#! /bin/bash

# Log file

LOG\_FILE="system\_monitoring.log"

#Ensure bc is installed

If! command -v bc &>/dev/null;

then

echo” Error: bc is not installed. Run ‘sudo apt install bc’.”

exit 1

fi

# Check and create log file if not exist

if [! -f "$LOG\_FILE”]; then

touch "$LOG\_FILE"

chmod 666 "$LOG\_FILE"

fi

# Function to get system usage

get\_system\_usage () {

# Get CPU Usage (User + System)

CPU\_USAGE=$(top -bn1 | grep "Cpu(s)" | awk '{print $2 + $4}')

# Get Memory Usage (Percentage)

MEM\_USAGE=$(free | awk 'NR==2{printf "%.2f", $3/$2 \* 100.0}')

# Get Disk Usage (Percentage)

DISK\_USAGE=$(df -h / | awk 'NR==2 {print $5}' | sed 's/%//')

# Print the values

echo "CPU Usage: $CPU\_USAGE%"

echo "Memory Usage: $MEM\_USAGE%"

echo "Disk Usage: $DISK\_USAGE%"

}

# Function to log system stats

log\_system\_usage() {

TIMESTAMP=$(date "+%Y-%m-%d %H: %M: %S")

echo "$TIMESTAMP - CPU: $CPU\_USAGE% | Memory: $MEM\_USAGE% | Disk: $DISK\_USAGE%" >> "$LOG\_FILE"

}

# Function to check for alerts

check\_alerts () {

if (($(echo "$CPU\_USAGE > 80" | bc -l) )); then

echo "⚠️ ALERT: High CPU Usage ($CPU\_USAGE%)" | tee -a "$LOG\_FILE"

fi

if (($(echo "$DISK\_USAGE > 90" | bc -l) )); then

echo "⚠️ ALERT: High Disk Usage ($DISK\_USAGE%)" | tee -a "$LOG\_FILE"

fi

}

# Execute functions

get\_system\_usage

log\_system\_usage

check\_alerts