ARTICA v4

Firewall feature rev2

Version 4.26.012900

TABLE OF CONTENT

Firewall Feature **4**

Install the Firewall service 4

Display modules information. 5

Activate your firewall on Interfaces 6

Your Networks 6

Firewall rules 8

Services objects **9**

Sources and destinations objects. **11**

Objects type **12**

Create a rule **12**

Affect objects to a rule **14**

Positive or negative object **15**

Object Deep Packet inspection **16**

Object Time restriction **17**

Object Geo-location **18**

Manage items 20

Bulk importation. **20**

Find a rule based on an item **21**

Cybercrime IP Feeds 22

Enable Cybercrime IP Feeds **22**

Categories **23**

Display blocked IP database. **23**

Whitelist **24**

Monitoring rules and service 25

Firewall service **25**

Status, size and packets. **27**

Log rule events **28**

Display events **29**

Remote log/syslog server **30**

Interfaces connectors 31

Create an interface connector **32**

Create rules for an interface connector. **33**

NAT (Network adress translation) rules 34

The N.A.T section **34**

Create a destination NAT. **34**

Route packets to a node **36**

Masquerade 38

Define the Network outgoing interface to masquerade. **38**

Create firewall Masquerade rules. **38**

Outgoing rule for the Artica server itself 39

Traffic shaping 40

Install the Firewall addons module. **40**

Create a rule for traffic shaping **40**

Mandatory, define traffic shaping elements. 41

Firewall Feature

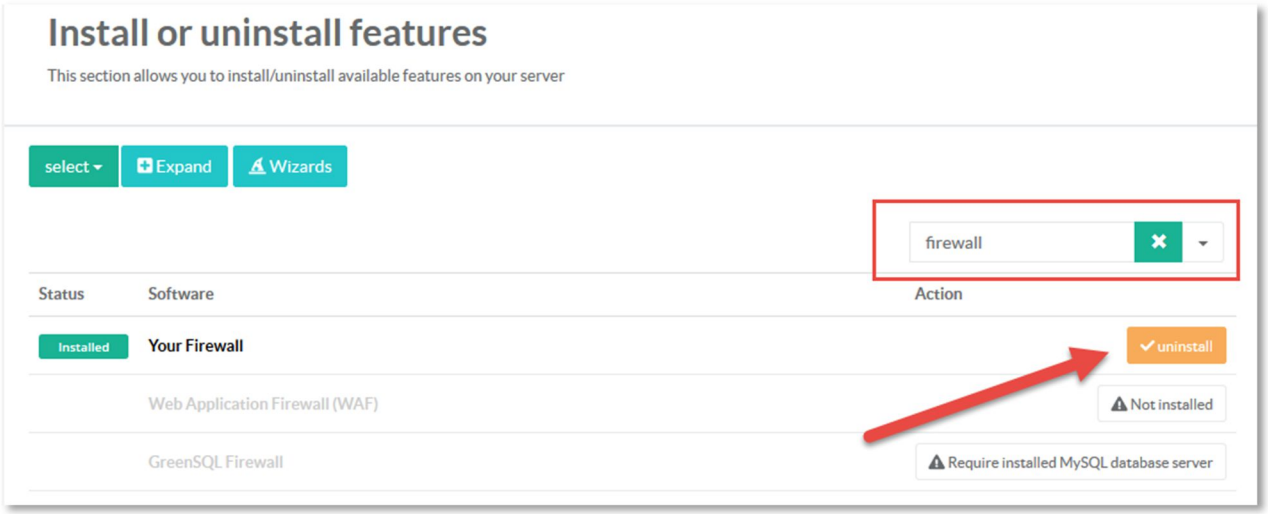
Artica Firewall feature simplifies network security with a single, modular, software platform designed to fit the evolving needs of your organization.

Designed specifically for organizations with limited IT resources and budgets, Artica firewall provides a browser-based, responsive and intuitive interface enabling you to quickly gain visibility into the traffic on the network.

Artica Firewall feature delivers a comprehensive, enterprise-grade network security platform for organizations in any industry

INSTALL THE FIREWALL SERVICE

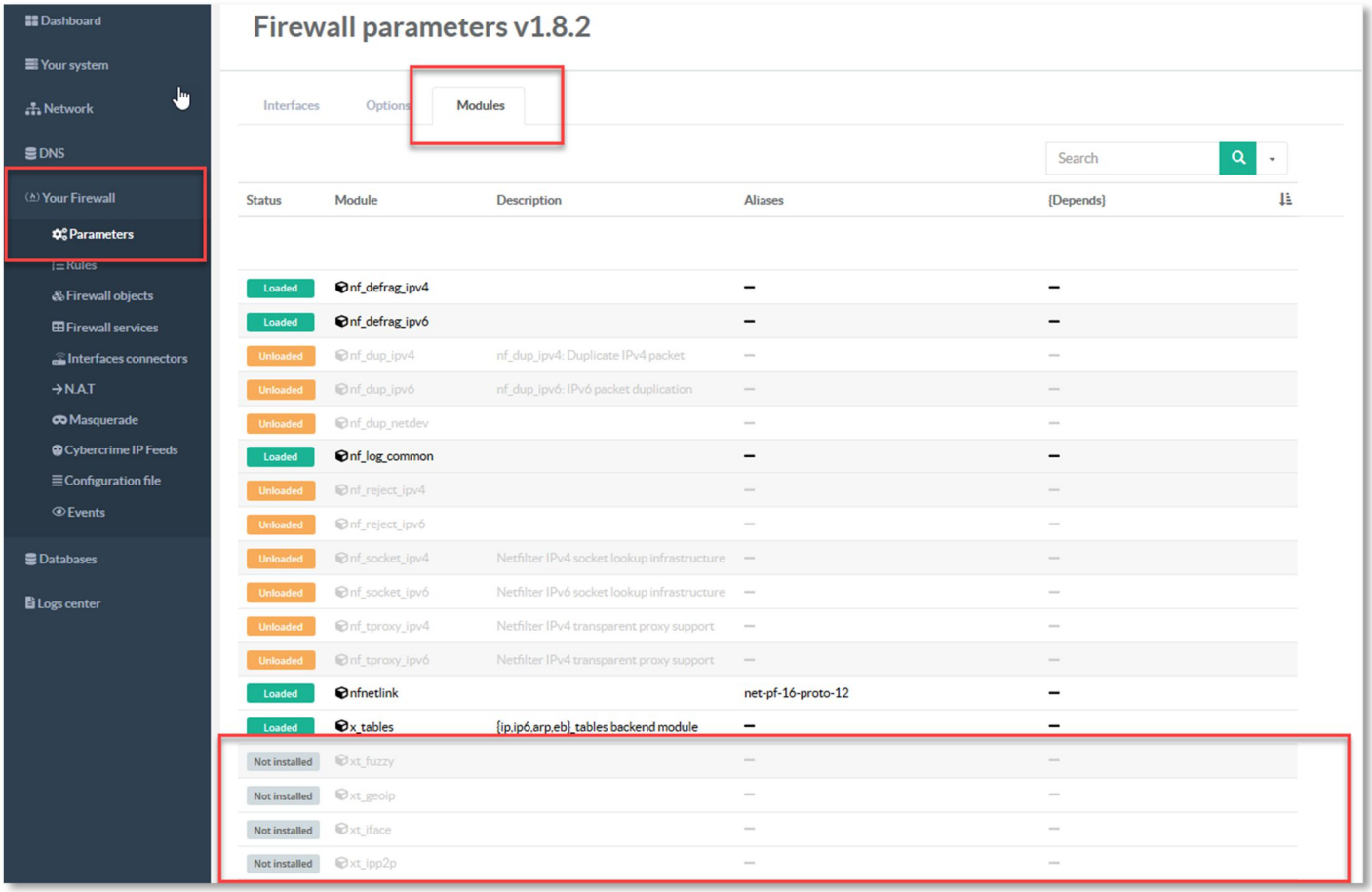
The firewall service can be installed using the "**features**" section.
On the search field, type **Firewall**
Click on **Install** button on the "**Your Firewall**" row



DISPLAY MODULES INFORMATION.

Firewall features depends on installed/loaded modules.
The “Your Firewall / Parameters / Modules” displays current loaded/Unloaded/installed modules.
Artica loads automatically modules depends on your firewall rules.

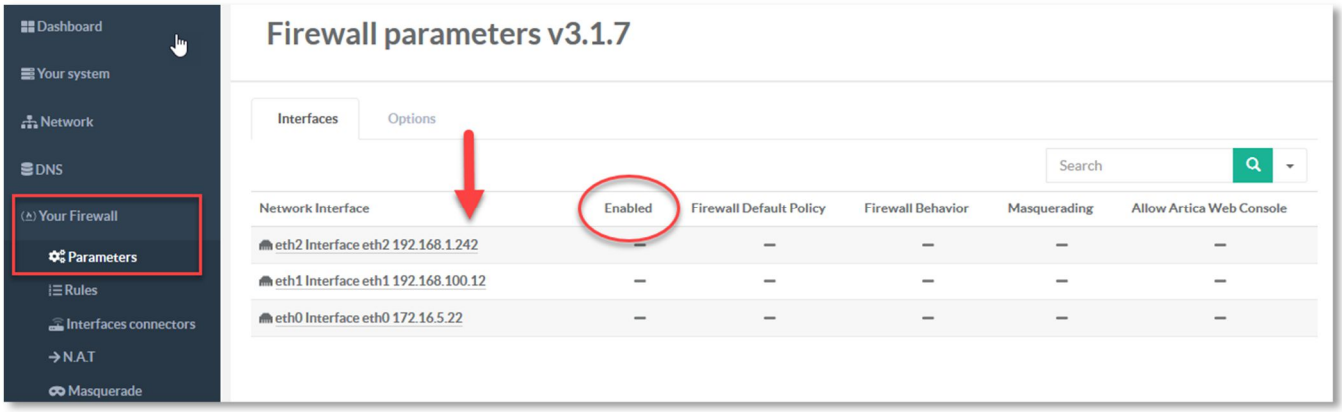
Take care on uninstalled modules, this means you have to install **Firewall addons** if you need them.



ACTIVATE YOUR FIREWALL ON INTERFACES.

The "**Your Firewall / Parameters**" section defines which network interface will be protected by the Firewall

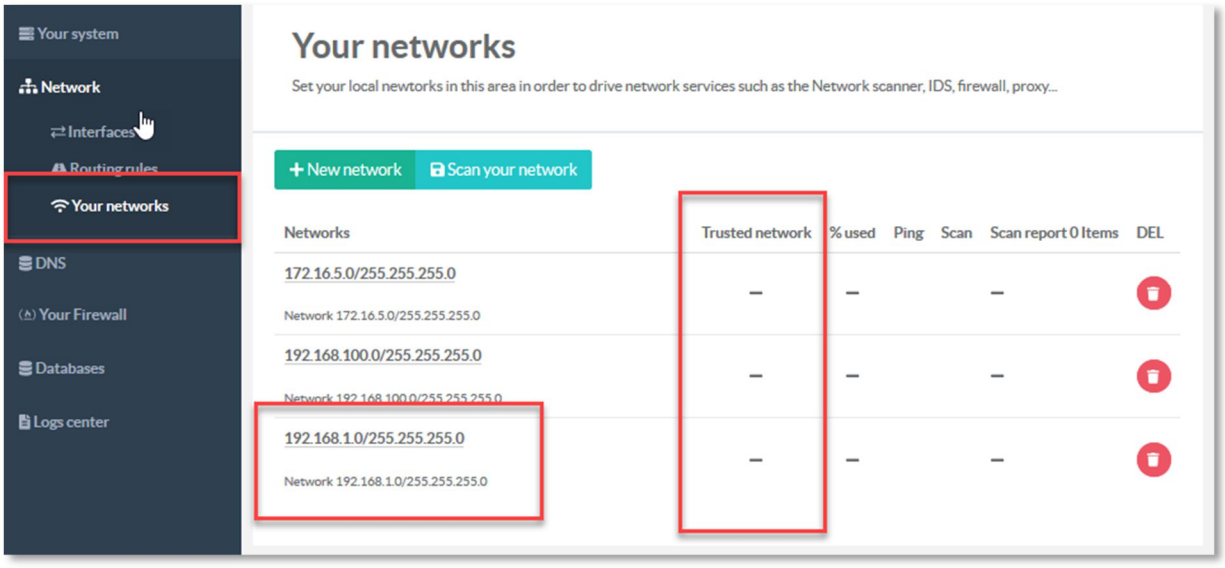
By default, no interface are enabled,



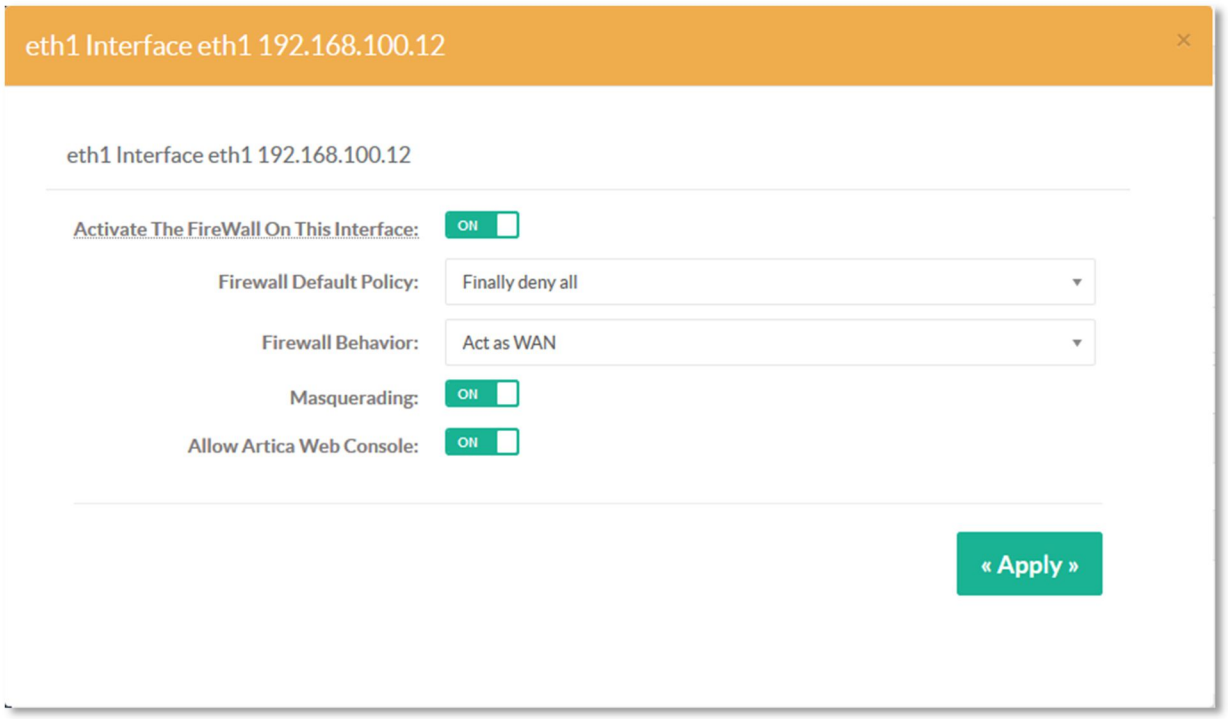
This table show the global default behavior of the firewall on each active interface.

YOUR NETWORKS

Your networks is a dedicated section that should list all your Internal networks.
Networks used by the Firewall are "Trusted Network", trusted networks, by default, are allowed to pass trough the firewall



To enable an Interface, click on the Interface name



This example is typically a rule for a router, this Interface represents the WAN interface.

To turn the firewall on enable the "**Activate the Firewall on this interface**"

- **Firewall default policy** defines what is the last rule defined at the end values are finally deny all or allow all.

- **Firewall behavior** defines protection and the trusted networks behavior of the defined Interface:

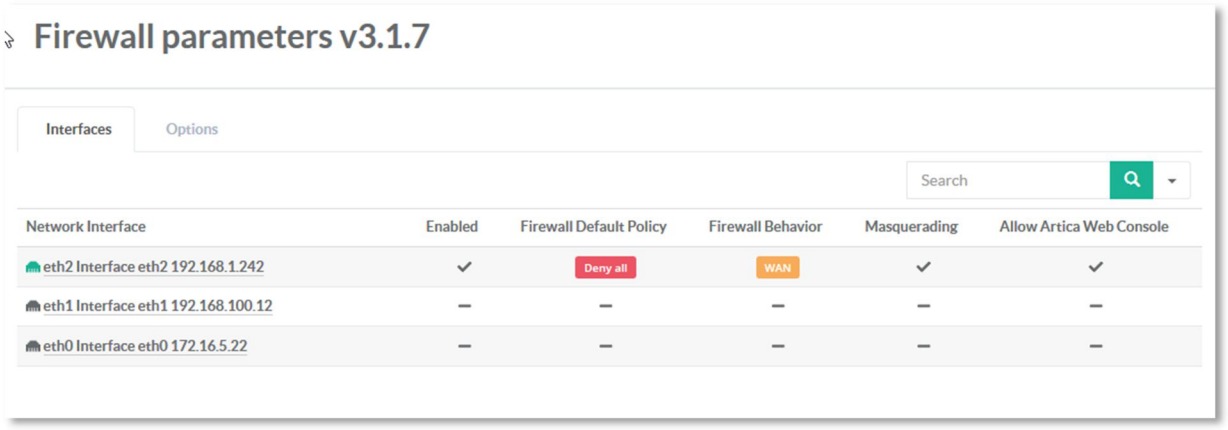
  - **Act as Wan**:
    network is trusted and specials features are enabled to protect the network:
    - **Bad-packets**:Drops all the bad packets
    - **Invalid**: Drops all incoming invalid packets, as detected INVALID by the connection tracker.
    - **Fragments**: Drops all packet fragments.
    - **New-tcp-w/o-syn**: Drops all TCP packets that initiate a socket but have not got the SYN flag set.
    - **Malformed-xmas**: Drops all TCP packets that have all TCP flags set.
    - **Malformed-null**: Drops all TCP packets that have all TCP flags unset.
    - **Malformed-bad**: Drops all TCP packets that have illegal combinations of TCP flags set.
  - **Act as LAN:**
    Networks defined as trusted network in the Network configuration are allowed to access to any service of the server.

- **Masquerading:**
  Masquerading is a special form of Source NAT (SNAT) that changes the source of requests when they go out and replaces their original source when they come in.
  This way a Linux host can become an Internet router for a LAN of clients having unrouteable IP addresses.
  Masquerading takes care to re-map IP addresses and ports as required.
  Masquerading is expensive compare to SNAT because it checks the IP address of the outgoing interface every time for every packet.
  If your host has a static IP address you should generally prefer SNAT.

- **Allow Artica Web Console**:
  Open the local Artica Web console port in order to manage Artica outside the server in a closed environment.

The table will reflect main defined options.

If no interface is enabled in the Firewall, understand that the firewall did not protect your server.



FIREWALL RULES.

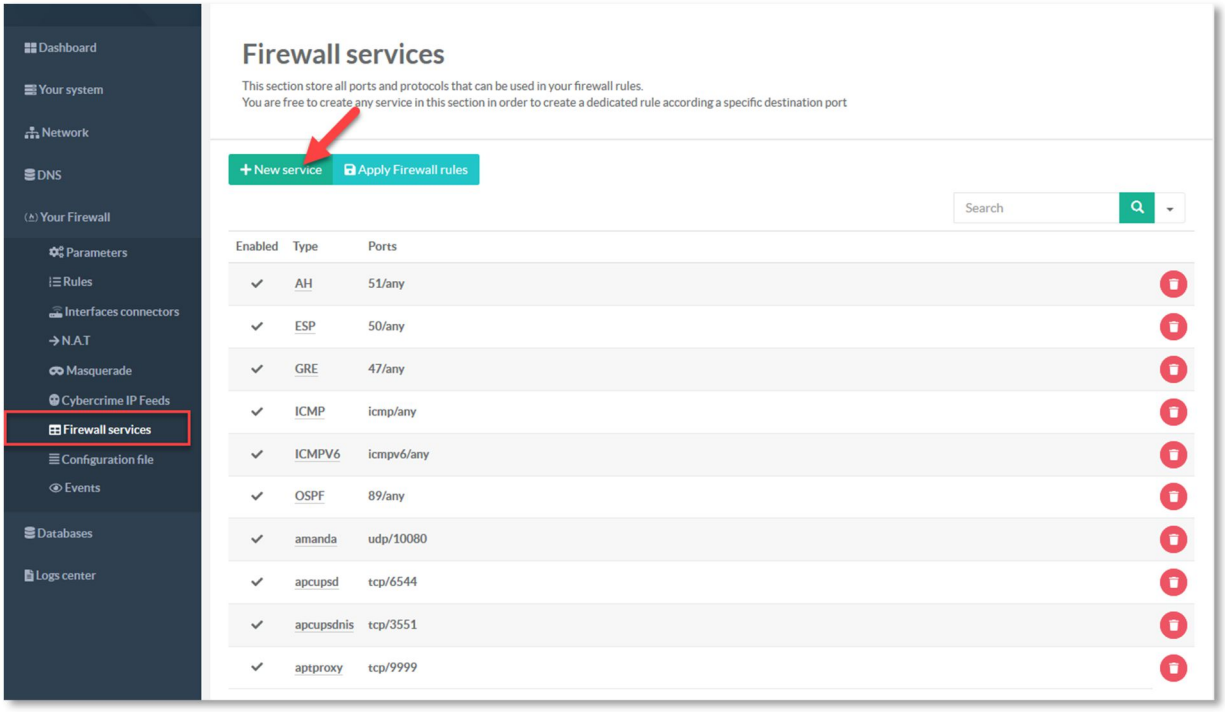
A firewall rule is designed into 4 parts

1. **The rule itself** that defines the rule behavior (Deny access, Allow access, Mark TCP packets).
2. A **service object** that stores destination protocols and ports.
3. **Destination objects** that stores destinations IP addresses or MAC addresses.
4. **Source objects** that stores sources IP addresses or MAC addresses

Before creating any rule in the "**rules**" section, you should create your desired objects

Services objects

The section “Firewall services” list a objects that defines protocols and ports, by default, Artica provide a list of “standard” services that you can use directly on your rules.
You can create your own service by clicking on the “**New service**” button.



