Cloud Platform Development

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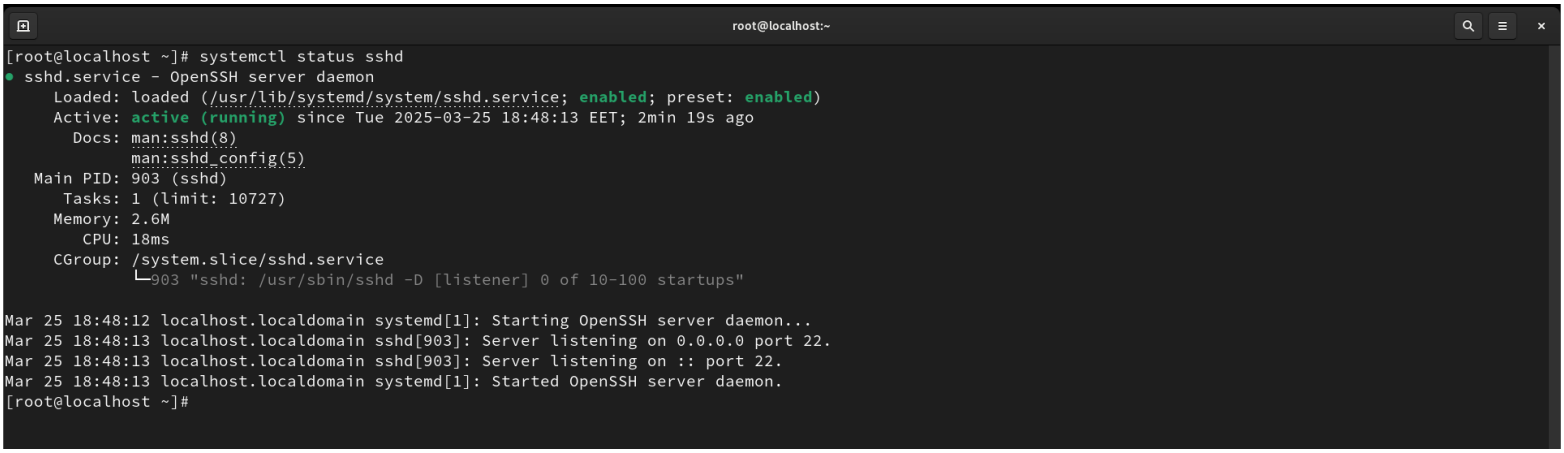
Q1. use systemctl to View the status of sshd services



Q2. use systemctl to view the status of all the system services

```
[root@localhost ~]# sudo systemctl list-units --type=service
  UNIT                                LOAD   ACTIVE SUB     DESCRIPTION
  accounts-daemon.service             loaded active running Accounts Service
  alsa-state.service                  loaded active running Manage Sound Card State (restore and store)
  atd.service                         loaded active running Deferred execution scheduler
  auditd.service                      loaded active running Security Auditing Service
  avahi-daemon.service                loaded active running Avahi mDNS/DNS-SD Stack
  chronyd.service                     loaded active running NTP client/server
  colord.service                      loaded active running Manage, Install and Generate Color Profiles
  crond.service                       loaded active running Command Scheduler
  cups.service                        loaded active running CUPS Scheduler
  dbus-broker.service                 loaded active running D-Bus System Message Bus
  dracut-shutdown.service             loaded active exited  Restore /run/initramfs on shutdown
  firewalld.service                   loaded active running firewalld - dynamic firewall daemon
  fwupd.service                       loaded active running Firmware update daemon
  gdm.service                         loaded active running GNOME Display Manager
  kdump.service                       loaded active exited  Crash recovery kernel arming
  kmod-static-nodes.service           loaded active exited  Create List of Static Device Nodes
  libstoragemgmt.service              loaded active running libstoragemgmt plug-in server daemon
  lvm2-monitor.service                loaded active exited  Monitoring of LVM2 mirrors, snapshots etc. using dmeventd or progress polling
  mcelog.service                      loaded active running Machine Check Exception Logging Daemon
  ModemManager.service                loaded active running Modem Manager
  NetworkManager-wait-online.service loaded active exited  Network Manager Wait Online
  NetworkManager.service              loaded active running Network Manager
  nis-domainname.service              loaded active exited  Read and set NIS domainname from /etc/sysconfig/network
  packagekit.service                  loaded active running PackageKit Daemon
  plymouth-quit-wait.service          loaded active exited  Hold until boot process finishes up
  plymouth-read-write.service         loaded active exited  Tell Plymouth To Write Out Runtime Data
  plymouth-start.service              loaded active exited  Show Plymouth Boot Screen
  polkit.service                      loaded active running Authorization Manager
```

Q3.

