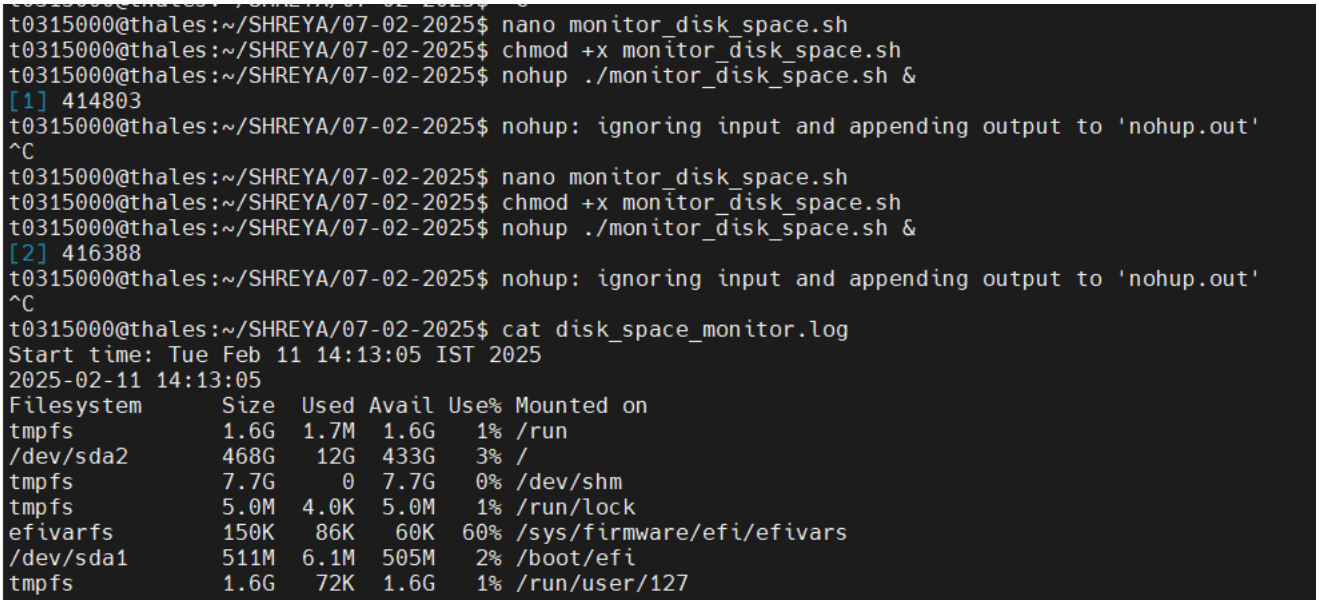
1. Log disk space usage over time.

   Script

   #!/bin/bash

   ```
   # Log file to store disk space usage
   LOG_FILE="/home/t0315000/SHREYA/07-02-2025/disk_space_monitor.log"  # Change to your desired path

   # Log the start time
   echo "Monitoring disk space usage. Logging to $LOG_FILE."
   echo "Start time: $(date)" >> "$LOG_FILE"

   # Continuous monitoring loop
   while true; do
     # Get current date/time for logging
     TIMESTAMP=$(date +'%Y-%m-%d %H:%M:%S')

     # Capture disk space usage
     DISK_USAGE=$(df -h)

     # Log the results
     echo "$TIMESTAMP" >> "$LOG_FILE"
     echo "$DISK_USAGE" >> "$LOG_FILE"
     echo "----------------------------------------" >> "$LOG_FILE"

     # Wait for a specific duration (e.g., 1 hour) before the next check
     sleep 3600
   done
   ```

