

Web Server & APP server

(TASK)

1. Install Apache and run Apache on port number 82

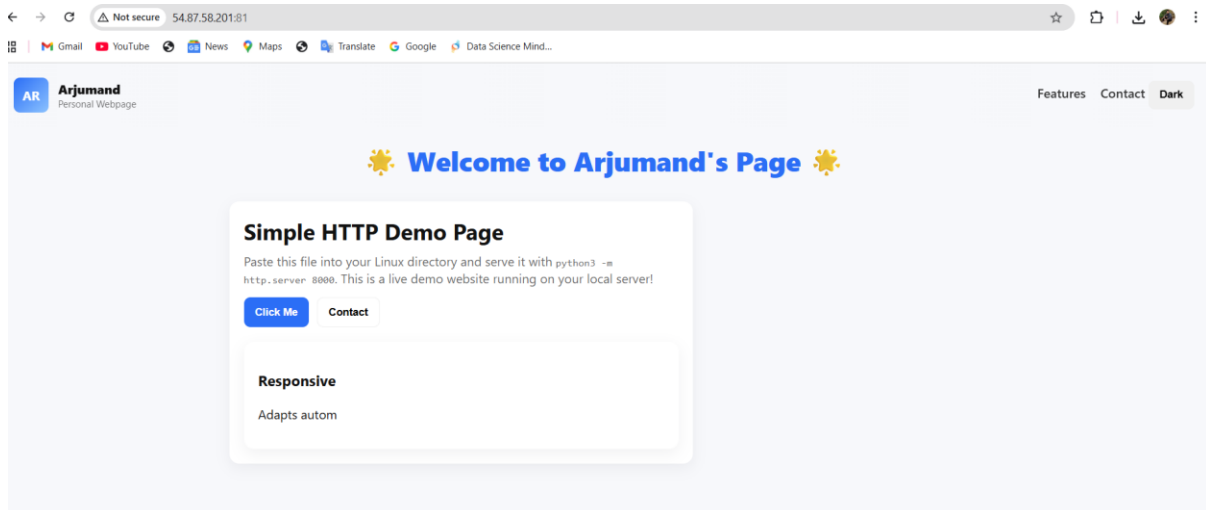
Installed apache using command `sudo apt install` then `systemctl start` then `systemctl status`. Changed the port : find the path using command `'find / -n httpd.conf` then `'vi path` then change the port number

2. Deploy a sample index.html file on Apache.

After changing the port number copy public id and paste it on web along with the code. Then created file in this mentioned path `'/var/www/html`, then `vi index.html` edit webserver html code close it then restart apache using `systemctl restart httpd`. Then refresh the page.

```
# same ServerRoot for multiple httpd daemons, you will need to change at
# least PidFile.
#
ServerRoot "/etc/httpd"
#
# Listen: Allows you to bind Apache to specific IP addresses and/or
# ports, instead of the default. See also the <VirtualHost>
# directive.
#
# Change this to Listen on a specific IP address, but note that if
# httpd.service is enabled to run at boot time, the address may not be
# available when the service starts. See the httpd.service(8) man
# page for more information.
#Listen 12.34.56.78:80
Listen 81
#
# Dynamic Shared Object (DSO) Support
#
# To be able to use the functionality of a module which was built as a DSO you
# have to place corresponding 'LoadModule' lines at this location so the
# directives contained in it are actually available before they are used.
# Statically compiled modules (those listed by 'httpd -l') do not need
# to be loaded here.
#
# Example:
# LoadModule foo_module modules/mod_foo.so
#
# Include conf.modules.d/*.conf
#
# If you wish httpd to run as a different user or group, you must run
# httpd as root initially and it will switch.
#
# User/Group: The name (or #number) of the user/group to run httpd as.
# It is usually good practice to create a dedicated user and group for
# running httpd, as with most system services.
#
User apache
Group apache
```