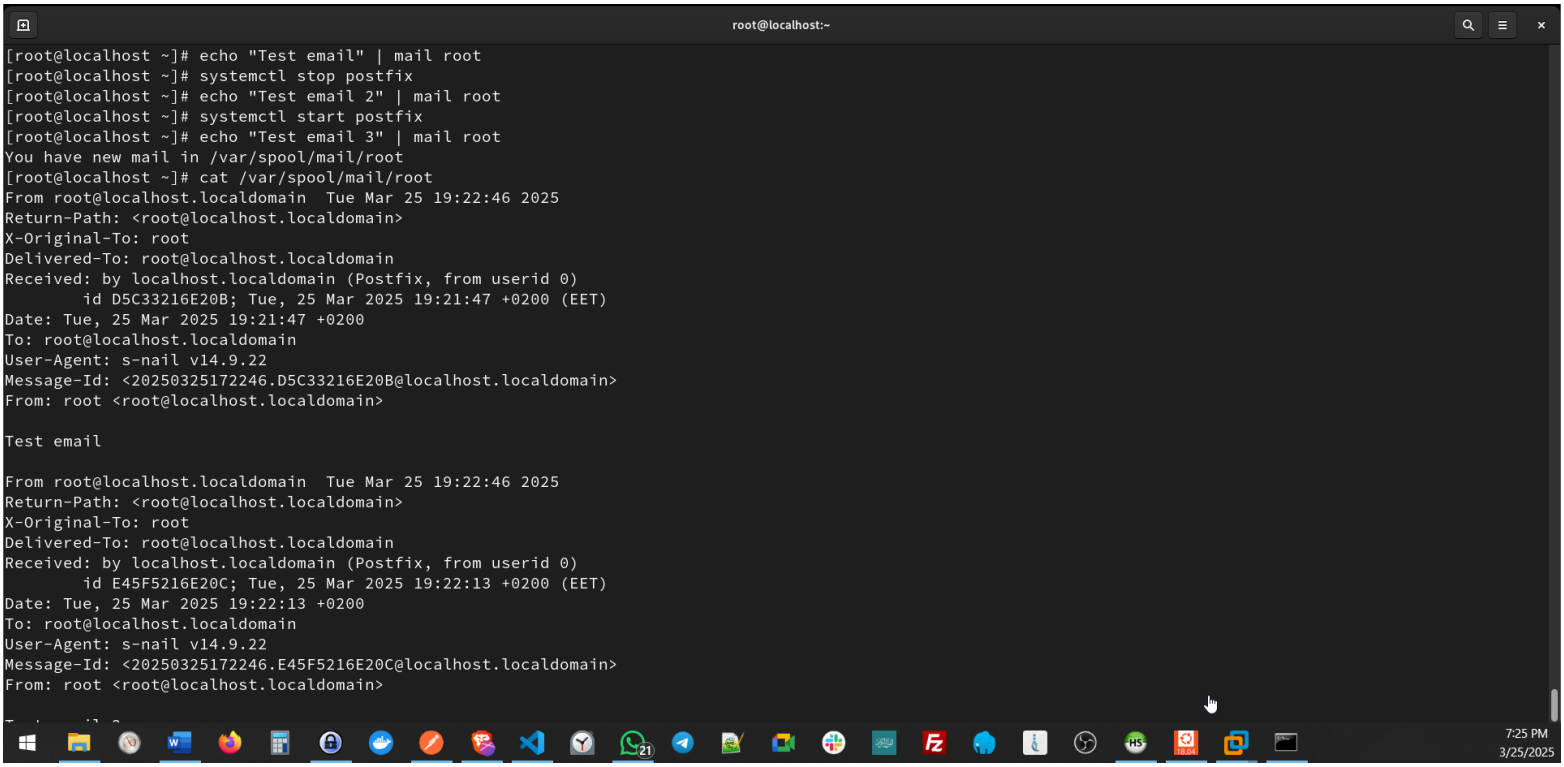
a- Send mail to the root user and Verify that you have received this mail

