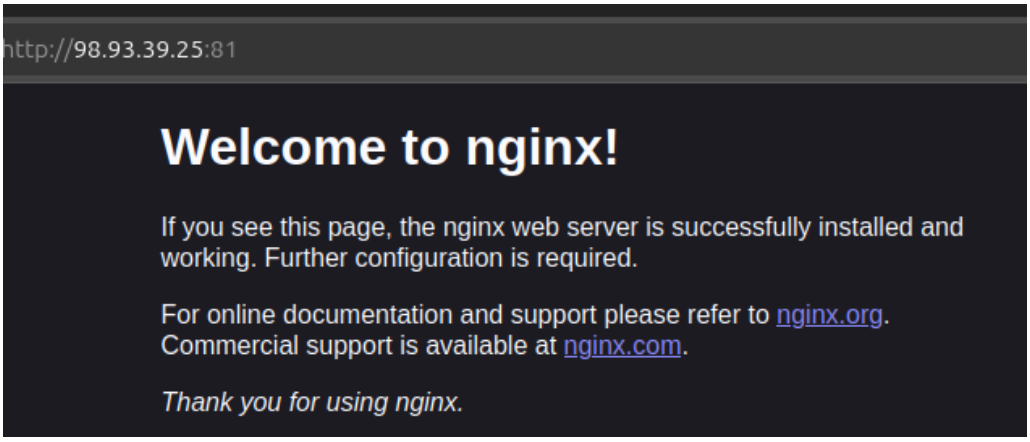
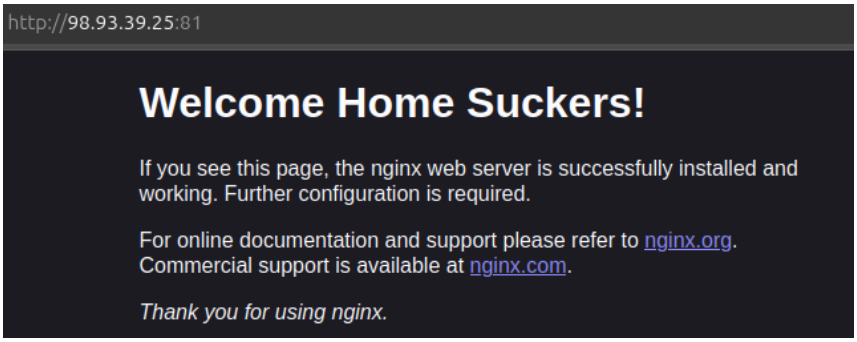
App servers and Web Servers

- Install nginx and run nginx on port number 81.



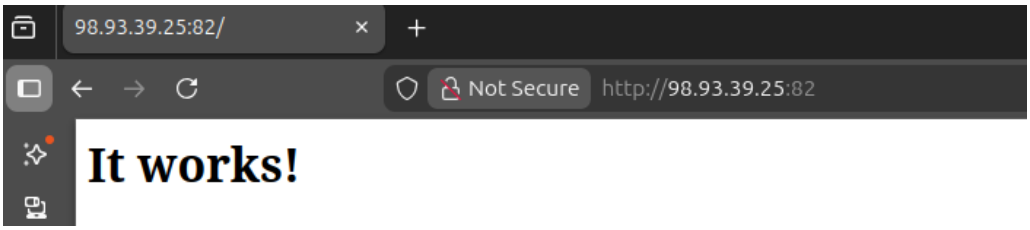

```
[root@ip-172-31-72-11 html]# lsof -i tcp:81
COMMAND  PID  USER   FD   TYPE DEVICE SIZE/OFF NODE NAME
nginx   7622  root    8u  IPv4 101475      0t0  TCP *:81 (LISTEN)
nginx   7622  root    9u  IPv6 101476      0t0  TCP *:81 (LISTEN)
nginx   7623 nginx    8u  IPv4 101475      0t0  TCP *:81 (LISTEN)
nginx   7623 nginx    9u  IPv6 101476      0t0  TCP *:81 (LISTEN)
nginx   7624 nginx    8u  IPv4 101475      0t0  TCP *:81 (LISTEN)
nginx   7624 nginx    9u  IPv6 101476      0t0  TCP *:81 (LISTEN)
nginx   7624 nginx   10u  IPv4 101604      0t0  TCP ip-172-31-72-11.ec2.internal:81->124.123.188.21.actcorp.in:29749 (ESTABLISHE
D)
```

- Deploy a sample index.html file on Nginx.



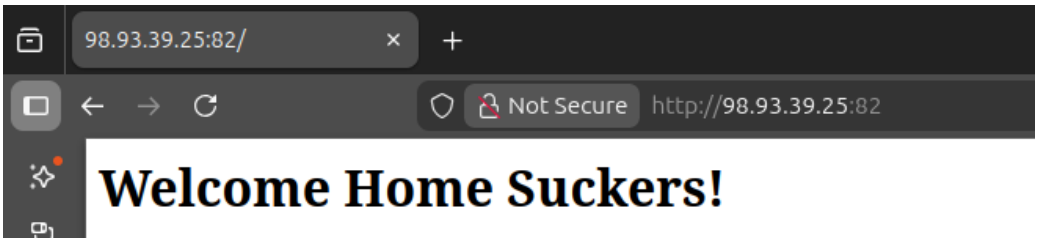
App servers and Web Servers

- Install Apache and run Apache on port number 82.