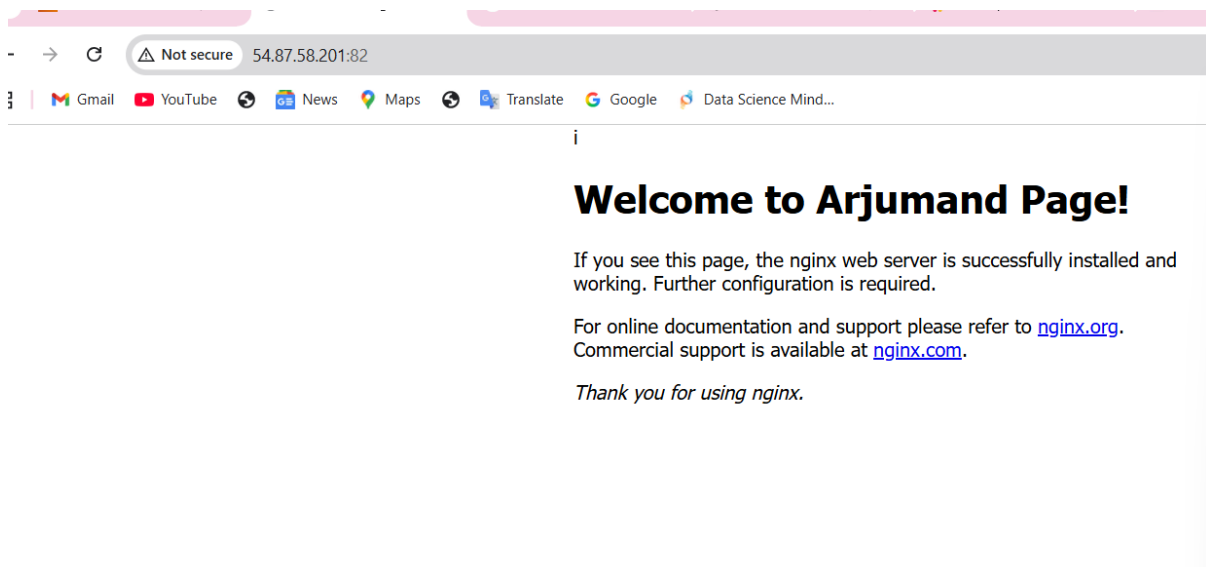
* Make sure you subscribe to the professional edition here: <https://www.jetbrains.com/idea/>



1. Install nginx and run nginx on port number 81.
2. Installed nginx using command `sudo apt install` then `systemctl start` then `systemctl status`. Changed the port : find the path using command `'find / -n httpd.conf` then `'vi path` then change the port number

3. Deploy a sample index.html file on nginx.

After changing the port number copy public id and paste it on web along with the code. Then `vi index.html` edit webserver html code close it then restart nginx using `systemctl restart httpd`. Then refresh the page.



```
[root@ip-172-31-19-106 html]# vi /etc/nginx/nginx.conf
[root@ip-172-31-19-106 html]# sudo systemctl restart nginx
[root@ip-172-31-19-106 html]# sudo systemctl status nginx
● nginx.service - The nginx HTTP and reverse proxy server
   Loaded: loaded (/usr/lib/systemd/system/nginx.service; disabled; preset: disabled)
   Active: active (running) since Tue 2025-11-04 11:24:00 UTC; 17s ago
     Process: 32624 ExecStartPre=/usr/bin/rm -f /run/nginx.pid (code=exited, status=0/SUCCESS)
     Process: 32638 ExecStartPre=/usr/sbin/nginx -t (code=exited, status=0/SUCCESS)
     Process: 32649 ExecStart=/usr/sbin/nginx (code=exited, status=0/SUCCESS)
    Main PID: 32650 (nginx)
      Tasks: 2 (limit: 1115)
     Memory: 2.5M
        CPU: 38ms
    CGroup: /system.slice/nginx.service
            └─32650 "nginx: master process /usr/sbin/nginx"
              └─32651 "nginx: worker process"

Nov 04 11:24:00 ip-172-31-19-106.ec2.internal systemd[1]: Starting nginx.service - The nginx HTTP and reverse proxy server ...
Nov 04 11:24:00 ip-172-31-19-106.ec2.internal nginx[32638]: nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
Nov 04 11:24:00 ip-172-31-19-106.ec2.internal nginx[32638]: nginx: configuration file /etc/nginx/nginx.conf test is successful
Nov 04 11:24:00 ip-172-31-19-106.ec2.internal systemd[1]: Started nginx.service - The nginx HTTP and reverse proxy server.
[root@ip-172-31-19-106 html]# cd /var/www/html
-bash: cd /var/www/html: No such file or directory
[root@ip-172-31-19-106 html]# cd /usr/share/nginx/html
[root@ip-172-31-19-106 html]# ls -l
total 16
-rw-r--r--. 1 root root 3650 Aug 12 21:18 404.html
-rw-r--r--. 1 root root 3693 Aug 12 21:18 50x.html
drwxr-xr-x. 2 root root  27 Nov  4 11:07 icons
-rw-r--r--. 1 root root 615 Aug 12 21:19 index.html
-rw-r--r--. 1 root root 368 Aug 12 21:18 nginx-logo.png
lrwxrwxrwx. 1 root root  14 Aug 12 21:19 poweredby.png -> nginx-logo.png
[root@ip-172-31-19-106 html]# sudo vi /usr/share/nginx/html
[root@ip-172-31-19-106 html]# sudo vi /usr/share/nginx/html
[root@ip-172-31-19-106 html]# sudo vi /usr/share/nginx/html
[root@ip-172-31-19-106 html]# ll | html
-bash: html: command not found
[root@ip-172-31-19-106 html]# ls
404.html 50x.html NetrwTreeListing icons index.html nginx-logo.png poweredby.png
[root@ip-172-31-19-106 html]# vi index.html
[root@ip-172-31-19-106 html]# vi index.html
[root@ip-172-31-19-106 html]#
```

