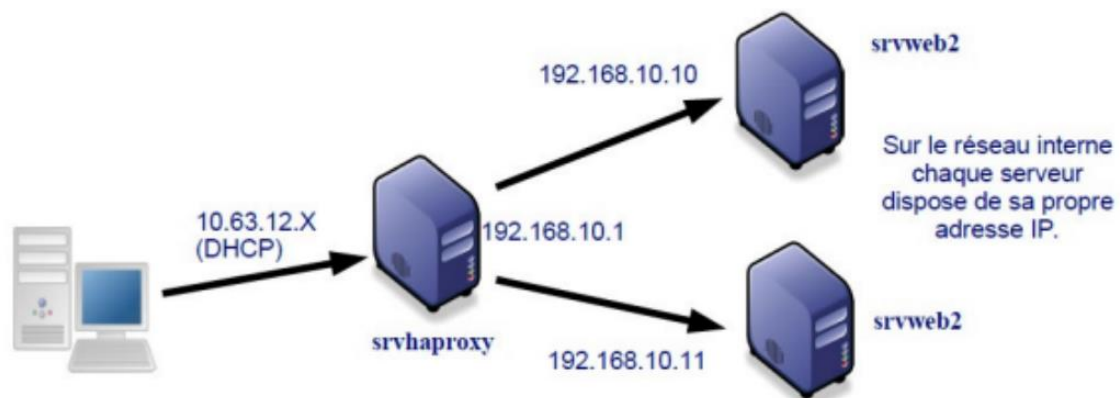
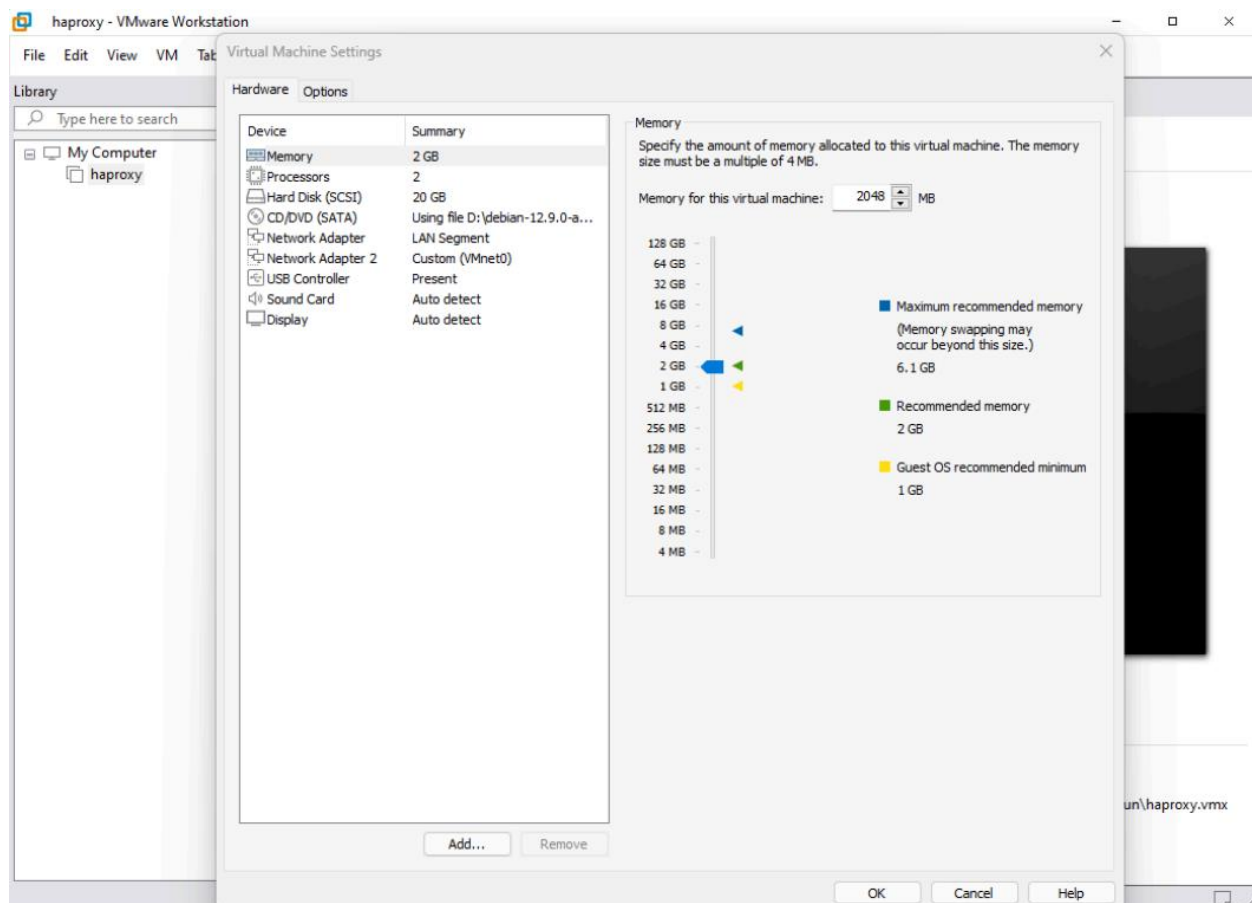