A service can handle multiple ports and multiple protocols.

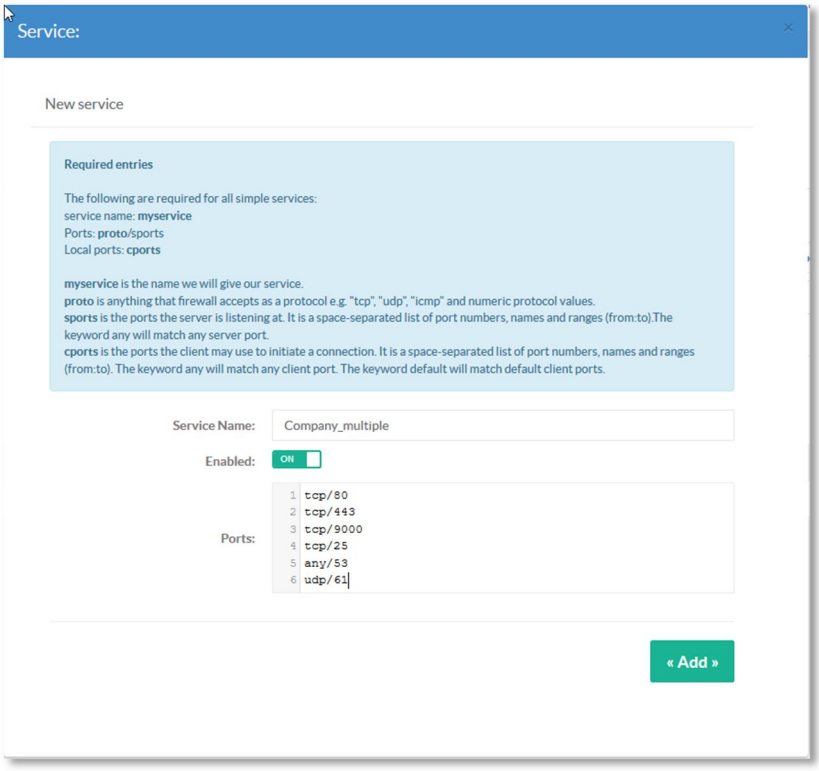
The following are required for all simple services:

service name: myservice
Ports: proto/sports

myservice is the name we will give our service.

Proto: is anything that firewall accepts as a protocol e.g. "tcp", "udp", "icmp" “all” and numeric protocol value.

Sports: is the ports the server is listening at. It is a space-separated list of port numbers, names and ranges (from:to).The keyword **any** will match any server port.



Ports examples:

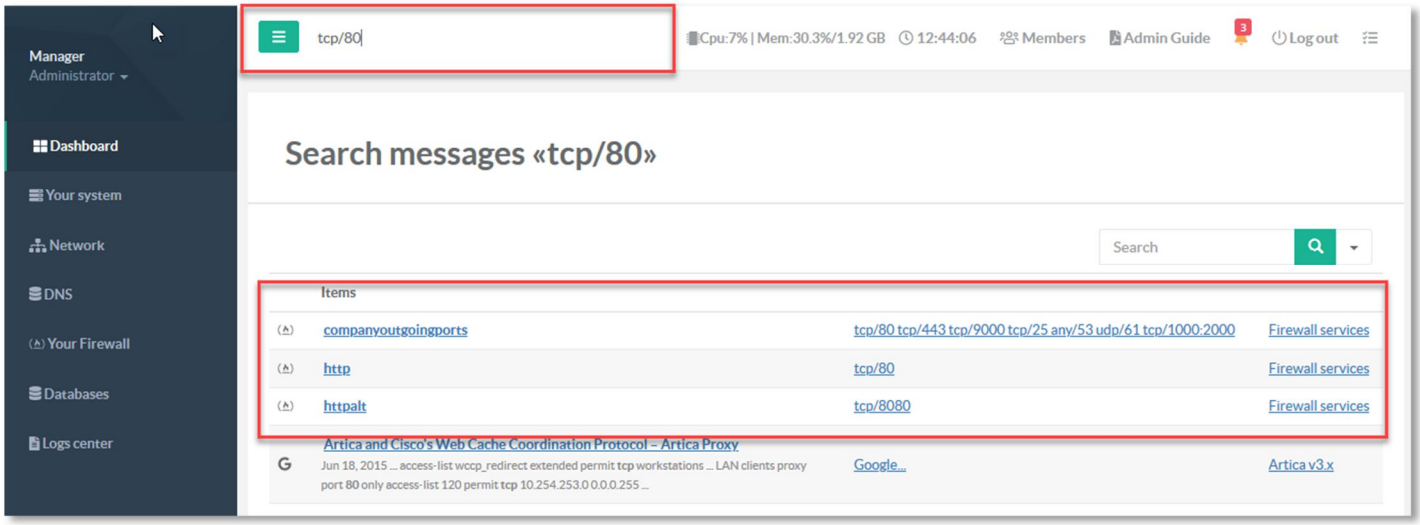
Format	Explain
`tcp/80`	Matches port number 80 on TCP protocol
`tcp/80:120`	Matches ports number 80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98...120 on TCP protocol
`Any/9090`	Matches port number 9090 on all protocols
`tcp/any`	Matches any port on TCP protocol

`tcp/80`
`tcp/443`
`tcp/9000`
`tcp/25`
`any/53`
`udp/61`
	Matches port number 80 on TCP protocol
	Or matches port number 443 on TCP protocol
	Or matches port number 9000 on TCP protocol
	Or matches port number 25 on TCP protocol
	Or matches port number 53 on all protocols
	Or matches port number 61 on UDP protocol

`tcp/80,443,9000,25`	Matches port number 80 on TCP protocol Or matches port number 443 on TCP protocol Or matches port number 9000 on TCP protocol Or matches port number 25 on TCP protocol

The option "*enabled*" allow rules to use the service. If the service is disabled, the rule will matches any protocols and any ports.

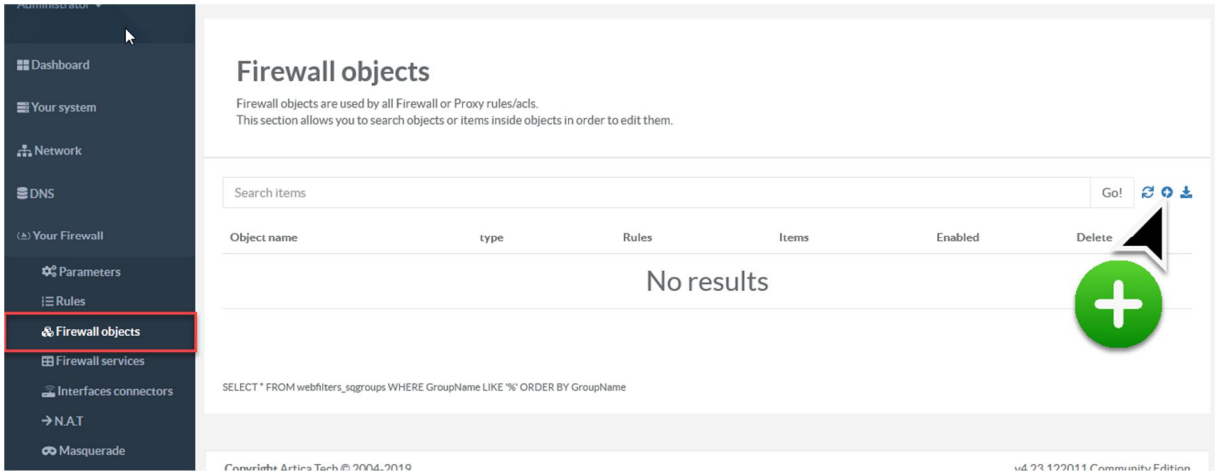
Services can be found using the TOP search field, you can search by service name or a defined port.



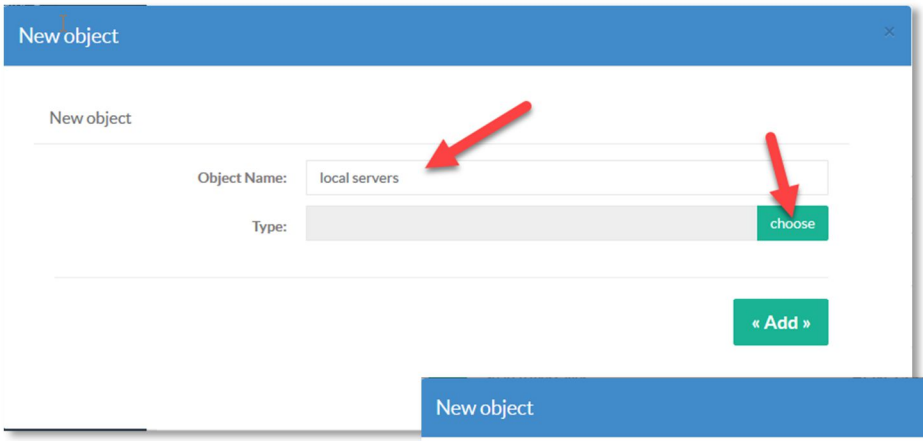
Sources and destinations objects.

Sources and destination objects are used in firewall rules, objects can store a list of IP addresses, networks using CDIR notation, MAC addresses.
Objects can store many items, this is the reason Artica use these kind of groups in order to build firewall rules.

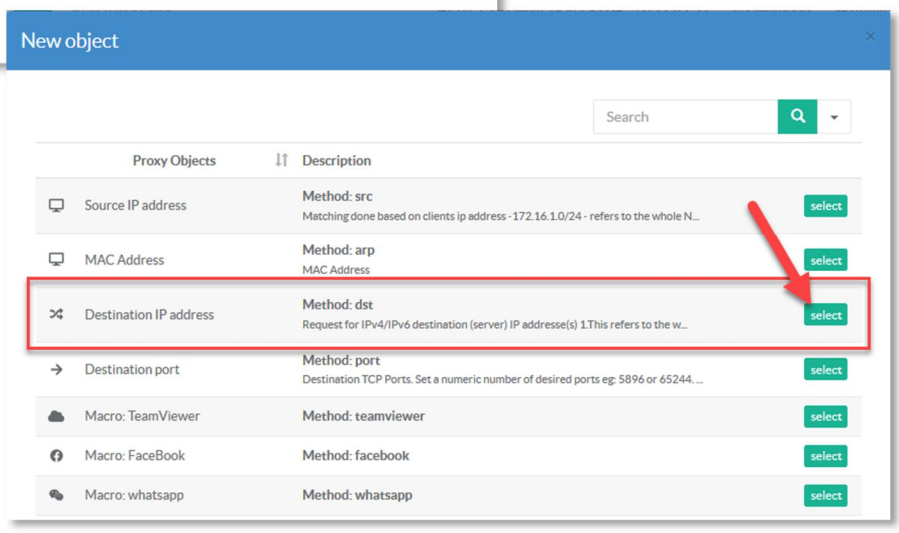
- Select "**Firewall objects**" on the left menu.
- Click on the cross on the left side of the search field.



Set the name of your object.
Click on **Choose button** in order to define the object type.



Choose the method/type of your object

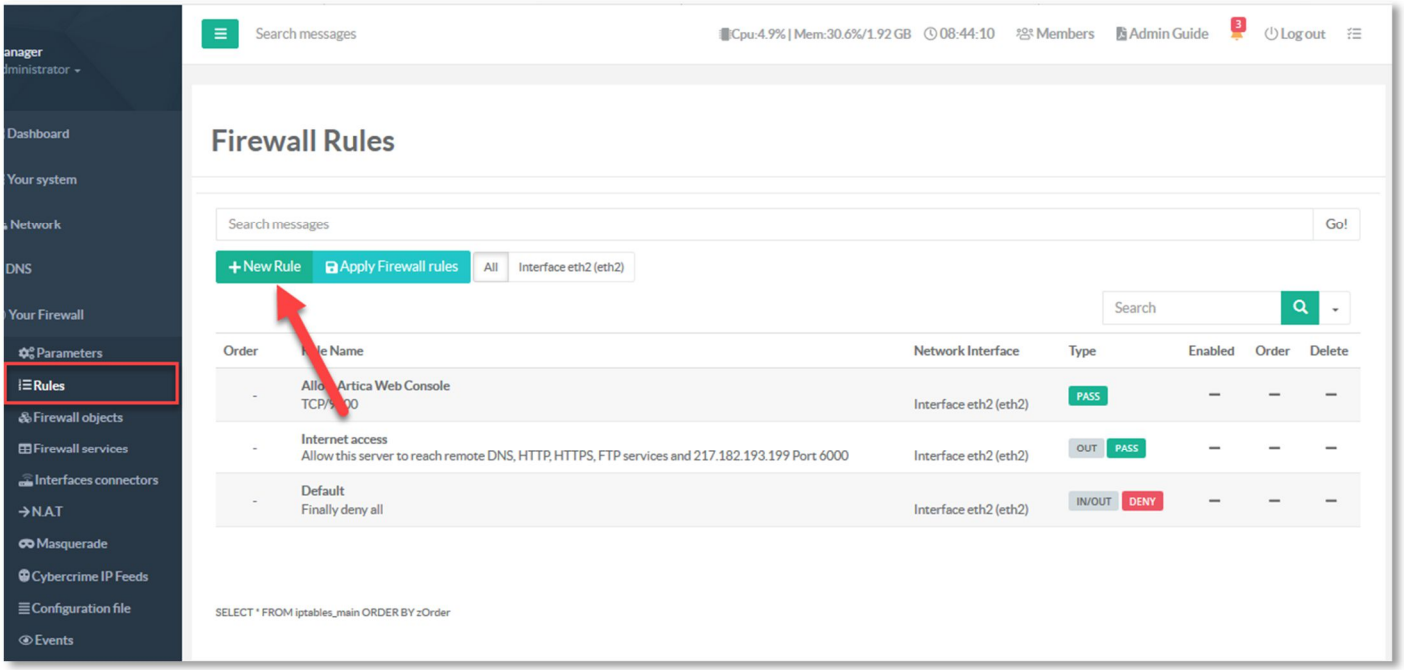


Objects type

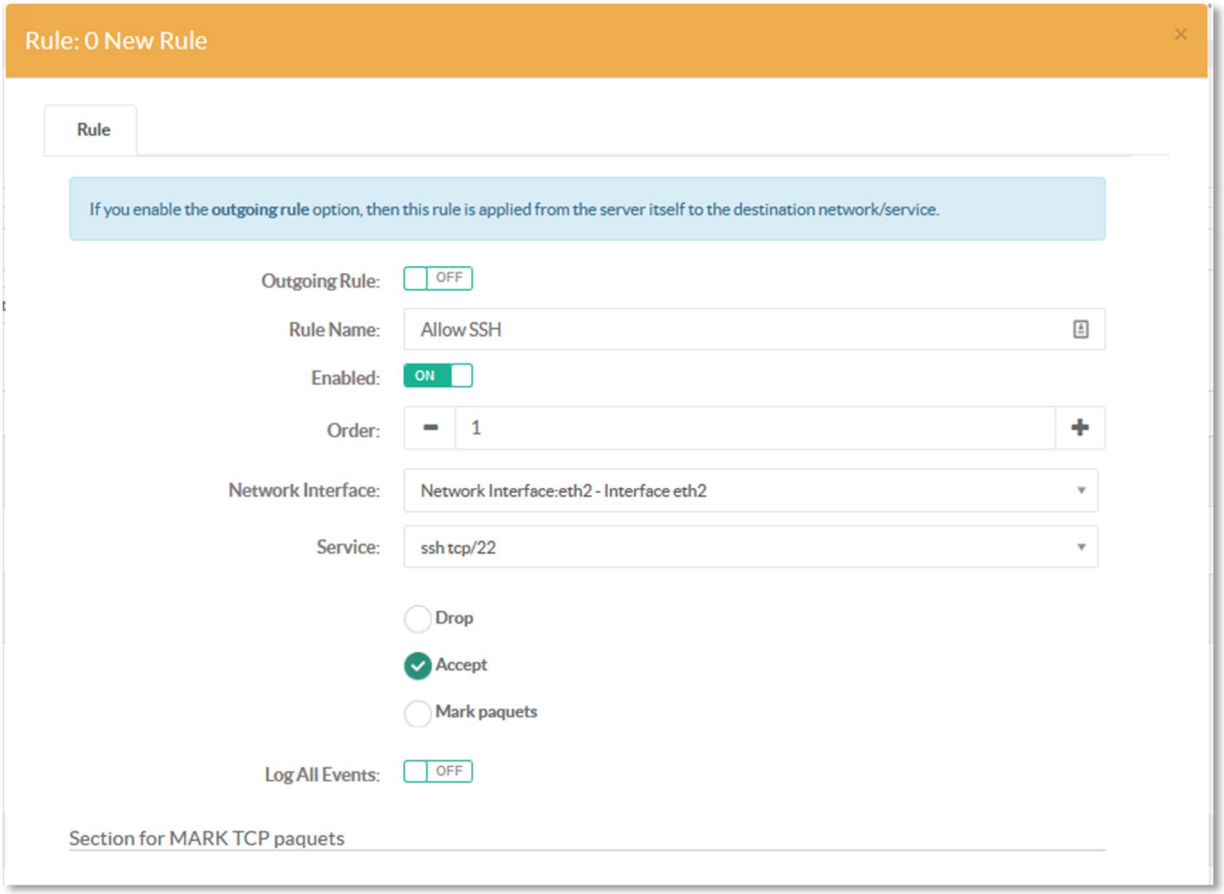
Object type	Description
Source IP address	A set of source IPV4 or network mask in CDIR format such as 192.168.1.1 or 192.168.1.0/24
MAC Address	A list of MAC addresses in aa:bbb:ccc:fff:eee format
Destination IP address	A set of destination IPV4 or network mask in CDIR format such as 192.168.1.1 or 192.168.1.0/24
Destination port	A list of TCP destination ports
Macro: TeamViewer	TeamViewer networks
Macro: FaceBook	FaceBook networks
Macro: whatsapp	Whatsapp networks
Macro: Skype	Skype networks
Macro: Youtube	Youtube networks
Macro: Office 365	Office 365 networks
Macro: DropBox networks	DropBox networks
Countries	List of subnets stored in each country
Local Network	Networks defined in "Your network section"

Create a rule

To create rule, go to "**Your Firewall / Rules**"



Click on "New rule"



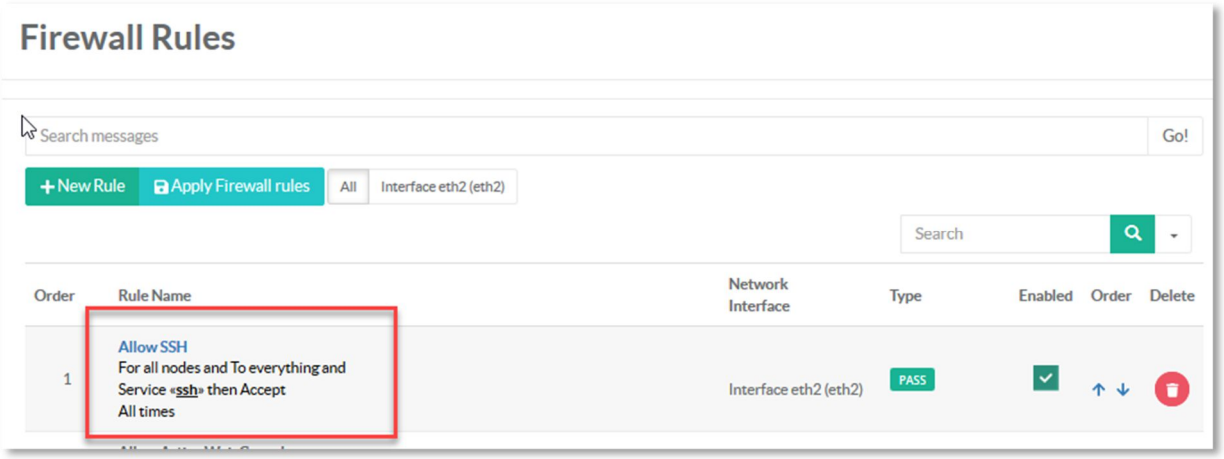
Outgoing rule: An Outgoing rule is a rule dedicated for the Artica itself, means connections came from Artica to outside using the defined interface.

