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

Insertproxy

Type

INSERT BEFORE $:

Expression to choose target location*

Expression Editor

Expression

Expression Editor

"PROXY TCP4 "client.ip.src +" "+client.ip.dst +" "+client.tcp.srcport +" "+client.tcp.dstport +"\r\n"
2. add rewrite policy rewritesmtp "CLIENT.TCP.DSTPORT.EQ(25)" insertproxy

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

   - Name: rewritesmtp
   - Action: Insertproxy
   - Log Action
   - Undefined-Result Action: -Global-undefined-result-action

   Expression: CLIENT.TCP.DSTPORT.EQ(25)

3. bind lb vserver smtpfrontend -policyName rewritesmt -priority 15 -gotoPriorityExpression END -type REQUEST

On NS GUI: Go to Traffic Management -> Load Balancing -> Virtual Server -> Edit vserver -> Policies –
If the vserver is of type HTTP then the below set of rewrite policies should be used

```plaintext
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
```