b- Use systemctl utility to stop postfix/sendmail service

c- Send mail again to the root user and Verify that you have received this mail

d- Use systemctl utility to start postfix/sendmail service

e- Verify that you have received this mail

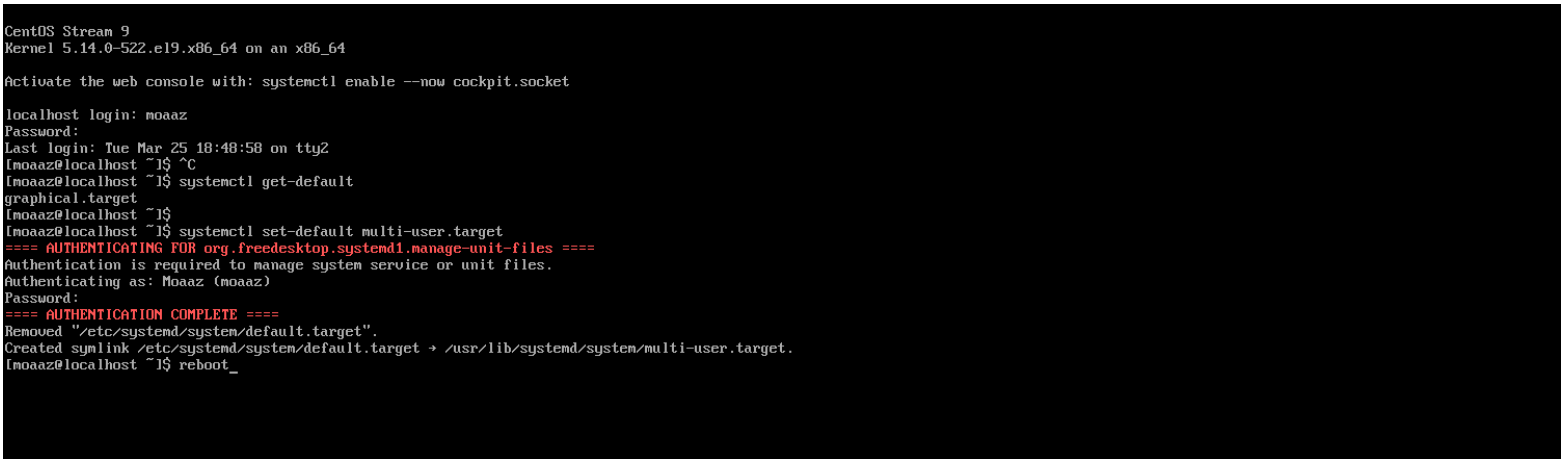


Q4. switch to the multi-user target manually without rebooting

Q5. display default target

Q6. change the default target back to multi-user.target and reboot

Q7. set the default systemd target back to graphical.target

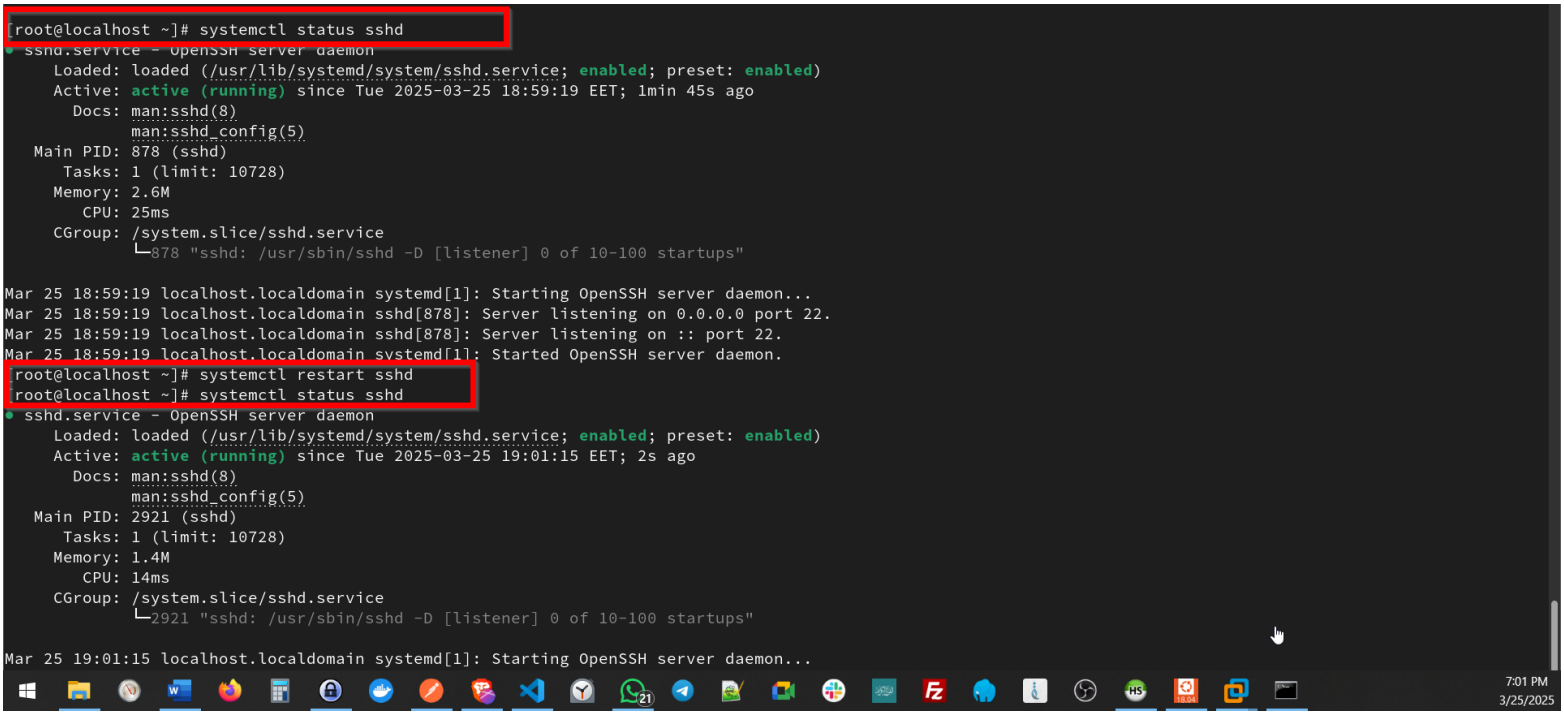


Q8.Display the status of sshd service, note the PID of the daemon.

Q9. Restart the sshd service and view the status, The PID of the daemon has changed

Q10. Reload the sshd service and view the status, The PID of the daemon has not changed and connection has not be interrupted

PID changed in case of restart from 878 to 2921



Q11. Verify that the chronyd service is running

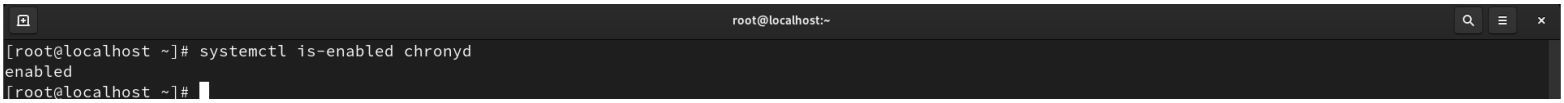
```
[root@localhost ~]# systemctl status chronyd
● chronyd.service - NTP client/server
     Loaded: loaded (/usr/lib/systemd/system/chronyd.service; enabled; preset: enabled)
     Active: active (running) since Tue 2025-03-25 18:59:13 EET; 3min 20s ago
       Docs: man:chronyd(8)
             man:chrony.conf(5)
    Process: 740 ExecStart=/usr/sbin/chronyd $OPTIONS (code=exited, status=0/SUCCESS)
   Main PID: 771 (chronyd)
      Tasks: 1 (limit: 10728)
     Memory: 4.2M
        CPU: 82ms
     CGroup: /system.slice/chronyd.service
             └─771 /usr/sbin/chronyd -F 2

Mar 25 18:59:12 localhost systemd[1]: Starting NTP client/server...
Mar 25 18:59:13 localhost chronyd[771]: chronyd version 4.6 starting (+CMDMON +NTP +REFCLOCK +RTC +PRIVDROP +SCFILTER +SIGND +ASYNCDNS +NTS +SECHASH +IPV6 +D>
Mar 25 18:59:13 localhost chronyd[771]: Loaded 0 symmetric keys
Mar 25 18:59:13 localhost chronyd[771]: Using right/UTC timezone to obtain leap second data
Mar 25 18:59:13 localhost chronyd[771]: Frequency 0.046 +/- 9.267 ppm read from /var/lib/chrony/drift
Mar 25 18:59:13 localhost chronyd[771]: Loaded seccomp filter (level 2)
Mar 25 18:59:13 localhost systemd[1]: Started NTP client/server.
Mar 25 18:59:27 localhost.localdomain chronyd[771]: Selected source 102.64.113.151 (2.centos.pool.ntp.org)
Mar 25 18:59:27 localhost.localdomain chronyd[771]: System clock TAI offset set to 37 seconds
lines 1-22/22 (END)
```