- **Rule Name**: A short description of the rule.
- **Enabled**: Make the rule active or inactive.
- **Order**: Position of the rule.
- **Network Interface**: The Network interface defined by the rule (if none selected, the rule is applied for all interfaces and rules without interfaces are evaluated after rule linked with a Network Interface.)
- **Service**: If the rule is designed only for one service, select the service object in the drop-down list.
- **Rule behavior**: Select Drop (reject packets), Accept (allow connections), Mark packets (ADD a MARK entry and allow packets).
- **Log all events**: Write matched connections to firewall events file.

Affect objects to a rule

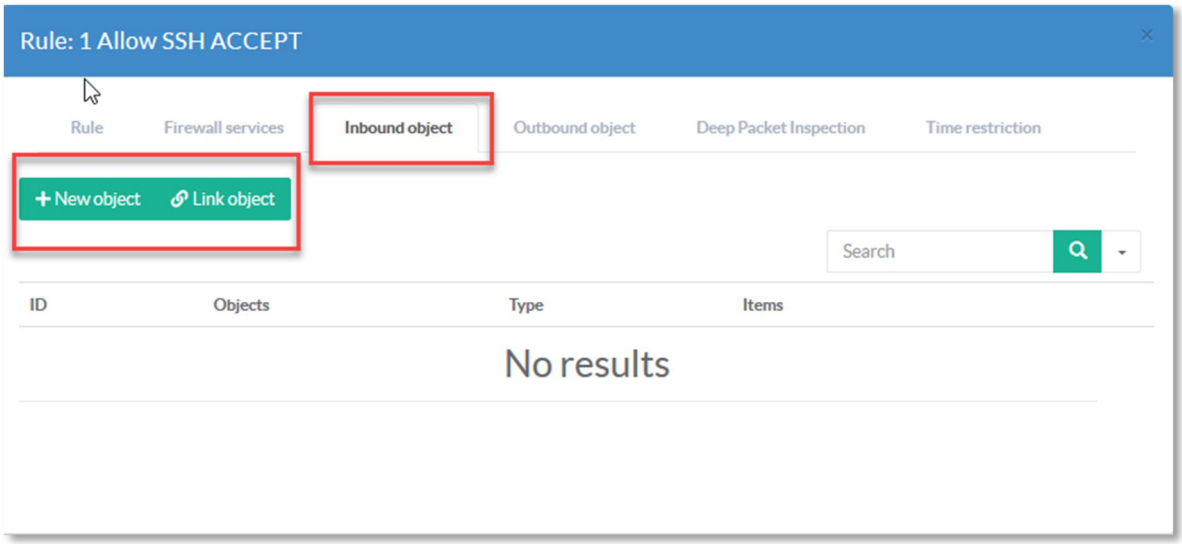
You can affect multiple objects types for a rule :

- **Firewall services**: Add more services objects in your rule.
- **Inbound objects:** Object that matches sources networks / Mac Addresses.
- **Outbound objects**: Objects that matches destinations networks
- **Deep Packets inspection:** Objects that matches applications in protocol.
- **Time restriction:** Object that enable/disable a rule during a period.

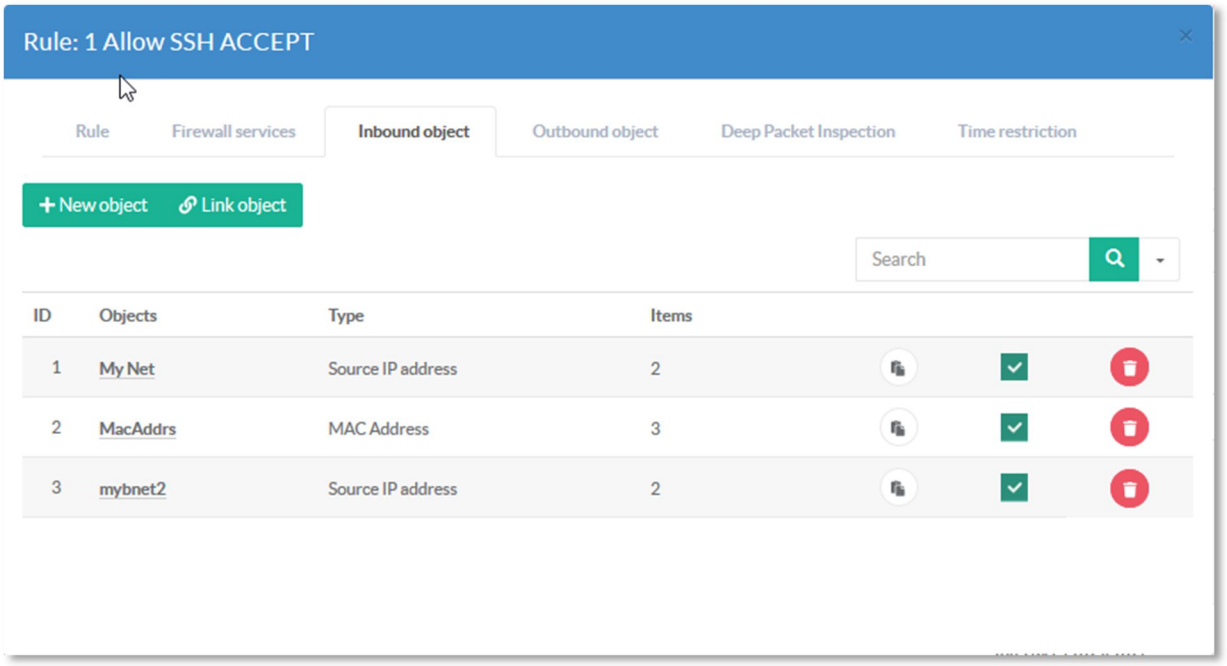


When you create a rule no destinations or sources are defined, this means the rule matches from any to any.

To affect sources and destinations, click on the rule and select the “Inbound object” or “Outbound object”

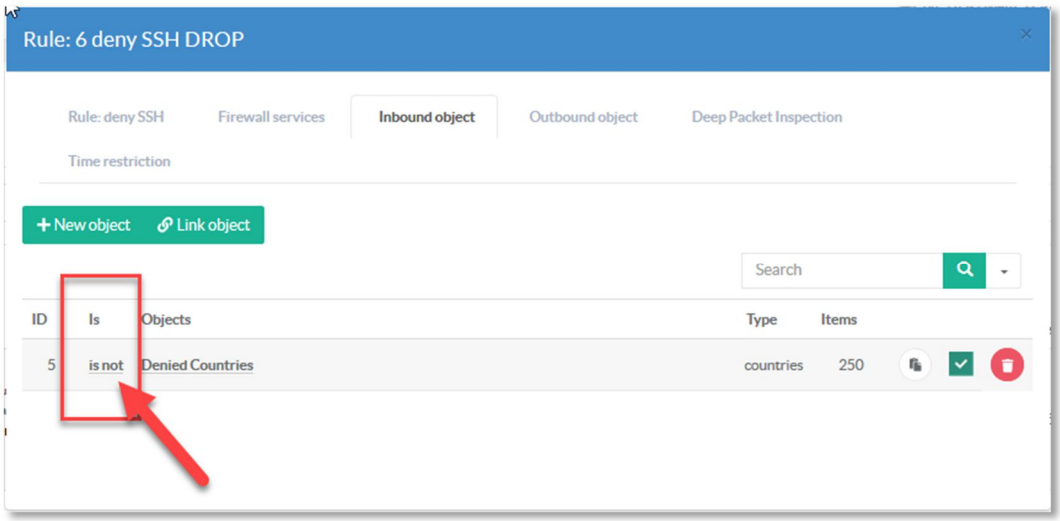


You can use "**New object**" to create a new object and add items inside this object or "**Link object**" to affect an already created object for this rule.
You can add unlimited objects and mixt multiples object types.



Positive or negative object

You can find in the table a "Is" column.
This column can be switched between "is" or "is not"



Artica merge all defined groups into a single container for the same type "IP addresses or MAC addresses", when you sets "is not" it means all items inside this group will not matches the rule.
For example, you set a deny rule that stores the group with the source network "192.168.1.0/24" and you create a second group with "is not" with the item "192.168.1.1". means the whole group 192.168.1.0/24 will matches except for the IP address 192.168.1.1.
Inside the generated container, the matches is selected by the most relevant IP to the largest network.
The 192.168.1.1 will matches first, second the 192.168.1.0/24 and finally the 192.168.0.0/16.

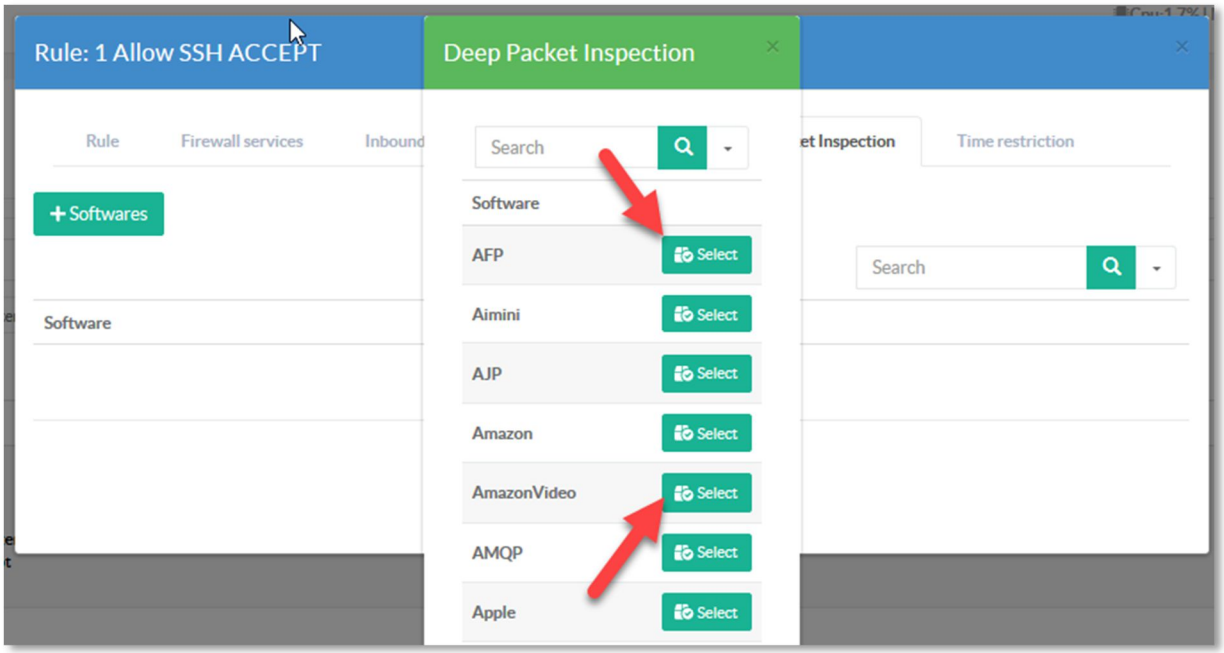
If you set a deny rule that stores the group with the source network "192.168.1.0/24" and you create a second group with "is not" with the item "192.168.0.0/16" means the group 192.168.1.0/24 will still matches.
Because it matches before the 192.168.0.0/16

Object Deep Packet inspection

Deep packet inspection allow the firewall to detect 239 applications inside the protocol.
As the module detects data inside the protocol, there is no direction (inbound or outbound), it matches data in-transit.

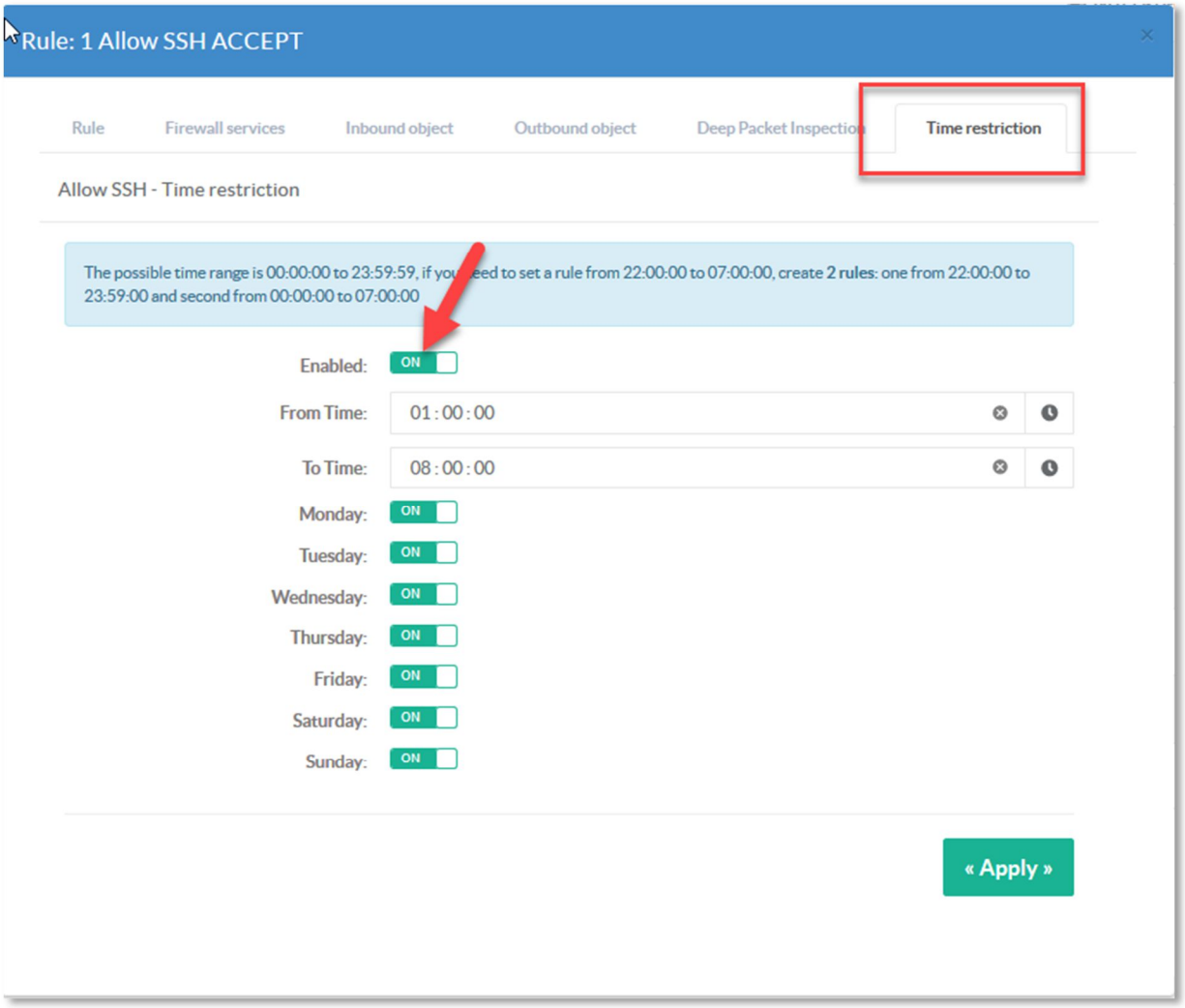
Available applications are : afp, aimini, ajp, amazon, amazonvideo, amqp, apple, appleicloud, appleitunes, applejuice, applepush, applestore, armagetron, ayiya, battlefield, bgp, bittorrent, bjnp, checkmk, ciscoskinny, ciscovpn, citrix, cloudflare, cnn, coap, collectd, corba, crossfire, csgo, dce_rpc, deezer, dhcp, dhcpv6, diameter, direct_download_link, directconnect, dns, dnscrypt, dofus, drda, dropbox, eaq, ebay, edonkey, egp, facebook, facebookzero, fasttrack, fiesta, fix, florensia, free, free_49, ftp_control, ftp_data, genericprotocol, git, github, gmail, gnutella, google, googledocs, googledrive, googlehangout, googlemaps, googleplus, googleservices, gre, gtp, guildwars, h323, halflife2, hep, hotmail, hotspotshield, http, http_activesync, http_connect, http_download, http_proxy, iax, icecast, icmp, icmpv6, iflix, igmp, imap, imaps, instagram, ip_in_ip, ipp, ipsec, irc, kakaotalk, kakaotalk_voice, kerberos, kontiki, lastfm, ldap, linkedin, lisp, llmnr, lotusnotes, maplestory, mdns, megaco, memcached, messenger, mgcp, microsoft, mining, modbus, mpeg_ts, mqtt, ms_onedrive, msn, mssql-tds, mysql, nestlogsink, netbios, netflix, netflow, nfs, nintendo, noe, ntop, ntp, ocs, office365, ookla, opendns, openft, openvpn, oracle, oscar, ospf, pando_media_booster, pandora, pastebin, pcanywhere, playstation, playstore, pop3, pops, postgresql, pplive, ppstream, pptp, qq, qqlive, quic, radius, rdp, redis, remotescan, rsync, rtcp, rtmp, rtp, rtsp, rx, sap, sctp, sflow, shoutcast, signal, sina(weibo), sip, skype, skypecall, slack, smbv1, smbv23, smpp, smtp, smtps, snapchat, snmp, socks, someip, sopcast, soulseek, soundcloud, spotify, ssdp, ssh, ssl, ssl_no_cert, starcraft, stealthnet, steam, stun, syslog, teamspeak, teamviewer, telegram, telnet, teredo, tftp, thunder, tinc, tor, truphone, tuenti, tvants, tvuplayer, twitch, twitter, ubntac2, ubuntuone, unencrypted_jabber, unknown, upnp, usenet, vevo, vhua, viber, vmware, vnc, vrrp, warcraft3, waze, webex, wechat, whatsapp, whatsappfiles, whatsappvoice, whois-das, wikipedia, windowsupdate, worldofkungfu, worldofwarcraft, xbox, xdmcp, yahoo, youtube, youtubeupload, zattoo, zeromq

- Select the tab "**Deep packet Inspection**"
- Click on **Software** button.
- Choose applications you want to detects in your rule.



Object Time restriction

Object time restriction define the period when the rule is active, outside the defined period, the rule did not matches.



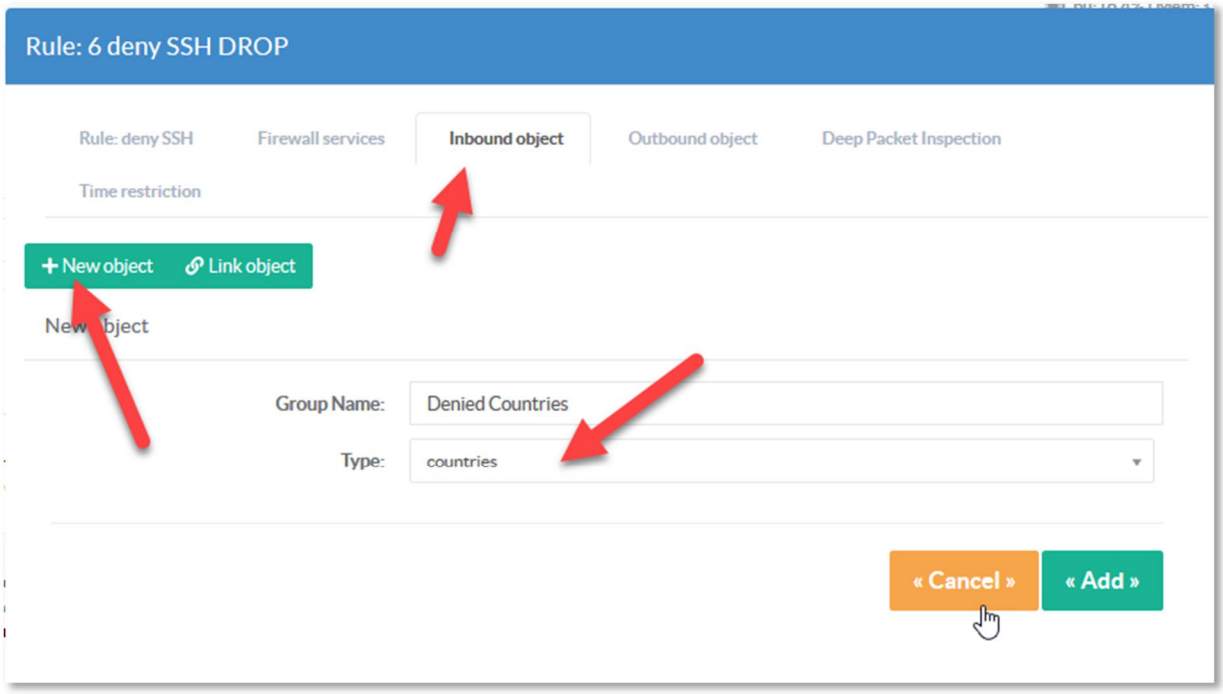
You can define a time range and set the day of the week the rule is enabled.

