

How to configure NetScaler to send Proxy Protocol to backend Servers

Objective:

Proxy Protocol was designed to chain proxies/reverse proxies without losing the client information. Client information refers to the client-ip address, port. Proxy protocol was developed by HAProxy (Opensource community). Key benefit of proxy protocol is that it works at TCP layer and for any load balancer/proxy , proxy protocol enables it to pass the client information without understanding the application layer protocol.

NetScaler can send PROXY PROTOCOL header to the backend server/proxies which embeds the client information. Proxy protocol header is send at the start of the tcp payload.

Below is one example of Proxy Protocol Header followed by HTTP request
PROXY TCP4 198.51.100.22 203.0.113.7 35646 80
GET / HTTP/1.1
Host: testdomain.com

Instructions:

In NetScaler, Rewrite policies can be used to send proxy protocol header for both HTTP and TCP vserver type

Below configuration is for TCP vserver type

1. > add rewrite action insertproxy INSERT_BEFORE client.tcp.payload(1) "PROXY TCP4 "+client.ip.src +" "+client.ip.dst +" "+client.tcp.srcport +" "+client.tcp.dstport +" "\r\n"

On NS GUI : Go to Appexpert -> Rewrite -> Action

The screenshot shows the NetScaler GUI configuration for a Rewrite Action. The 'Name' field is set to 'insertproxy' and the 'Type' is 'INSERT_BEFORE'. Below this, there are two 'Expression Editor' sections. The first section, 'Expression to choose target location*', has 'client.tcp.payload(1)' entered. The second section, 'Expression', contains the following text: "PROXY TCP4 "+client.ip.src +" "+client.ip.dst +" "+client.tcp.srcport +" "+client.tcp.dstport +" "\r\n".

- add rewrite policy rewritesmtp "CLIENT.TCP.DSTPORT.EQ(25)" insertproxy

On NS GUI: Go to Appexpert -> Rewrite -> Policies

The screenshot shows the configuration page for a policy named 'rewritesmtp'. The 'Name' field contains 'rewritesmtp'. The 'Action*' dropdown is set to 'insertproxy'. The 'Log Action' dropdown is empty. The 'Undefined-Result Action*' dropdown is set to '-Global-undefined-result-action'. The 'Expression*' field contains the text 'CLIENT.TCP.DSTPORT.EQ(25)'. There are buttons for 'Operators', 'Saved Policy Expressions', and 'Frequently Used Expressions' above the expression field. An 'Expression Editor' link is visible in the top right, and an 'Evaluate' button is in the bottom right.

- bind lb vserver smtpfrontend -policyName rewritesmtp -priority 15 -gotoPriorityExpression END -type REQUEST

On NS GUI: Go to Traffic Management -> Load Balancing -> Virtual Server -> Edit vserver -> Policies -

Choose Type

The 'Choose Type' dialog box has a title bar 'Policies'. It contains two dropdown menus: 'Choose Policy*' with 'Rewrite' selected, and 'Choose Type*' with 'Request' selected. At the bottom, there are two buttons: 'Continue' (blue) and 'Cancel' (white).

Choose Type ✕

Policies ✎	
Choose Policy Rewrite	Choose Type Request

Policy Binding

Select Policy*
 > + ✎

▶ More

Binding Details

Priority*
 ?

Goto Expression*

Invoke LabelType*

Bind
Close

If the vserver is of type HTTP then the below set of rewrite policies should be used

```

add rewrite action proxy_ipv4 INSERT_BEFORE HTTP.REQ.FULL_HEADER "'PROXY TCP4 " +
CLIENT.IP.SRC + " " + CLIENT.IP.DST + " " + CLIENT.TCP.SRCPORT + " " +
CLIENT.TCP.DSTPORT + "\r\n"'
add rewrite policy rwp1 HTTP.REQ.IS_VALID proxy_ipv4
bind lb vserver vs1 -policyName rwp1 -priority 10 -gotoPriorityExpression NEXT -type
REQUEST
  
```