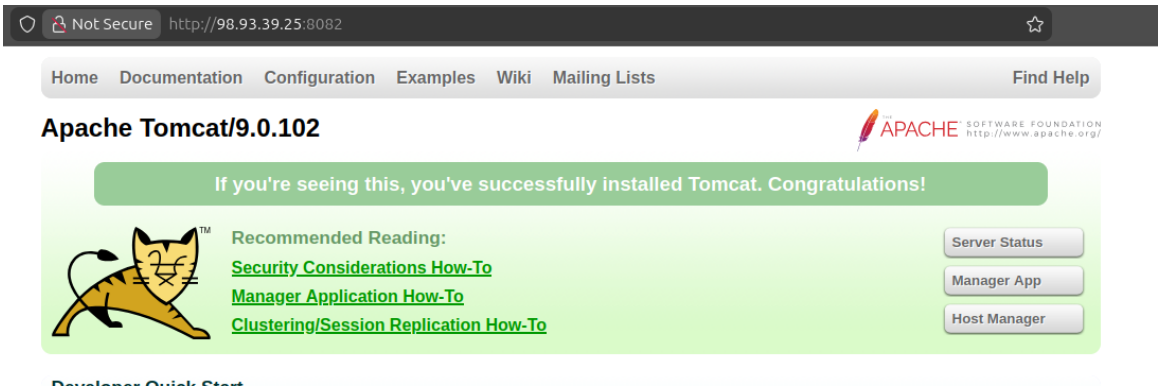

```
[root@ip-172-31-72-11 conf]# systemctl status httpd
● httpd.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; preset: disabled)
     Active: active (running) since Wed 2025-12-17 06:02:12 UTC; 3s ago
       Docs: man:httpd.service(8)
   Main PID: 5286 (httpd)
     Status: "Started, listening on: port 82"
      Tasks: 177 (limit: 1009)
     Memory: 13.6M
        CPU: 60ms
     CGroup: /system.slice/httpd.service
             ├─5286 /usr/sbin/httpd -DFOREGROUND
             ├─5287 /usr/sbin/httpd -DFOREGROUND
             ├─5288 /usr/sbin/httpd -DFOREGROUND
             ├─5289 /usr/sbin/httpd -DFOREGROUND
             └─5290 /usr/sbin/httpd -DFOREGROUND

Dec 17 06:02:12 ip-172-31-72-11.ec2.internal systemd[1]: Starting httpd.service - The Apache HTTP Server...
Dec 17 06:02:12 ip-172-31-72-11.ec2.internal systemd[1]: Started httpd.service - The Apache HTTP Server.
Dec 17 06:02:12 ip-172-31-72-11.ec2.internal httpd[5286]: Server configured, listening on: port 82
```

- Deploy a sample index.html file on Apache.



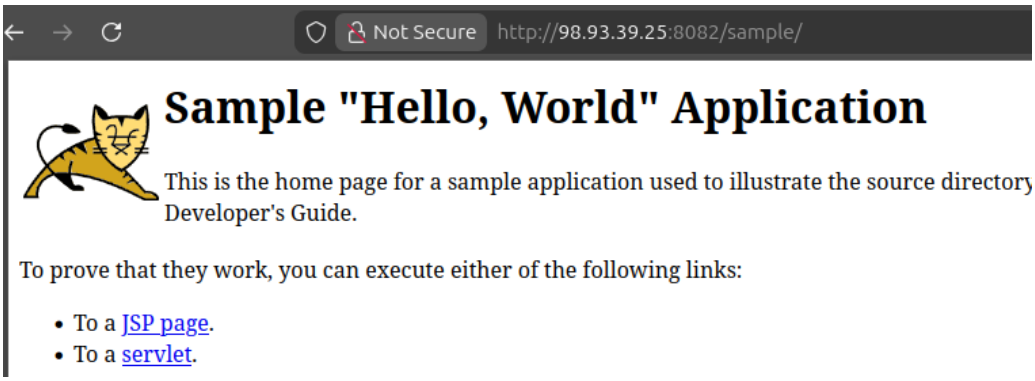
App servers and Web Servers

- Install Apache tomcat on port number 8082.




```
● tomcat.service - Apache Tomcat Web Application Container
     Loaded: loaded (/etc/systemd/system/tomcat.service; disabled; preset: disabled)
     Active: active (running) since Wed 2025-12-17 07:40:16 UTC; 1min 24s ago
    Process: 10590 ExecStart=/opt/tomcat/bin/startup.sh (code=exited, status=0/SUCCESS)
   Main PID: 10597 (java)
      Tasks: 30 (limit: 1009)
     Memory: 73.0M
        CPU: 4.674s
     CGroup: /system.slice/tomcat.service
             └─10597 /usr/lib/jvm/jre-17/bin/java -Djava.util.logging.config.file=/opt/tomcat/conf/logging.prop
```

- Deploy a sample app on webapps.



- Create a tomcat.service file for tomcat.

```
[root@ip-172-31-72-11 /]# find / -name tomcat.service
/etc/systemd/system/tomcat.service
/sys/fs/cgroup/system.slice/tomcat.service
```

- Configure HA Proxy server.

```
[root@ip-172-31-72-11 conf]# for i in {1..6}; do curl -H "Connection: close" http://localhost; done
Backend server 1
Backend server 2
Backend server 1
Backend server 2
Backend server 1
Backend server 2
```