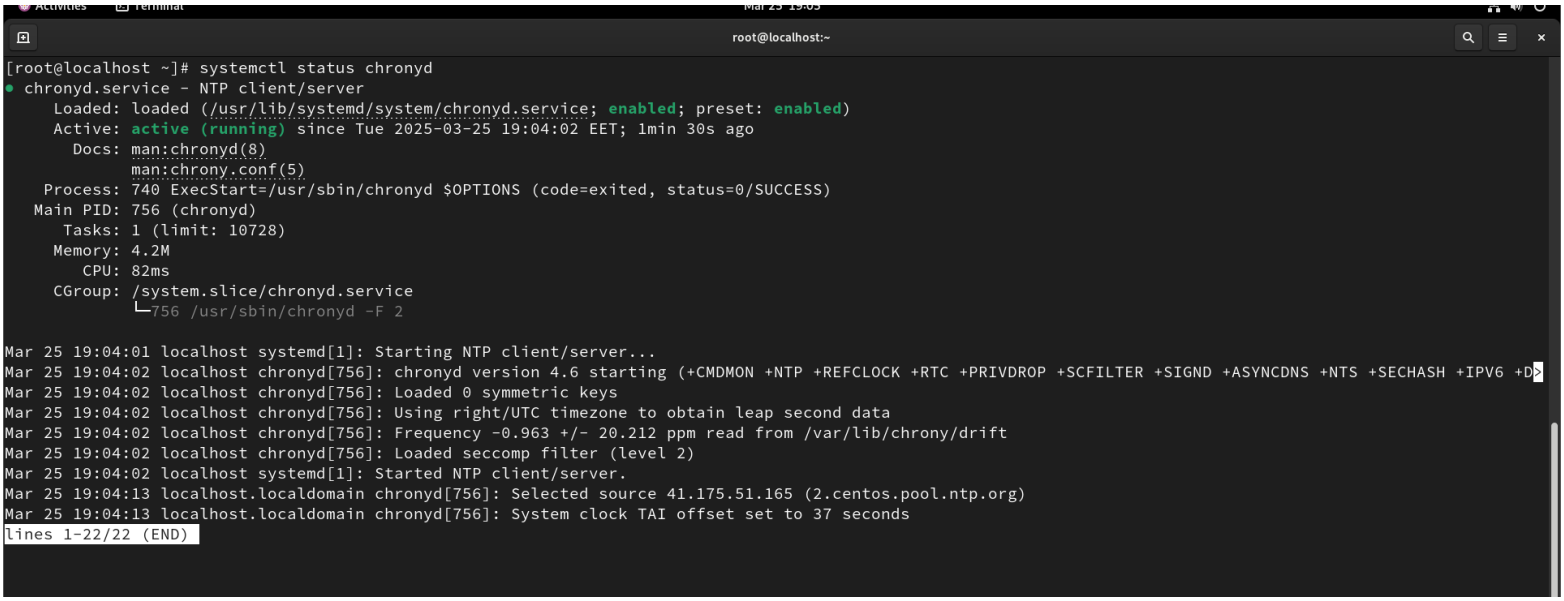
Q12.