The possible time range is 00:00:00 to 23:59:59, if you need to set a rule from 22:00:00 to 07:00:00, create 2 rules: one from 22:00:00 to 23:59:00 and second from 00:00:00 to 07:00:00

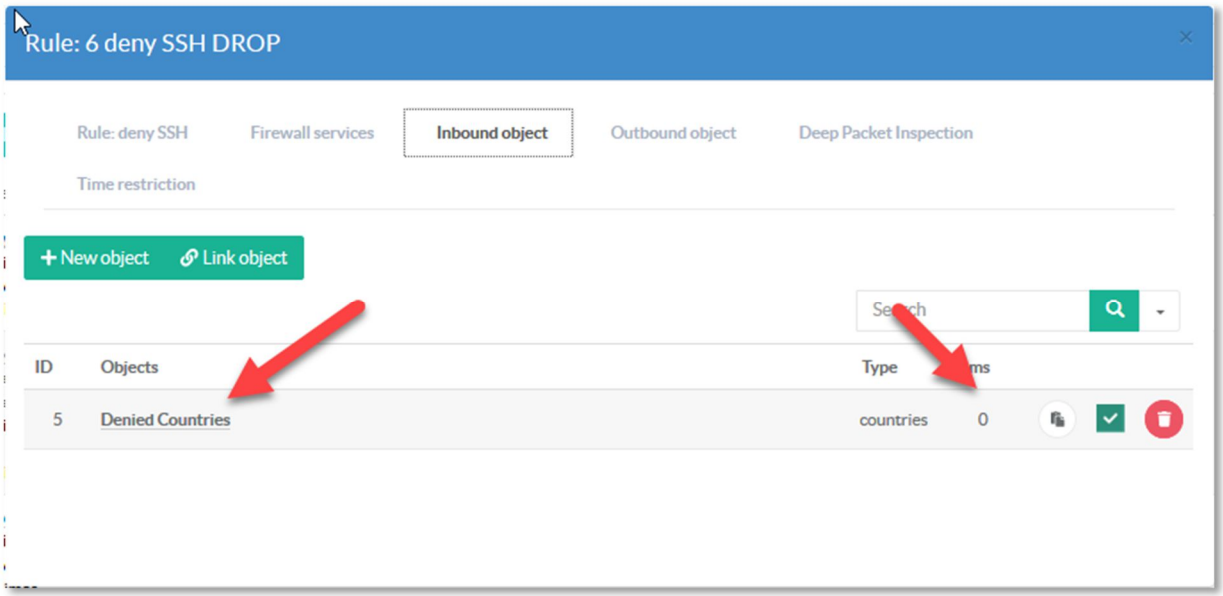
Object Geo-location

Artica retrieve a list of subnets for each country, you need to allow the Artica server to retrieve patterns via HTTP from the www.ipdeny.com repository server.

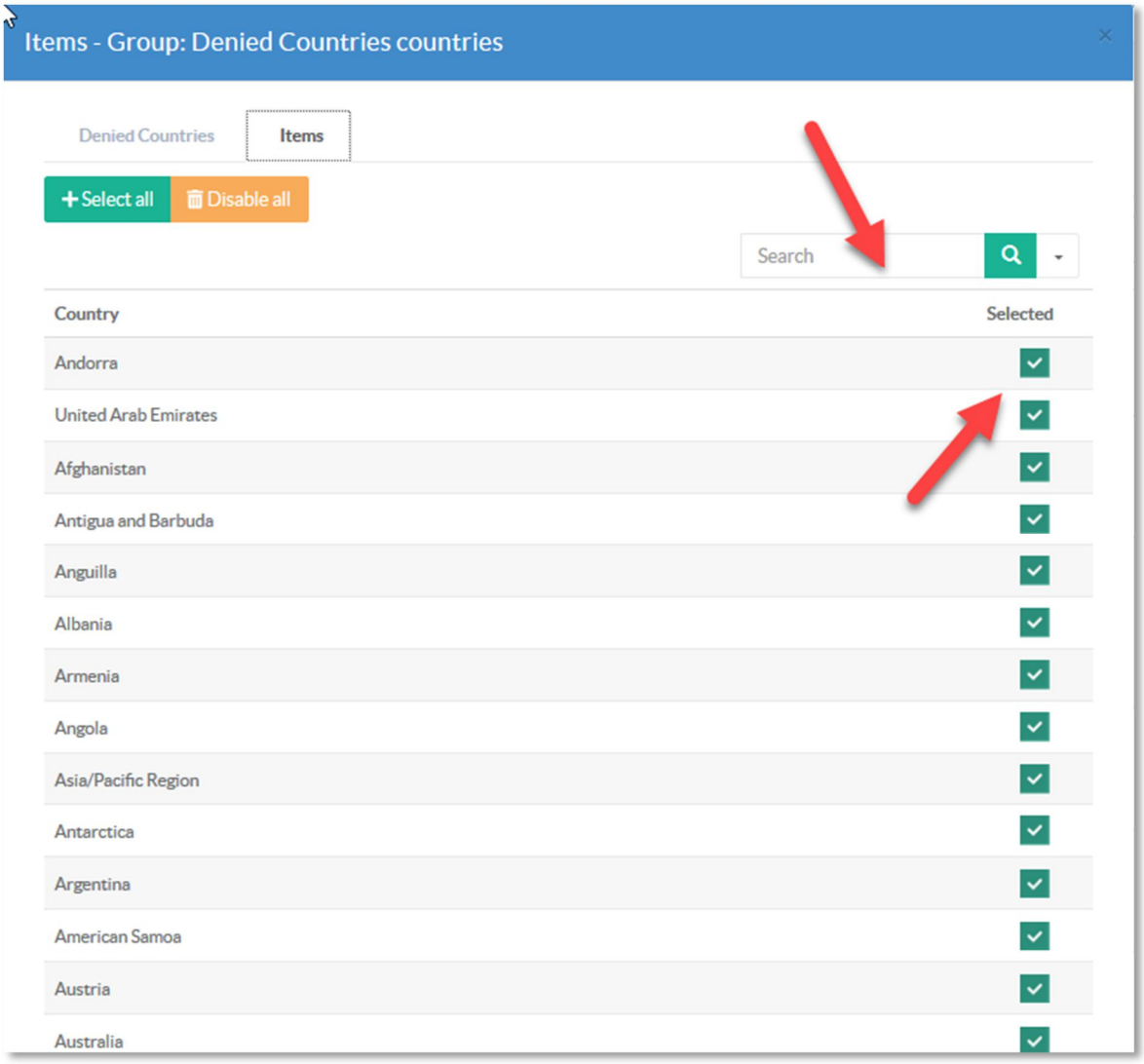
- When creating a new object, select the "**Countries**" type and add your new object.



- Once the object is created, you can see that it have 0 item, click on the object link.



- Select "**items**"
- You can search by country and activate a country inside your rule.

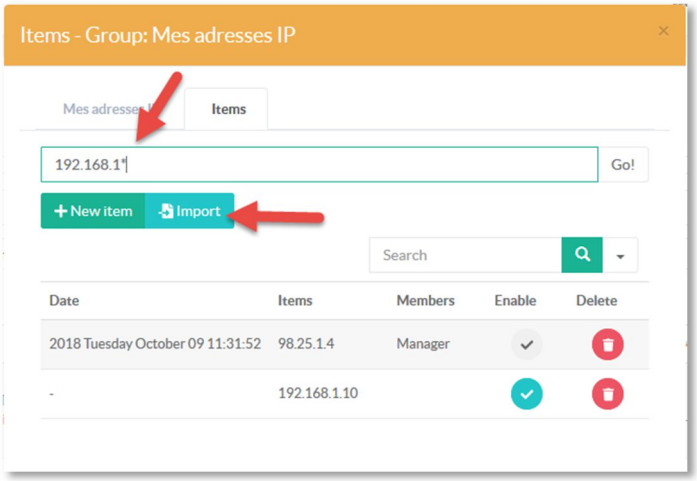


MANAGE ITEMS

When create a group inside a rule, you can manage several items.

A search engine (the first search field) allows you to find the item.
The interface list is limited to 150 rows, if your item is not displayed in the first rows you have to use the search engine.

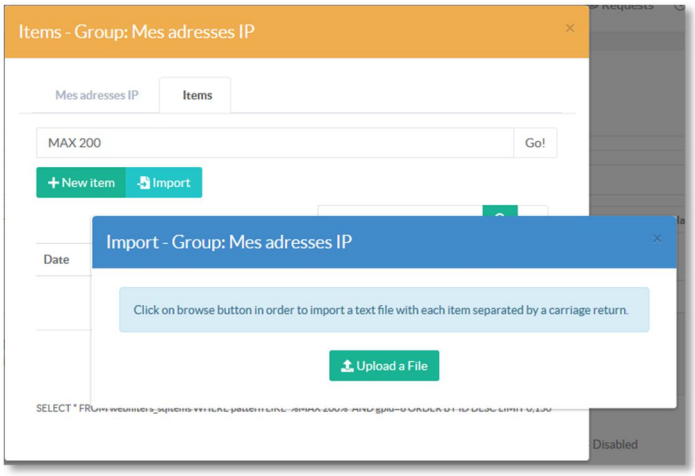
An item can be enabled or disabled, when the item is disabled, it will be not add into the FireWall rules but still available on the Web interface.



Bulk importation.

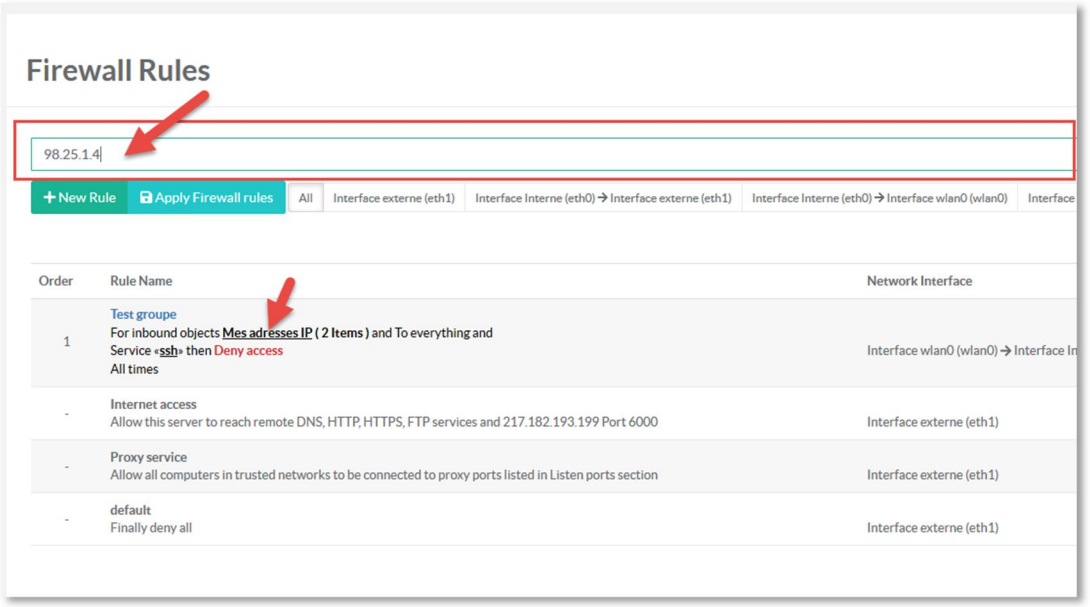
The Import button allows you to massively import items in the group.
Items must be stored in a text file separated by a carriage return.

A group has no item limits, you just have to think about memory used by the firewall according to 25,000 elements takes up about 350k of memory.



Find a rule based on an item

The global search engine on the firewall-rule list allows you to find a rule according to a defined item.
The wildcard is supported, if you need to find a specific IP string or subnet, the table will display rules that stores the group with the desired item.

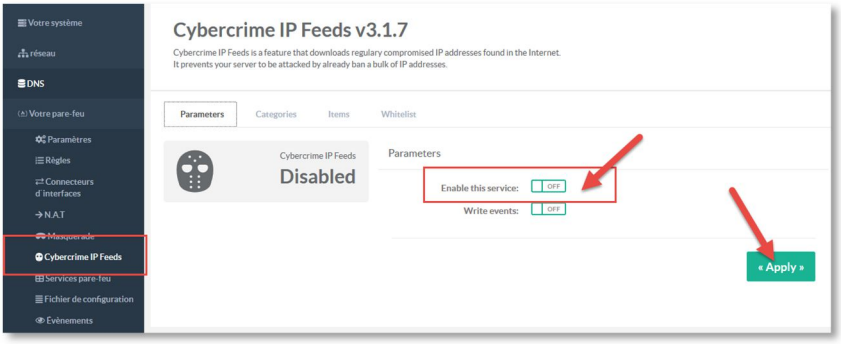


CYBERCRIME IP FEEDS

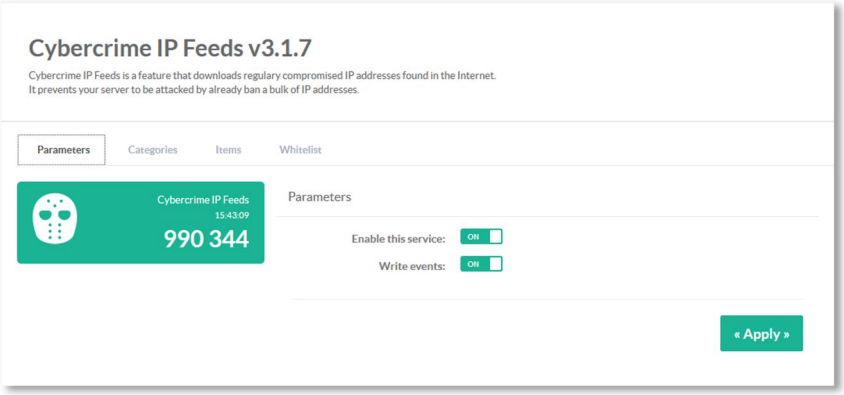
Cybercrime IP Feeds is a feature that downloads regularly compromised IP addresses found in the Internet.
It prevents your server to be attacked by already ban a bulk of IP addresses.
You have to enable this feature only if your Artica server is installed inside Internet in order to protect him.

Enable Cybercrime IP Feeds

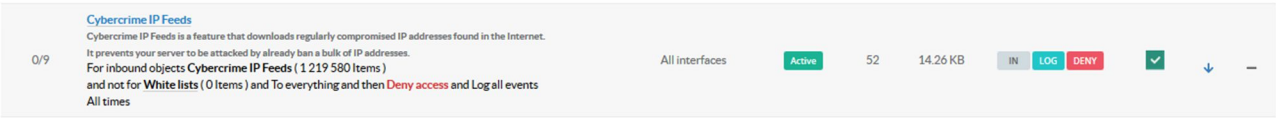
On "**Your Firewall**", select **Cybercrime IP Feeds** menu.
On the Parameters section, click on "Enable this service"
If you want to log all banned addresses from Cybercrime IP Feeds, turn on the "**Write events**" checkbox.



Wait a few minutes, you will see that the status is turned to green with the number of IP addresses saved in databases and that is automatically rejected by the firewall.

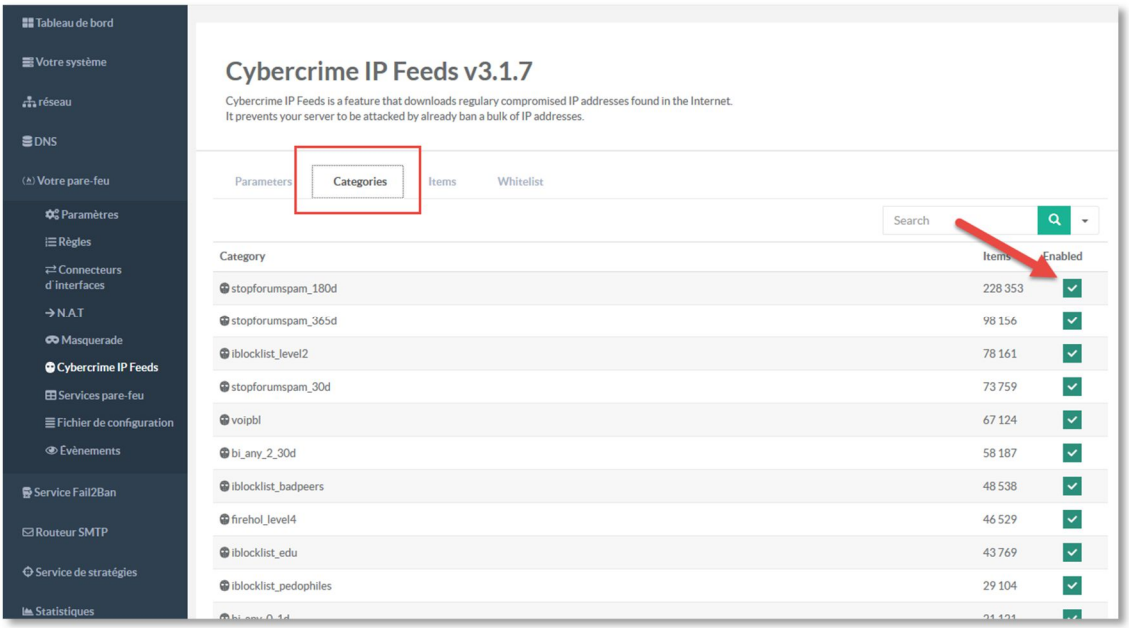


Go into your rules, you will find a new locked rule



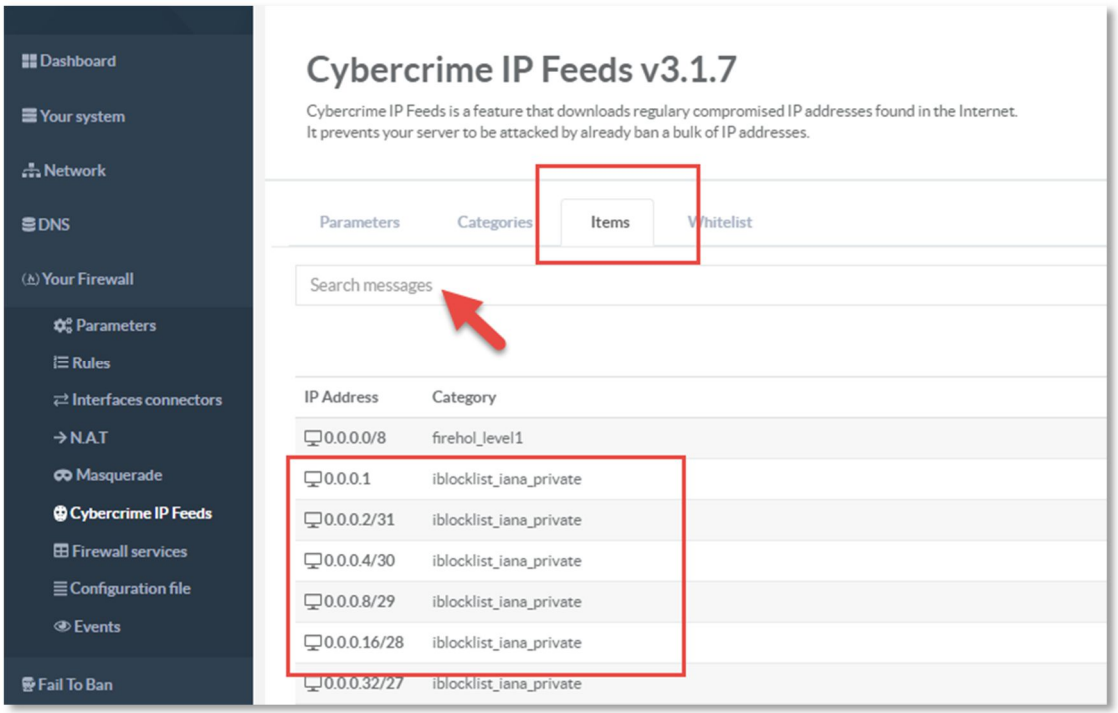
Categories

Blocked IP addresses are generated from several community groups. These community groups (aka categories) can be displayed in the "**Categories**" section.
This section list groups and allows you to enable or disable the banned list.



Display blocked IP database.

