How to setup HAProxy

HAProxy is the Reliable, High Performance TCP/HTTP Load Balancer and it works nicely with Deveo Cluster setup.

Installation on CentOS

Follow these steps to install on CentOS:

```
[ahmed@ahmed-server ~]$ sudo yum install make gcc wget
[ahmed@ahmed-server ~]$ wget http://www.haproxy.org/download/1.5/src/haproxy-1.5.11.tar.gz
[ahmed@ahmed-server ~]$ tar -zxvf haproxy-1.5.11.tar.gz -C /opt
[ahmed@ahmed-server ~]$ cd /opt/haproxy-1.5.11
[ahmed@ahmed-server haproxy-1.5.11]$ sudo make TARGET=linux26 CPU=x86_64
[ahmed@ahmed-server haproxy-1.5.11]$ sudo make install
```

Follow these steps to create init script:

```
[ahmed@ahmed-server ~]$ sudo ln -sf /usr/local/sbin/haproxy /usr/sbin/haproxy
[ahmed@ahmed-server ~]$ sudo cp /opt/haproxy-1.5.11/examples/haproxy.init /etc/init.d/haproxy
[ahmed@ahmed-server ~]$ sudo chmod  755 /etc/init.d/haproxy
```

Follow these steps to configure haproxy:

```
[ahmed@ahmed-server ~]$ sudo mkdir /etc/haproxy
[ahmed@ahmed-server ~]$ sudo cp /opt/haproxy-1.5.11/examples/examples.cfg \
                                                    /etc/haproxy/haproxy.cfg
[ahmed@ahmed-server ~]$ sudo mkdir /var/lib/haproxy
[ahmed@ahmed-server ~]$ sudo touch /var/lib/haproxy/stats
[ahmed@ahmed-server ~]$ sudo useradd haproxy
```

Finally start the service and enable on boot:

```
[ahmed@ahmed-server ~]$ sudo service haproxy check
[ahmed@ahmed-server ~]$ sudo service haproxy start
[ahmed@ahmed-server ~]$ sudo chkconfig haproxy on
```

Configuration sample `haproxy.cfg`.

```
global
        log /dev/log    local0
        log /dev/log    local1 notice
        log 127.0.0.1   local2
        #chroot /var/lib/haproxy
```

```
        #stats socket /run/haproxy/admin.sock mode 660 level admin
        stats timeout 30s
        user haproxy
        group haproxy
        daemon

        # Default SSL material locations
        #ca-base /etc/ssl/certs
        #crt-base /etc/ssl/private

        # Default ciphers to use on SSL-enabled listening sockets.
        # For more information, see ciphers(1SSL).
        #ssl-default-bind-ciphers
        #            kEECDH+aRSA+AES:kRSA+AES:+AES256:RC4-SHA:!kEDH:!LOW:!EXP:!MD5:!aNULL:!eNULL
        #
defaults
        log     global
        mode    http
        option  httplog
        option  dontlognull
        timeout connect 5000
        timeout client  50000
        timeout server  50000
        #errorfile 400 /etc/haproxy/errors/400.http
        #errorfile 403 /etc/haproxy/errors/403.http
        #errorfile 408 /etc/haproxy/errors/408.http
        #errorfile 500 /etc/haproxy/errors/500.http
        #errorfile 502 /etc/haproxy/errors/502.http
        #errorfile 503 /etc/haproxy/errors/503.http
        #errorfile 504 /etc/haproxy/errors/504.http

frontend localnodes
    bind *:9002
    mode http
    default_backend nodes

backend nodes
    mode http
    balance roundrobin
    option forwardfor
    http-request set-header X-Forwarded-Port %[dst_port]
    http-request add-header X-Forwarded-Proto https if { ssl_fc }
    option httpchk HEAD / HTTP/1.1\r\nHost:localhost
    server web01 127.0.0.1:9090 check
    server web02 127.0.0.1:9091 check
    server web03 127.0.0.1:9092 check

listen stats *:9001
    stats enable
    stats uri /
    stats hide-version
    stats auth someuser:password
```

Configuring Logging

If you look at the top of /etc/haproxy/haproxy.cfg, you will see something like below. If you dont see it then add the line in the beginning.

Here is how my conf looks like.

```
global
        log /dev/log    local0
        log /dev/log    local1 notice
        log 127.0.0.1   local2
```

If you dont have the below line then add it.

```
global
    log         127.0.0.1 local2
```

This means that HAProxy will send its messages to rsyslog on 127.0.0.1. But by default, rsyslog doesn't listen on any address.

Let's edit /etc/rsyslog.conf and uncomment these lines:

```
$ModLoad imudp
$UDPServerRun 514
```

This will make rsyslog listen on UDP port 514 for all IP addresses. Optionally you can limit to 127.0.0.1 by adding:

```
$UDPServerAddress 127.0.0.1
```

Now create a /etc/rsyslog.d/haproxy.conf file containing:

```
local2.*    /var/log/haproxy.log
```

You can of course be more specific and create separate log files according to the level of messages:

```
local2.=info     /var/log/haproxy/haproxy-info.log
local2.notice    /var/log/haproxy/haproxy-allbutinfo.log
```

Then restart rsyslog and see that log files are created:

```
# service rsyslog restart
Shutting down system logger:                               [  OK  ]
Starting system logger:                                    [  OK  ]

# ls -l /var/log/haproxy | grep haproxy
-rw-------. 1 root   root      131  3 oct.  10:43 haproxy-allbutinfo.log
-rw-------. 1 root   root      106  3 oct.  10:42 haproxy-info.log
```

Now you can start your debugging session!

More Details.

https://serversforhackers.com/haproxy/
http://support.deveo.com/knowledgebase/articles/409523-how-to-setup-haproxy
http://cbonte.github.io/haproxy-dconv/configuration-1.5.html
http://www.percona.com/blog/2014/10/03/haproxy-give-me-some-logs-on-centos-6-5/