Databank of screenshots – Spectron FORESIGHT

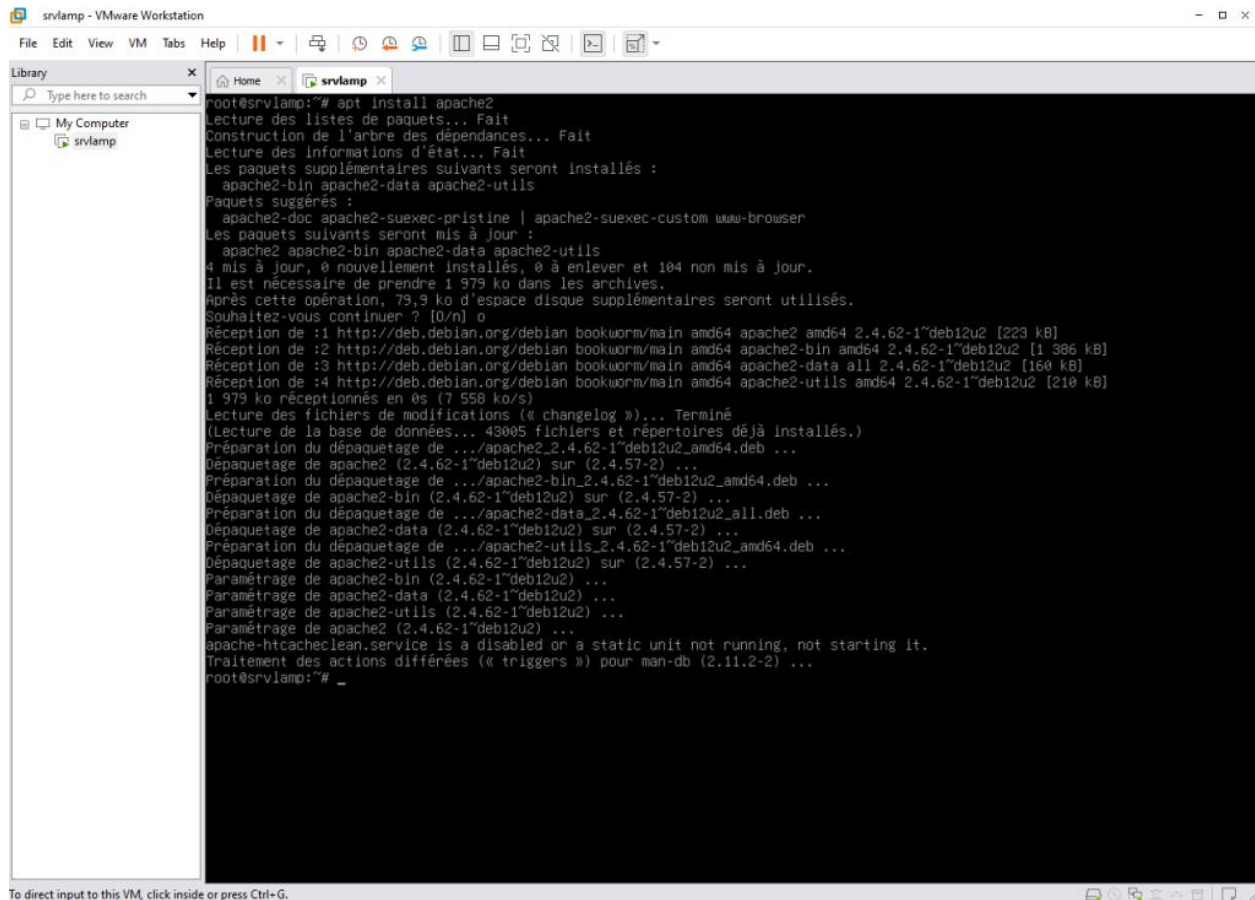


Config_screenshot_placeholder



Installation_screenshot_placeholder

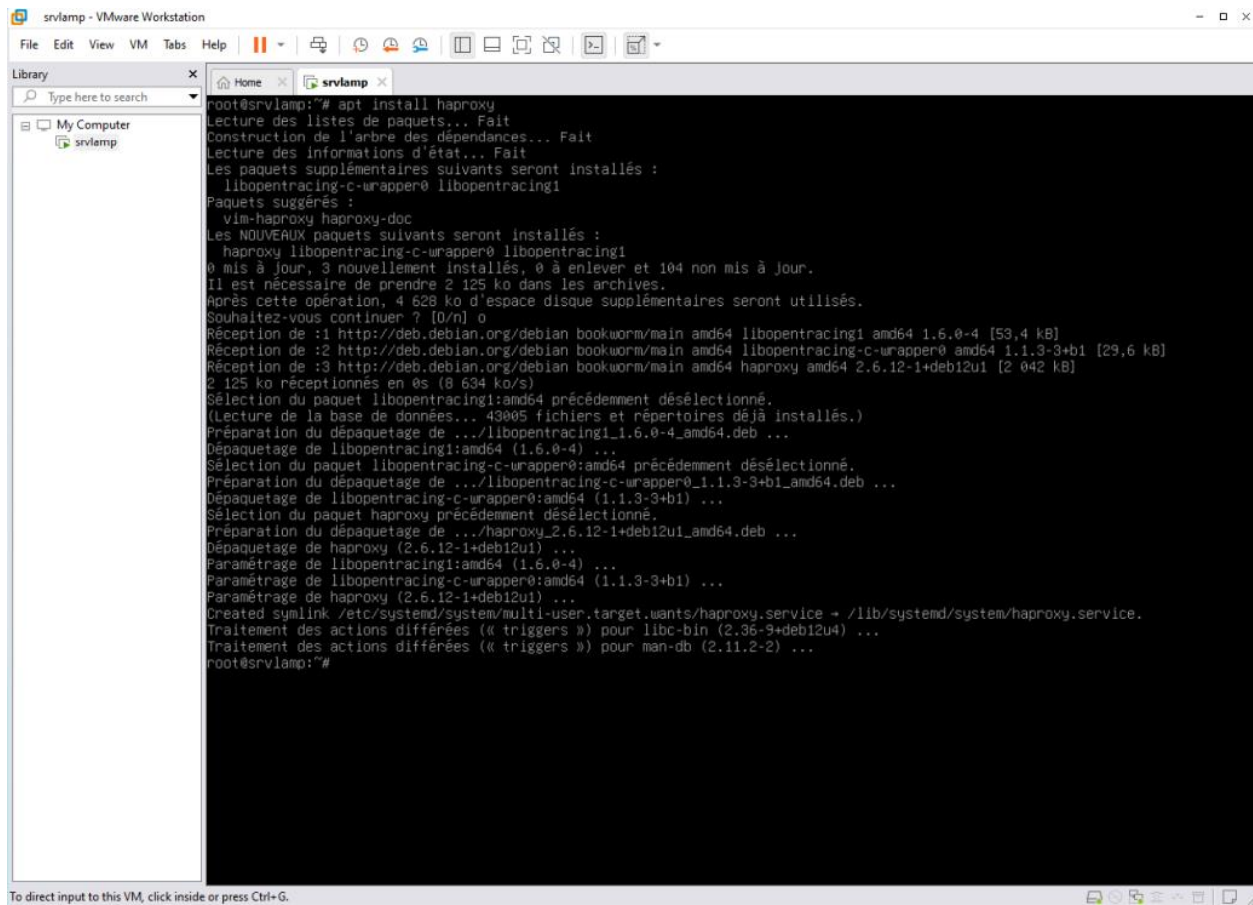
Cmd: apt install apache2



The screenshot shows a VMware Workstation window titled 'srvlamp - VMware Workstation'. The interface includes a menu bar (File, Edit, View, VM, Tabs, Help), a toolbar, and a Library pane on the left. The Library pane shows 'My Computer' and 'srvlamp'. The main window displays a terminal window with the following output:

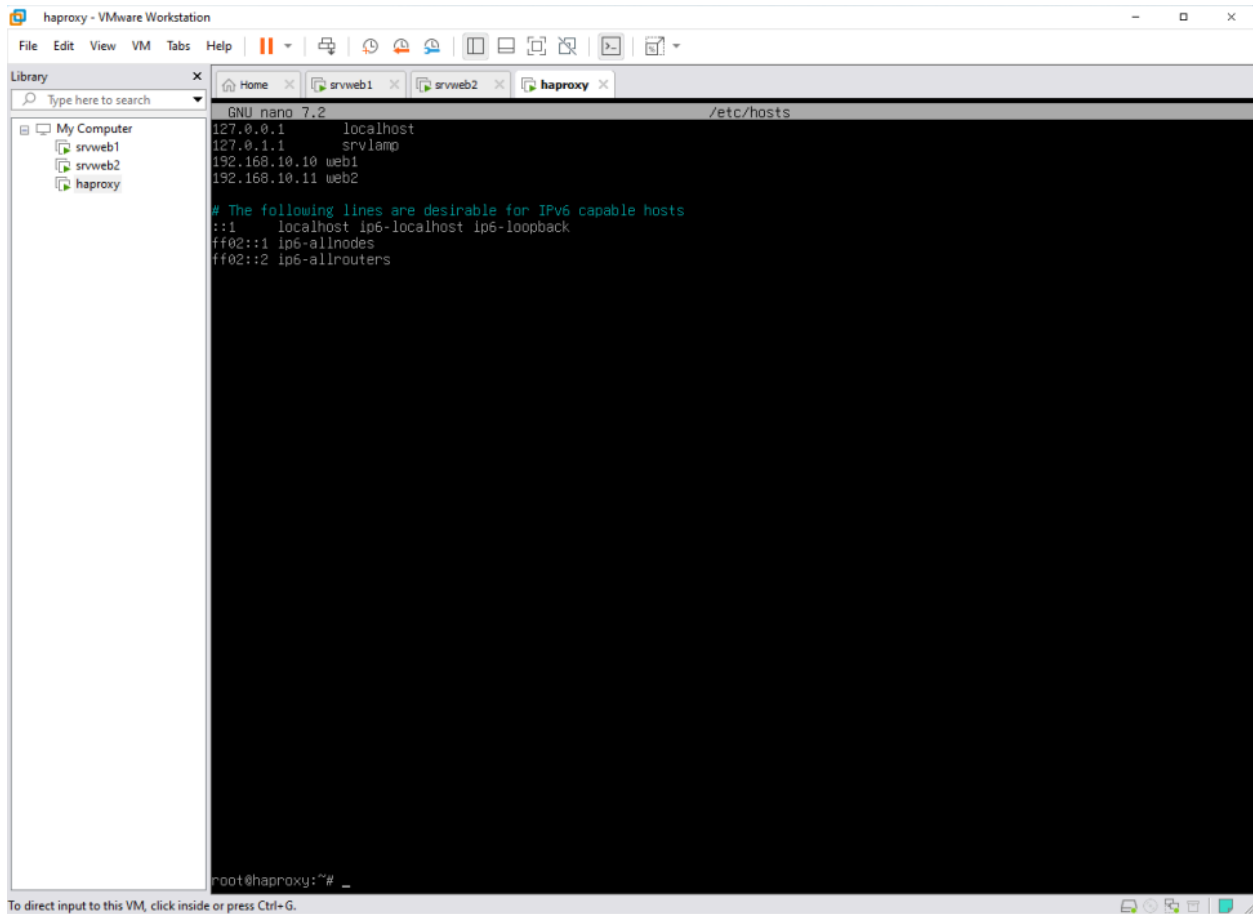
```
root@srvlamp:~# apt install apache2
Lecture des listes de paquets... Fait
Construction de l'arbre des dépendances... Fait
Lecture des informations d'état... Fait
Les paquets supplémentaires suivants seront installés :
  apache2-bin apache2-data apache2-utils
Paquets suggérés :
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser
Les paquets suivants seront mis à jour :
  apache2 apache2-bin apache2-data apache2-utils
4 mis à jour, 0 nouvellement installés, 0 à enlever et 104 non mis à jour.
Il est nécessaire de prendre 1 979 ko dans les archives.
Après cette opération, 79,9 ko d'espace disque supplémentaires seront utilisés.
Souhaitez-vous continuer ? [O/n] o
Réception de :1 http://deb.debian.org/debian bookworm/main amd64 apache2 amd64 2.4.62-1~deb12u2 [223 kB]
Réception de :2 http://deb.debian.org/debian bookworm/main amd64 apache2-bin amd64 2.4.62-1~deb12u2 [1 386 kB]
Réception de :3 http://deb.debian.org/debian bookworm/main amd64 apache2-data all 2.4.62-1~deb12u2 [160 kB]
Réception de :4 http://deb.debian.org/debian bookworm/main amd64 apache2-utils amd64 2.4.62-1~deb12u2 [210 kB]
1 979 ko réceptionnés en 0s (7 558 ko/s)
Lecture des fichiers de modifications (« changelog »)... Terminé
(Lecture de la base de données... 43005 fichiers et répertoires déjà installés.)
Préparation du dépaquetage de .../apache2_2.4.62-1~deb12u2_amd64.deb ...
Dépaquetage de apache2 (2.4.62-1~deb12u2) sur (2.4.57-2) ...
Préparation du dépaquetage de .../apache2-bin_2.4.62-1~deb12u2_amd64.deb ...
Dépaquetage de apache2-bin (2.4.62-1~deb12u2) sur (2.4.57-2) ...
Préparation du dépaquetage de .../apache2-data_2.4.62-1~deb12u2_all.deb ...
Dépaquetage de apache2-data (2.4.62-1~deb12u2) sur (2.4.57-2) ...
Préparation du dépaquetage de .../apache2-utils_2.4.62-1~deb12u2_amd64.deb ...
Dépaquetage de apache2-utils (2.4.62-1~deb12u2) sur (2.4.57-2) ...
Paramétrage de apache2-bin (2.4.62-1~deb12u2) ...
Paramétrage de apache2-data (2.4.62-1~deb12u2) ...
Paramétrage de apache2-utils (2.4.62-1~deb12u2) ...
Paramétrage de apache2 (2.4.62-1~deb12u2) ...
apache-htcacheclean.service is a disabled or a static unit not starting it.
Traitement des actions différées (« triggers ») pour man-db (2.11.2-2) ...
root@srvlamp:~#
```

