

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:

Create new Security Group 

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*:

Create a Security Group

Name

Region

Choose Region



Description

Back



Create Another



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

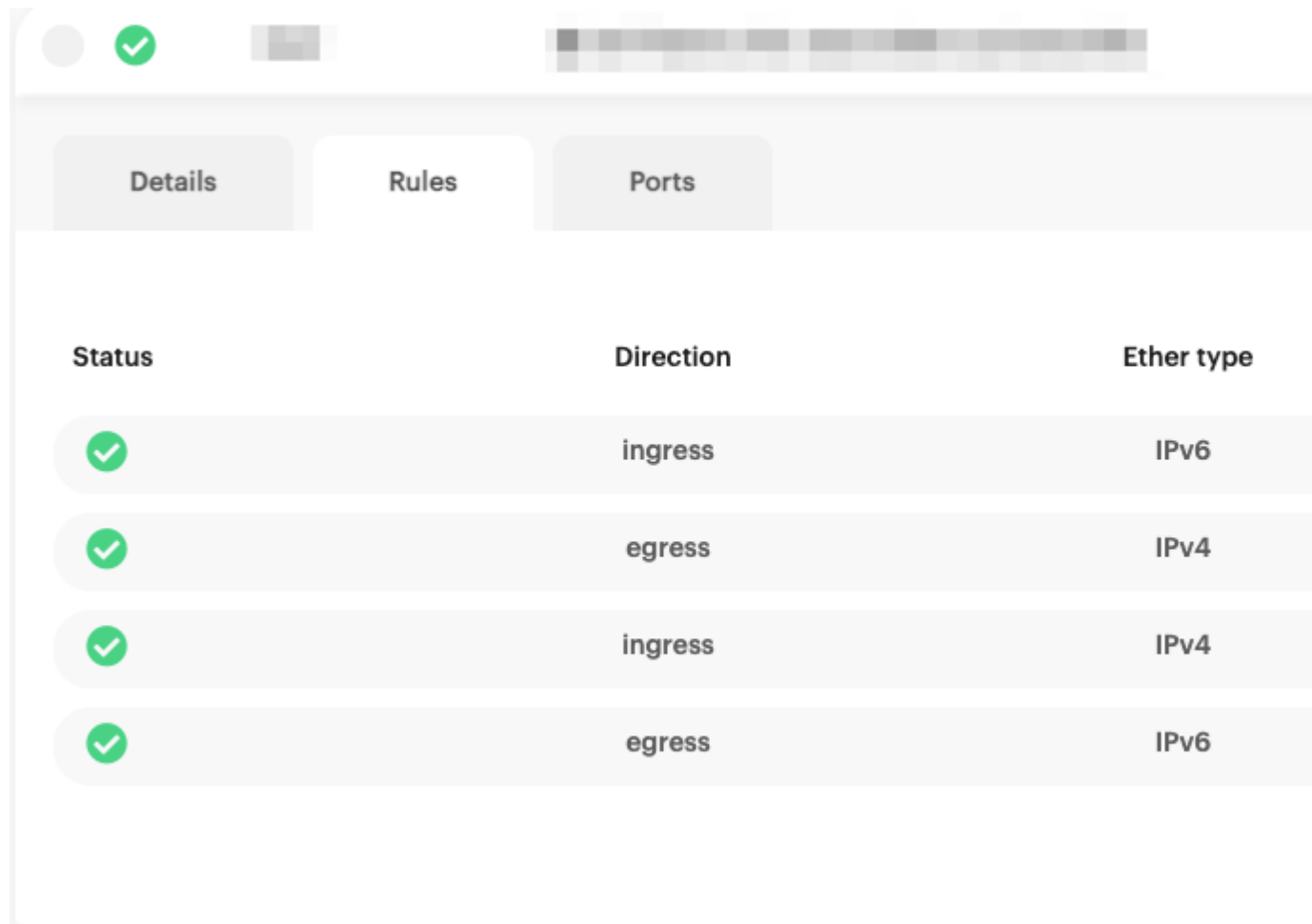
Removing default ingress rules

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 view



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  | cb43f189f7904fb88f3bbcfca22653ab8       |
| 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
+-----+-----+