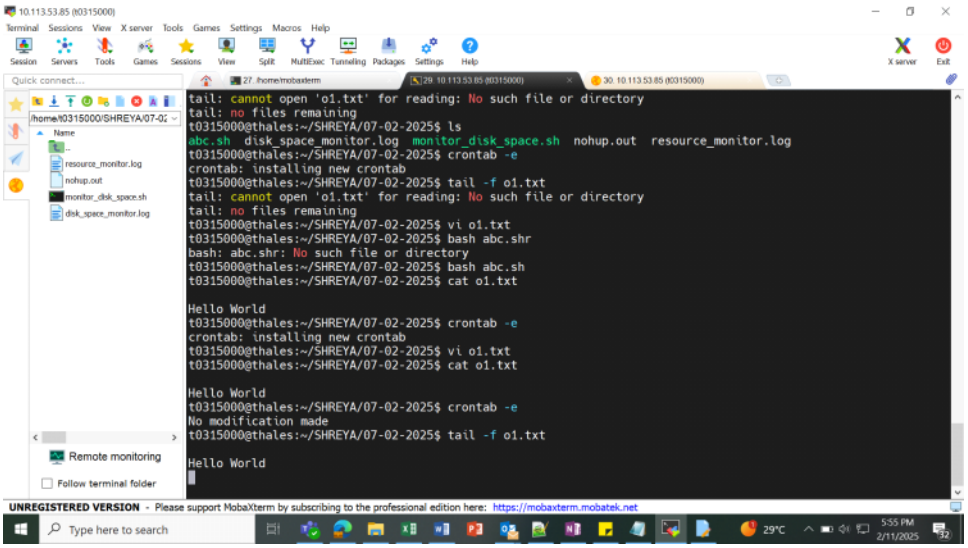


2. Write a script to monitor CPU and memory usage

```
#!/bin/bash

  # Log file to store CPU and Memory usage
  LOG_FILE="/home/t0315000/SHREYA/07-02-2025/resource_monitor.log"  # Change to your desired path

  # Log the start time
  echo "Monitoring CPU and Memory usage. Logging to $LOG_FILE."
  echo "Start time: $(date)" >> "$LOG_FILE"

  # Continuous monitoring loop
  while true; do
    # Get current date/time for logging
    TIMESTAMP=$(date +'%Y-%m-%d %H:%M:%S')

    # Capture CPU usage
    CPU_USAGE=$(top -bn1 | grep "Cpu(s)" | sed "s/.*, *\([0-9.]*\)%* us.*/\1/")

    # Capture Memory usage
    MEMORY_USAGE=$(free | grep Mem | awk '{print $3/$2 * 100.0}')

    # Log the results
    echo "$TIMESTAMP - CPU Usage: $CPU_USAGE% - Memory Usage: $MEMORY_USAGE%" >> "$LOG_FILE"

    # Wait for a specific duration (e.g., 5 seconds) before the next check
   sleep 5
done
```

```
Last login: Tue Feb 11 11:54:14 2025 from 10.113.59.192
t0315000@thales:~$ bash monitor_resources.sh
Monitoring CPU and Memory usage. Logging to /home/t0315000/SHREYA/07-02-2025/resource_monitor.log.
^C
t0315000@thales:~$ cd /home/t0315000/SHREYA/07-02-2025
t0315000@thales:~/SHREYA/07-02-2025$ cat resource_monitor.log
Start time: Tue Feb 11 10:31:26 IST 2025
2025-02-11 10:31:26 - CPU Usage: %Cpu(s):  1.9 us,  3.7 sy,  0.0 ni, 94.4 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st% - Memory Usa
ge: 3.28126%
2025-02-11 10:31:31 - CPU Usage: %Cpu(s):  1.9 us,  1.9 sy,  0.0 ni, 96.2 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st% - Memory Usa
ge: 3.24167%
2025-02-11 10:31:36 - CPU Usage: %Cpu(s):  0.9 us,  3.8 sy,  0.0 ni, 95.3 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st% - Memory Usa
ge: 3.25874%
2025-02-11 10:31:41 - CPU Usage: %Cpu(s):  0.0 us,  1.9 sy,  0.0 ni, 98.1 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st% - Memory Usa
ge: 3.22083%
Start time: Tue Feb 11 10:35:42 IST 2025
2025-02-11 10:35:42 - CPU Usage: %Cpu(s):  0.9 us,  3.8 sy,  0.0 ni, 95.3 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st% - Memory Usa
ge: 3.30334%
2025-02-11 10:35:47 - CPU Usage: %Cpu(s):  2.8 us,  4.7 sy,  0.0 ni, 92.5 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st% - Memory Usa
ge: 3.24175%
2025-02-11 10:35:52 - CPU Usage: %Cpu(s):  1.9 us,  0.9 sy,  0.0 ni, 97.2 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st% - Memory Usa
ge: 3.25867%
2025-02-11 10:35:57 - CPU Usage: %Cpu(s):  1.9 us,  1.9 sy,  0.0 ni, 96.3 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st% - Memory Usa
ge: 3.26491%
2025-02-11 10:36:03 - CPU Usage: %Cpu(s):  0.0 us,  1.9 sy,  0.0 ni, 98.1 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st% - Memory Usa
ge: 3.29117%
2025-02-11 10:36:08 - CPU Usage: %Cpu(s):  0.0 us,  1.0 sy,  0.0 ni, 99.0 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st% - Memory Usa
ge: 3.29578%
2025-02-11 10:36:13 - CPU Usage: %Cpu(s):  0.9 us,  1.9 sy,  0.0 ni, 97.2 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st% - Memory Usa
ge: 3.24415%
2025-02-11 10:36:18 - CPU Usage: %Cpu(s):  0.0 us,  1.9 sy,  0.0 ni, 98.1 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st% - Memory Usa
```