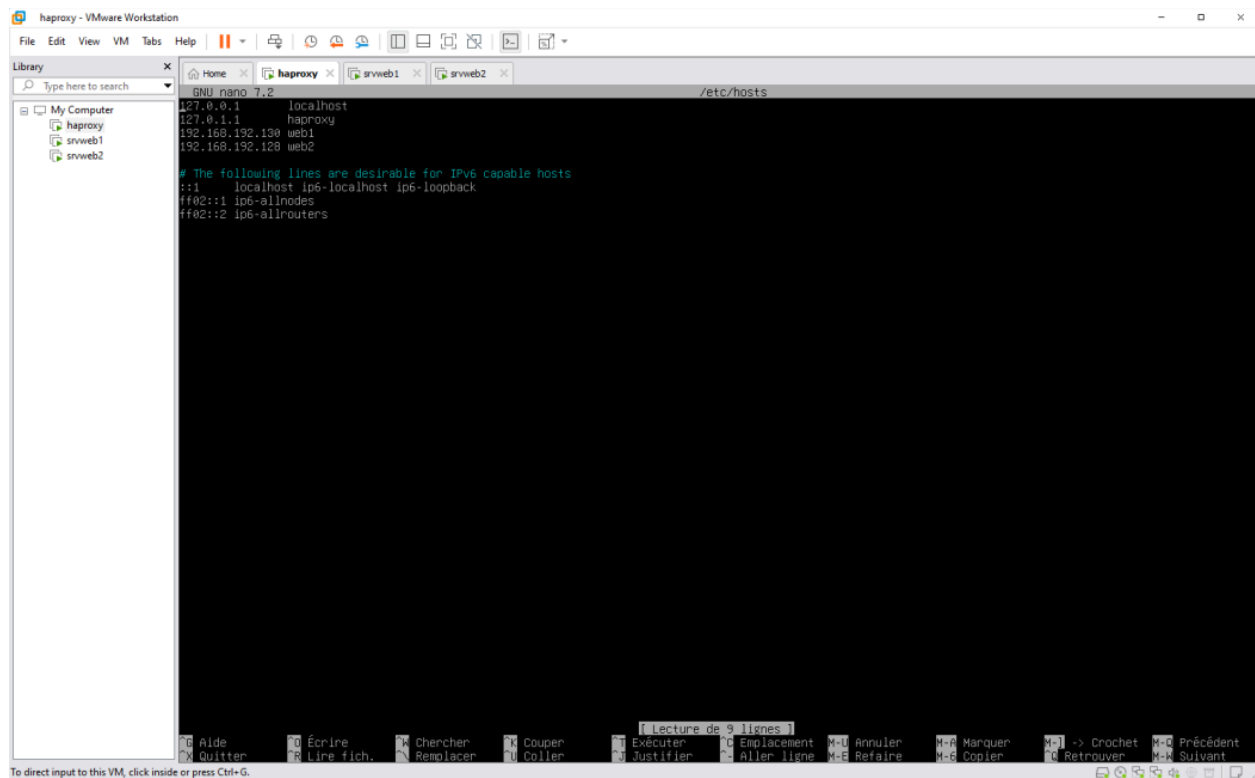
Cmd: apt install haproxy



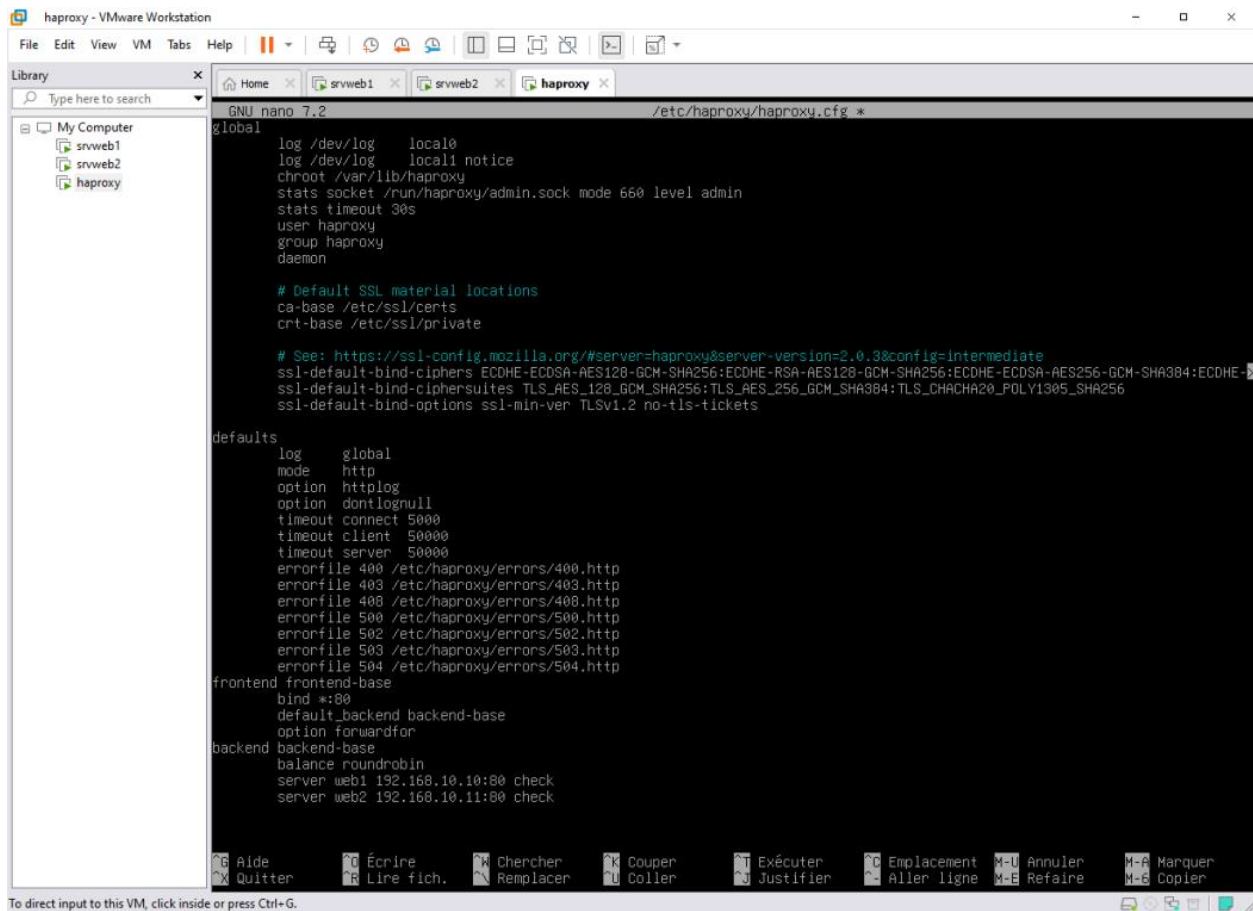
```
root@srvlamp:~# apt install haproxy
Lecture des listes de paquets... Fait
Construction de l'arbre des dépendances... Fait
Lecture des informations d'état... Fait
Les paquets supplémentaires suivants seront installés :
  libopentracing-c-wrapper libopentracing1
Paquets suggérés :
  vim-haproxy haproxy-doc
Les NOUVEAUX paquets suivants seront installés :
  haproxy libopentracing-c-wrapper libopentracing1
0 mis à jour, 3 nouvellement installés, 0 à enlever et 104 non mis à jour.
Il est nécessaire de prendre 2 125 ko dans les archives.
Après cette opération, 4 628 ko d'espace disque supplémentaires seront utilisés.
Souhaitez-vous continuer ? [O/n] o
Réception de :1 http://deb.debian.org/debian bookworm/main amd64 libopentracing1 amd64 1.6.0-4 [53,4 kB]
Réception de :2 http://deb.debian.org/debian bookworm/main amd64 libopentracing-c-wrapper amd64 1.1.3-3+b1 [29,6 kB]
Réception de :3 http://deb.debian.org/debian bookworm/main amd64 haproxy amd64 2.6.12-1+deb12u1 [2 042 kB]
2 125 ko réceptionnés en 0s (8 634 ko/s)
Sélection du paquet libopentracing1:amd64 précédemment désélectionné.
(Lecture de la base de données... 43005 fichiers et répertoires déjà installés.)
Préparation du dépaquetage de .../libopentracing1_1.6.0-4_amd64.deb ...
Dépaquetage de libopentracing1:amd64 (1.6.0-4) ...
Sélection du paquet libopentracing-c-wrapper:amd64 précédemment désélectionné.
Préparation du dépaquetage de .../libopentracing-c-wrapper_1.1.3-3+b1_amd64.deb ...
Dépaquetage de libopentracing-c-wrapper:amd64 (1.1.3-3+b1) ...
Sélection du paquet haproxy précédemment désélectionné.
Préparation du dépaquetage de .../haproxy_2.6.12-1+deb12u1_amd64.deb ...
Dépaquetage de haproxy (2.6.12-1+deb12u1) ...
Paramétrage de libopentracing1:amd64 (1.6.0-4) ...
Paramétrage de libopentracing-c-wrapper:amd64 (1.1.3-3+b1) ...
Paramétrage de haproxy (2.6.12-1+deb12u1) ...
Created symlink /etc/systemd/system/multi-user.target.wants/haproxy.service → /lib/systemd/system/haproxy.service.
Traitement des actions différées (« triggers ») pour libc-bin (2.36-9+deb12u4) ...
Traitement des actions différées (« triggers ») pour man-db (2.11.2-2) ...
root@srvlamp:~#
```

