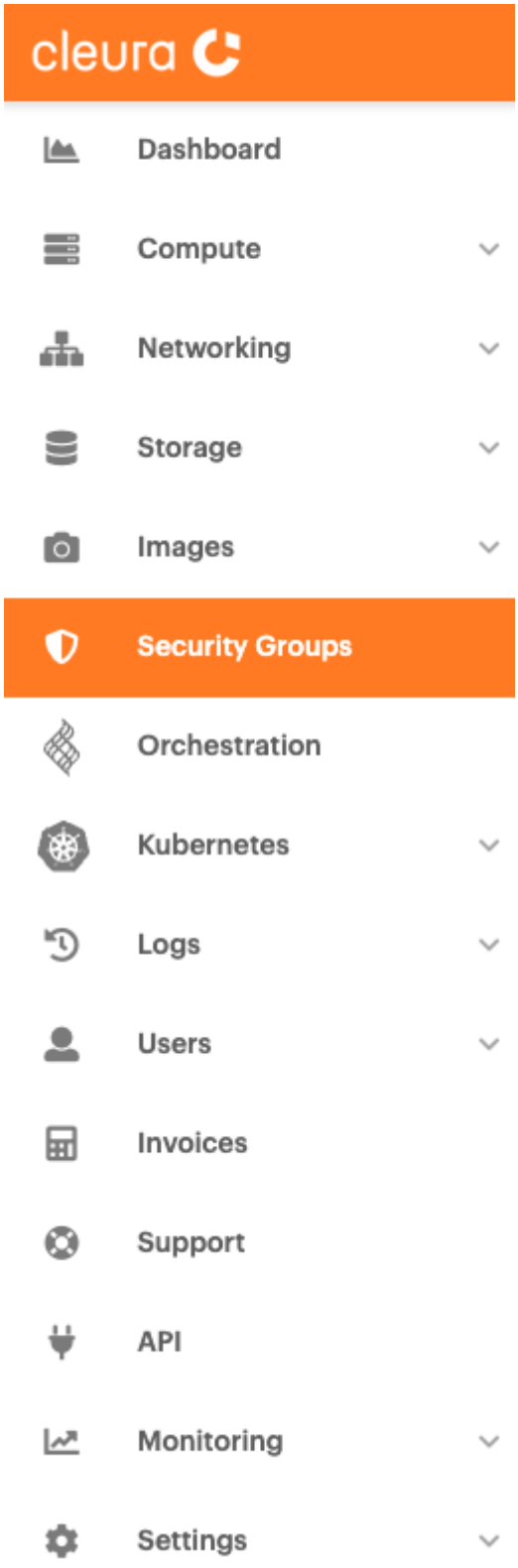
Creating security groups

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 start 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.

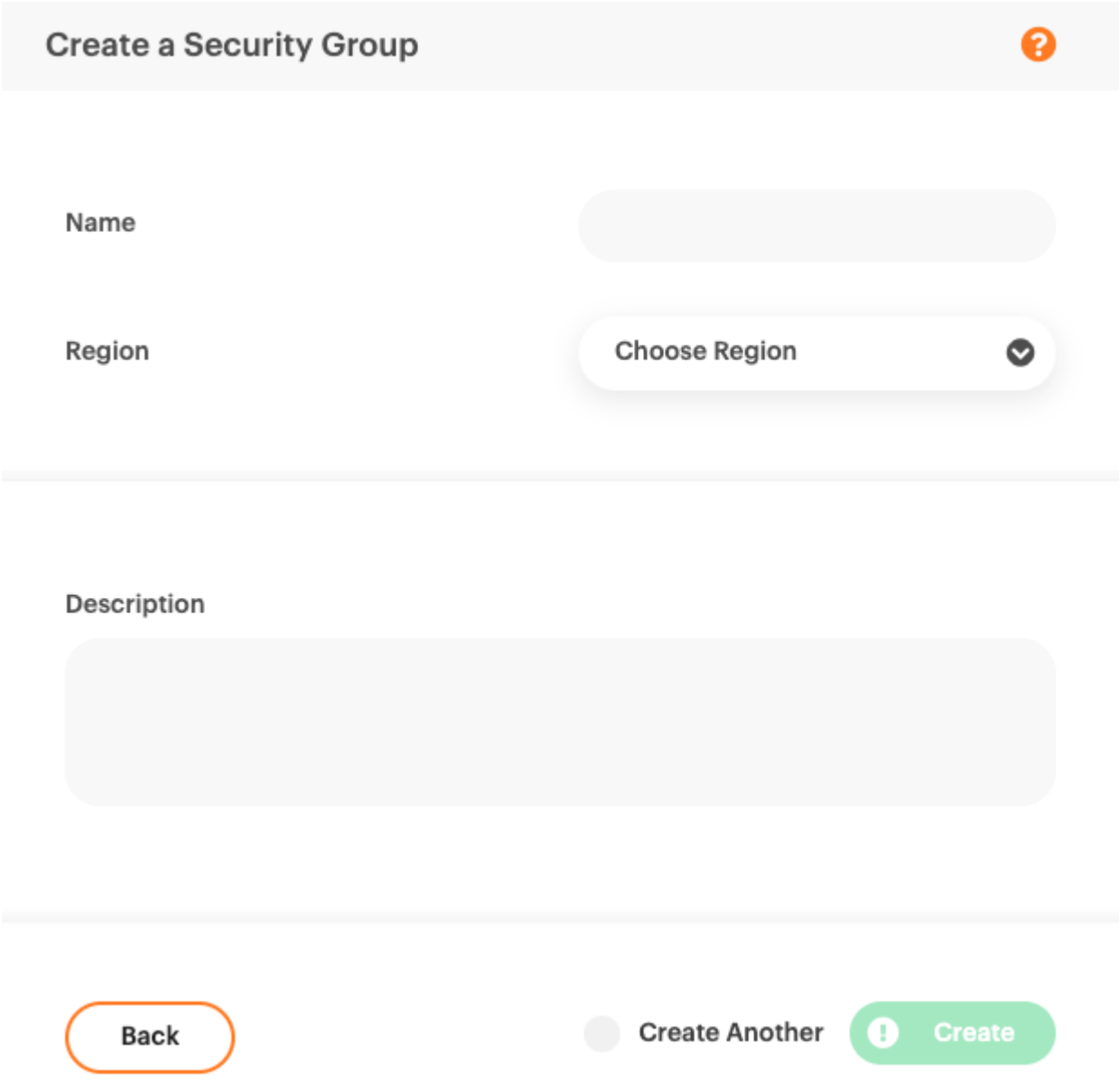
To create a security group click on *Security Groups* in the left-hand navigation menu:



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:

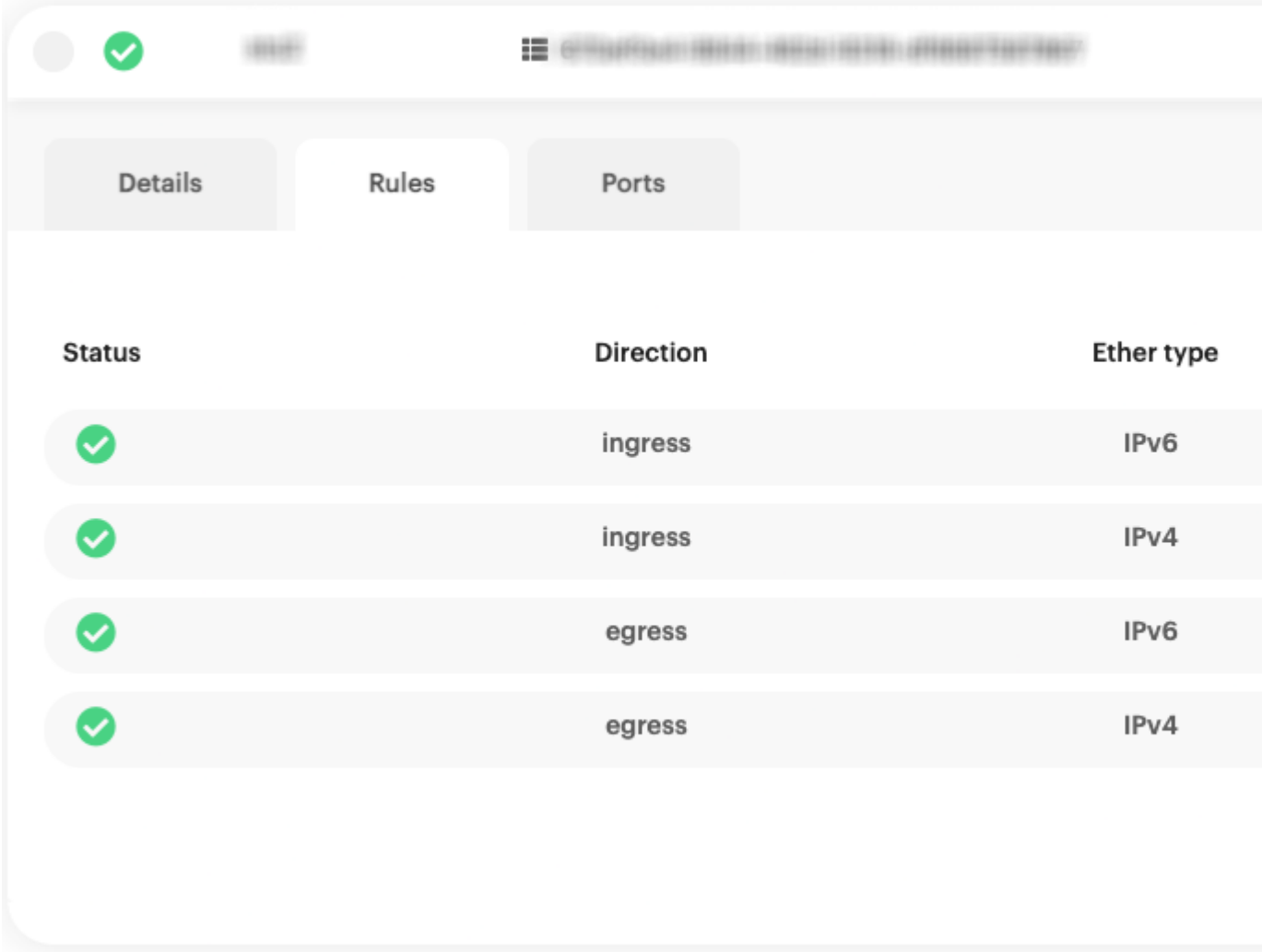
```
+-----------------+-------------------------------------------------------------------------------+
| Field           | Value                                                                         |
+-----------------+-------------------------------------------------------------------------------+
| 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, allowing all traffic from any source (ingress), and to any destination (egress).