5.Install Apache tomcat on port number 8082

change port in server.xml

Go to the Tomcat configuration directory

cd /opt/apache-tomcat-9.0.111/conf

Open the server.xml file using vi

vi server.xml

Search for the Connector port line

Inside vi, type:

/Connector port

and press Enter to jump to the port line.

You will see something like:

<Connector port="8080" protocol="HTTP/1.1"

Edit the port number

Move the cursor to 8080

Press i to enter insert mode

Change 8080 → 8082

```
<Connector port="8082" protocol="HTTP/1.1"
```

Save and Exit

Press Esc

Then type:

```
:wq
```

Press Enter

Restart Tomcat to apply changes

```
cd /opt/apache-tomcat-9.0.111/bin
```

```
./shutdown.sh
```

```
./startup.sh
```

Verify Tomcat is listening on new port

```
ss -tulpn | grep 8082
```

or open in browser:

```
http://<SERVER_PUBLIC_IP>:8082
```

start

```
/opt/apache-tomcat-9.0.111/bin/startup.sh
```

```
tomcat started.  
root@ip-172-31-19-106 bin]# grep "Connector port" /opt/apache-tomcat-9.0.111/conf/server.xml  
<Connector port="8082" protocol="HTTP/1.1"  
<Connector port="8443" protocol="org.apache.coyote.http11.Http11NioProtocol"  
<Connector port="8443" protocol="org.apache.coyote.http11.Http11AprProtocol"  
root@ip-172-31-19-106 bin]#
```

Activate Windows
Go to Settings to activate Windows.

- Deploy a sample app on webapps

Procedure: Deploy a Sample Application on Tomcat Webapps

Go to the Tomcat webapps directory

```
cd /opt/apache-tomcat-9.0.111/webapps
```

Create a new application folder

```
mkdir sample
```

Move inside the newly created application directory

```
cd sample
```

Create an index.jsp file using vi

```
vi index.jsp
```

Press i to enter insert mode and paste sample JSP content**

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<h1>Tomcat Application Running Successfully</h1>
```

```
</body>
```

```
</html>
```

Save and Exit the file

Press Esc

Type:

```
:wq
```

Press Enter

Restart Tomcat to load the new application

```
cd /opt/apache-tomcat-9.0.111/bin
```

```
./shutdown.sh
```

```
./startup.sh
```

Verify the application in browser

```
http://<server-public-ip>:8082/sample/
```

- Create a tomcat.service file for tomcat.

Procedure: Create & Enable tomcat.service File

Create a new service file for Tomcat

```
sudo vi /etc/systemd/system/tomcat.service
```

Press i to enter insert mode, then paste the following:

