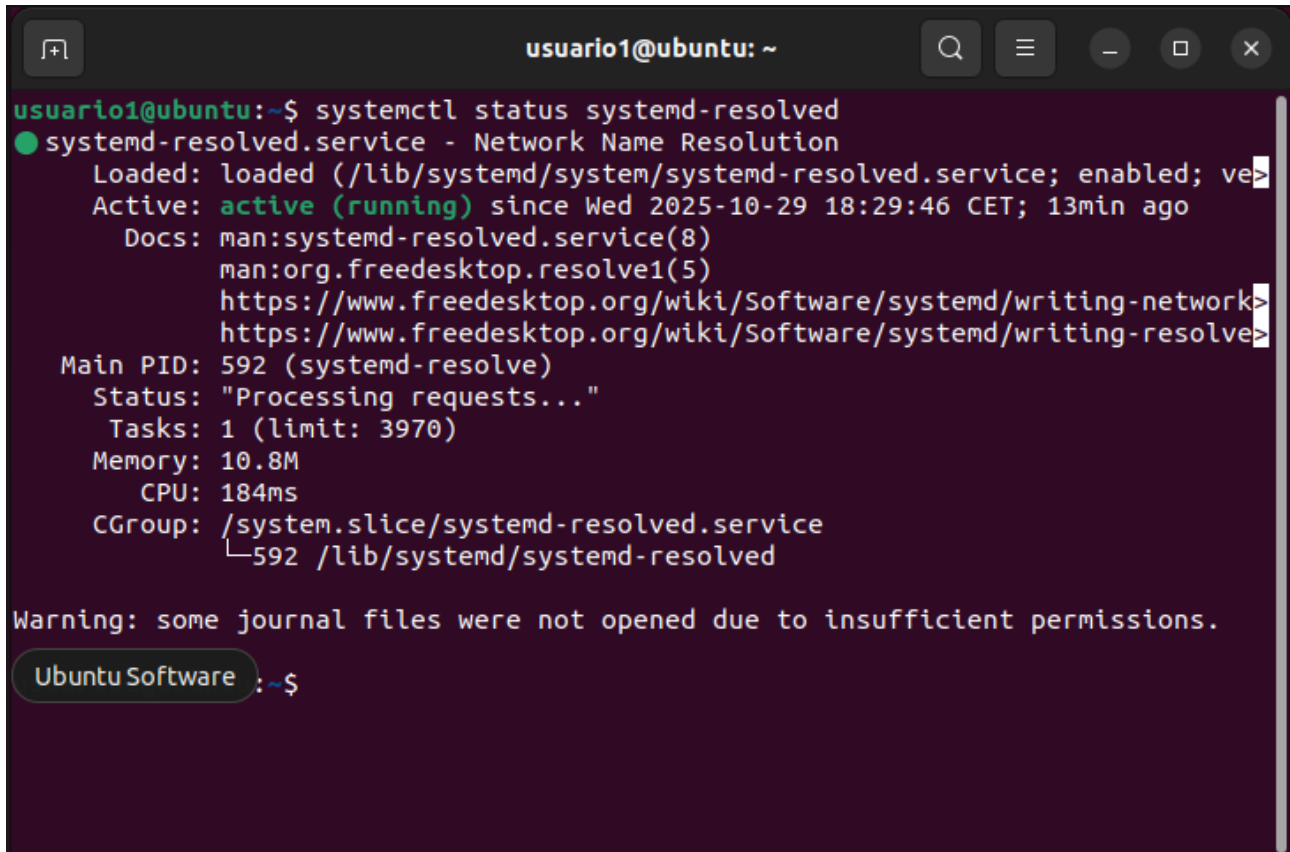


DNS CACHE

To resolve this activity, we will use a virtual machine with Ubuntu.

Ubuntu uses systemd-resolved to manage DNS caching. To check if the service is active:

- “systemctl status systemd-resolved”

A terminal window titled 'usuario1@ubuntu: ~' with standard Ubuntu window controls. The command 'systemctl status systemd-resolved' has been executed. The output shows that the 'systemd-resolved.service' is active and running. It provides details such as the loaded path, active status with a timestamp, documentation links, main PID, status, tasks, memory usage, CPU usage, and CGroup. A warning message at the bottom indicates that some journal files were not opened due to insufficient permissions. The prompt 'Ubuntu Software :~\$' is visible at the bottom.

```
usuario1@ubuntu:~$ systemctl status systemd-resolved
● systemd-resolved.service - Network Name Resolution
   Loaded: loaded (/lib/systemd/system/systemd-resolved.service; enabled; ve
   Active: active (running) since Wed 2025-10-29 18:29:46 CET; 13min ago
     Docs: man:systemd-resolved.service(8)
           man:org.freedesktop.resolve1(5)
           https://www.freedesktop.org/wiki/Software/systemd/writing-network
           https://www.freedesktop.org/wiki/Software/systemd/writing-resolve
   Main PID: 592 (systemd-resolve)
    Status: "Processing requests..."
     Tasks: 1 (limit: 3970)
  Memory: 10.8M
     CPU: 184ms
    CGroup: /system.slice/systemd-resolved.service
            └─592 /lib/systemd/systemd-resolved

Warning: some journal files were not opened due to insufficient permissions.

Ubuntu Software :~$
```

Now, we will view DNS cache statistics:

- “resolvectl statistics”

```
usuario1@ubuntu: ~  
CPU: 184ms  
CGroup: /system.slice/systemd-resolved.service  
└─592 /lib/systemd/systemd-resolved  
  
Warning: some journal files were not opened due to insufficient permissions.  
  
usuario1@ubuntu:~$ resolvectl statistics  
DNSSEC supported by current servers: no  
  
Transactions  
Current Transactions: 0  
Total Transactions: 109  
  
Cache  
Current Cache Size: 3  
Cache Hits: 32  
Cache Misses: 87  
  
DNSSEC Verdicts  
Secure: 0  
Insecure: 0  
Bogus: 0  
Indeterminate: 0  
usuario1@ubuntu:~$
```

Querying a specific domain:

- “resolvectl query example.com”

```
usuario1@ubuntu:~$ resolvectl query google.com  
google.com: 2001:4860:4802:32::78 -- link: enp0s3  
216.239.38.120 -- link: enp0s3  
(forcesafesearch.google.com)  
Ubuntu Software  
-- Information acquired via protocol DNS in 12.5ms.  
-- Data is authenticated: no; Data was acquired via local or encrypted transport: no  
-- Data from: network  
usuario1@ubuntu:~$
```