Haproxy TCP- HTTP-

- HAProxy
-
-
- haproxy
-
-

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- Astra Linux Special Edition .10015-01 (1.7), .10015-10
- Astra Linux Special Edition .10015-17
- Astra Linux Special Edition .10015-37 (7.7)
- Astra Linux Special Edition .10015-03 (7.6)
- Astra Linux Special Edition .10152-02 (4.7)
- Astra Linux Special Edition .10015-01 (1.6)
- Astra Linux Special Edition .10015-16 . 1
- Astra Linux Special Edition .10015-16 . 2
- Astra Linux Special Edition .10265-01 (8.1)
- Astra Linux Common Edition 2.12

HAProxy TCP- HTTP-, , .

HAProxy

- :
  - tcp-check;
  - http-check;
  - mysql-check;
- (HTTP-/HTTPS-/TCP-) (layer 4);
- (stick-tables);
- :
  - IPv6 UNIX sockets;
  - HTTP/1.1 (deflate, gzip, libslz);
  - SSL;
  - HTTP-;
  - Lua ;
- WEB- .

:

- , haproxy, :
  - IP- 192.168.27.200;
- Web- 1:
  - host1.domain.name;
  - IP- 192.168.27.201;
- Web- 2:
  - host2.domain.name;
  - IP- 192.168.27.202;
- ,

, , haproxy. (. synaptic) :

```
sudo apt install haproxy
```

web-:

1. DNS, /etc/hosts :
   a. web- 1:

```
sudo sed -i '$a 192.168.27.201\thost1.domain.name host1' /etc/hosts
sudo hostnamectl set-hostname host1.domain.name
```

b. web- 2:

```
sudo sed -i '$a 192.168.27.202\thost2.domain.name host2' /etc/hosts
sudo hostnamectl set-hostname host2.domain.name
```

2. apache2:

```
sudo apt install apache2
```

3. apache2 /etc/apache2/apache2.conf:

> Astra Linux Special Edition .10015-01 (1.6) 20211008SE16 (9) (haproxy_2.2.9-2~bpo10+1astra.se0) .

```
sudo sed -i '/AstraMode/{s/on/off/;s/# //}' /etc/apache2/apache2.conf
```

4. apache2:

```
sudo apachectl restart
```

haproxy

haproxy /etc/haproxy/haproxy.cfg, :

- global --- HAProxy;
- defaults --- - ;
- frontend --- , ;
- backend --- , , ;
- listen --- frontend backend. - , , TCP-a.

.

global	log <address> <facility> [max level [min level]] : log 127.0.0.1 local0 notice	. <facility> 24 : • kern • user • mail • daemon • auth • syslog • lpr • news • uucp • cron • auth2 • ftp • ntp • audit • alert • cron2 • local0 local1 local2 local3 local4 local5 local6 local7
	maxconn <number> : maxconn 10000	haproxy.
	nbproc <number> : nbproc 2	haproxy. haproxy.
	daemon	haproxy <<daemon>>.
	user	, haproxy.
	group	, haproxy.
	chroot /var/lib/haproxy	haproxy.
defaults	log global	.

	mode http	HAProxy. : • http --- Layer7, http-; • tcp ---
	option dontlognull	.
	retries 3	.
	option redispatch	.
	option httpclose	.
	option forwardfor	X-Forwarded-For IP- .
frontend	frontend http	frontend.
	bind *:80	IP- .
backend	backend sitecluster	
	balance (roundrobin/leastconn/static-rr/uri/source)	. : • Round Robin --- , , . << >>. balance roundrobi}; • Least Connected --- . balance leastconn; • Static Round Robin --- , , . Round Robin, << >>. HAProxy. balance static-rr; • Source --- , IP- . , .
	server srv-1.3.my.com 21.86.21.20:80 cookie site113ha check inter 2000 fall 3 minconn 30 maxconn 70 weight 100	, : • srv-1.3.my.com --- ; • 21.86.21.20:80 --- IP-: ; • cookie site113ha --- cookie, ; • check inter 2000 fall 3 --- 2, ; • minconn 30 maxconn 70 --- , 70 ; • weight 100 --- , 1 100.
	stats enable	.
	fullconn 200	.
	listen listen stats-srv-3.my.com *:8180	IP- .
	stats uri /stats	URL .
	stats realm Haproxy Statistics	(title) .
	stats show-legends	.
	stats refresh 5s	.
	stats auth test:test	.