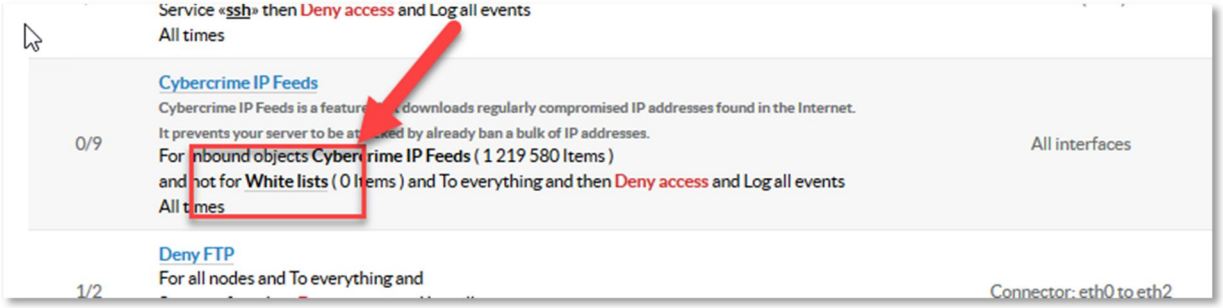
The **items** tab allows you to search and display blocked remote addresses added in your firewall database.
A search engine allows you to find some elements.
Search pattern can be 192.168.1.1 for an IP or 192.168.*.1 or 192.168.1.0/24 to see all IPs inside the CDIR network.



Whitelist

If you need to allow some blocked addresses (a single IP address or a network), use the whitelist tab.
The whitelist section allows you to add/import IP addresses you need to bypass for the Cybercrime IP Feeds feature.

Search the CyberCrime rule



Click on the White lists link to add CDIR or ip addresses in the whitelist database.

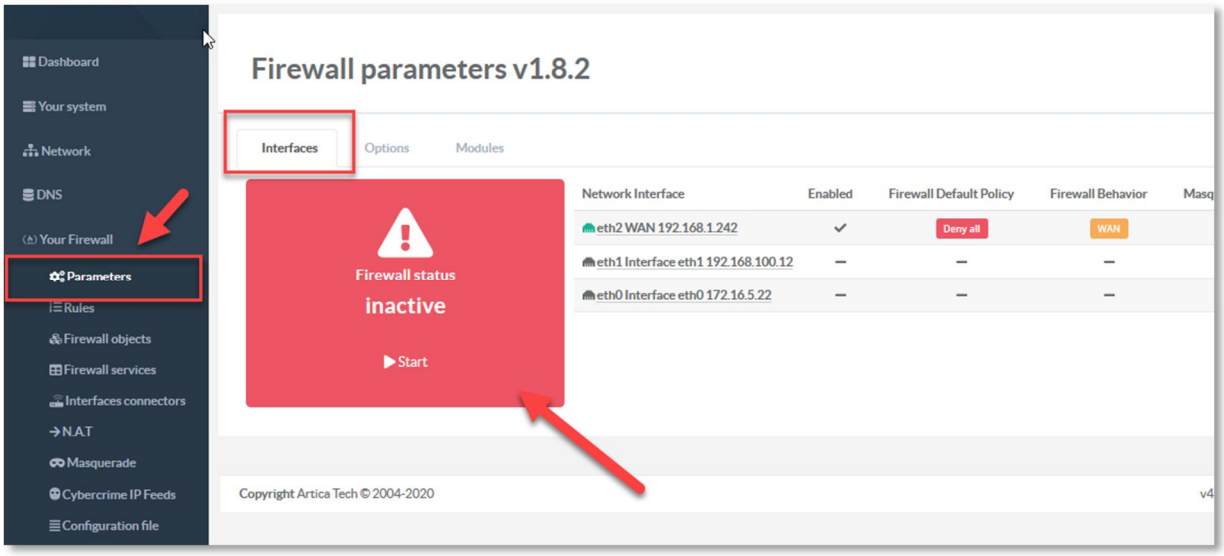
MONITORING RULES AND SERVICE

Firewall service

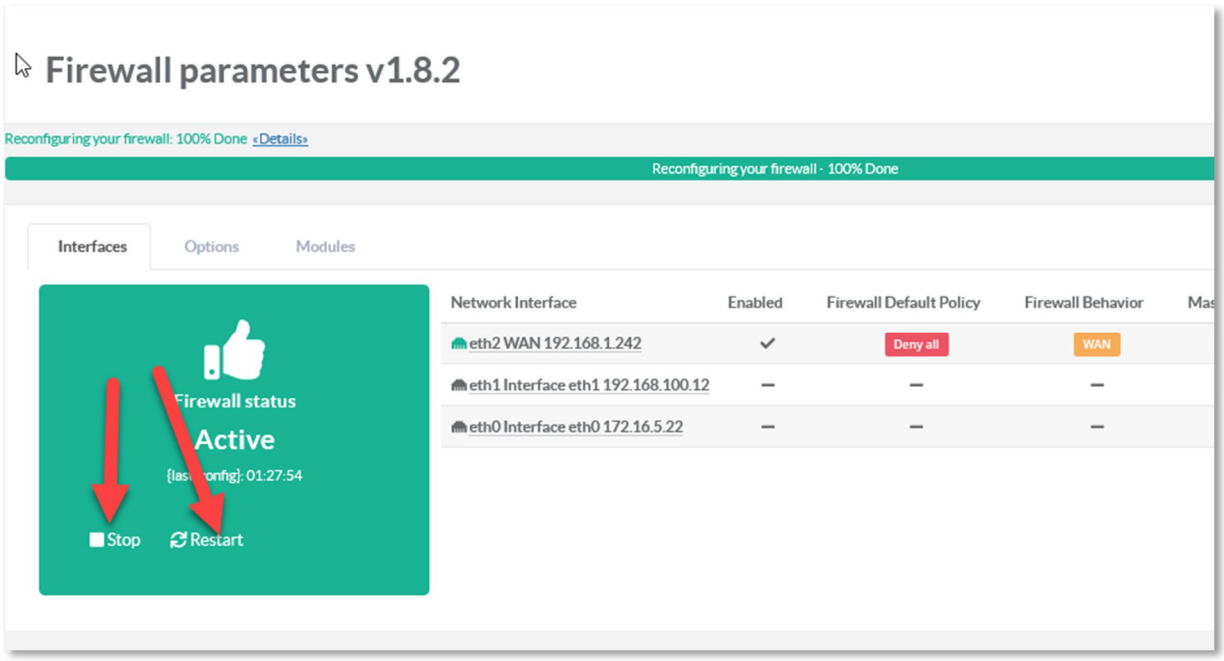
Start/stop via the Web console

On the Artica Web console, under "**Your Firewall**" and **parameters**, the "**interfaces**" section display the status of the firewall if it is active or not.

A button under the status allows you to start the firewall.

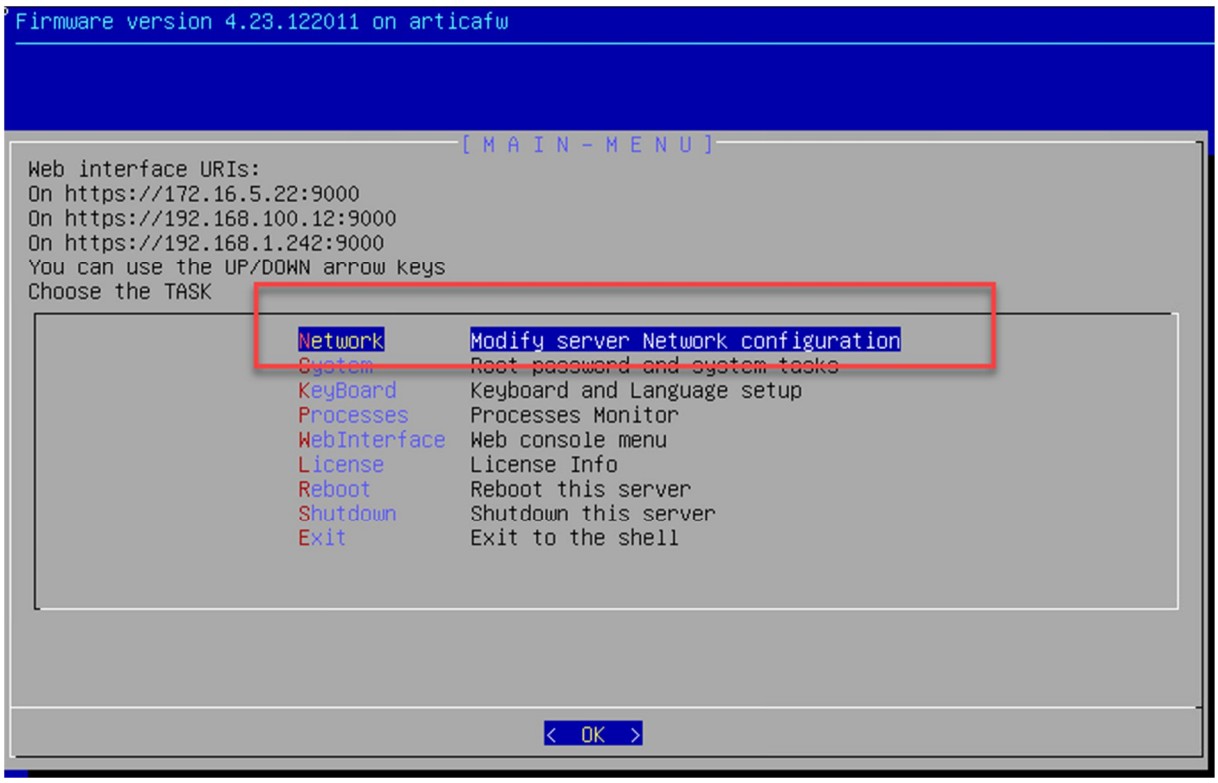


If the Firewall is active, you can use the button "**Stop**" to stop the firewall and "**Restart**" to reset and reconfigure the firewall.

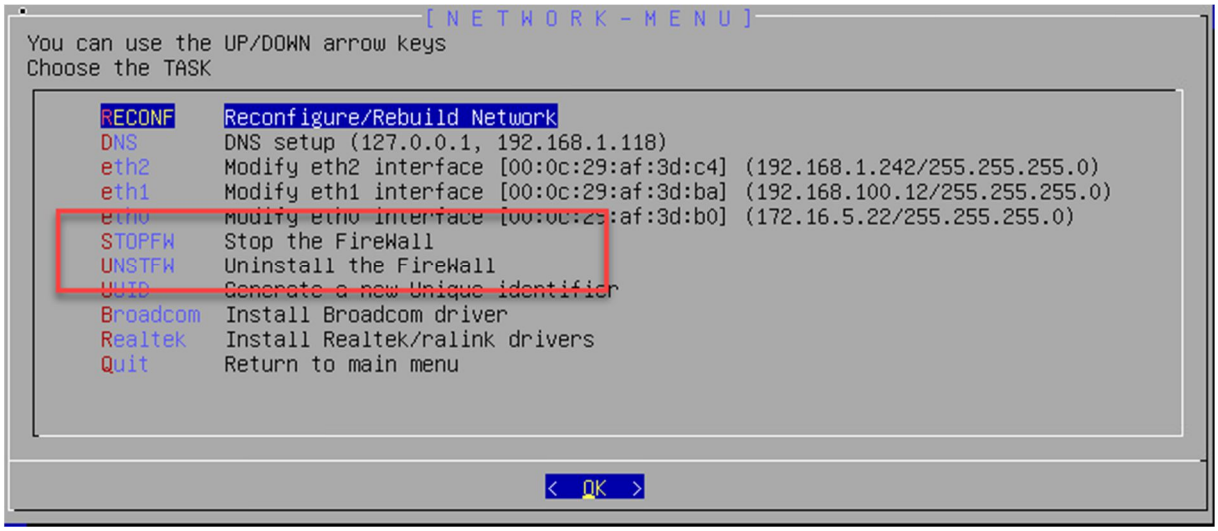


Start/stop via the system console

On the system console , select the "**Network**" menu



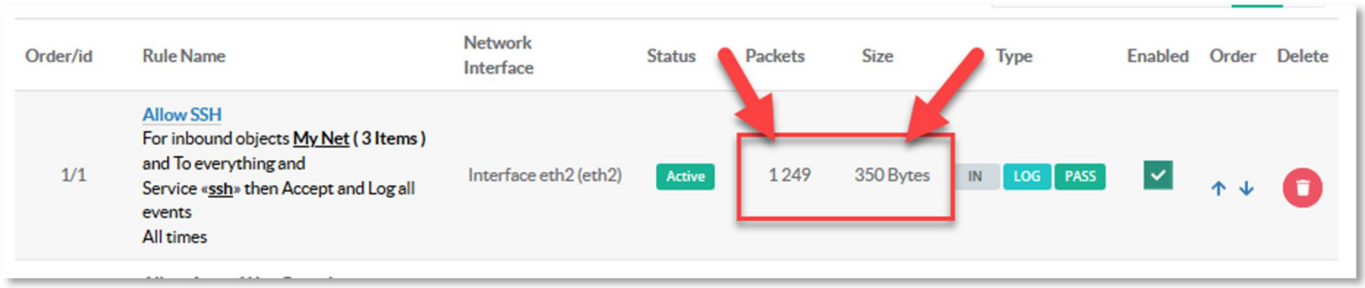
If the firewall is installed, you can stop the firewall or uninstall the firewall service.
If the firewall is not installed, you can install the firewall service.



Status, size and packets.

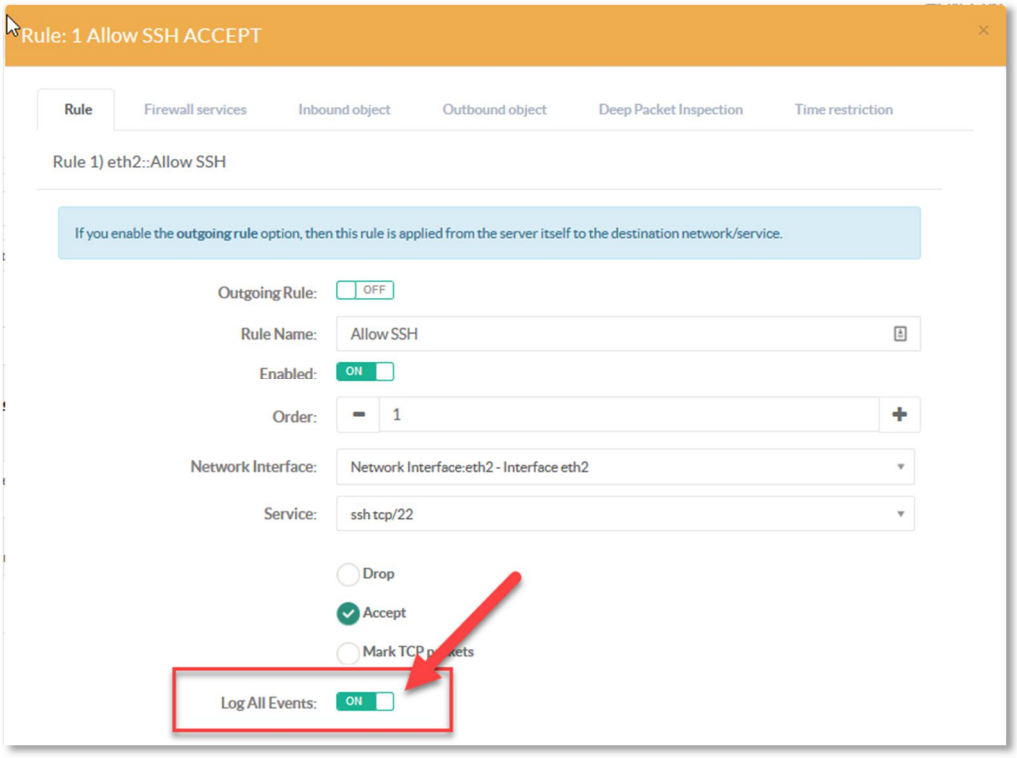
In the rules table, a rule can be inactive or active, inactive means the rule is not in production mode or as been refused for incompatibility issue.

If a rule is applied and matches any packets, you will see in the rules table the sum of packets and packets size passed through the rule.

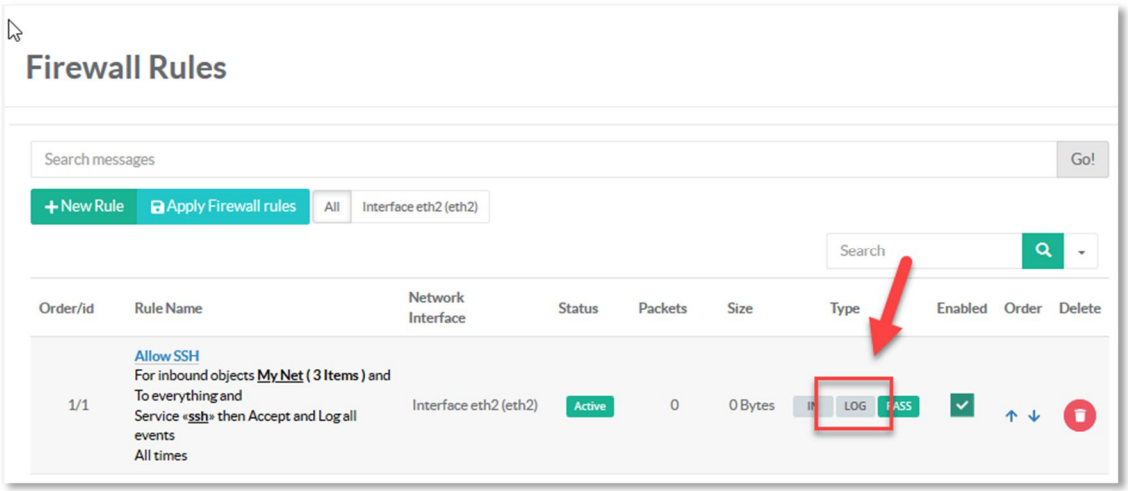


Log rule events

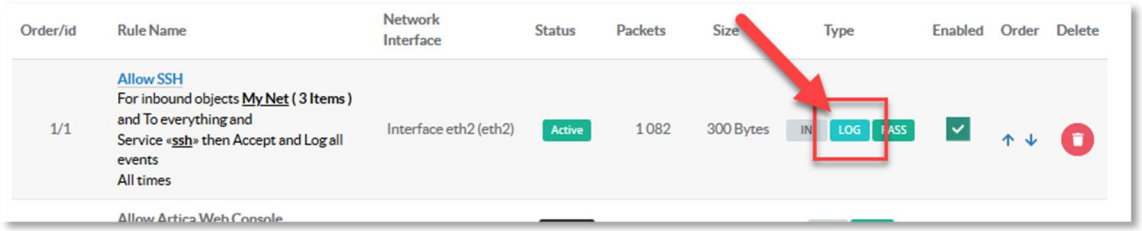
If you need to trace a rule, on the rule setting, enable the **Log All Events** option



A stamp "**LOG**" will be displayed in the table. If the stamp is grey, this means the event rule is **not active**.



If the stamp is **turquoise blue**, then the LOG rule is **active**.

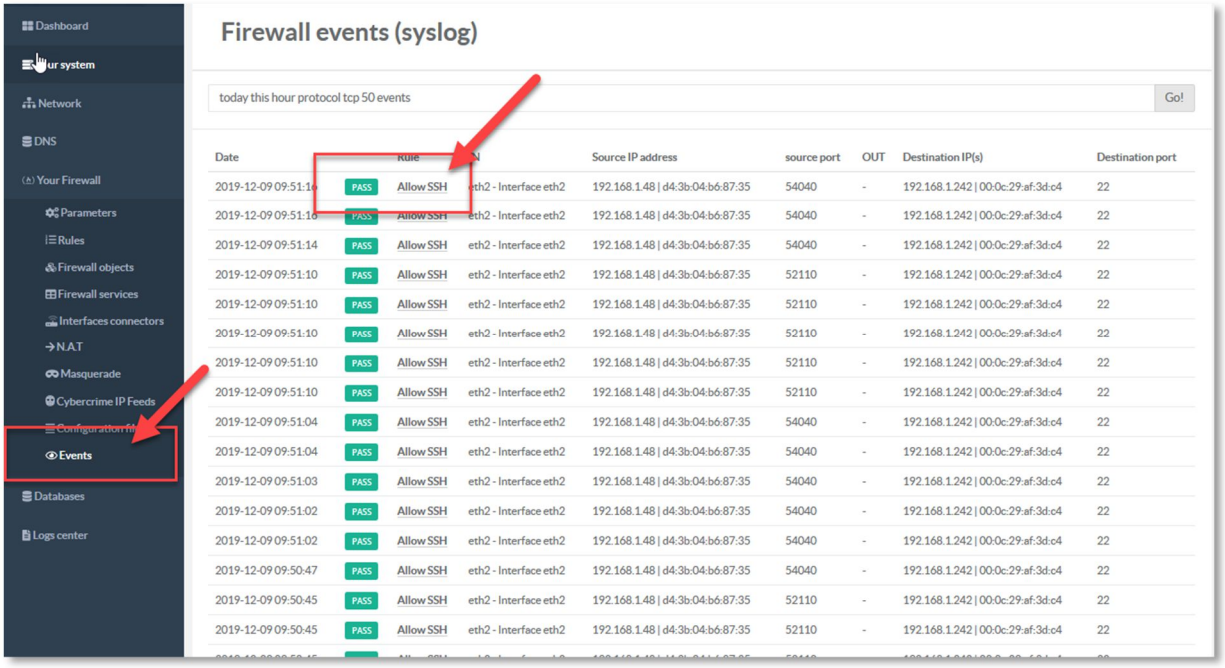


Display events

The events section allows you to display events (rules with events enabled) in order to see which node are allowed or denied.