Config_hosts





Config_haproxy



Screenshot_status

haproxy - VMware Workstation

File Edit View VM Tabs Help

Library

Type here to search

My Computer

- snrweb1
- snrweb2
- haproxy

```
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 frontend-base
bind *:80
default_backend backend-base
option forwardfor
backend backend-base
balance roundrobin
server web1 192.168.10.10:80 check
server web2 192.168.10.11:80 check

root@haproxy:~# haproxy -c -f /etc/haproxy/haproxy.cfg
Configuration file is valid
root@haproxy:~# systemctl restart haproxy
root@haproxy:~# systemctl status haproxy.service
● haproxy.service - HAProxy Load Balancer
   Loaded: loaded (/lib/systemd/system/haproxy.service; enabled; preset: enabled)
   Active: active (running) since Wed 2025-01-29 08:37:42 CET; 4s ago
     Docs: man:haproxy(1)
           file:/usr/share/doc/haproxy/configuration.txt.gz
   Main PID: 1304 (haproxy)
      Tasks: 5 (limit: 2265)
     Memory: 42.4M
        CPU: 106ms
    CGroup: /system.slice/haproxy.service
            └─1304 /usr/sbin/haproxy -Ws -f /etc/haproxy/haproxy.cfg -p /run/haproxy.pid -S /run/haproxy-master.sock
              1306 /usr/sbin/haproxy -Ws -f /etc/haproxy/haproxy.cfg -p /run/haproxy.pid -S /run/haproxy-master.sock

Janv. 29 08:37:42 haproxy systemd[1]: Starting haproxy.service - HAProxy Load Balancer...
Janv. 29 08:37:42 haproxy haproxy[1304]: [NOTICE] (1304) : New worker (1306) forked
Janv. 29 08:37:42 haproxy haproxy[1304]: [NOTICE] (1304) : Loading success.
Janv. 29 08:37:42 haproxy systemd[1]: Started haproxy.service - HAProxy Load Balancer.
root@haproxy:~#
```

To direct input to this VM, click inside or press Ctrl+G.

haproxy - VMware Workstation

File Edit View VM Tabs Help

Library

My Computer

- haproxy
- srvweb2
- srvweb1

```
user haproxy
group haproxy
daemon

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

# See: https://ssl-config.mozilla.org/#server=haproxy&server-version=2.0.3&config=intermediate
ssl-default-bind-ciphers ECDHE-ECDSA-AES128-GCM-SHA256:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-ECDSA-AES256-GCM-SHA384:ECDHE-
ssl-default-bind-ciphersuites TLS_AES_128_GCM_SHA256:TLS_AES_256_GCM_SHA384:TLS_CHACHA20_POLY1305_SHA256
ssl-default-bind-options ssl-min-ver TLSv1.2 no-tls-tickets

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 frontend-base
bind *:80
default_backend backend-base
option forwardfor

backend backend-base
balance roundrobin
server web1 192.168.10.10:80 check
server web2 192.168.10.11:80 check

listen stats
bind *:8080
stats enable
stats uri /stats stats
stats auth admin:password
stats admin if TRUE

root@haproxy:~# haproxy -c -f /etc/haproxy/haproxy.cfg
Configuration file is valid
root@haproxy:~#
```

To direct input to this VM, click inside or press Ctrl+G.