```
[Unit]
```

```
Description=Apache Tomcat Server
```

```
After=network.target
```

[Service]

Type=forking

Environment=CATALINA_HOME=/opt/apache-tomcat-9.0.111

Environment=CATALINA_BASE=/opt/apache-tomcat-9.0.111

Environment=CATALINA_PID=/opt/apache-tomcat-9.0.111/temp/tomcat.pid

ExecStart=/opt/apache-tomcat-9.0.111/bin/startup.sh

ExecStop=/opt/apache-tomcat-9.0.111/bin/shutdown.sh

Restart=on-failure

[Install]

WantedBy=multi-user.target

Save and exit

Press Esc

Type:

:wq

Press Enter

Reload systemd to recognize the new service

sudo systemctl daemon-reload

Enable Tomcat to start on boot

sudo systemctl enable tomcat

Start Tomcat service

sudo systemctl start tomcat

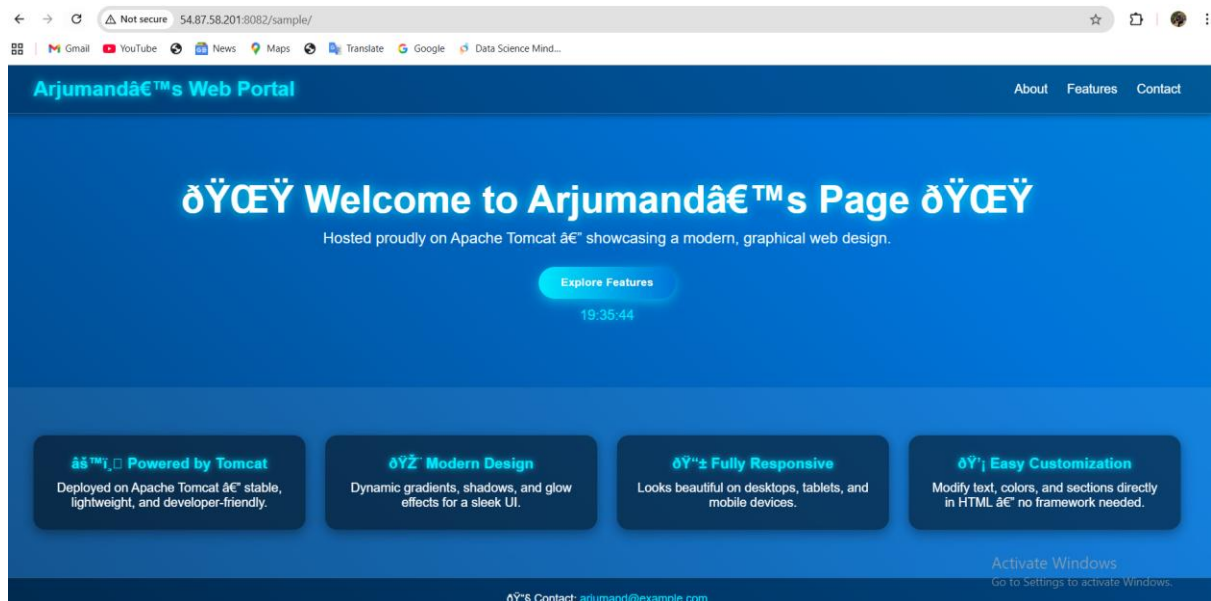
Check service status

sudo systemctl status tomcat

```

tomcat started.
[root@ip-172-31-19-106 bin]# cd ..
[root@ip-172-31-19-106 apache-tomcat-9.0.111]# ls
BUILDING.txt CONTRIBUTING.md LICENSE NOTICE README.md RELEASE-NOTES RUNNING.txt bin conf lib logs temp webapps work
[root@ip-172-31-19-106 apache-tomcat-9.0.111]# cd webapps
[root@ip-172-31-19-106 webapps]# ls -l
ROOT
docs
examples
host-manager
manager
sample
[root@ip-172-31-19-106 webapps]# cd sample
[root@ip-172-31-19-106 sample]# ni index.jsp
-bash: ni: command not found
[root@ip-172-31-19-106 sample]# vi index.jsp
[root@ip-172-31-19-106 sample]# cd ..
[root@ip-172-31-19-106 webapps]# ls
ROOT docs examples host-manager manager sample
[root@ip-172-31-19-106 webapps]# cd ..
[root@ip-172-31-19-106 apache-tomcat-9.0.111]# ls
BUILDING.txt CONTRIBUTING.md LICENSE NOTICE README.md RELEASE-NOTES RUNNING.txt bin conf lib logs temp webapps work
[root@ip-172-31-19-106 apache-tomcat-9.0.111]# cd bin
[root@ip-172-31-19-106 bin]# ls

```



- 8. Configure HA Proxy server

Launch 3 ec2 instances name as Server1, Server-2, HA-Proxy-Server.

Find Instance by attribute or tag (case-sensitive)		All states							
	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4	
<input type="checkbox"/>		i-0c8b6edfde656b65	Stopped	t2.micro	–	View alarms +	us-east-1c	–	
<input type="checkbox"/>	Server1	i-06adda51bc100e74f	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1c	ec2-54-165	
<input type="checkbox"/>	HAproxy server	i-0b3cacb0257e0000f	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1c	ec2-34-229	
<input checked="" type="checkbox"/>	Server2	i-06fa895646f3807b7	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1c	ec2-3-91-24	

- Executed following command to Access the Server-1
- ssh -i your-key.pem ec2-user@Pubipaddress of Server-1 instance