If you want to find a specific rule, type in the search field **ACCEPT_[ruleid]** or **DROP_[ruleid]** as ruleid is the numeric ID of your firewall rule. Except defaults rules as:

- -999 The default rule according to policy
- -998: MALFORMED BAD
- -997: MALFORMED XMAS
- -996: SYN FLOOD
- -995: ICMP FLOOD
- -994: NEW TCP w/o SYN
- -993: DHCP Query
- -992: Artica Web console
- -991: MALFORMED NULL

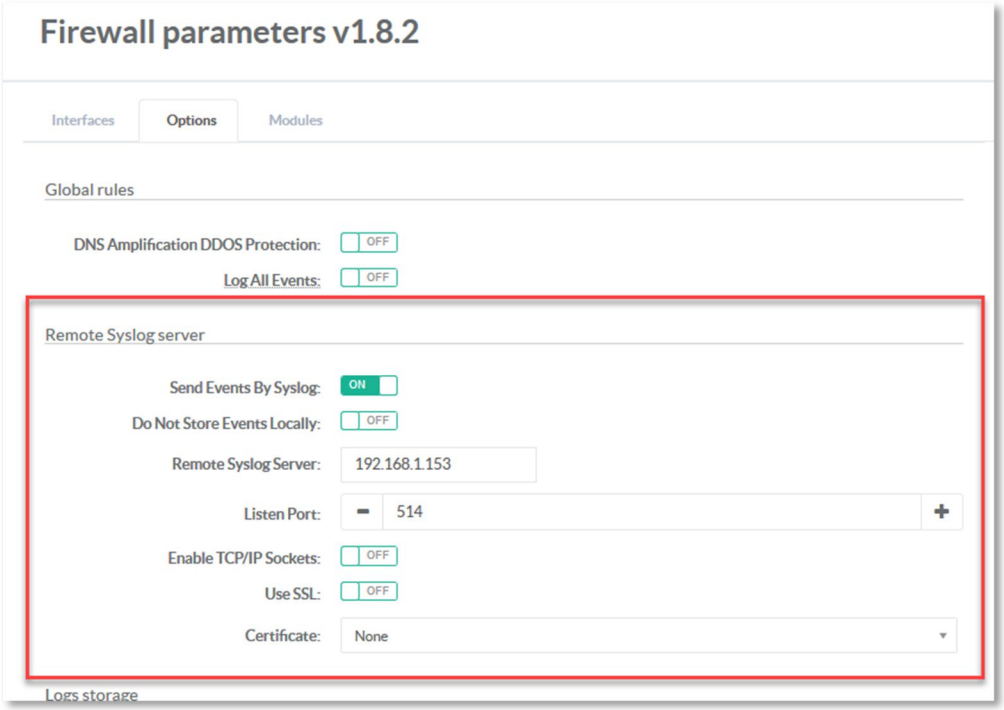


Remote log/syslog server

You can send all firewall event to a log server using syslog (or to an Artica server act as syslog server)

To use this feature, you need a valid Enterprise license

- On the left menu, choose “**Your Firewall” / “Parameters**”
- Turn on the **Send Events by Syslog** option.
- Set the IP address of your **Syslog server** and the **remote udp or tcp port**.
- If your remote server use TCP protocol,



Firewall parameters v1.8.2

Global rules

DNS Amplification DDOS Protection: OFF

Log All Events: OFF

Remote Syslog server

Send Events By Syslog: ON

Do Not Store Events Locally: OFF

Remote Syslog Server: 192.168.1.153

Listen Port: 514

Enable TCP/IP Sockets: OFF

Use SSL: OFF

Certificate: None

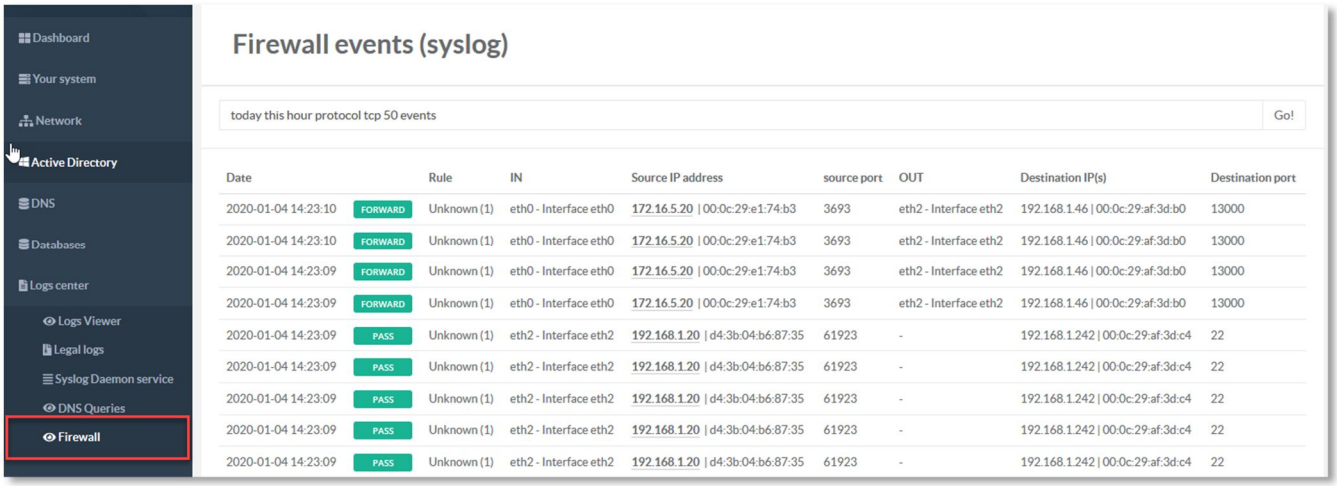
Logs storage

If your remote syslog server accept only SSL, turn on the “**Use SSL**” option and select a client certificate from the certificate center.

By default, events are stored locally on the Artica Firewall and are sent to the syslog server.

If you want to store events only on the syslog server, click on “**Do not store Events locally**”. In this case no event will be generated on the Firewall itself and display events feature will hidden on the Artica Interface.

If the target syslog server is an Artica, you will be able to see firewall events trough the Artica Web console on the Artica server that acts as the syslog server



Firewall events (syslog)

today this hour protocol tcp 50 events

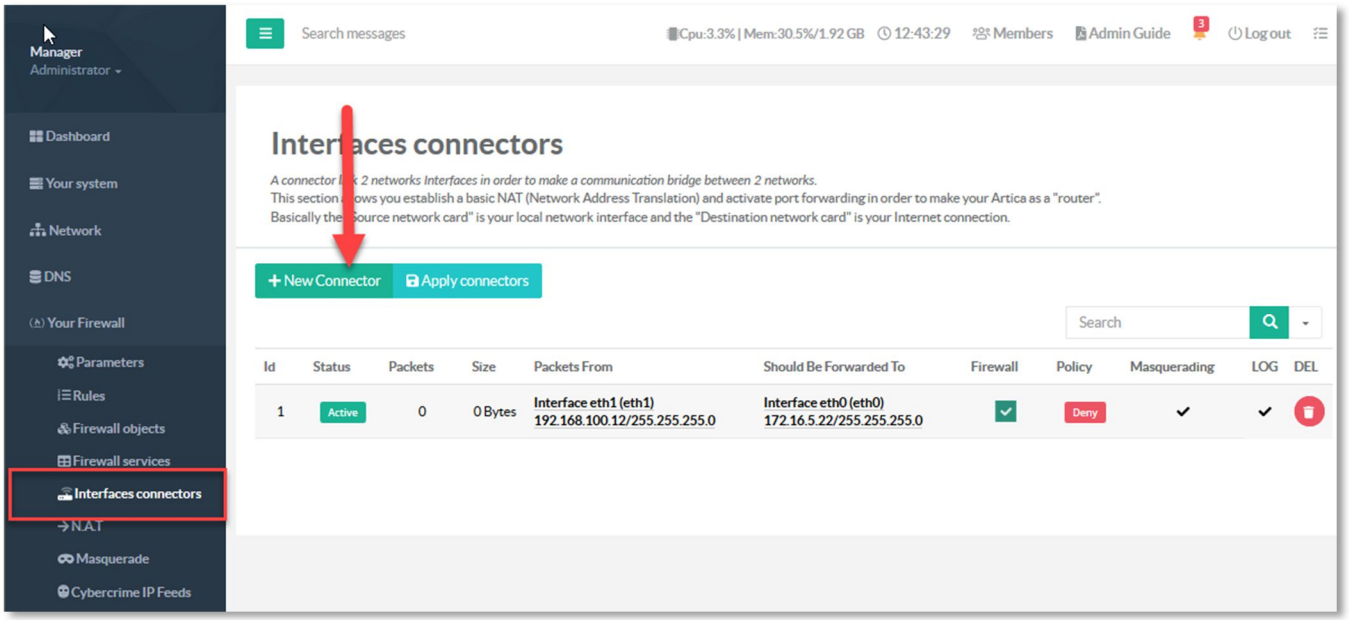
Date		Rule	IN	Source IP address	source port	OUT	Destination IP(s)	Destination port
2020-01-04 14:23:10	FORWARD	Unknown (1)	eth0 - Interface eth0	172.16.5.20 | 00:0c:29:e1:74:b3	3693	eth2 - Interface eth2	192.168.1.46 | 00:0c:29:af:3d:b0	13000
2020-01-04 14:23:10	FORWARD	Unknown (1)	eth0 - Interface eth0	172.16.5.20 | 00:0c:29:e1:74:b3	3693	eth2 - Interface eth2	192.168.1.46 | 00:0c:29:af:3d:b0	13000
2020-01-04 14:23:09	FORWARD	Unknown (1)	eth0 - Interface eth0	172.16.5.20 | 00:0c:29:e1:74:b3	3693	eth2 - Interface eth2	192.168.1.46 | 00:0c:29:af:3d:b0	13000
2020-01-04 14:23:09	FORWARD	Unknown (1)	eth0 - Interface eth0	172.16.5.20 | 00:0c:29:e1:74:b3	3693	eth2 - Interface eth2	192.168.1.46 | 00:0c:29:af:3d:b0	13000
2020-01-04 14:23:09	PASS	Unknown (1)	eth2 - Interface eth2	192.168.1.20 | d4:3b:04:b6:87:35	61923	-	192.168.1.242 | 00:0c:29:af:3d:c4	22
2020-01-04 14:23:09	PASS	Unknown (1)	eth2 - Interface eth2	192.168.1.20 | d4:3b:04:b6:87:35	61923	-	192.168.1.242 | 00:0c:29:af:3d:c4	22
2020-01-04 14:23:09	PASS	Unknown (1)	eth2 - Interface eth2	192.168.1.20 | d4:3b:04:b6:87:35	61923	-	192.168.1.242 | 00:0c:29:af:3d:c4	22
2020-01-04 14:23:09	PASS	Unknown (1)	eth2 - Interface eth2	192.168.1.20 | d4:3b:04:b6:87:35	61923	-	192.168.1.242 | 00:0c:29:af:3d:c4	22
2020-01-04 14:23:09	PASS	Unknown (1)	eth2 - Interface eth2	192.168.1.20 | d4:3b:04:b6:87:35	61923	-	192.168.1.242 | 00:0c:29:af:3d:c4	22

INTERFACES CONNECTORS

A connector link 2 networks Interfaces in order to make a communication bridge between 2 networks.
A connector definition consists of a set of rules for traffic passing through the host running the firewall

This section allows you establish a basic NAT (Network Address Translation) and activate port forwarding in order to make your Artica as a "router".

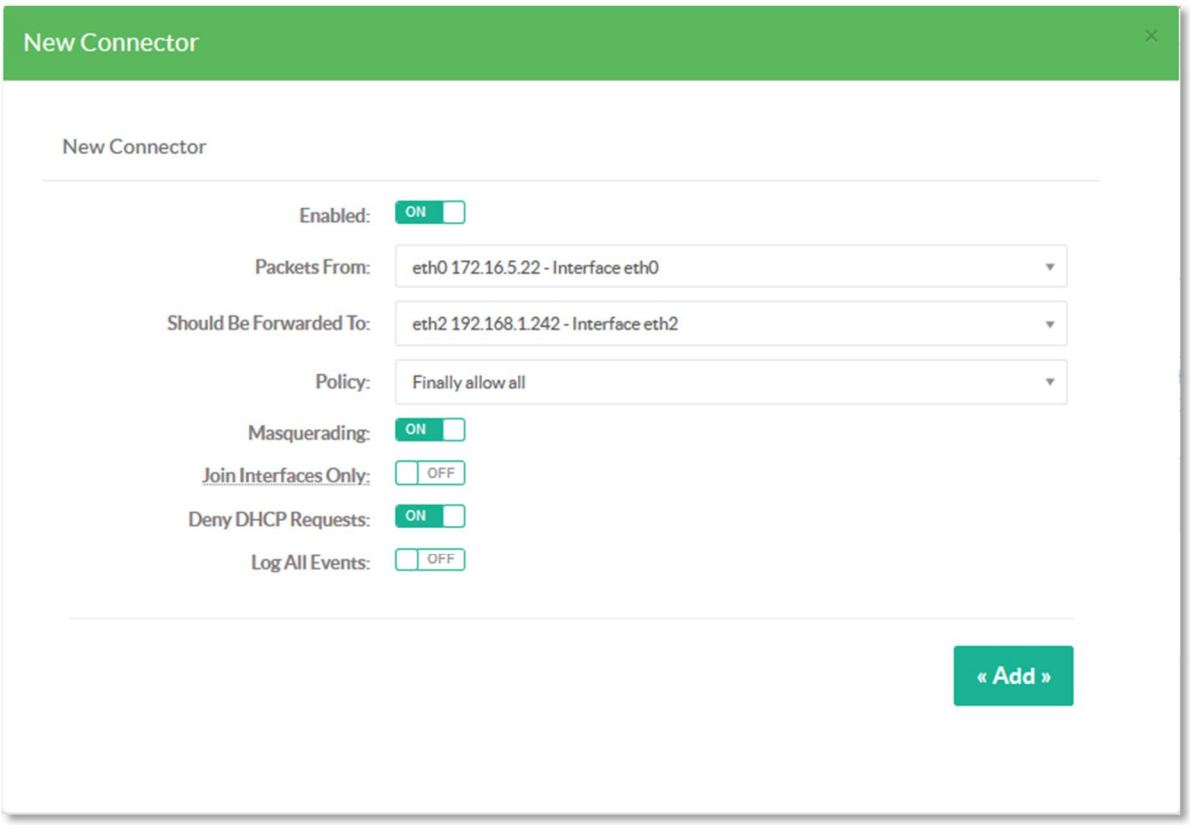
Basically the "Source network card" is your local network interface and the "Destination network card" is your Internet connection.



A connector can be displayed in the Firewall rules section, with a connector, your are allowed to specify which packets are allowed or denied to be forwarded

Create an interface connector

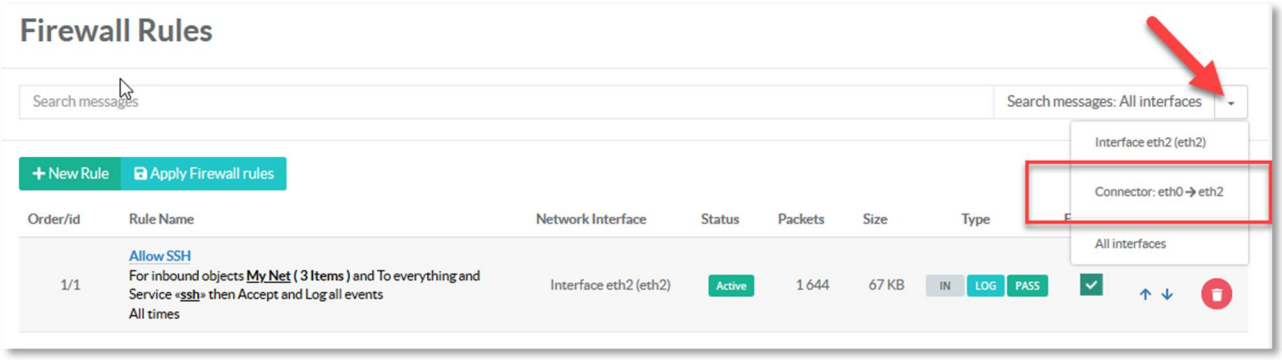
When adding a new Interface connector you have to define the direction of the packets flow. Means from which interface and from which interface packets are forwarded.



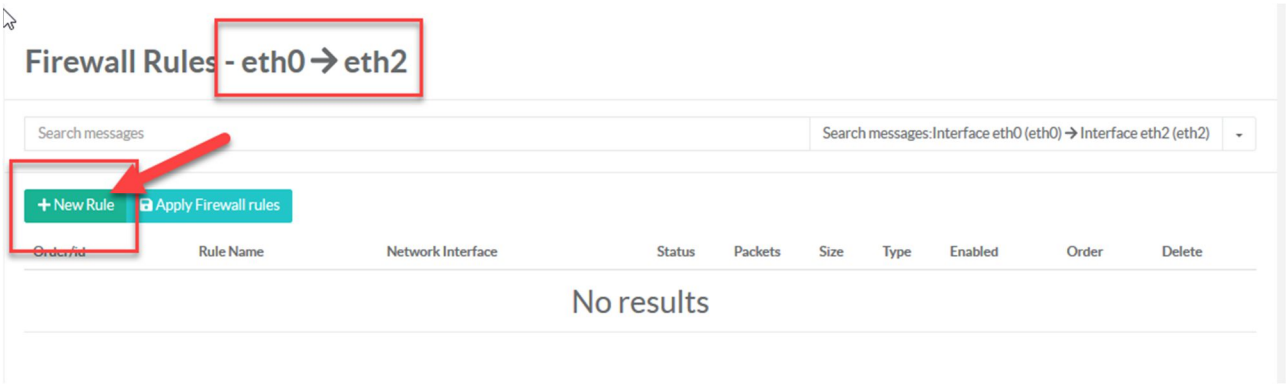
- **Enabled**: Activate or disable the connector.
- **Packets From**: Source Network interface.
- **Should be Forwarded to**: The destination interface.
- **Policy**: the default policy (everything are denied or allowed)
- **Masquerading**: Masquerade packets from the outgoing interface
  if you want to specify what to MASQUERADE, see Masquerade section.
- **Join interfaces only**: Disable Firewall rules based on this connector
- **Deny DHCP requests**: Deny any DHCP broadcast pass through this connector.
- **Log all events**: Add connector events in the global Log rule events.

Create rules for an interface connector.

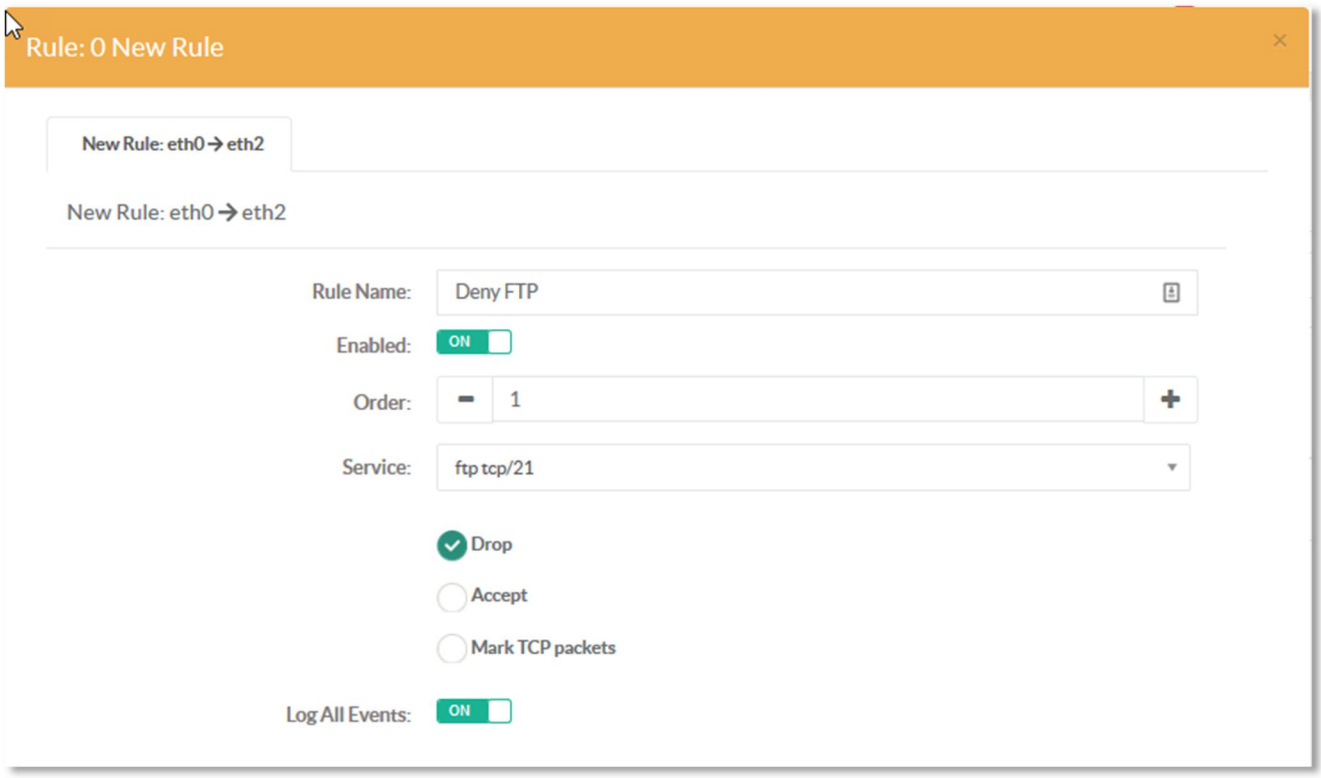
In the rules section, Click on the drop-down button in order to choose the connector.