Statistics Report for HAProxy

Non sécurisé10.63.22.22:8080/stats

ApplicationsArchiveAreasProjectsResources

HAProxy version 2.6.12-1+deb12u1, released 2023/12/16

Statistics Report for pid 1019

> General process information

pid = 1019 (process #1, nbproc = 1, nbthread = 4)

uptime = 0d 0h01m52s

system limits: memmax = unlimited; ulimit-n = 524287

maxsock = 524287; maxconn = 262119; maxpipes = 0

current conn = 1; current pipes = 0/0; conn rate = 1/sec; bit rate = 0.000 kbps

Running tasks: 0/22; idle = 100 %

active UP

active UP, going down

active DOWN, going up

active or backup DOWN

active or backup DOWN for maintenance (MAINT)

backup UP

backup UP, going down

backup DOWN, going up

not checked

active or backup SOFT STOPPED for maintenance

Display option:

Scope :

Hide DOWN servers

Refresh now

CSV export

JSON export (schema)

External resources:

Primary file

Updates (v2.6)

Online manual

Note: "NOLB"/"DRAIN" = UP with load-balancing disabled.

frontend-base

| | Queue | | | Session rate | | | Sessions | | | | | Bytes | | Denied | | Errors | | Warnings | | Status | LastChk | Wght | Server | | | | | | |
|----------|-------|-----|-------|--------------|-----|-------|----------|-----|-------|---------|-------|-------|-------|--------|-----|--------|-----|----------|------|--------|---------|------|--------|-------|-----|-----|-----|-----|----------|
| | Cur | Max | Limit | Cur | Max | Limit | Cur | Max | Limit | Total | LbTot | Last | In | Out | Req | Resp | Req | Conn | Resp | | | | Retr | Redis | Act | Bck | Chk | Dwn | Downtime |
| Frontend | | | | 0 | 1 | - | 0 | 1 | | 262 119 | 1 | | 1 132 | 9 708 | 0 | 0 | 0 | | | | | OPEN | | | | | | | |

backend-base

| | Queue | | | Session rate | | | Sessions | | | | | Bytes | | Denied | | Errors | | Warnings | | Status | LastChk | Wght | Server | | | | | | | | | |
|---------|-------|-----|-------|--------------|-----|-------|----------|-----|-------|--------|-------|-------|-----|--------|-------|--------|-----|----------|------|--------|---------|------|----------|-------------|-----|-----|-----|-----|----------|--------|----|--|
| | Cur | Max | Limit | Cur | Max | Limit | Cur | Max | Limit | Total | LbTot | Last | In | Out | Req | Resp | Req | Conn | Resp | | | | Retr | Redis | Act | Bck | Chk | Dwn | Downtime | Thrtle | | |
| web1 | 0 | 0 | - | 0 | 2 | | 0 | 1 | | - | 2 | 2 | 56s | 768 | 3 736 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1m52s UP | L4OK in 1ms | 1/1 | Y | - | 0 | 0 | 0s | - | |
| web2 | 0 | 0 | - | 0 | 1 | | 0 | 1 | | - | 1 | 1 | 56s | 364 | 5 972 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1m52s UP | L4OK in 1ms | 1/1 | Y | - | 0 | 0 | 0s | - | |
| Backend | 0 | 0 | | 0 | 3 | | 0 | 1 | | 26 212 | 3 | 3 | 56s | 1 132 | 9 708 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1m52s UP | | 2/2 | 2 | 0 | | 0 | 0 | 0s | |

Choose the action to perform on the checked servers:

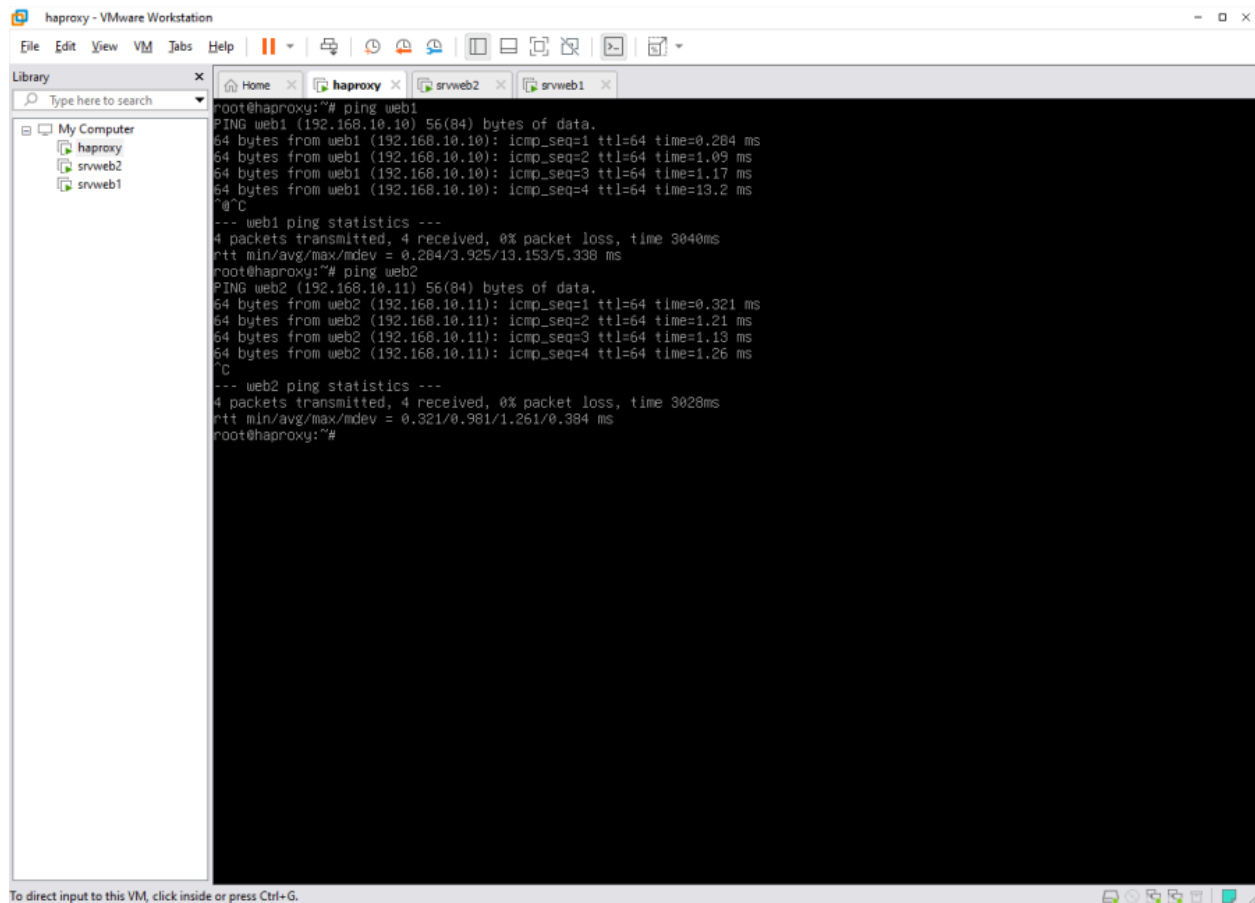
Apply

stats

| | Queue | | | Session rate | | | Sessions | | | | | Bytes | | Denied | | Errors | | Warnings | | Status | LastChk | Wght | Server | | | | | | | | | |
|----------|-------|-----|-------|--------------|-----|-------|----------|-----|-------|---------|-------|-------|-----|--------|-----|--------|-----|----------|------|--------|---------|------|----------|-------|-----|-----|-----|-----|----------|--------|----|--|
| | Cur | Max | Limit | Cur | Max | Limit | Cur | Max | Limit | Total | LbTot | Last | In | Out | Req | Resp | Req | Conn | Resp | | | | Retr | Redis | Act | Bck | Chk | Dwn | Downtime | Thrtle | | |
| Frontend | | | | 1 | 1 | - | 1 | 2 | | 262 119 | 2 | | 424 | 454 | 0 | 0 | 0 | | | | | OPEN | | | | | | | | | | |
| Backend | 0 | 0 | | 0 | 0 | | 0 | 0 | | 26 212 | 0 | 0 | 0s | 424 | 454 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1m52s UP | | 0/0 | 0 | 0 | | 0 | 0 | 0s | |

Verification de la continuité d'un service (Atomlabs)

Conn_screenshots




Statistics Report for HAProxy

Mx - Web1

Non sécurisé10.63.22.22

ApplicationsArchiveAreasProjectsResources

Mx - Web1

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Debian systems. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