Cleura Cloud Management Panel **OpenStack CLI**

Click on it and select the *Rules* tab to view its rules:



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', normalized_cidr='0.0.0.0/0',       |
|                | remote_ip_prefix='0.0.0.0/0', standard_attr_id='10422245',                    |
|                | updated_at='2022-09-12T15:00:59Z'                                             |
```

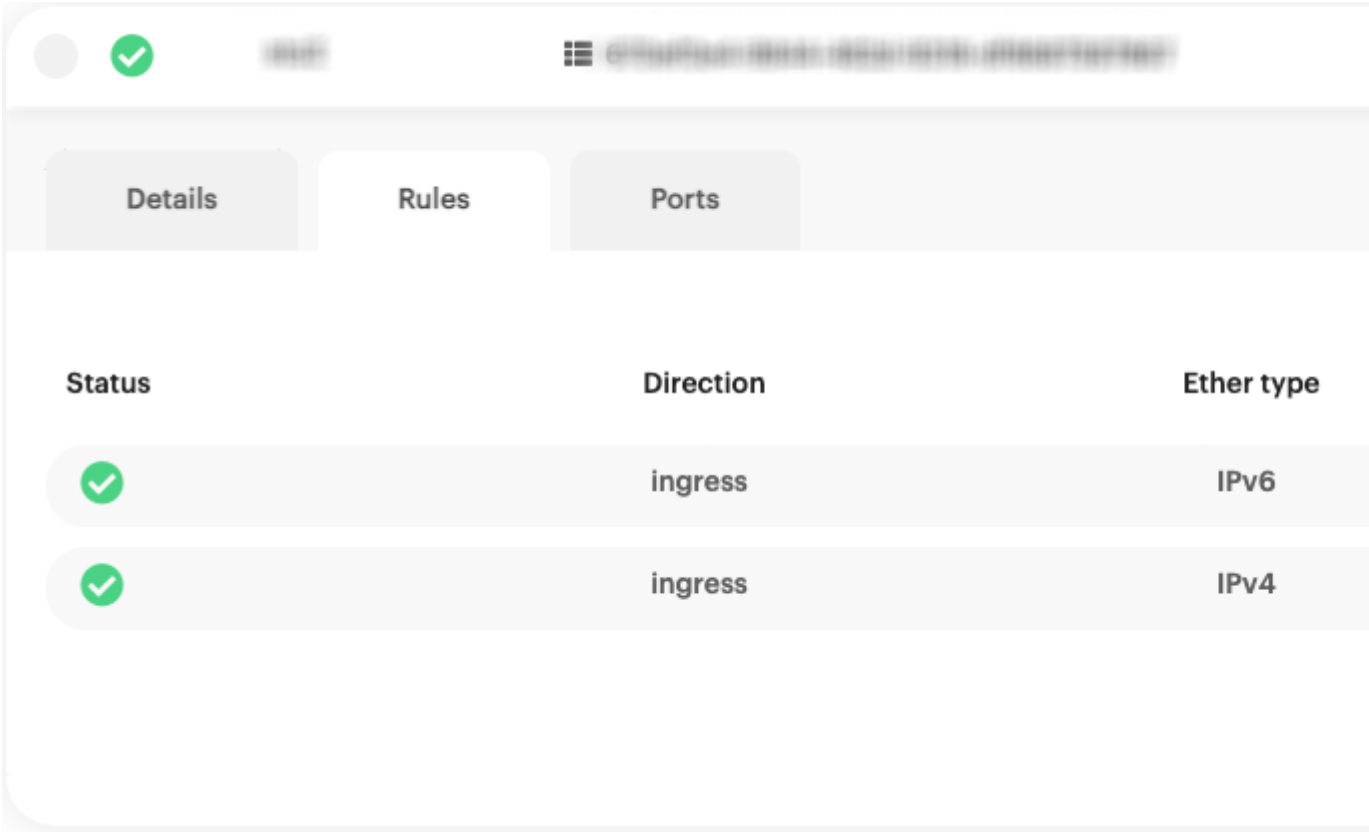
```
|                 | created_at='2022-09-12T15:00:59Z', direction='ingress', ethertype='IPv6',      |
|                 | id='86b9413a-ad23-46c4-a35e-9306945dc63c', normalized_cidr='::/0',             |
|                 | remote_ip_prefix='::/0', standard_attr_id='10422248',                          |
|                 | 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                                                           |
+-----------------+--------------------------------------------------------------------------------+
```

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.