a- Determine if the chronyd service is enabled to start at the system boot

b- Reboot the system, then view the status of the chronyd service



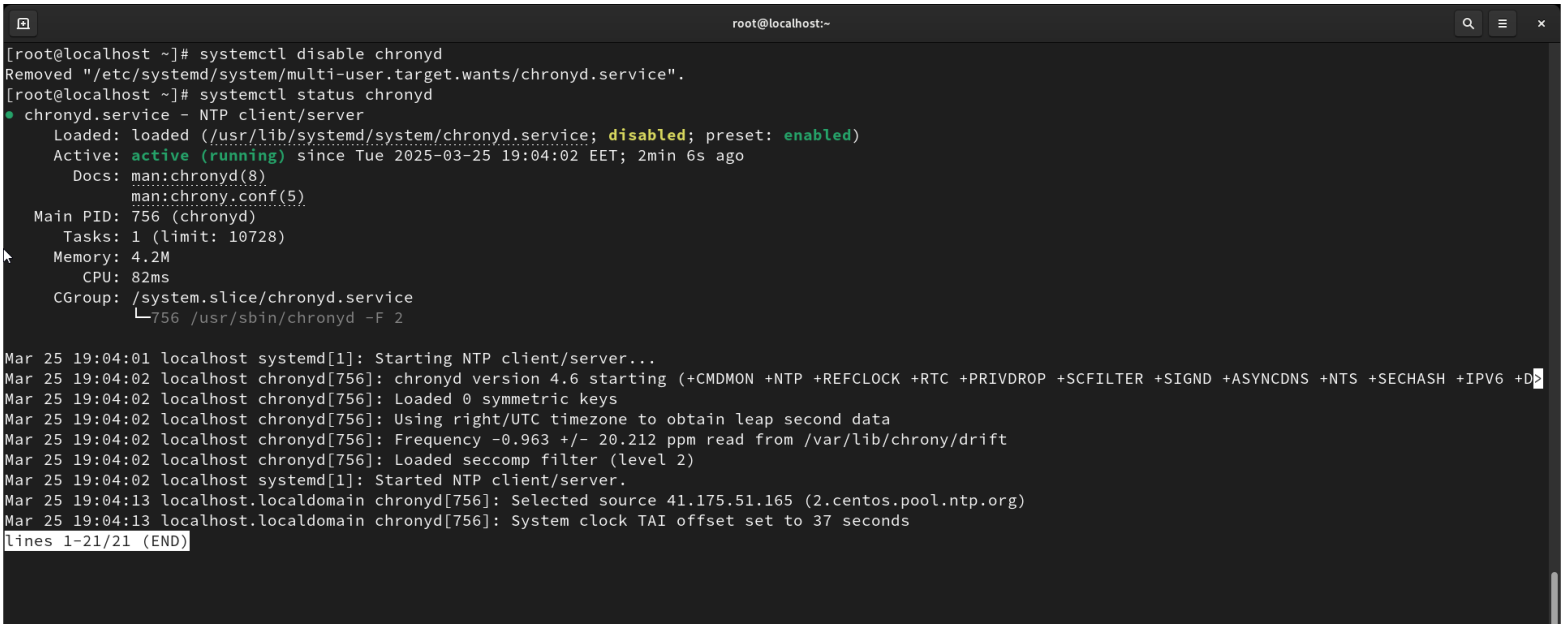
Then rebooted



Q13.

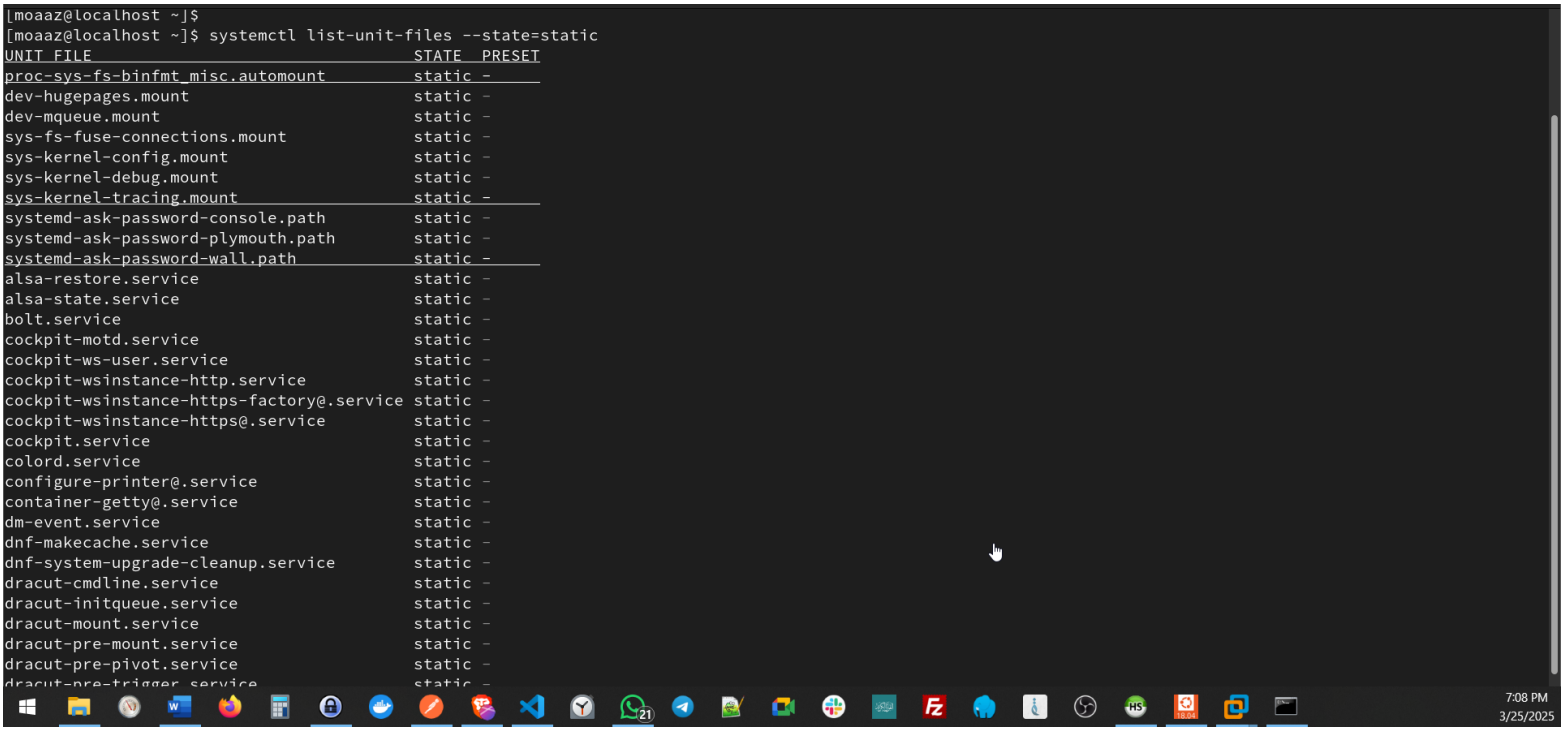
a- Disable the chronyd service so that it doesn’t start at system boot, then view the status of the service

