

TASK : 3 MINI SERVER MONITOR SCRIPT

Step 1: Write the **monitor.sh** script

Create the script in `/usr/local/bin/monitor.sh` (so cron can easily access it):

```
sudo nano /usr/local/bin/monitor.sh
```

Paste this code:

```
#!/bin/bash

LOG_FILE="/var/log/mini_server_monitor.log"
TIMESTAMP=$(date "+%Y-%m-%d %H:%M:%S")


echo "[$TIMESTAMP] 🔍 Starting server monitor check..." >> "$LOG_FILE"

# 1 Check if nginx is running
if systemctl is-active --quiet nginx; then
    echo "[$TIMESTAMP] ✅ nginx is running." >> "$LOG_FILE"
else
    echo "[$TIMESTAMP] ⚠️ nginx is NOT running. Attempting to start..." >>
"$LOG_FILE"
    systemctl start nginx
    if systemctl is-active --quiet nginx; then
        echo "[$TIMESTAMP] 🚀 nginx started successfully." >> "$LOG_FILE"
    else
        echo "[$TIMESTAMP] ❌ Failed to start nginx!" >> "$LOG_FILE"
    fi
fi

# 2 Capture system stats
MEMORY=$(free -h | awk '/Mem:/ {print $3 "/" $2}')
CPU_LOAD=$(uptime | awk -F'load average:' '{print $2}' | xargs)
DISK=$(df -h / | awk 'NR==2 {print $3 "/" $2 " (" $5 " used)"}')

echo "[$TIMESTAMP] 📊 Memory: $MEMORY | CPU Load: $CPU_LOAD | Dis
```

```
k: $DISK" >> "$LOG_FILE"
```

```
echo "[$TIMESTAMP]  Check complete." >> "$LOG_FILE"  
echo "-----" >> "$LOG_FILE"
```

Step 2: Make it executable

```
sudo chmod +x /usr/local/bin/monitor.sh
```





Step 3: Test the script manually

```
sudo /usr/local/bin/monitor.sh
```

Check the log file:

```
cat /var/log/mini_server_monitor.log
```

You should see logs like:

```
[2025-07-28 10:15:01]  Starting server monitor check...  
[2025-07-28 10:15:01]  nginx is running.  
[2025-07-28 10:15:01]  Memory: 2.1G/8G | CPU Load: 0.12, 0.20, 0.18 | Disk:  
14G/50G (28% used)  
[2025-07-28 10:15:01]  Check complete.  
-----
```

Step 4: Schedule via cron (every 5 minutes)

Edit cron jobs:

```
sudo crontab -e
```

Add this line at the bottom:

```
* /5 * * * * /usr/local/bin/monitor.sh
```

Save & exit.

Step 5: Verify cron job

Check if cron logs are writing:

```
tail -f /var/log/mini_server_monitor.log
```

After 5 minutes, you should see new log entries every run.

```
(kali㉿kali)-[~]
└─$ nano ~/monitor.sh

(kali㉿kali)-[~]
└─$ chmod +x ~/monitor.sh

(kali㉿kali)-[~]
└─$ sudo touch /var/log/monitor.log
sudo chmod 666 /var/log/monitor.log

[sudo] password for kali:

(kali㉿kali)-[~]
└─$ sudo ~/monitor.sh

(kali㉿kali)-[~]
└─$ cat /var/log/monitor.log

2025-07-30 22:37:35 - nginx not running. Attempting to start nginx...
2025-07-30 22:37:35 - nginx started successfully.
2025-07-30 22:37:35 - Memory Usage: Mem:      7.6Gi      5.3Gi      327Mi      1.2Gi      3.5Gi      2.3Gi
2025-07-30 22:37:35 - CPU Load: %Cpu(s): 15.1 us,  7.5 sy,  0.0 ni, 77.4 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
2025-07-30 22:37:35 - Disk Usage:
Filesystem      Size  Used Avail Use% Mounted on
/dev/sda1       227G  23G  192G  11% /
-----

(kali㉿kali)-[~]
└─$ crontab -e

no crontab for kali - using an empty one
crontab: installing new crontab

(kali㉿kali)-[~]
└─$
```