```

~/m/
Last login: Wed Nov  5 07:32:39 2025 from 14.192.14.55
[ec2-user@ip-172-31-28-81 ~]$ sudo -i
[root@ip-172-31-28-81 ~]# apt update -y
-bash: apt: command not found
[root@ip-172-31-28-81 ~]# sudo yum update -y
Last metadata expiration check: 2:28:42 ago on Wed Nov  5 07:34:30 2025.
Dependencies resolved.
Nothing to do.
Complete!
[root@ip-172-31-28-81 ~]# yum install httpd -y
Last metadata expiration check: 2:28:58 ago on Wed Nov  5 07:34:30 2025.
Package httpd-2.4.65-1.amzn2023.0.2.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@ip-172-31-28-81 ~]# vi /etc/hosts
[root@ip-172-31-28-81 ~]# vi /etc/hosts
[root@ip-172-31-28-81 ~]# vi /etc/hosts
[root@ip-172-31-28-81 ~]# cat /etc/hosts
127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
::1 localhost6 localhost6.localdomain6
34.229.219.19 load_balancer
[root@ip-172-31-28-81 ~]# ping load_balancer -c 4
ping: balancer: Name or service not known
[root@ip-172-31-28-81 ~]# vi /etc/hosts
[root@ip-172-31-28-81 ~]# cat /etc/hosts
127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
::1 localhost6 localhost6.localdomain6
34.229.219.19 load_balancer
[root@ip-172-31-28-81 ~]# ping load_balancer -c 4
ping: balancer: Name or service not known
[root@ip-172-31-28-81 ~]# ping load_balancer -c 4
PING load_balancer (34.229.219.19) 56(84) bytes of data.
64 bytes from load_balancer (34.229.219.19): icmp_seq=1 ttl=126 time=0.816 ms
64 bytes from load_balancer (34.229.219.19): icmp_seq=2 ttl=126 time=0.829 ms
64 bytes from load_balancer (34.229.219.19): icmp_seq=3 ttl=126 time=1.51 ms
64 bytes from load_balancer (34.229.219.19): icmp_seq=4 ttl=126 time=0.829 ms

--- load_balancer ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3076ms
rtt min/avg/max/mdev = 0.816/0.995/1.509/0.296 ms
[root@ip-172-31-28-81 ~]# sudo systemctl start httpd
[root@ip-172-31-28-81 ~]# sudo systemctl status httpd
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; preset: disabled)
   Active: active (running) since Wed 2025-11-05 07:49:17 UTC; 2h 25min ago
     Docs: man:httpd.service(8)
  Main PID: 26911 (httpd)
    Status: "Total requests: 10; Idle/Busy workers 100/0; Requests/sec: 0.00115; Bytes served/sec: 0 B/sec"
    Tasks: 230 (limit: 1106)
  Memory: 16.7M
    CPU: 5.887s
  CGroup: /system.slice/httpd.service
          └─26911 /usr/sbin/httpd -DFOREGROUND
          └─26912 /usr/sbin/httpd -DFOREGROUND

```

```

└─26911 /usr/sbin/httpd -DFOREGROUND
└─26912 /usr/sbin/httpd -DFOREGROUND
└─26913 /usr/sbin/httpd -DFOREGROUND
└─26914 /usr/sbin/httpd -DFOREGROUND
└─26915 /usr/sbin/httpd -DFOREGROUND
└─27194 /usr/sbin/httpd -DFOREGROUND

ov 05 07:49:17 ip-172-31-28-81.ec2.internal systemd[1]: Starting httpd.service - The Apache HTTP Server...
ov 05 07:49:17 ip-172-31-28-81.ec2.internal systemd[1]: Started httpd.service - The Apache HTTP Server.
ov 05 07:49:17 ip-172-31-28-81.ec2.internal httpd[26911]: Server configured, listening on: port 80
root@ip-172-31-28-81 ~]# exit
ogout
ec2-user@ip-172-31-28-81 ~]$ ssh -i "Testing.pem" ec2-user@ec2-3-91-249-4.compute-1.amazonaws.com
arning: Identity file Testing.pem not accessible: No such file or directory.
c2-user@ec2-3-91-249-4.compute-1.amazonaws.com: Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
ec2-user@ip-172-31-28-81 ~]$ ssh -i Testing.pem admin@ec2-3-91.249.4
arning: Identity file Testing.pem not accessible: No such file or directory.
sh: Could not resolve hostname ec2-3.91.249.4: Name or service not known
ec2-user@ip-172-31-28-81 ~]$ ls ~/Downloads
s: cannot access '/home/ec2-user/Downloads': No such file or directory
ec2-user@ip-172-31-28-81 ~]$ exit
ogout

```

rowse with Server-1 Public IP address:80 it will work

Server-2 Steps:

Run following command to Access Server-2

- ssh -i your-key.pem ec2-user@Pubipaddress of Server-2 instance
- sudo -i