The table will switch to selected rules for your connector.
Click on **New rule** button.



Create the rule according to the same behavior as a standard firewall rule.



NAT (NETWORK ADRESS TRANSLATION) RULES

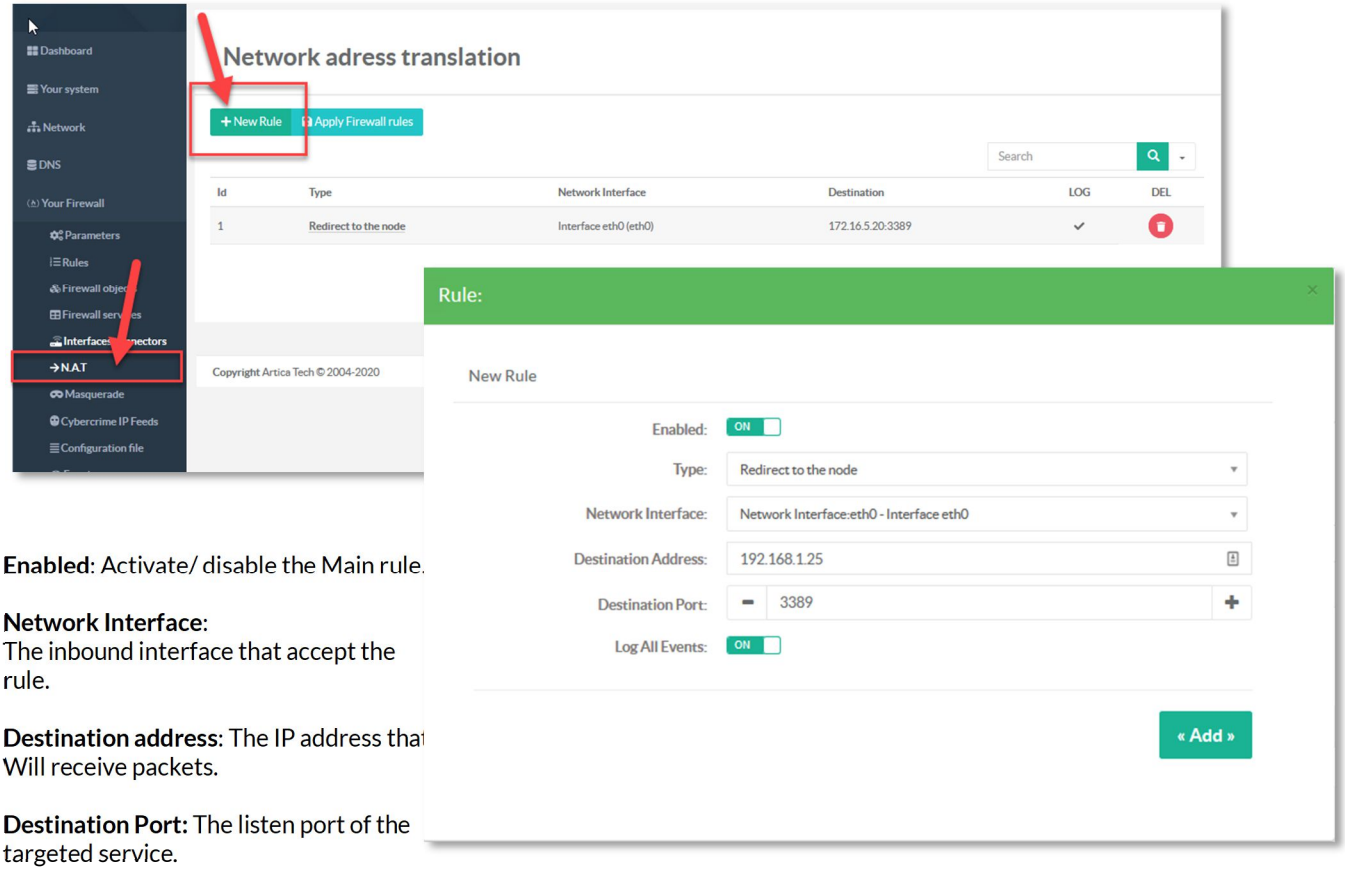
The N.A.T section

Nat rules allows you to forward packets to a specific destination.
Destinations and forward behaviors are defined in NAT section.

This section is only used to define the main rule behavior, others details (sources addresses, destination addresses…) are defined in the rules section.

Create a destination NAT.

The first step is to create your NAT destination. On the left menu, click on NAT link.
On the table, click on "New rule"



Enabled: Activate/ disable the Main rule.

Network Interface:
The inbound interface that accept the rule.

Destination address: The IP address that Will receive packets.

Destination Port: The listen port of the targeted service.

Log All events: Add in the log section all events related to this NAT rule.

NAT behaviors

You have 3 main NAT behaviors:

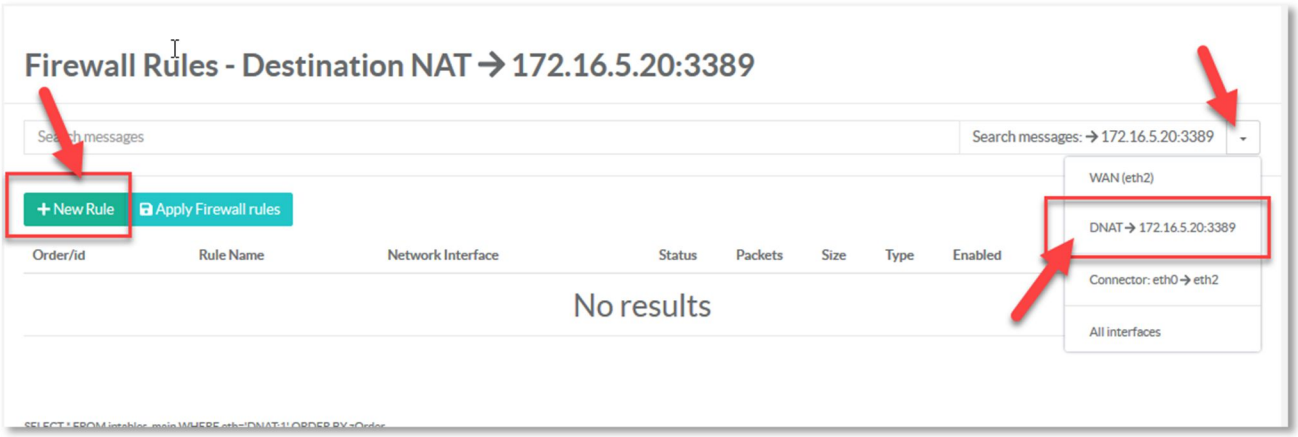
- **Destination NAT:**
  Defines a Destination NAT (DNAT). Commonly thought of as port-forwarding (where packets destined for the firewall with a given port and protocol are sent to a different IP address and possibly port), DNAT is much more flexible in that any number of parameters can be matched before the destination information is rewritten.
  This is the most used NAT where you redirect a requested port to a destination and port.

- **Source NAT:**
  Defines a Source NAT (SNAT). SNAT is similar to masquerading but is more efficient for static IP addresses.
  You can use it to give a public IP address to a host which does not have one behind the firewall

- **Redirect to the node:**
  Redirect matching traffic to the local machine.
  This is typically useful if you want to intercept some traffic and process it on the local machine

Affect firewall rules to a destination NAT.

After adding your main NAT rule, click on **Rules** on the left menu.
In the rules section, Click on the drop-down button in order to choose the main NAT rule

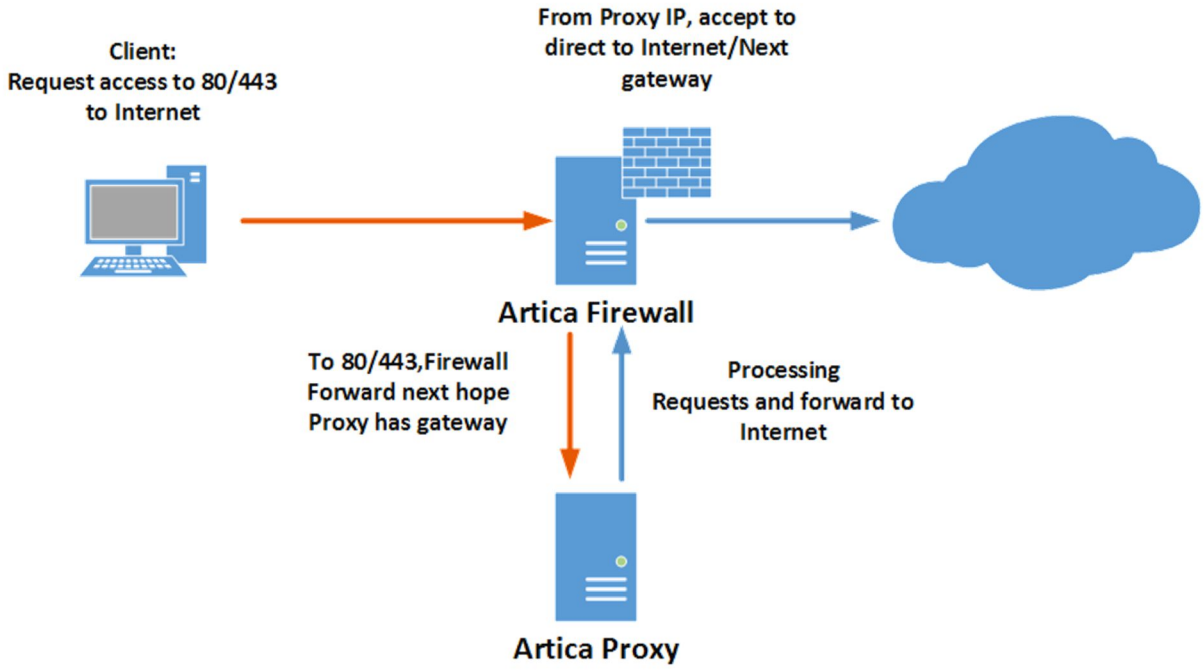


Click on **New rule** in order to define the context of your NAT rule.

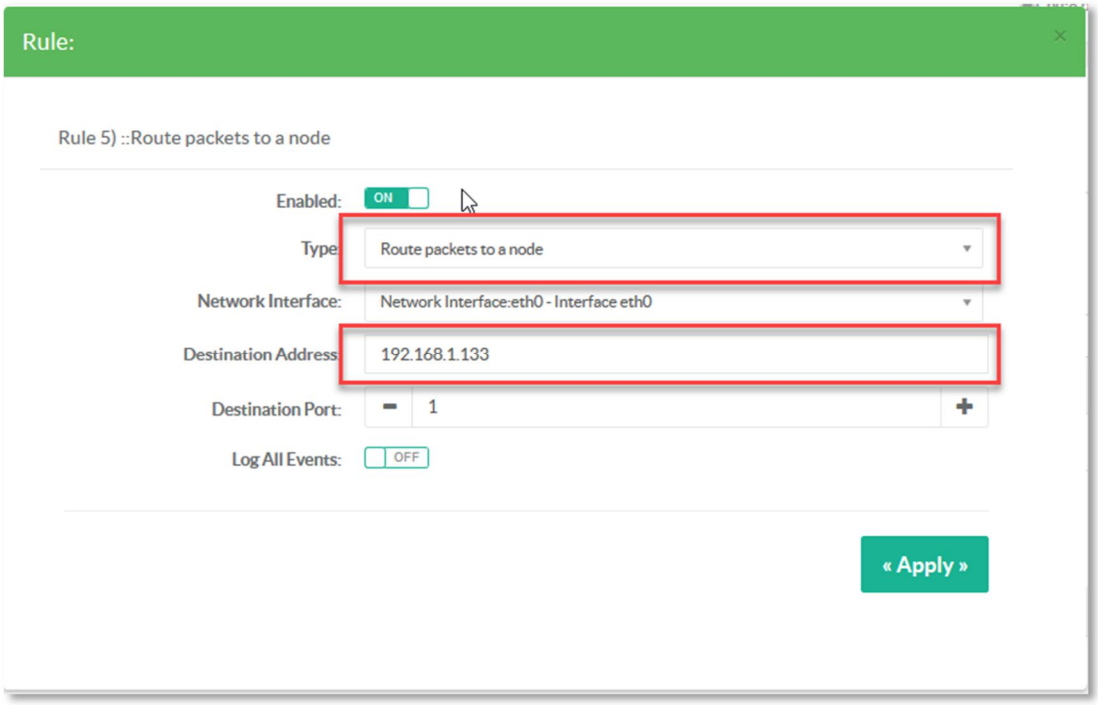
Route packets to a node

Route packets to a node allows you to forward TCP packets to a specific remote gateway.

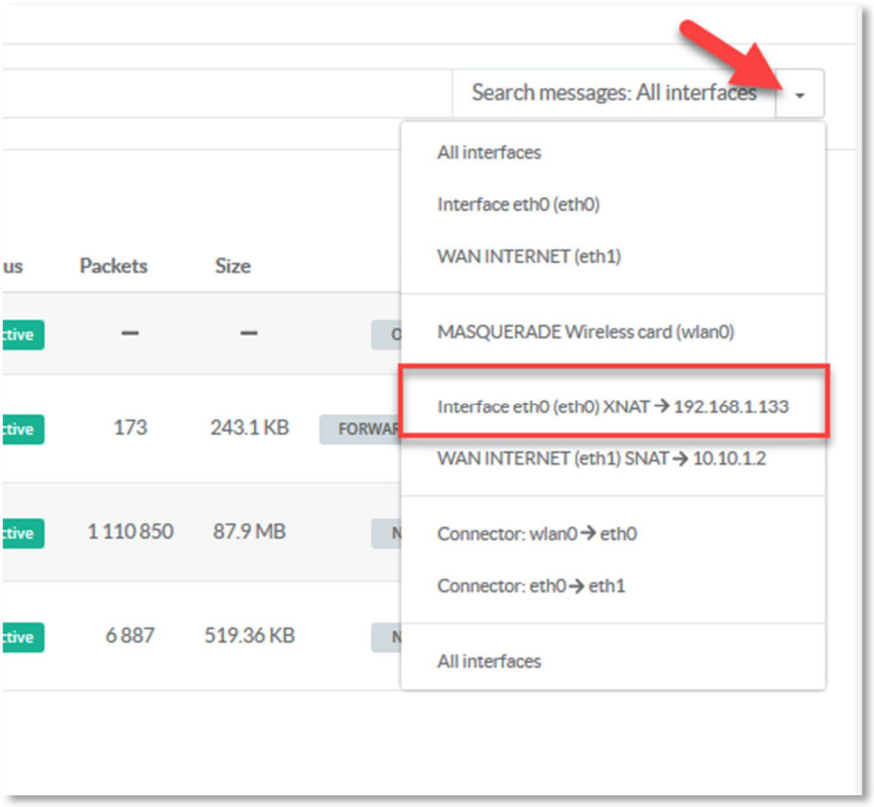
It is most commonly used when you want to route HTTP/HTTPS packets to a transparent proxy but it's working for any port.



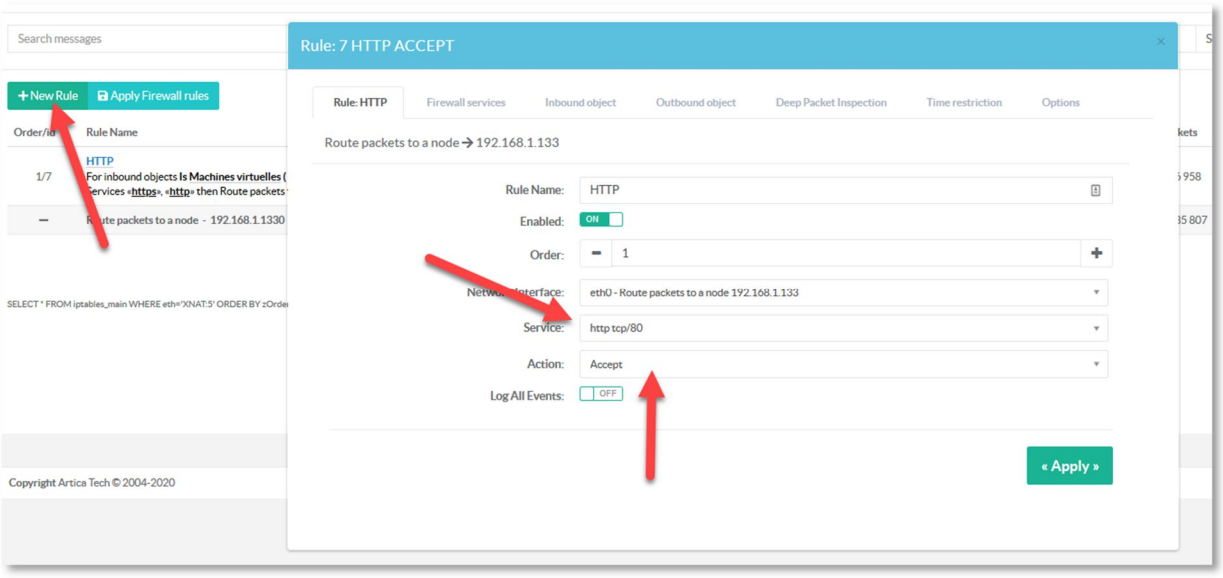
- On the NAT section, create a rule and type to "Route packets" to a node.
- Choose the Interface that will receive packets.
- Set the IP address on the Destination Address.



Go to the Firewall rules section, in the drop-down list, near the search field, choose the "**XNAT**" rule



Create a rule that "Allow" for service HTTP/HTTPs and set the source IP addresses object.



In this way, this firewall rule force the firewall to route packets to the next gateway with transparent proxy.

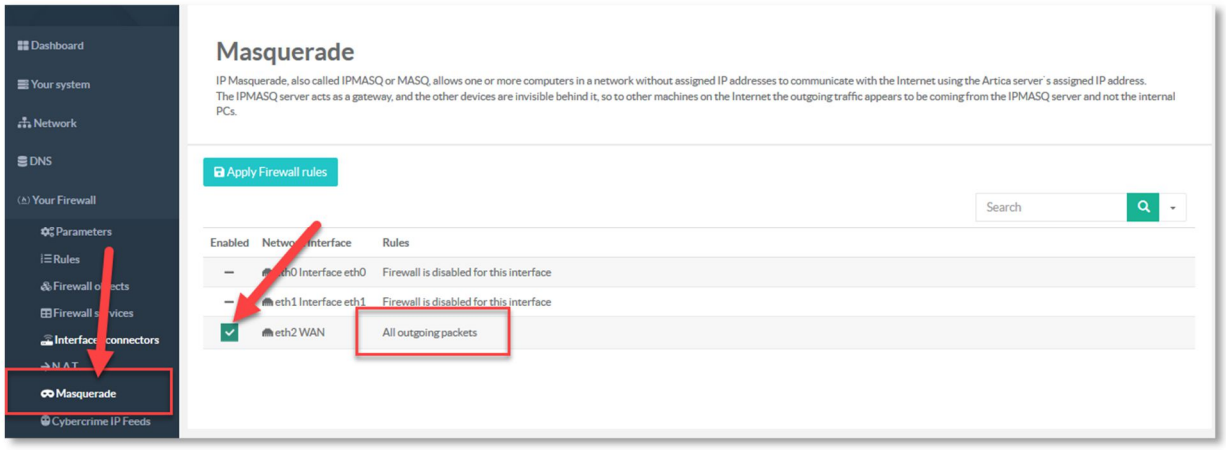
MASQUERADE

IP Masquerade, also called IPMASQ or MASQ, allows one or more computers in a network without assigned IP addresses to communicate with the Internet using the Linux server's assigned IP address.