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

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 looks 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      |          |        |        |         |        |                |              |
+----------+----------+----------+----------+----------+----------+----------------------+----------------------+
```

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

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
```

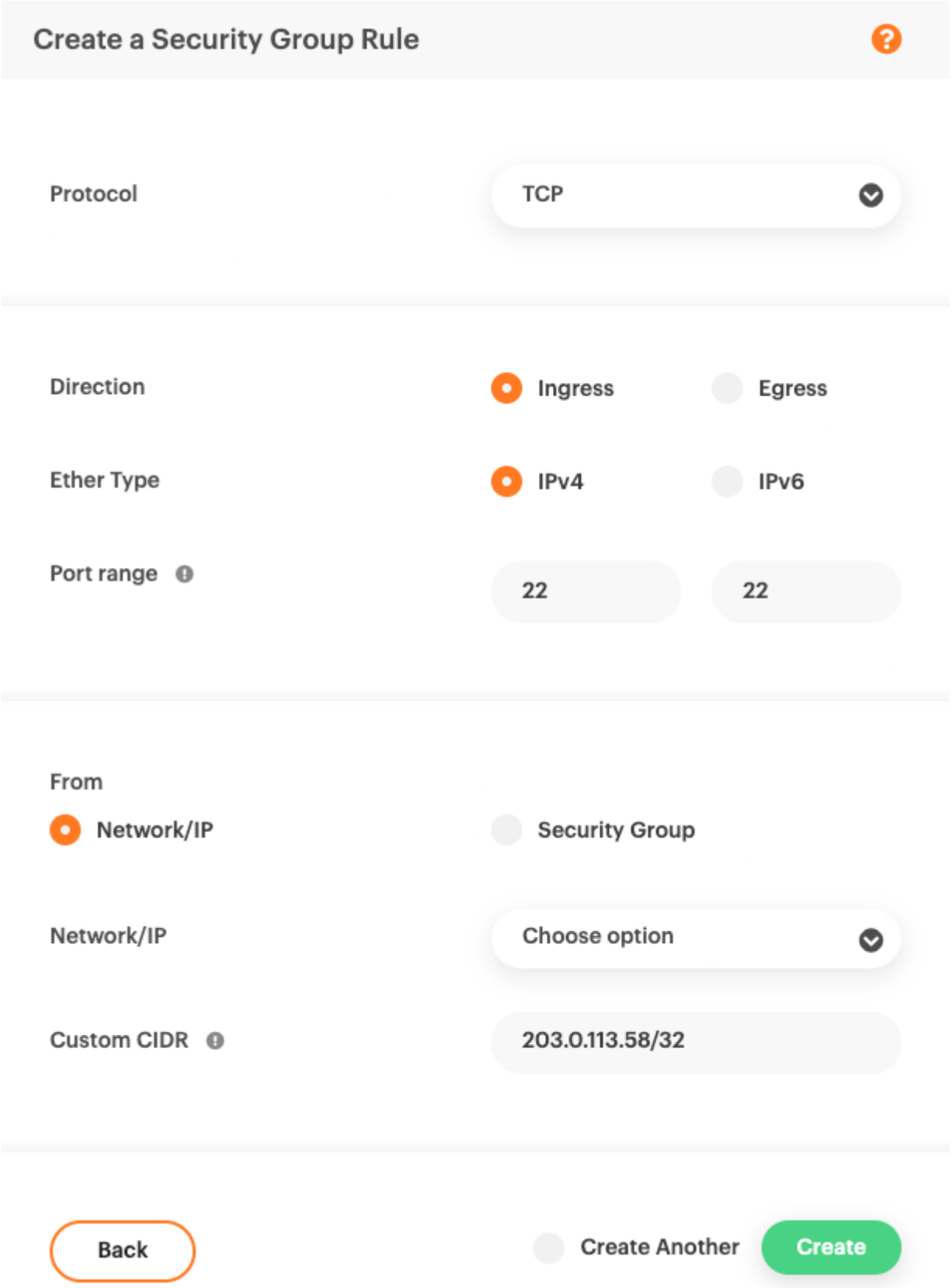
Now the remaining rules are only the egress ones.