```

ec2-user@ip-172-31-19-195 ~]$ cd /etc
ec2-user@ip-172-31-19-195 etc]$ ls
DIR_COLORS      bashrc          csh.cshrc      gcrypt          hosts           libaudit.conf  modprobe.d     pam.d           rc2.d           security
DIR_COLORS.lightbgcolor  bindresport.blacklist  csh.login      gnupg           idmapd.conf    libbverbs.d    modules-load.d  passwd          rc3.d           selinux
DIR_COLORS      bindresport.blacklist  groff          initscripts     image-ld.conf  libnl           motd           passwdd         rc4.d           services
NetworkManager  chkconfig.d        default        group           init.d         libreport       mtmtd.d        pkcs11          rc5.d           sestatus.conf
n11             chronty.conf       depmod.d      group-          inittab        libuser.conf   mtab           pkgconfig       rc6.d           shadow
napi            chronty.d          dhcp          grub.d         inputrc        locale.conf    nanorc         pk            request-key.conf  shadow-
netime          chronty.keys       dnf           grub2-efi.cfg  issue          localtime      netconfig      pm             request-key.d     shells
naliases        cifs-utils         dracut.conf   grub2.cfg      issue.net      login.defs     networks       post.d         resolv.conf       skel
nalternatives   cloud-init          gshadow       kernel         logrotate.conf keyutils        logrotate.d    nfs.conf       printcap        ssh
namazon         cron.daily          environment   gshadow-       keyutils       logrotate.d    nfsmount.conf  profile        rpm             s3
amazon-linux-release  cron.hourly        ethertypes    gss            krb5           lsm            nginx          profile.d      rsync.conf       sssd
amazon-linux-release-cpe  cron.monthly      exports       gssproxy       krb5.conf.d    machine-id     nsswitch.conf  protocols     rsyslog.d       statetab.d
at deny         cron.weekly        cronab        exports.d      hibernit-config.cfg  ld.so.cache    magic          rc.d           rtwtab.d        subgid
audit           cryptopolicies     fstab         host.conf      ld.so.conf     ld.so.conf.d   mke2fs.conf   os-release     rc0.d           sas12
dash.completion.d  cryptopolicies     fstab         hostname       ld.so.conf.d   mke2fs.conf   os-release     rc1.d           screenrc        subuid
ec2-user@ip-172-31-19-195 etc]$ chmod 777 hosts
chmod: changing permissions of 'hosts': operation not permitted
ec2-user@ip-172-31-19-195 etc]$ sudo chmod 777 hosts
ec2-user@ip-172-31-19-195 etc]$ vi /etc/hosts
ec2-user@ip-172-31-19-195 etc]$ cat /etc/hosts
#0.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
::1 localhost6 localhost6.localdomain6
#4.229.219.19 load_balancer
ec2-user@ip-172-31-19-195 etc]$ sudo systemctl start nginx
ec2-user@ip-172-31-19-195 etc]$ sudo systemctl status nginx
Unknown command verb status.
ec2-user@ip-172-31-19-195 etc]$ sudo systemctl status nginx
nginx.service - The nginx HTTP and reverse proxy server
Loaded: loaded (/usr/lib/systemd/system/nginx.service; disabled; preset: disabled)
Active: active (running) since wed 2025-11-05 10:34:35 UTC; 39s ago
Process: 31030 ExecStartPre=/usr/sbin/nginx -f /run/nginx.pid (code=exited, status=0/SUCCESS)
Process: 31031 ExecStartPost=/usr/sbin/nginx -t (code=exited, status=0/SUCCESS)
Process: 31032 ExecStart=/usr/sbin/nginx (code=exited, status=0/SUCCESS)
Main PID: 31033 (nginx)
Tasks: 2 (limit: 1106)
Memory: 2.5M
CPU: 40ms
CGroup: /system.slice/nginx.service
└─31033 "nginx: master process /usr/sbin/nginx"
    └─31034 "nginx: worker process"