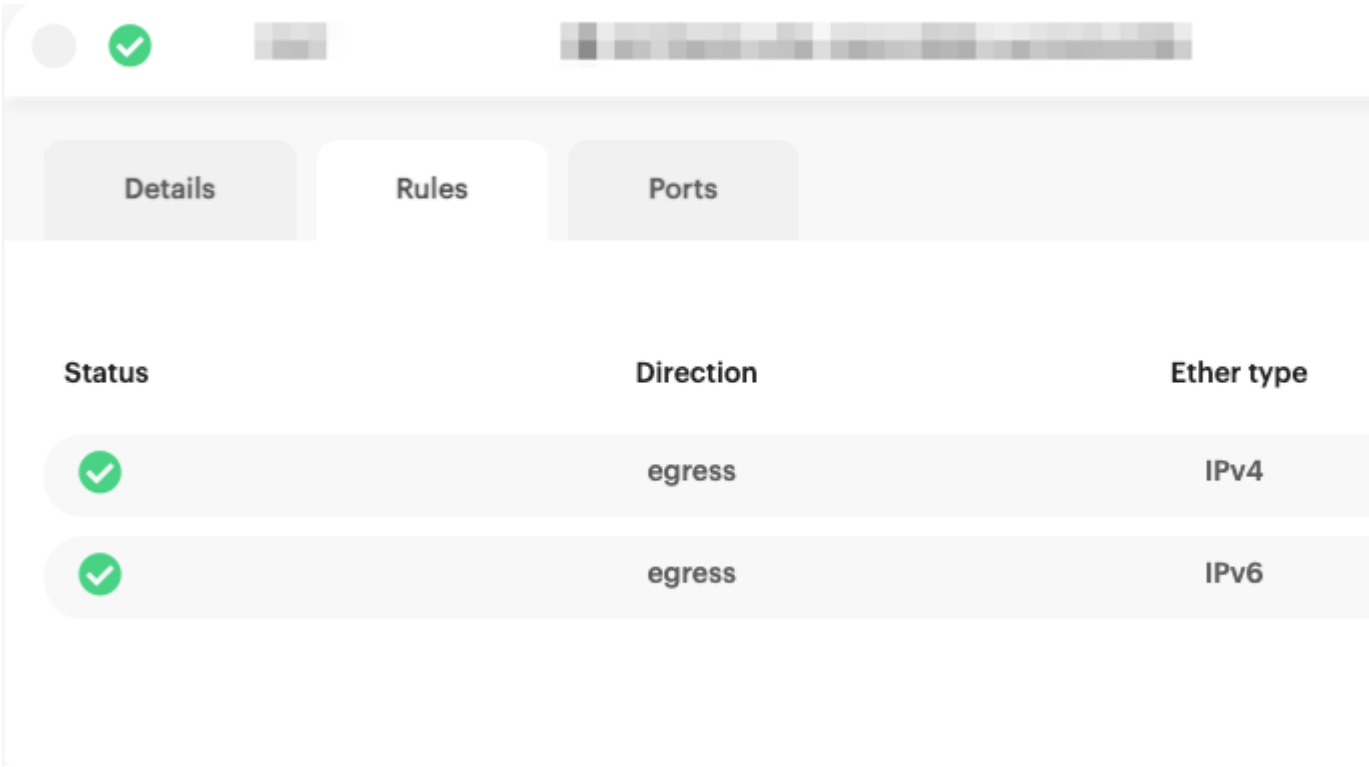
```

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**.

Cleura Cloud Management Panel OpenStack CLI

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 C
5e5e9f4d-1faa-492d-91f1-c105b464072b	None	IPv4	0.0.0.0/0		ingress	60776d43-a78c-4eb4-8998-cea7a04c5f9b	None
86b9413a-ad23-46c4-a35e-9306945dc63c	None	IPv6	:::0		ingress	60776d43-a78c-4eb4-8998-cea7a04c5f9b	None
ad4a19ef-7fab-4eba-9982-	None	IPv6	:::0		egress	None	None

e5b109be1									
21c									
f53b1a12-	None		IPv4		0.0.0.0/0		egress		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-492d-91f1-c105b464072b 86b9413a-ad23-46c4-a35e-9306945dc63c

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 C		
+-----+-----+-----+-----+-----+-----+-----+-----+-----+									
ad4a19ef-	None		IPv6		::/0		egress		None
7fab-									
4eba-									
9982-									
e5b109be1									
21c									
f53b1a12-	None		IPv4		0.0.0.0/0		egress		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.

Create a Security Group Rule ?

Protocol

TCP

Direction

☒ Ingress ☐ Egress

Ether Type

☒ IPv4 ☐ IPv6

Port range !

22

22

From

☒ Network/IP ☐ Security Group

Network/IP

Choose option

Custom CIDR !

203.0.113.58/32

Back

☐ Create Another ☒ Create

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

Create a Security Group Rule ?

Protocol

TCP

Direction

☒ Ingress ☐ Egress

Ether Type

☒ IPv4 ☐ IPv6

Port range !

80

80

From

☒ Network/IP ☐ Security Group

Network/IP

Choose option

Custom CIDR !

Example: 10.0.10.0/24

Back

☐ Create Another ☒ Create

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

<div> <div></div> <div>✓</div> <div>openstack security group rule list default</div> </div>		
Details	Rules	Ports
Status	Direction	Ether type
✓	egress	IPv6
✓	ingress	IPv4
✓	ingress	IPv4
✓	ingress	IPv4
✓	egress	IPv4

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 C
+-----+-----+-----+-----+-----+-----+-----+-----+
| 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.

Cloud Cloud Management Panel OpenStack CLI

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



Status	Direction	Ether type
✓	ingress	IPv6
✓	ingress	IPv4
✓	egress	IPv6
✓	egress	IPv4

The top two ingress rules, having `::/0` and `0.0.0.0/0` values for remote access filters, mean that incoming traffic is allowed from all IP addresses.

If you want to use the default group, remove the two ingress rules that allow all incoming traffic. Create new rules for the ports and protocols you want to allow.

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

<div> <div>Details</div> <div>Rules</div> <div>Ports</div> </div>		
Status	Direction	Ether type
✓	egress	IPv4
✓	egress	IPv6

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 C
5e5e9f4d-1faa-492d-91f1-c105b464072b	None	IPv4	0.0.0.0/0		ingress	None	None
86b9413a-ad23-46c4-a35e-9306945dc63c	None	IPv6	::/0		ingress	None	None
ad4a19ef-7fab-4eba-9982-e5b109be121c	None	IPv6	::/0		egress	None	None
f53b1a12-edbb-480b-	None	IPv4	0.0.0.0/0		egress	None	None

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 Security Group`

The IDs of the two ingress rules, one for IPv4 traffic and one for IPv6, are: `5e5e9f4d-1faa-492d-91f1-c105b464072b` and `86b9413a-ad23-46c4-a35e-9306945dc63c`

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
ad4a19ef-7fab-4eba-9982-e5b109be121c	None	IPv6	::/0		egress	None	None
f53b1a12-edbb-480b-910b-a71c4836346f	None	IPv4	0.0.0.0/0		egress	None	None

Last update: 2022-11-21

Created: 2022-11-08

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