b- Reboot the system, then view the status of the chronyd service



After reboot

Q14. disblay all Static Sevices



Q15. What difference Between enable,disable,static,mask Service

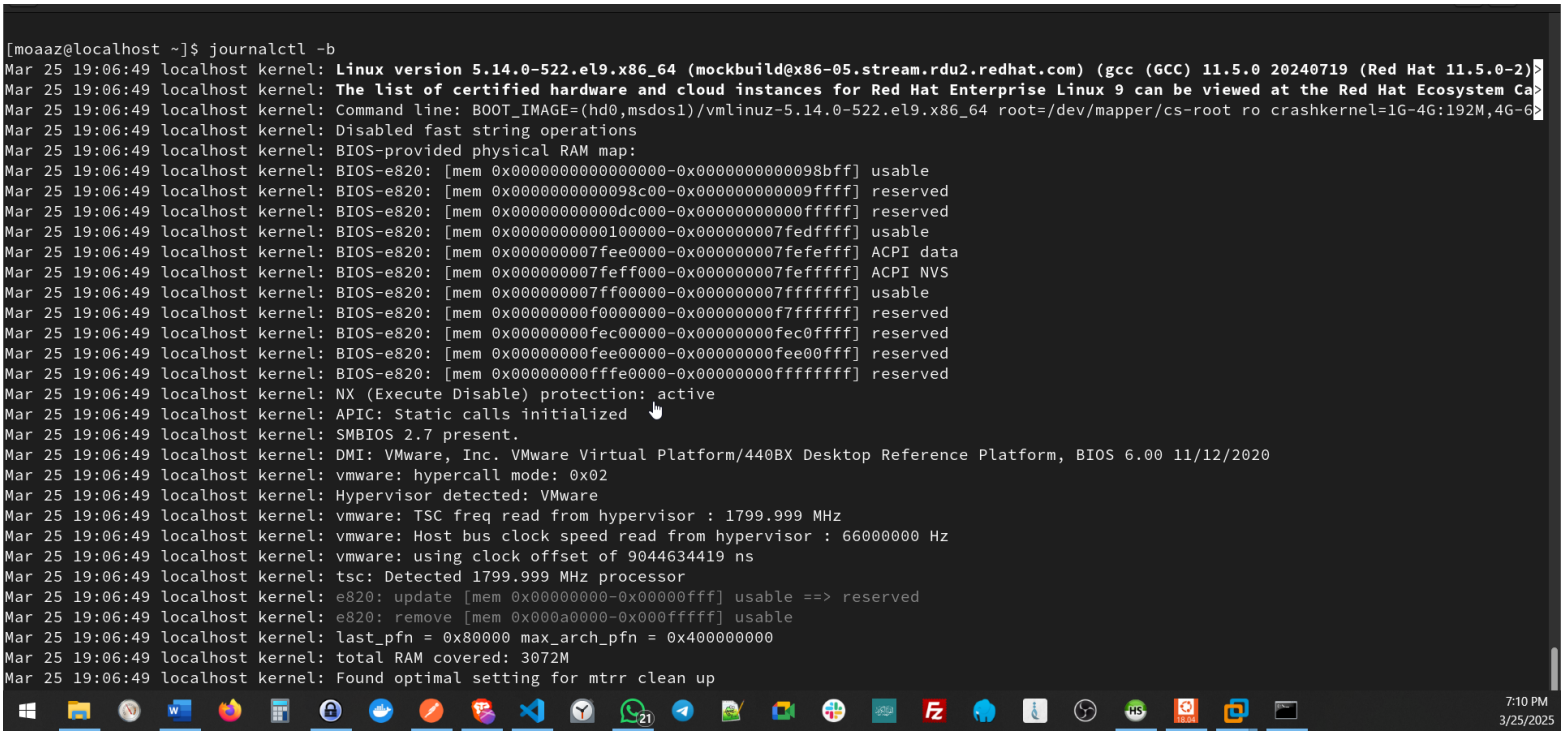
Enable: Service starts automatically on boot

Disable: Service does not start automatically on boot

Static: Service cannot be enabled/disabled manually, starts only if another service depends on it

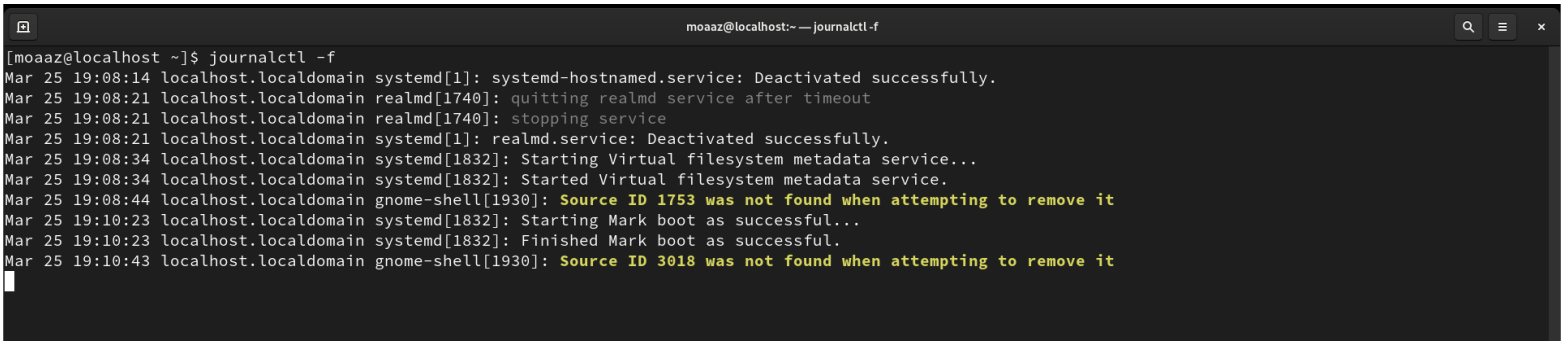
Mask: Completely prevents the service from being started, even manually