3 CRON


tail: cannot open 'o1.txt' for reading: No such file or directory
tail: no files remaining
t0315000@thales:~/SHREYA/07-02-2025$ ls
abc.sh disk_space_monitor.log monitor_disk_space.sh nohup.out resource_monitor.log
t0315000@thales:~/SHREYA/07-02-2025$ crontab -e
crontab: installing new crontab
t0315000@thales:~/SHREYA/07-02-2025$ tail -f o1.txt
tail: cannot open 'o1.txt' for reading: No such file or directory
tail: no files remaining
t0315000@thales:~/SHREYA/07-02-2025$ vi o1.txt
t0315000@thales:~/SHREYA/07-02-2025$ bash abc.shr
bash: abc.shr: No such file or directory
t0315000@thales:~/SHREYA/07-02-2025$ bash abc.sh
t0315000@thales:~/SHREYA/07-02-2025$ cat o1.txt
Hello World
t0315000@thales:~/SHREYA/07-02-2025$ crontab -e
crontab: installing new crontab
t0315000@thales:~/SHREYA/07-02-2025$ vi o1.txt
t0315000@thales:~/SHREYA/07-02-2025$ cat o1.txt
Hello World
t0315000@thales:~/SHREYA/07-02-2025$ crontab -e
No modification made
t0315000@thales:~/SHREYA/07-02-2025$ tail -f o1.txt
Hello World
Remote monitoring
Follow terminal folder
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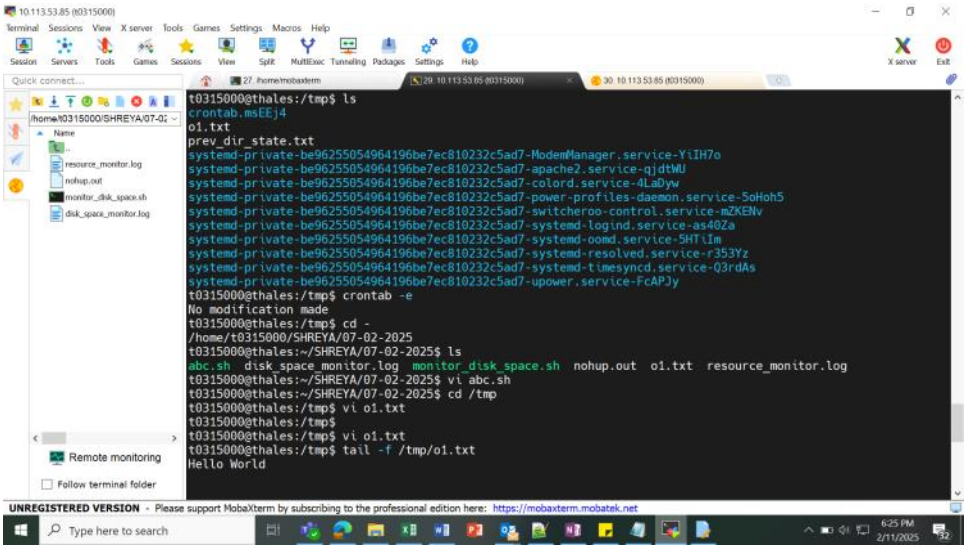
t0315000@thales:/tmp$ ls
crontab.msEEj4
o1.txt
prev_dir_state.txt
systemd-private-be962550549641 96be7ec810232c5ad7-ModemManager.service-YiIH7o
systemd-private-be962550549641 96be7ec810232c5ad7-apache2.service-qjdtWU
systemd-private-be962550549641 96be7ec810232c5ad7-colord.service-4LaDyw
systemd-private-be962550549641 96be7ec810232c5ad7-power-profiles-daemon.service-5oHoh5
systemd-private-be962550549641 96be7ec810232c5ad7-switcheroo-control.service-mZKENv
systemd-private-be962550549641 96be7ec810232c5ad7-systemd-logind.service-as402a
systemd-private-be962550549641 96be7ec810232c5ad7-systemd-oomd.service-5HTiIm
systemd-private-be962550549641 96be7ec810232c5ad7-systemd-resolved.service-r353Yz
systemd-private-be962550549641 96be7ec810232c5ad7-systemd-timesyncd.service-Q3rdAs
systemd-private-be962550549641 96be7ec810232c5ad7-upower.service-FcAPJy
t0315000@thales:/tmp$ crontab -e
No modification made
t0315000@thales:/tmp$ cd -
/home/t0315000/SHREYA/07-02-2025
t0315000@thales:~/SHREYA/07-02-2025$ ls
abc.sh disk_space_monitor.log monitor_disk_space.sh nohup.out o1.txt resource_monitor.log
t0315000@thales:~/SHREYA/07-02-2025$ vi abc.sh
t0315000@thales:~/SHREYA/07-02-2025$ cd /tmp
t0315000@thales:/tmp$ vi o1.txt
t0315000@thales:/tmp$
t0315000@thales:/tmp$ vi o1.txt
t0315000@thales:/tmp$ tail -f /tmp/o1.txt
Hello World
Remote monitoring
Follow terminal folder
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