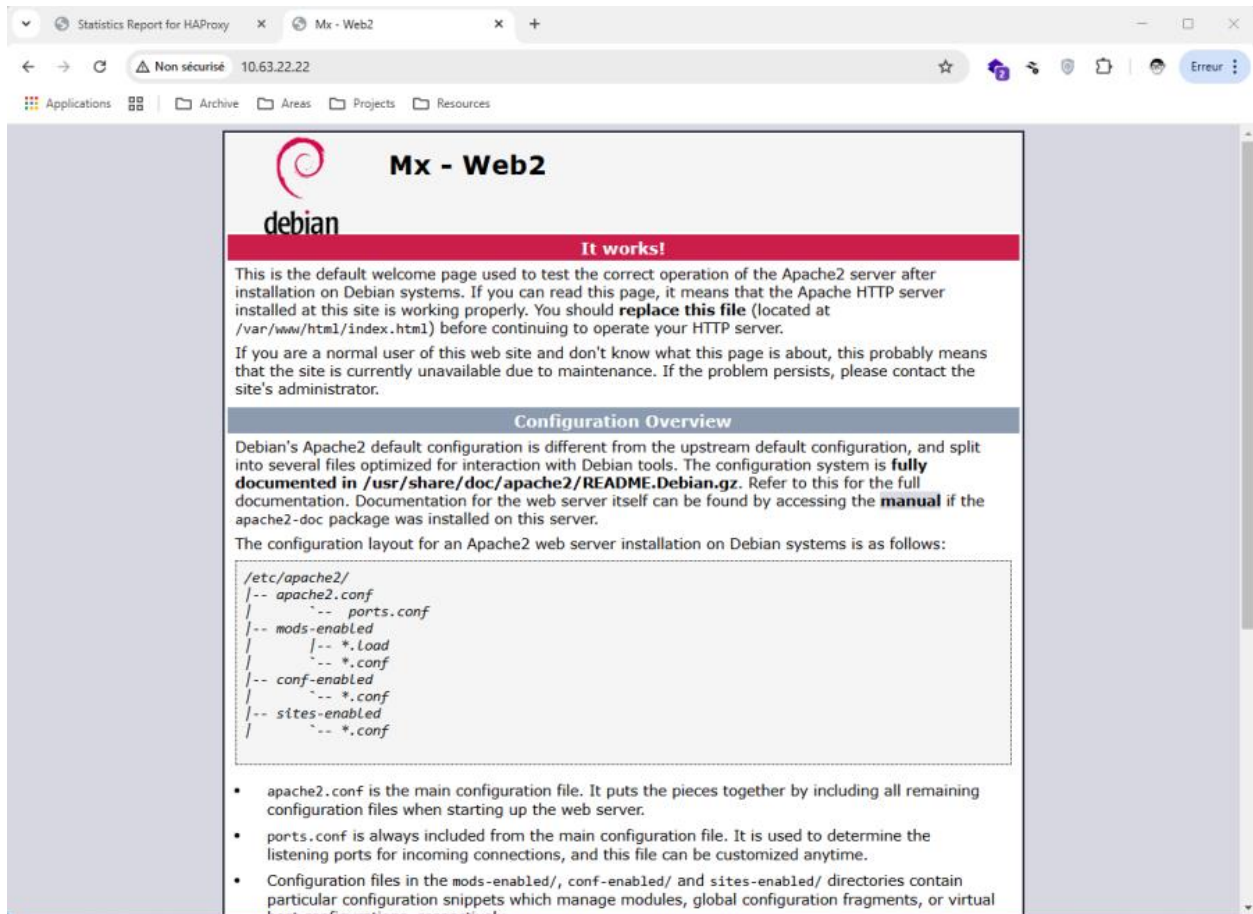
Configuration Overview

Debian's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Debian tools. The configuration system is **fully documented in `/usr/share/doc/apache2/README.Debian.gz`**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Debian systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|   |-- ports.conf
|-- mods-enabled
|   |-- *.load
|   |-- *.conf
|-- conf-enabled
|   |-- *.conf
|-- sites-enabled
|   |-- *.conf
```

- `apache2.conf` is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.
- `ports.conf` is always included from the main configuration file. It is used to determine the listening ports for incoming connections, and this file can be customized anytime.
- Configuration files in the `mods-enabled/`, `conf-enabled/` and `sites-enabled/` directories contain particular configuration snippets which manage modules, global configuration fragments, or virtual



Test_scenario_explanation_placeholder

1 server down, 1 up

Res : web1 down

Statistics Report for HAProxy

Mx - Web2

Non sécurisé10.63.22.22:8080/stats

ApplicationsArchiveAreasProjectsResources

HAProxy version 2.6.12-1+deb12u1, released 2023/12/16

Statistics Report for pid 1211

General process information

pid = 1211 (process #1, nbproc = 1, nbthread = 4)

uptime = 0d 0h0m20s

system limits: memmax = unlimited, ulimit-n = 524287

maxsock = 524287, maxconn = 262119, maxpipes = 0

current conn = 1, current pipes = 0/0, conn rate = 0/sec, bit rate = 0.000 mbps

Running tasks: 0/22, idle = 100 %

active UP

active UP, going down

active DOWN, going up

active or backup DOWN

active or backup DOWN for maintenance (MAINT)

active or backup SOFT STOPPED for maintenance

backup UP

backup UP, going down

backup DOWN, going up

not checked

not checked

Display option:

Scope :

Hide DOWN servers

Refresh now

CSV export

JSON export (schema)

External resources:

HAProxy site

Updates (v2.6)

Online manual

Note: "NOLB"/"DRAIN" = UP with load-balancing disabled.

Frontend-base

| | Queue | | | Session rate | | | Sessions | | | | | Bytes | | Denied | | Errors | | Warnings | | Status | LastChk | Wght | Server | | | | | | |
|----------|-------|-----|-------|--------------|-----|-------|----------|-----|-------|-------|-------|-------|----|--------|-----|--------|-----|----------|------|--------|---------|------|--------|-------|-----|-----|-----|-----|----------|
| | Cur | Max | Limit | Cur | Max | Limit | Cur | Max | Limit | Total | LbTot | Last | In | Out | Req | Resp | Req | Conn | Resp | | | | Retr | Redis | Act | Err | Chk | Den | Downtime |
| Frontend | 0 | 0 | 1 | - | 0 | 2 | 262 | 119 | 1 | | | | 4 | 160 | 26 | 376 | 0 | 0 | 0 | | | | | | | | | | OPEN |

Backend-base

| | Queue | | | Session rate | | | Sessions | | | | | Bytes | | Denied | | Errors | | Warnings | | Status | LastChk | Wght | Server | | | | | | | | |
|---------|-------|-----|-------|--------------|-----|-------|----------|-----|-------|-------|-------|-------|----|--------|-----|--------|-----|----------|------|--------|---------|------|----------|--------------------|-----|-----|-----|-----|----------|--------|---|
| | Cur | Max | Limit | Cur | Max | Limit | Cur | Max | Limit | Total | LbTot | Last | In | Out | Req | Resp | Req | Conn | Resp | | | | Retr | Redis | Act | Err | Chk | Den | Downtime | Thrtle | |
| web1 | 0 | 0 | - | 0 | 2 | 0 | 1 | - | 4 | 4 | 4 | 1m46s | 2 | 080 | 13 | 188 | 0 | 0 | 0 | 0 | 0 | 0 | 4s DOWN | * L4TOUT in 2001ms | 1/1 | Y | - | 3 | 1 | 4s | - |
| web2 | 0 | 0 | - | 0 | 1 | 0 | 1 | - | 4 | 4 | 4 | 1m27s | 2 | 080 | 13 | 188 | 0 | 0 | 0 | 0 | 0 | 0 | 2m20s UP | L4OK in 0ms | 1/1 | Y | - | 0 | 0 | 0s | - |
| Backend | 0 | 0 | 0 | 2 | 0 | 1 | 26 | 212 | 8 | 8 | 8 | 1m27s | 4 | 160 | 26 | 376 | 0 | 0 | 0 | 0 | 0 | 0 | 2m20s UP | | 1/1 | 1 | 0 | 0 | 0 | 0s | - |

Choose the action to perform on the checked servers :

▼

Apply

stats

| | Queue | | | Session rate | | | Sessions | | | | | Bytes | | Denied | | Errors | | Warnings | | Status | LastChk | Wght | Server | | | | | | | | | |
|----------|-------|-----|-------|--------------|-----|-------|----------|-----|-------|-------|-------|-------|-----|--------|-----|--------|-----|----------|------|--------|---------|------|--------|----------|-----|-----|-----|------|----------|--------|---|---|
| | Cur | Max | Limit | Cur | Max | Limit | Cur | Max | Limit | Total | LbTot | Last | In | Out | Req | Resp | Req | Conn | Resp | | | | Retr | Redis | Act | Err | Chk | Den | Downtime | Thrtle | | |
| Frontend | 0 | 0 | 1 | 1 | - | 1 | 3 | 262 | 119 | 2 | | | 485 | 25 | 100 | 0 | 0 | 0 | | | | | | | | | | OPEN | | | | |
| Backend | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 212 | 0 | 0 | 0s | 485 | 25 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2m20s UP | | 0/0 | 0 | 0 | 0 | 0 | 0 | - |


Page res :

Statistics Report for HAProxy

Mx - Web2

Non sécurisé10.63.22.22

ApplicationsArchiveAreasProjectsResources



Mx - Web2

debian

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Debian systems. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

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The configuration layout for an Apache2 web server installation on Debian systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|   |-- ports.conf
|-- mods-enabled
|   |-- *.load
|   |-- *.conf
|-- conf-enabled
|   |-- *.conf
|-- sites-enabled
|   |-- *.conf
```

- `apache2.conf` is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.
- `ports.conf` is always included from the main configuration file. It is used to determine the listening ports for incoming connections, and this file can be customized anytime.
- Configuration files in the `mods-enabled/`, `conf-enabled/` and `sites-enabled/` directories contain particular configuration snippets which manage modules, global configuration fragments, or virtual

COMPETENCES :

1.1 Gérer le patrimoine informatique

Recenser et identifier les ressources numériques : Le TP commence par l'installation et la configuration de services comme Apache2 et HAProxy, ce qui permet d'identifier les ressources nécessaires à leur bon fonctionnement.

Exploiter des référentiels, normes et standards adoptés par le prestataire informatique : Les commandes utilisées, telles que `apt install apache2` et `apt install haproxy`, suivent des normes d'installation courantes dans le milieu informatique, assurant que les pratiques de gestion sont conformes aux standards des prestataires.

Mettre en place et vérifier les niveaux d'habilitation associés à un service : La vérification des services via des tests de connexion et des captures d'écran du statut du service montre que les niveaux d'habilitation et d'accès sont bien gérés et validés.

Vérifier les conditions de la continuité d'un service informatique : Des tests sont réalisés pour vérifier la disponibilité des services, comme la simulation de pannes de serveur, ce qui permet de s'assurer de la continuité du service en cas de problème.