, , .. :

```
frontend http_front
       bind *:80
       stats uri /haproxy?stats
       default_backend http_back

backend http_back
       balance roundrobin
       server host1.domain.name 192.168.27.201:80 check
       server host2.domain.name 192.168.27.202:80 check
```

haproxy:

```
sudo systemctl restart haproxy
```

:

```
for i in {1..1000} ; do
    wget --no-cache -qO- http://192.168.27.200/index.html > /dev/null &
done
wait
```

haproxy (/var/log/haproxy.log) , , :

```
Apr 28 13:40:46 balancer haproxy[2430]: 192.168.27.201:38710 [28/Apr/2021:13:40:28.550] http_front http_back/host2.domain.name
 0/0/13032/5332/18364 200 10962 - - ---- 21/21/19/4/2 0/0 "GET /index.html HTTP/1.1"
Apr 28 13:40:46 balancer haproxy[2430]: 192.168.27.201:38726 [28/Apr/2021:13:40:28.550] http_front http_back/host2.domain.name
 0/0/13032/5332/18364 200 10962 - - ---- 20/20/18/3/2 0/0 "GET /index.html HTTP/1.1"
Apr 28 13:40:46 balancer haproxy[2430]: 192.168.27.201:38728 [28/Apr/2021:13:40:28.550] http_front http_back/host2.domain.name
 0/0/13032/5332/18364 200 10962 - - ---- 19/19/17/2/2 0/0 "GET /index.html HTTP/1.1"
Apr 28 13:40:46 balancer haproxy[2430]: 192.168.27.201:38730 [28/Apr/2021:13:40:28.550] http_front http_back/host2.domain.name
 0/0/13032/5332/18364 200 10962 - - ---- 18/18/16/1/2 0/0 "GET /index.html HTTP/1.1"
Apr 28 13:40:47 balancer haproxy[2430]: 192.168.27.201:38042 [28/Apr/2021:13:40:28.490] http_front http_back/host1.domain.name
 0/0/3044/16011/19055 200 10962 - - ---- 16/16/15/16/0 0/0 "GET /index.html HTTP/1.1"
Apr 28 13:40:47 balancer haproxy[2430]: 192.168.27.201:38192 [28/Apr/2021:13:40:28.490] http_front http_back/host1.domain.name
 0/0/3044/16011/19056 200 10962 - - ---- 16/16/14/15/0 0/0 "GET /index.html HTTP/1.1"
Apr 28 13:40:47 balancer haproxy[2430]: 192.168.27.201:37914 [28/Apr/2021:13:40:28.490] http_front http_back/host1.domain.name
 0/0/3044/16013/19057 200 10962 - - ---- 14/14/13/14/0 0/0 "GET /index.html HTTP/1.1"
Apr 28 13:40:47 balancer haproxy[2430]: 192.168.27.201:37996 [28/Apr/2021:13:40:28.490] http_front http_back/host1.domain.name
 0/0/3044/16014/19058 200 10962 - - ---- 13/13/12/13/0 0/0 "GET /index.html HTTP/1.1"
```

http://192.168.27.200/haproxy?stats :
blocked URL

, web- 1 web- 2 , 1 (Server:Wght) , 500 (Sessions:LbTot).

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astra-mode (. :). :

```
astra-mode on | off
```

(Astra Linux Special Edition 1.6 Astra Linux Special Edition x.7) . :

- maclev — ;
- maccat — .

:

```
acl <_> <> <_> <_>
```

:

- eq - ;
- ge - ;
- gt - ;
- le - ;
- lt - ;

:

```
frontend http_frontend
    bind *:8081
    mode http

    acl maclev_ge_1  maclev ge 1
    acl maclev_eq_2  maclev eq 2
    acl maccat_eq_0  maccat eq 0
    tcp-request content accept if maclev_ge_1 maccat_eq_0
    use_backend http_back_2 if maclev_eq_2 maccat_eq_0

    option http-keep-alive
    default_backend http_back_1

backend http_back_1
    mode http
    server s1 host.domain.name:80

backend http_back_2
    mode http
    server s2 host.domain.name:81
```

:

- :
  - acl maclev_ge_1 maclev ge 1 - ;
  - acl maclev_eq_2 maclev eq 2 - ;
  - acl maccat_eq_0 maccat eq 0 - ;
- tcp-request content accept if maclev_ge_1 maccat_eq_0 - ;
- use_backend http_back_2 if maclev_eq_2 maccat_eq_0 - 2 http_back_2.