Nov 05 10:34:35 ip-172-31-19-195.ec2.internal systemd[1]: Starting nginx.service - The nginx HTTP and reverse proxy server...
Nov 05 10:34:35 ip-172-31-19-195.ec2.internal nginx[31031]: nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
Nov 05 10:34:35 ip-172-31-19-195.ec2.internal nginx[31031]: nginx: configuration file /etc/nginx/nginx.conf test is successful
Nov 05 10:34:35 ip-172-31-19-195.ec2.internal systemd[1]: Started nginx.service - The nginx HTTP and reverse proxy server.
ec2-user@ip-172-31-19-195 etc]$ ping load_balancer -c 4
PING load_balancer (34.229.219.19): 56(84) bytes of data.
64 bytes from load_balancer (34.229.219.19): icmp_seq=1 ttl=126 time=0.413 ms
64 bytes from load_balancer (34.229.219.19): icmp_seq=2 ttl=126 time=0.751 ms
64 bytes from load_balancer (34.229.219.19): icmp_seq=3 ttl=126 time=0.856 ms
64 bytes from load_balancer (34.229.219.19): icmp_seq=4 ttl=126 time=0.609 ms

```

```
lec2-user@ip-172-31-24-35 ~$ sudo -i
[root@ip-172-31-24-35 ~]# sudo yum update -y
Amazon Linux 2023 kernel Livepatch repository
Last metadata expiration check: 0:00:01 ago on Wed Nov  5 10:41:41 2025.
Dependencies resolved.
Nothing to do.
Complete!
[root@ip-172-31-24-35 ~]# sudo yum haproxy -y
No such command: haproxy. Please use /usr/bin/yum --help
It could be a YUM plugin command, try: "yum install 'dnf-command(haproxy)'"
[root@ip-172-31-24-35 ~]# sudo yum install haproxy -y
Last metadata expiration check: 0:01:03 ago on Wed Nov  5 10:41:41 2025.
Dependencies resolved.

Package            Architecture      Version           Repository        Size
Installing:
haproxy             x86_64            3.0.5-1.amzn2023.0.1  amazonlinux      2.6 M

Transaction Summary
Install 1 Package

Total download size: 2.6 M
Installed size: 8.2 M
Downloading Packages:
haproxy-3.0.5-1.amzn2023.0.1.x86_64.rpm

Activate Windows
Go to Settings to activate Windows.
16 MB/s | 2.6 MB | 00:00
```

- vi /etc/hosts
- Add Server-1, Server-2 Public IP's

```
Complete!
[root@ip-172-31-24-35 ~]# vi /etc/hosts
[root@ip-172-31-24-35 ~]# cat /etc/hosts
127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
::1 localhost6 localhost6.localdomain6
84.165.145.2 server-1
8.91.249.4 server-2
[root@ip-172-31-24-35 ~]# vi /etc/haproxy/haproxy.cfg
[root@ip-172-31-24-35 ~]# sudo systemctl enable haproxy
```

- vi /etc/haproxy/haproxy.cfg
- Add Server-1, Server-2 public IP's

```
Complete!
[root@ip-172-31-24-35 ~]# vi /etc/hosts
[root@ip-172-31-24-35 ~]# cat /etc/hosts
127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
::1 localhost6 localhost6.localdomain6
84.165.145.2 server-1
8.91.249.4 server-2
[root@ip-172-31-24-35 ~]# vi /etc/haproxy/haproxy.cfg
[root@ip-172-31-24-35 ~]# sudo systemctl enable haproxy
Created symlink /etc/systemd/system/multi-user.target.wants/haproxy.service → /usr/lib/systemd/system/haproxy.service.
[root@ip-172-31-24-35 ~]# sudo systemctl start haproxy
```

- systemctl enable haproxy
- systemctl start haproxy

```
Installing : haproxy-3.0.5-1.amzn2023.0.1.x86_64
Running scriptlet: haproxy-3.0.5-1.amzn2023.0.1.x86_64
Verifying : haproxy-3.0.5-1.amzn2023.0.1.x86_64