```
+----------+----------+----------+----------+----------+----------+----------------------+----------------------+
| 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:

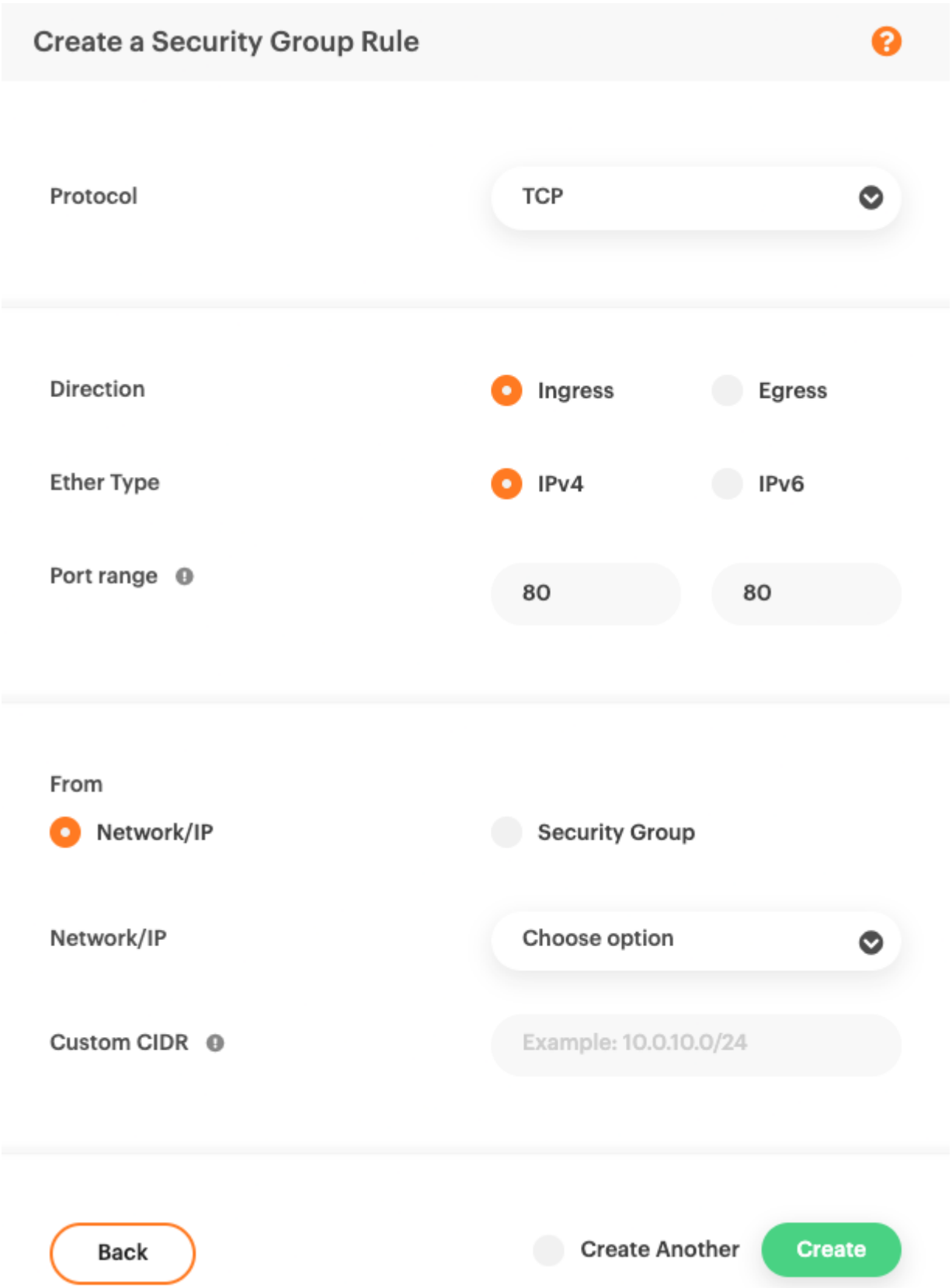
```
openstack security group rule create \
  --protocol tcp --dst-port 22 --remote-ip 203.0.113.58/32 default
```