Q16. Display all logs from the current boot

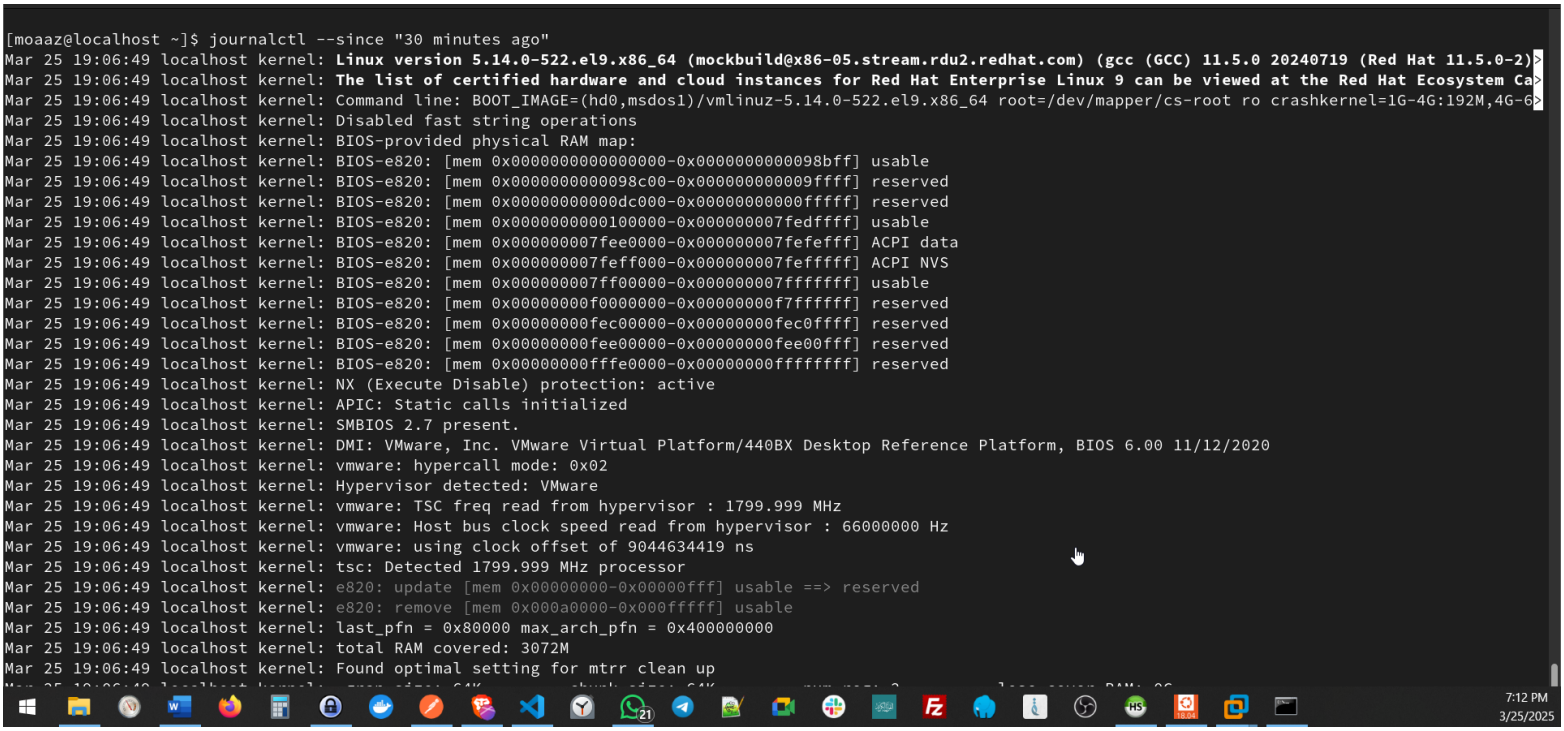


Q17. View logs for the sshd service

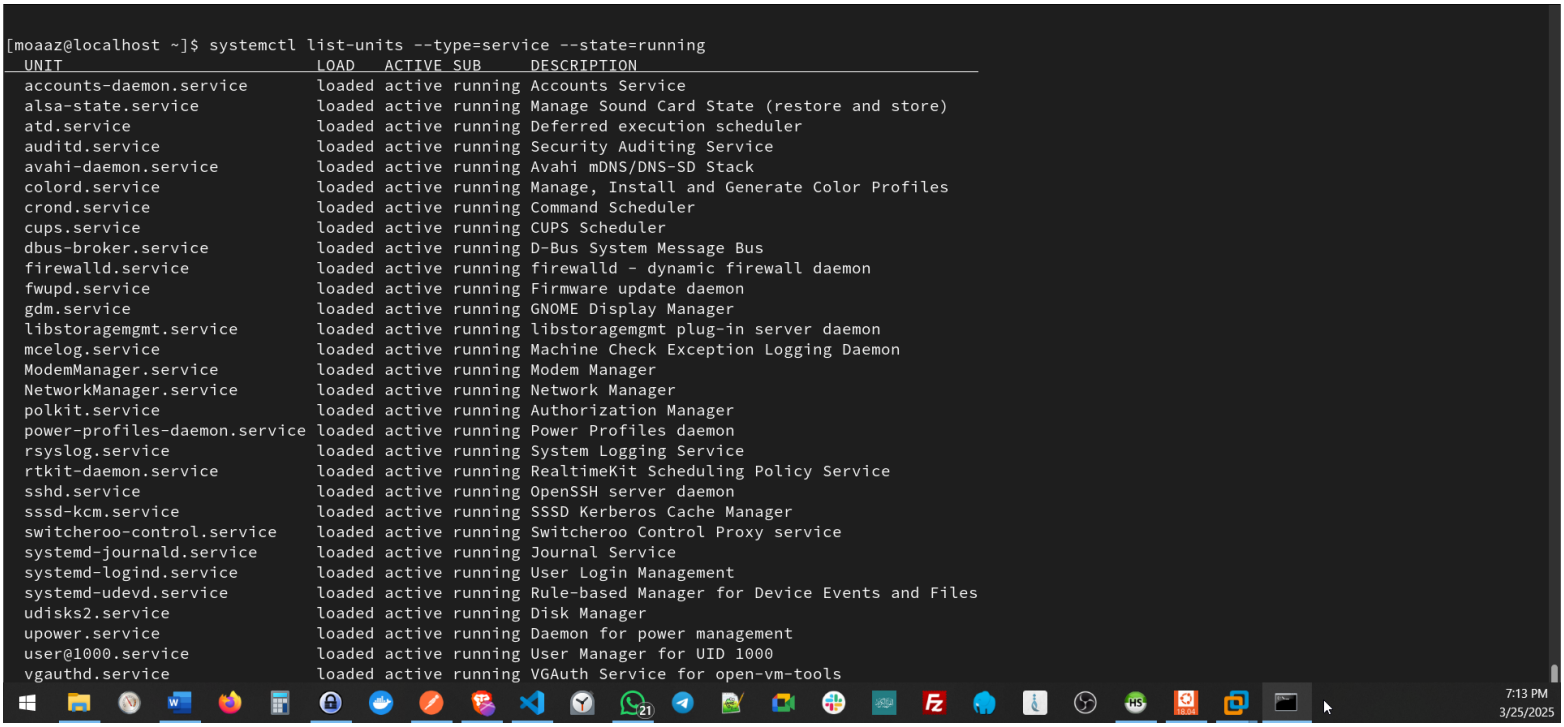
Q18. Follow (live-tail) new log entries



Q19. Show logs from the last 30 minutes



Q20. List all running services



Q21. Create Custom Service

```
[root@localhost ~]# mkdir -p /opt/scripts
[root@localhost ~]# nano /opt/scripts/custom-script.sh
[root@localhost ~]# chmod +x /opt/scripts/custom-script.sh
[root@localhost ~]#  nano /etc/systemd/system/custom-service.service
[root@localhost ~]# systemctl daemon-reload
[root@localhost ~]# systemctl enable custom-service
Created symlink /etc/systemd/system/multi-user.target.wants/custom-service.service → /etc/systemd/system/custom-service.service.
[root@localhost ~]# systemctl start custom-service
[root@localhost ~]# systemctl status custom-service
● custom-service.service - Custom Example Service
     Loaded: loaded (/etc/systemd/system/custom-service.service; enabled; preset: disabled)
     Active: active (running) since Tue 2025-03-25 19:17:53 EET; 12s ago
   Main PID: 2809 (custom-script.s)
      Tasks: 2 (limit: 10727)
     Memory: 716.0K
        CPU: 8ms
     CGroup: /system.slice/custom-service.service
             ├─2809 /bin/bash /opt/scripts/custom-script.sh
             └─2811 sleep 60

Mar 25 19:17:53 localhost.localdomain systemd[1]: Started Custom Example Service.