Installed:
haproxy-3.0.5-1.amzn2023.0.1.x86_64

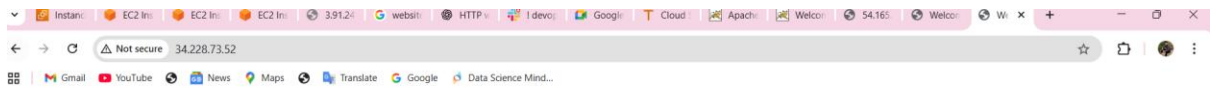
Complete!
[root@ip-172-31-18-214 ~]# vi etc/hosts
[root@ip-172-31-18-214 ~]# vi etc/hosts
[root@ip-172-31-18-214 ~]# vi /etc/hosts
[root@ip-172-31-18-214 ~]# vi /etc/haproxy/haproxy.cfg
[root@ip-172-31-18-214 ~]# systemctl start haproxy
[root@ip-172-31-18-214 ~]# systemctl status haproxy
haproxy.service - HAProxy Load Balancer
Loaded: loaded (/usr/lib/systemd/system/haproxy.service; disabled; preset: disabled)
Active: active (running) since Wed 2025-11-05 13:51:40 UTC; 18s ago
Process: 26659 ExecStartPre=/usr/sbin/haproxy -f $CONFIG -f $CFGDIR -c -q $OPTIONS (code=exited, status=0/SUCCESS)
Main PID: 26664 (haproxy)
Status: "Ready."
Tasks: 2 (limit: 1106)
Memory: 6.5M
CPU: 42ms
```

- systemctl status haproxy

```
root@ip-172-31-18-214 ~# vi /etc/haproxy/haproxy.cfg
root@ip-172-31-18-214 ~# systemctl start haproxy
root@ip-172-31-18-214 ~# systemctl status haproxy
haproxy.service - HAProxy Load Balancer
Loaded: loaded (/usr/lib/systemd/system/haproxy.service; disabled; preset: disabled)
Active: active (running) since Wed 2025-11-05 13:51:40 UTC; 18s ago
Process: 26659 ExecStartPre=/usr/sbin/haproxy -f $CONFIG -f $CFGDIR -c -q $OPTIONS (code=exited, status=0/SUCCESS)
Main PID: 26664 (haproxy)
Status: "Ready."
Tasks: 2 (limit: 1106)
Memory: 6.5M
CPU: 42ms
CGroup: /system.slice/haproxy.service
└─26664 /usr/sbin/haproxy -Ws -f /etc/haproxy/haproxy.cfg -f /etc/haproxy/conf.d -p /run/haproxy.pid
└─26670 /usr/sbin/haproxy -Ws -f /etc/haproxy/haproxy.cfg -f /etc/haproxy/conf.d -p /run/haproxy.pid

Nov 05 13:51:40 ip-172-31-18-214.ec2.internal haproxy[26664]: [ALERT] (26664) : config : parsing [/etc/haproxy/haproxy.cfg:29] : 'pidfile' already specified. Contin
Nov 05 13:51:40 ip-172-31-18-214.ec2.internal haproxy[26664]: [NOTICE] (26664) : New worker (26670) forked
Nov 05 13:51:40 ip-172-31-18-214.ec2.internal systemd[1]: Started haproxy.service - HAProxy Load Balancer.
Nov 05 13:51:40 ip-172-31-18-214.ec2.internal haproxy[26664]: [NOTICE] (26664) : Loading success.
Nov 05 13:51:40 ip-172-31-18-214.ec2.internal haproxy[26670]: [WARNING] (26670) : Server static/static is DOWN, reason: Layer4 connection problem, info: "Connection r
Nov 05 13:51:40 ip-172-31-18-214.ec2.internal haproxy[26670]: [ALERT] (26670) : backend 'static' has no server available!
Nov 05 13:51:41 ip-172-31-18-214.ec2.internal haproxy[26670]: [WARNING] (26670) : Server app/app1 is DOWN, reason: Layer4 connection problem, info: "Connection refused
Nov 05 13:51:41 ip-172-31-18-214.ec2.internal haproxy[26670]: [WARNING] (26670) : Server app/app2 is DOWN, reason: Layer4 connection problem, info: "Connection refused
Nov 05 13:51:41 ip-172-31-18-214.ec2.internal haproxy[26670]: [WARNING] (26670) : Server app/app3 is DOWN, reason: Layer4 connection problem, info: "Connection refused
Nov 05 13:51:41 ip-172-31-18-214.ec2.internal haproxy[26670]: [WARNING] (26670) : Server app/app4 is DOWN, reason: Layer4 connection problem, info: "Connection refused
lines 1-23/23 (END)
```

- now browse with HA-Proxy-Server PublicIP:80 it will distribute load to



Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.