If you don’t know your IP, simply visit icanhazip.com. In this example your IP is 203.0.113.58 and 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 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

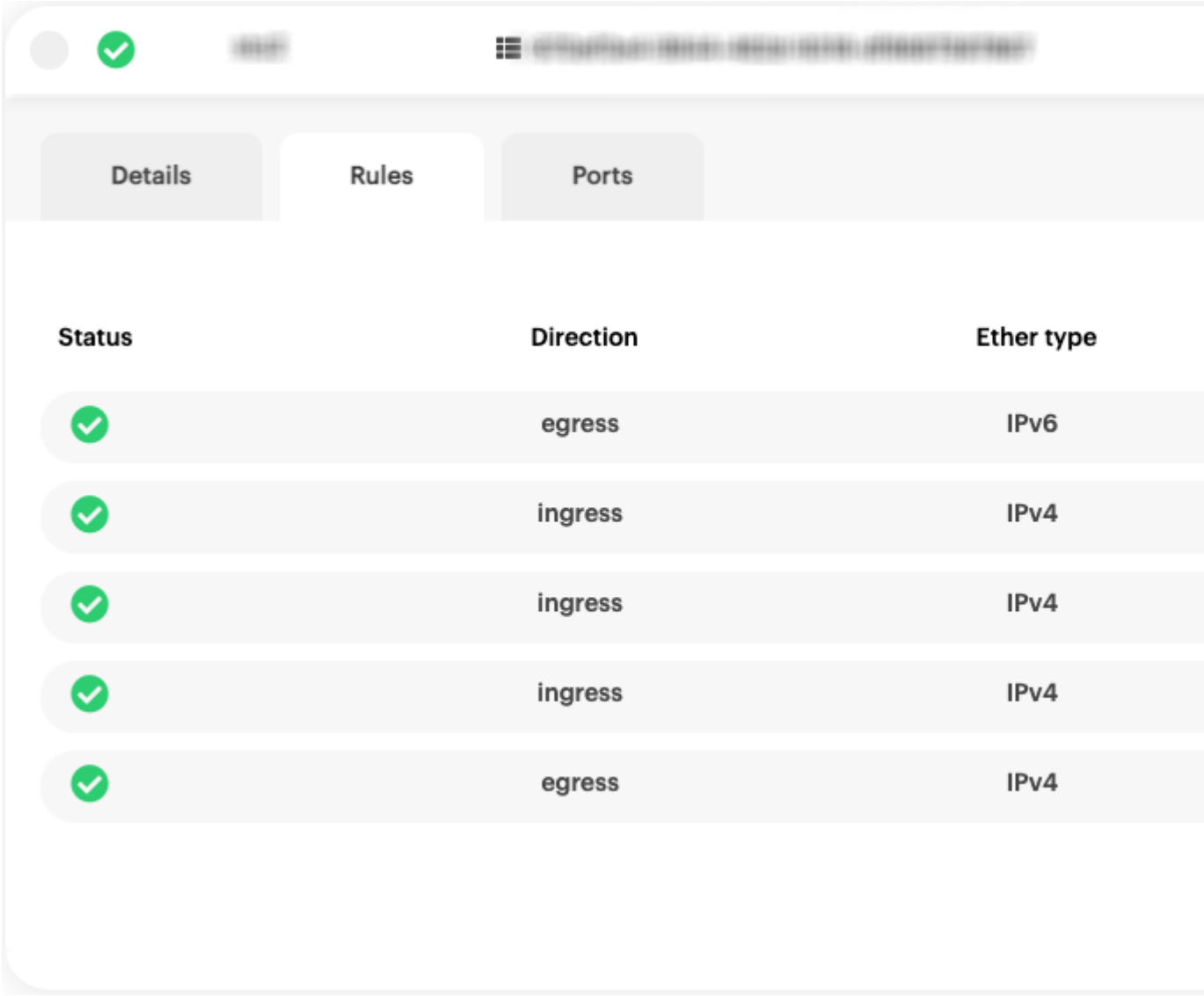
Network/IP: Choose option

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.

Last update: 2022-11-29

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