The IPMASQ server acts as a gateway, and the other devices are invisible behind it, so to other machines on the Internet the outgoing traffic appears to be coming from the IPMASQ server and not the internal PCs

Define the Network outgoing interface to masquerade.

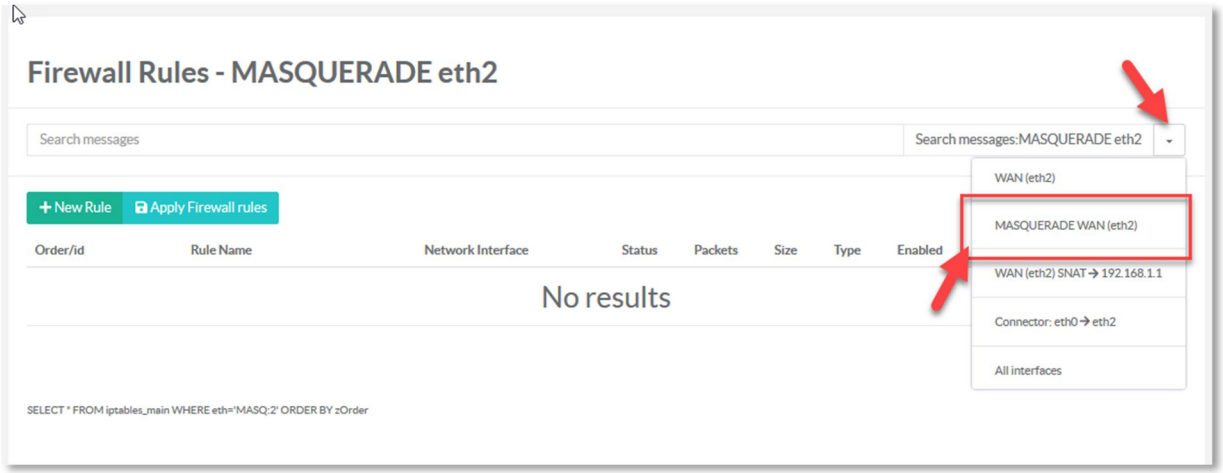
The masquerade feature allows you to enable the output interface for masquerading but also create specific firewall rules.



If no rule is specified, Artica will understand that all outgoing packets must be masqueraded

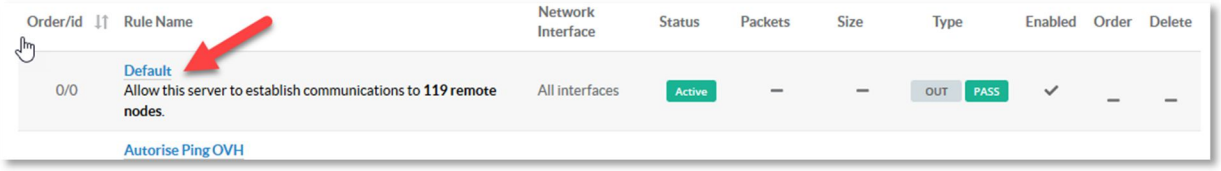
Create firewall Masquerade rules.

- Once the network interface as been defined, go into the **Rules** section
- On the drop-down icon, choose the "**MASQUERADE [interface]**" item.
- Click on **New rule** in order to create your rule.

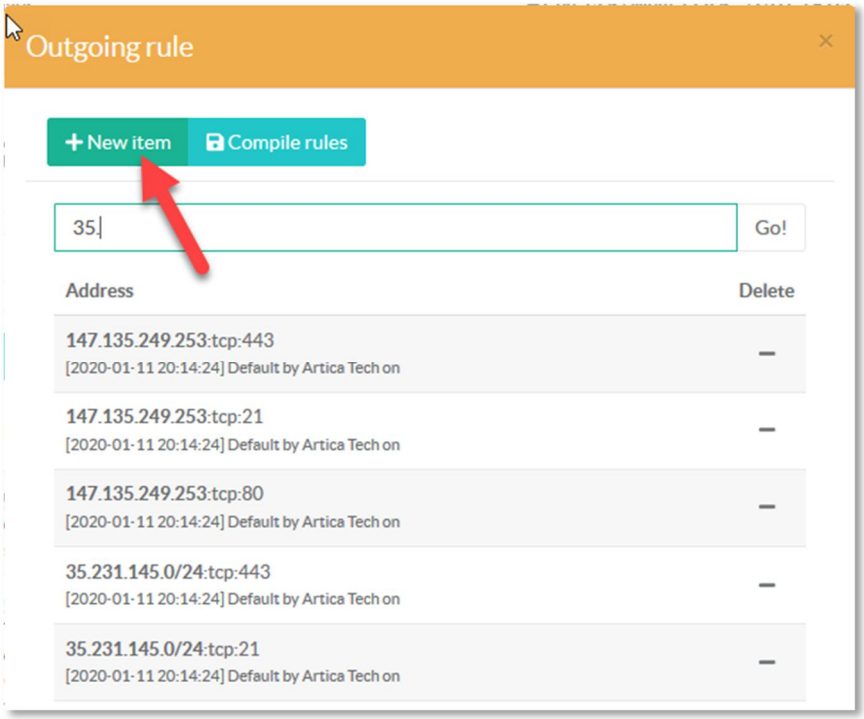


OUTGOING RULE FOR THE ARTICA SERVER ITSELF

To ensure the Artica server can connect to some destination, a specific outgoing default rule is displayed



When clicking on this rule, only one object can be managed.
Some items cannot be removed because remote addresses are used by Artica to retrieve information/updates
To add a new entry, click on "**New item**"

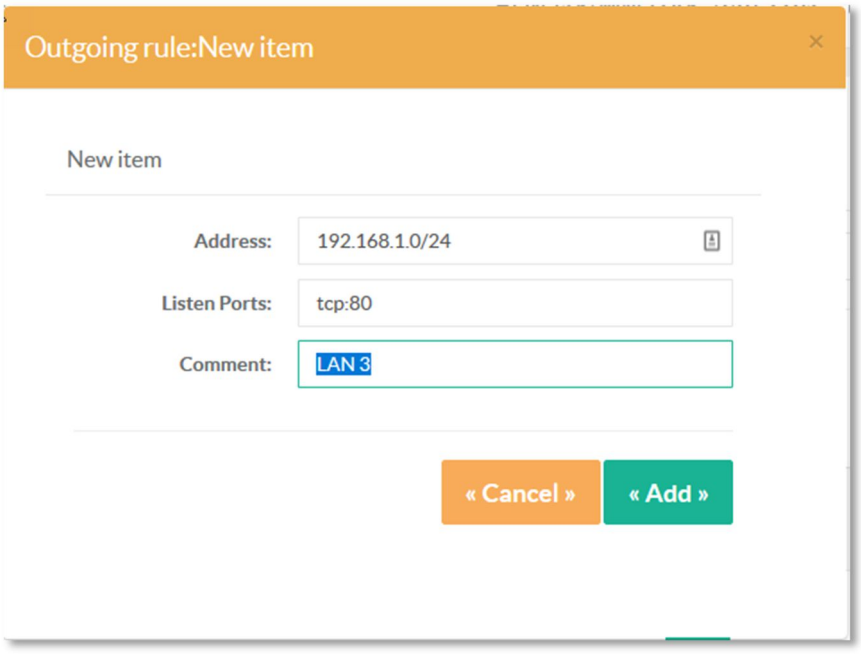


Address field: can be a single IP address or a network using CDIR notation.

Listen port:
The [**proto**:]port part of the elements may be expressed in the following forms

portnumber[-portnumber]
TCP port or range of ports expressed in TCP port numbers (80 or 1024-1030 for 1024 to 1030 port

Proto can be any of tcp, sctp, udp, udplite



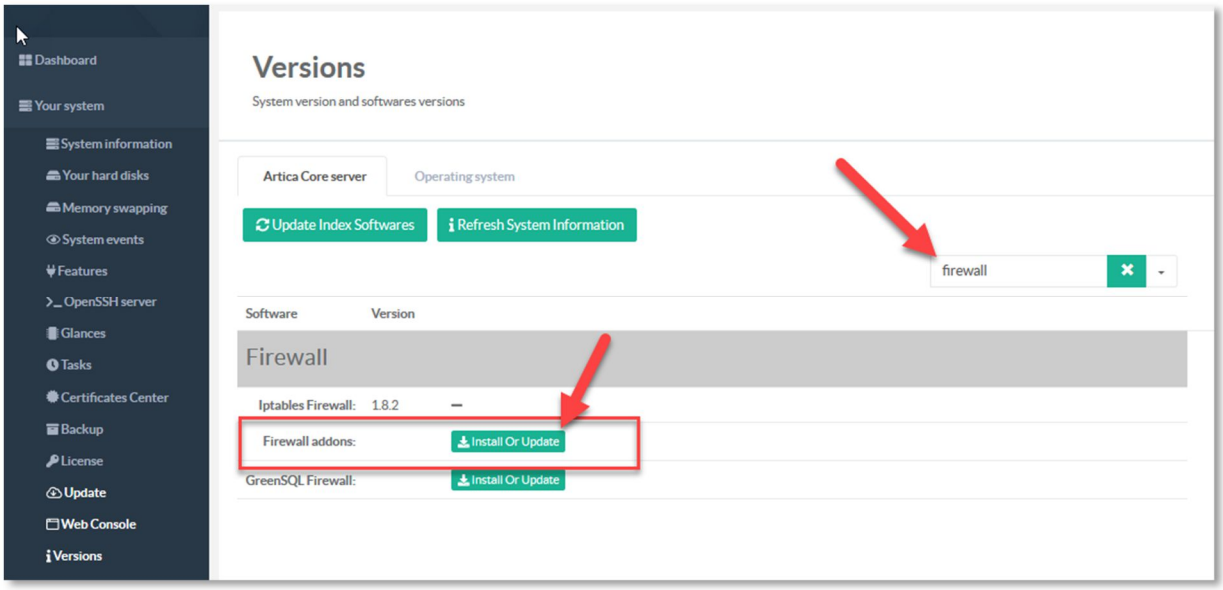
TRAFFIC SHAPING

This module is An high-performance implementation of committed access rate, or simply rate limiting, or policing.

By default, this module is limited to 10 000 IP addresses.
If you plan to use for more, contact the support team.

Install the Firewall addons module.

- On "**Your system**", select the menu "**Versions**"
- On the search field, type "**firewall**"
- If you did not have any version on the **Firewall addons** row, this means you have to install it.



- Click on **Install or Upgrade** button

Create a rule for traffic shaping

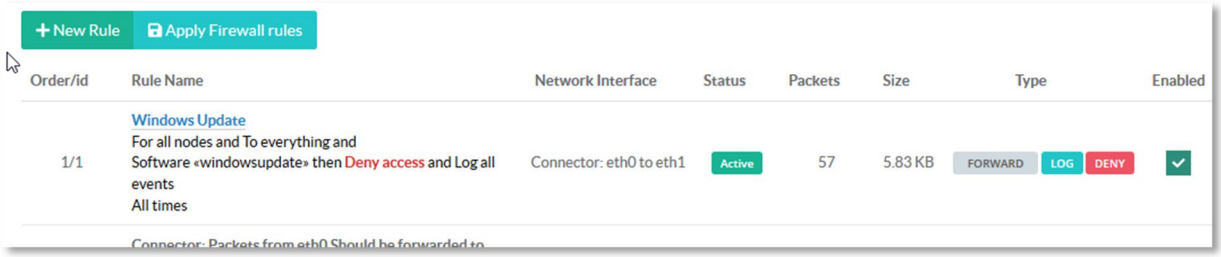
- Return back to your Firewall rules
- Create a "**deny**" rule or choose a **deny** rule you want to enable traffic shaping
- Select the rule in order to open the "**Options**" tab.

In most cases you want to shape "FORWARD" packets, means rules defined for Interfaces connectors.

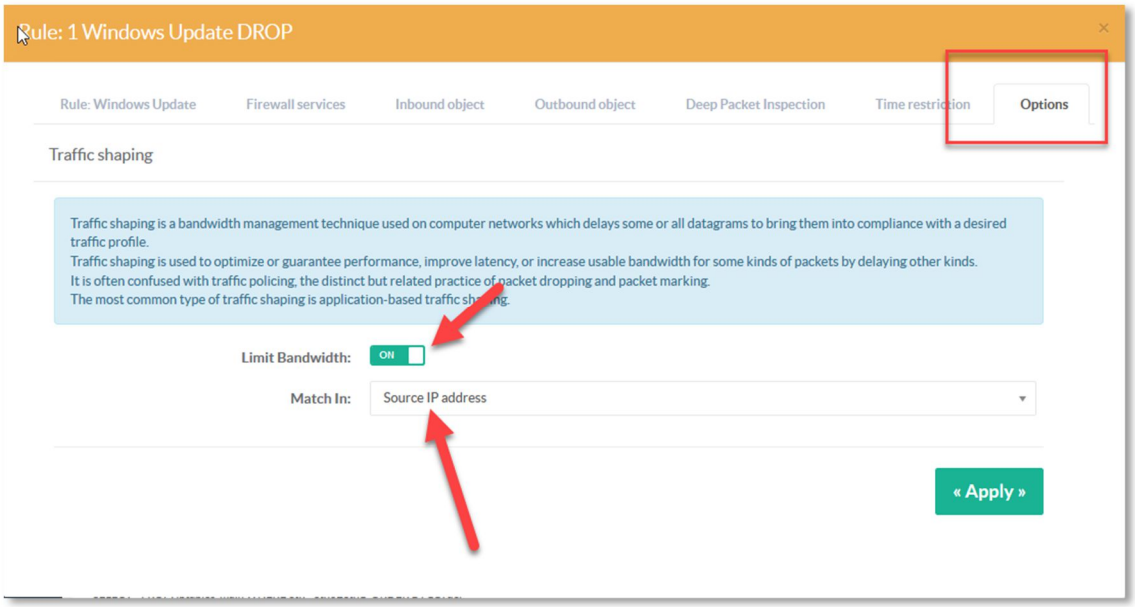
If you 2 network interfaces, this should be from the LAN interface to the WAN interface.

If you have only one interface and use Artica as single gateway, this should be FROM the Interface to the same interface.

In our example, we use a rule inside the connector LAN -> WAN that deny the application "Windowsupdate"



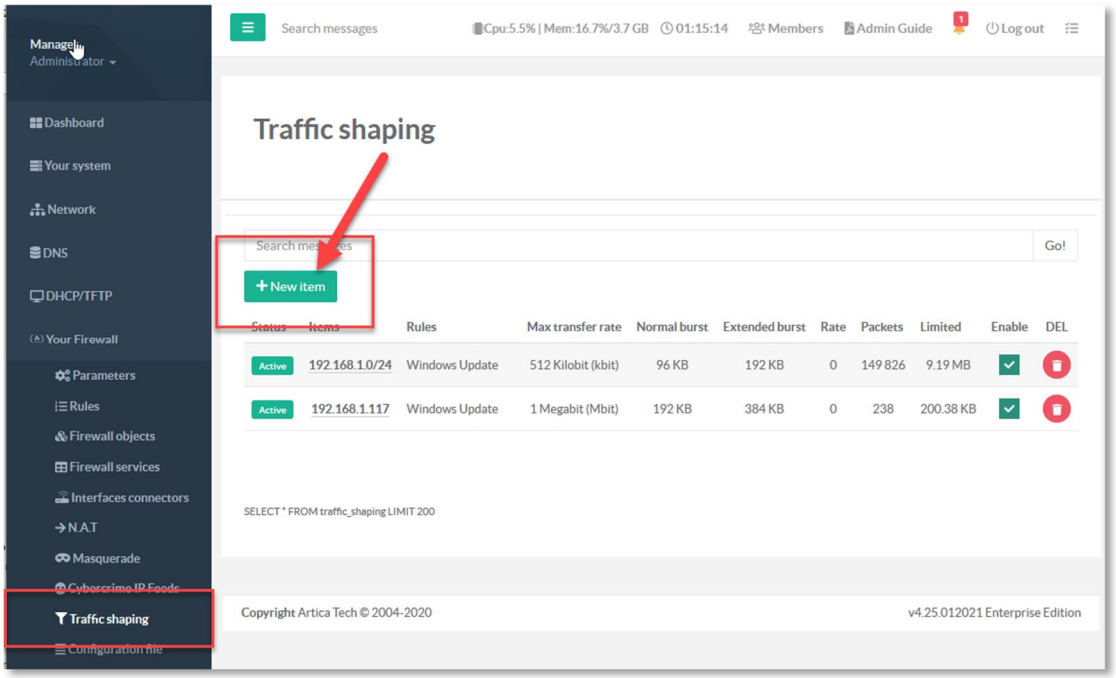
- Select the **Options** tab
- Under Traffic shaping section, turn on the "**Limit Bandwidth**" checkbox.
- Defines which element will matches the rule(Source IP address or destination IP address).



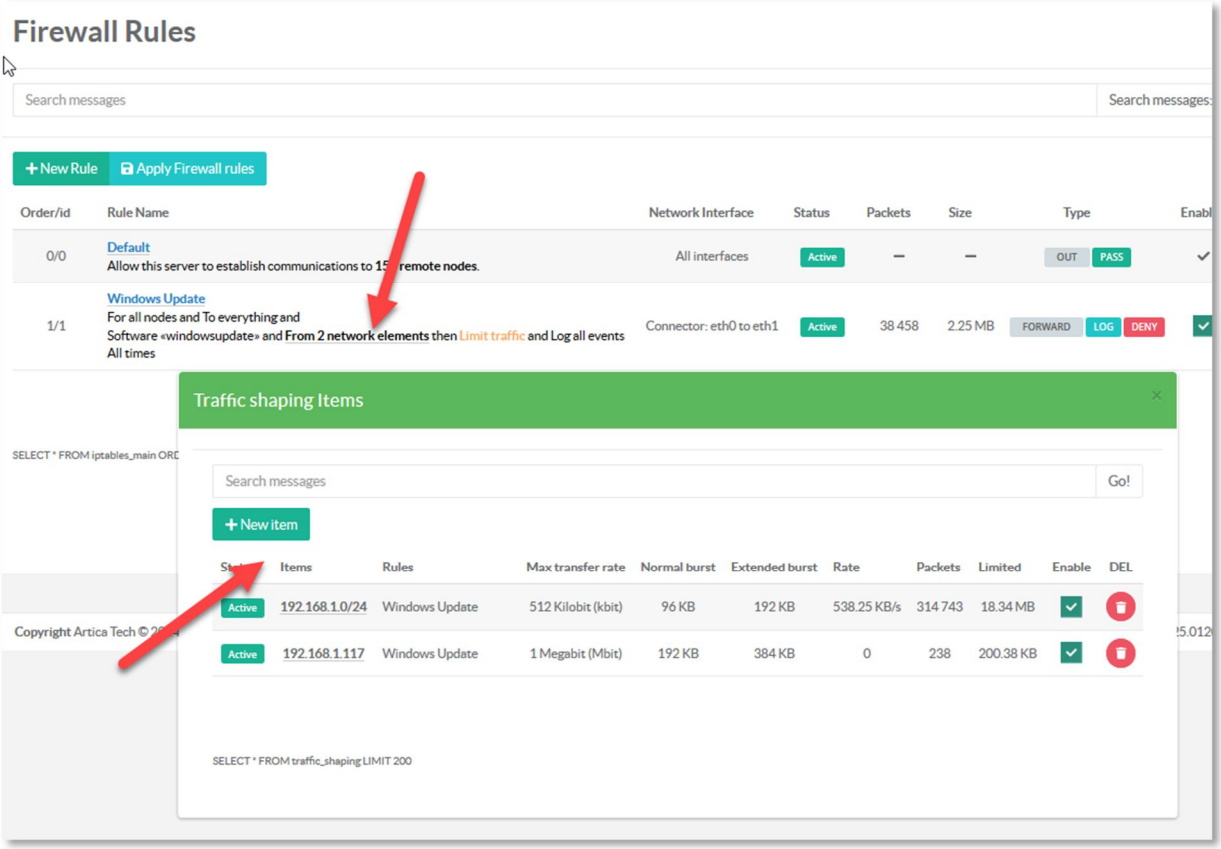
Mandatory, define traffic shaping elements.

You have 2 method to add items that will matches the main rule for reduce bandwidth.

1) The Global section "Traffic shaping" that allows you to add an item and choose which rule will matches this item.



2) By clicking on the explain inside the limit traffic rule that will display only elements for the defined rule.



When adding a new element, define the **Address** that will matches the rule (in CDIR format or IP address) format.

Set the **Max Transfer rate** using the Unit drop-down field to define if the limit is in bit, kilobit, megabit.

When adding/editing/deleting an item, rules are automatically applied (it is not necessary to compile rules after)