[root@localhost ~]#
```

Custom-script.sh

```
root@localhost:~
 GNU nano 5.6.1                          /opt/scripts/custom-script.sh                          Modified
#!/bin/bash
while true; do
    echo "Custom service running at $(date)" >> /var/log/custom-service.log
    sleep 60
done
```

Custom-service.service

```
root@localhost:~
 GNU nano 5.6.1                    /etc/systemd/system/custom-service.service                   Modified
[Unit]
Description=Custom Example Service
After=network.target

[Service]
ExecStart=/opt/scripts/custom-script.sh
Restart=always
User=root

[Install]
WantedBy=multi-user.target
```

Service logs

```
root@localhost:~
[root@localhost ~]# journalctl -u custom-service
Mar 25 19:17:53 localhost.localdomain systemd[1]: Started Custom Example Service.
[root@localhost ~]#
```

```
[root@localhost ~]# tail -f /var/log/custom-service.log
Custom service running at Tue Mar 25 07:17:53 PM EET 2025
Custom service running at Tue Mar 25 07:18:53 PM EET 2025
```

Managing custom service

```
[root@localhost ~]# journalctl -u custom-service
Mar 25 19:17:53 localhost.localdomain systemd[1]: Started Custom Example Service.
[root@localhost ~]# systemctl stop custom-service
[root@localhost ~]# systemctl disable custom-service
Removed "/etc/systemd/system/multi-user.target.wants/custom-service.service".
[root@localhost ~]#
```