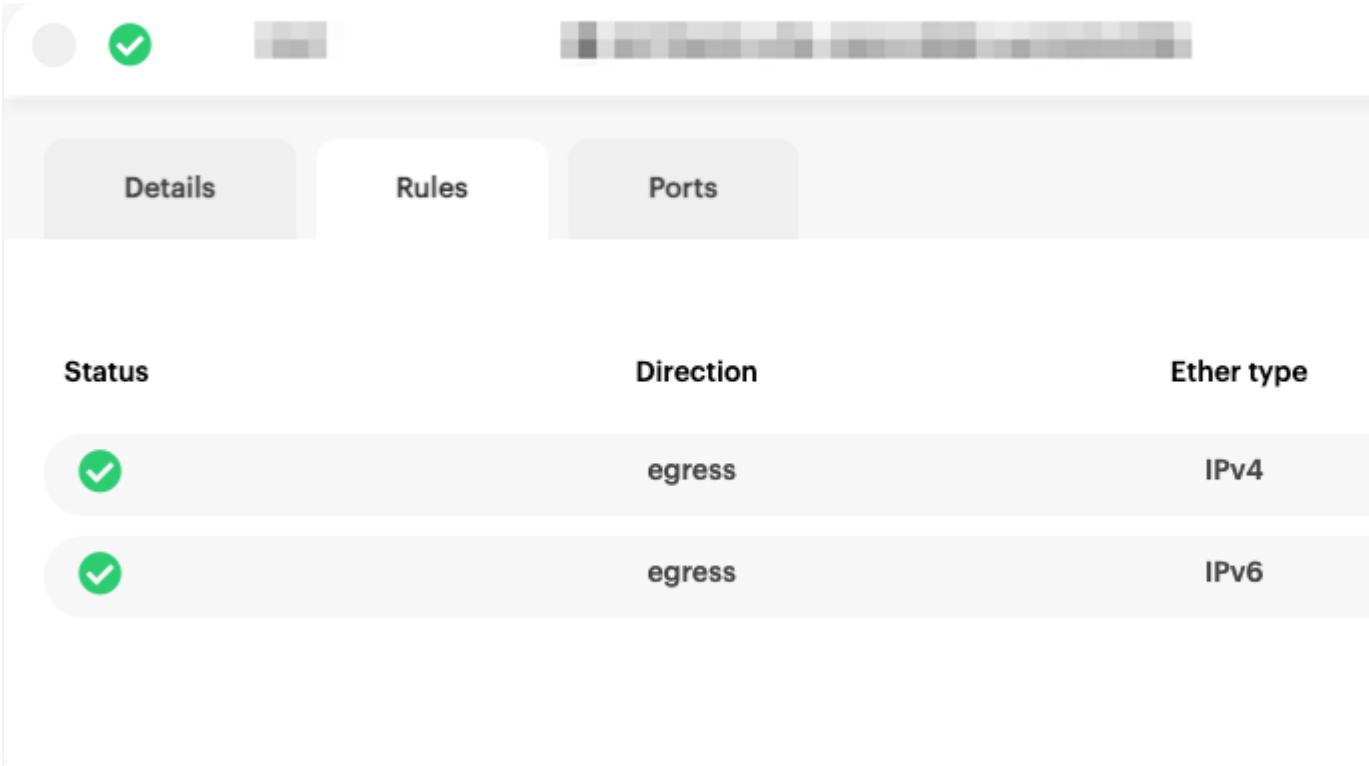
To check how your `default` security group is configured, click on it and select the Rules tab to view



The top two ingress rules, having `::/0` and `0.0.0.0/0` values for remote access filters, mean that inco

If you want to use the default group, remove the two ingress rules that allow all incoming traffic. C

Your `default` or newly created security group rules will now look like this:



To view the rules use the following command:

```
openstack security group rule list default
```

The printout will be similar to this:

```
+-----------+-------------+-----------+-----------+-----------+-----------+----------------------+----------------------+
| ID        | IP Protocol | Ethertype | IP Range  | Port Range | Direction | Remote Security Group | Remote Address G
+-----------+-------------+-----------+-----------+-----------+-----------+----------------------+----------------------+
| 5e5e9f4d- | None        | IPv4      | 0.0.0.0/0 |           | ingress   | None                 | None                 |
| 1faa-     |             |           |           |           |           |                      |                      |
| 492d-     |             |           |           |           |           |                      |                      |
| 91f1-     |             |           |           |           |           |                      |                      |
| c105b4640 |             |           |           |           |           |                      |                      |
| 72b       |             |           |           |           |           |                      |                      |
| 86b9413a- | None        | IPv6      | ::/0      |           | ingress   | None                 | None                 |
| ad23-     |             |           |           |           |           |                      |                      |
| 46c4-     |             |           |           |           |           |                      |                      |
| a35e-     |             |           |           |           |           |                      |                      |
| 9306945dc |             |           |           |           |           |                      |                      |
| 63c       |             |           |           |           |           |                      |                      |
| ad4a19ef- | None        | IPv6      | ::/0      |           | egress    | None                 | None                 |
| 7fab-     |             |           |           |           |           |                      |                      |
| 4eba-     |             |           |           |           |           |                      |                      |
| 9982-     |             |           |           |           |           |                      |                      |
| e5b109be1 |             |           |           |           |           |                      |                      |
| 21c       |             |           |           |           |           |                      |                      |
| f53b1a12- | None        | IPv4      | 0.0.0.0/0 |           | egress    | None                 | None                 |
| edbb-     |             |           |           |           |           |                      |                      |
| 480b-     |             |           |           |           |           |                      |                      |
```

```
| 910b-    |         |       |       |       |       |                |              |
| a71c48363 |         |       |       |       |       |                |              |
| 46f      |         |       |       |       |       |                |              |
+----------+---------+-------+-------+-------+-------+----------------+--------------+
```

If the ingress rules have `::/0` and `0.0.0.0/0` values in `IP Range` column, and `None` in the `Remote Secur`

The IDs of the two ingress rules, one for IPv4 traffic and one for IPv6, are: `5e5e9f4d-1faa-492d-91f1-c1`

Delete them by using the following command:

```
openstack security group rule delete \
  5e5e9f4d-1faa-492d-91f1-c105b464072b 86b9413a-ad23-46c4-a35e-9306945dc63c
```

Print the rules again:

```
openstack security group rule list default
```

Now the remaining rules are only the egress ones.

```
+----------+---------+-------+-------+-------+-------+----------------+--------------+
| ID       | IP Protocol | Ethertype | IP Range  | Port Range | Direction | Remote Security Group | Remote Address G
+----------+---------+-------+-------+-------+-------+----------------+--------------+
| ad4a19ef- | None      | IPv6     | ::/0     |         | egress    | None             | None            |
| 7fab-    |         |       |       |       |       |                |              |
| 4eba-    |         |       |       |       |       |                |              |
| 9982-    |         |       |       |       |       |                |              |
| e5b109be1 |         |       |       |       |       |                |              |
| 21c      |         |       |       |       |       |                |              |
| f53b1a12- | None      | IPv4     | 0.0.0.0/0 |         | egress    | None             | None            |
| edbb-    |         |       |       |       |       |                |              |
| 480b-    |         |       |       |       |       |                |              |
| 910b-    |         |       |       |       |       |                |              |
| a71c48363 |         |       |       |       |       |                |              |
| 46f      |         |       |       |       |       |                |              |
+----------+---------+-------+-------+-------+-------+----------------+--------------+
```

Last update: 2022-11-21

Created: 2022-11-08

Authors: Christian Mattsson, Florian Haas, Mateusz Guziak