

1. Написать Systemd unit, который будет раз в 15 секунд писать в файл вывод команды uptime. При убийстве процесса он должен перезапускаться.

```
[Unit]
Description = Uptime script for Innowise

[Service]
ExecStart = /home/vboxuser/uptime.sh
Restart = always

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

```
12:57:46 up 1:24, 1 user, load average: 0.01, 0.03, 0.00
12:58:01 up 1:25, 1 user, load average: 0.01, 0.02, 0.00
12:58:16 up 1:25, 1 user, load average: 0.00, 0.02, 0.00
12:58:31 up 1:25, 1 user, load average: 0.00, 0.02, 0.00
12:58:46 up 1:25, 1 user, load average: 0.00, 0.02, 0.00
12:59:01 up 1:26, 1 user, load average: 0.00, 0.02, 0.00
12:59:16 up 1:26, 1 user, load average: 0.00, 0.02, 0.00
12:59:31 up 1:26, 1 user, load average: 0.00, 0.02, 0.00
12:59:46 up 1:26, 1 user, load average: 0.00, 0.01, 0.00
13:00:01 up 1:27, 1 user, load average: 0.00, 0.01, 0.00
13:00:16 up 1:27, 1 user, load average: 0.00, 0.01, 0.00
13:00:31 up 1:27, 1 user, load average: 0.00, 0.01, 0.00
13:00:46 up 1:27, 1 user, load average: 0.00, 0.01, 0.00
13:01:01 up 1:28, 1 user, load average: 0.00, 0.01, 0.00
13:01:16 up 1:28, 1 user, load average: 0.00, 0.01, 0.00
```

```
#!/bin/bash
while true; do uptime >> /home/vboxuser/test.log ; sleep 15; done
```

2. Если значение Load Average за минуту больше 1, то вывод команды uptime должен записываться в файл overload.

```
#!/bin/bash
load_av = "1.0"
current_load = $(cat /proc/loadavg |awk '{print $1}')
while true; do
    if $current_load < $load_av uptime >> /home/vboxuser/test.log
    else uptime >> /home/vboxuser/overload.log
    fi
;

sleep 15; done
```

3. Установить утилиту stress. Нагрузить свою систему, применив команду `stress --cpu x --timeout 50s`, где `x` - количество процессоров у виртуалки/системы. Проверить работоспособность 2 пункта.

GNU nano 7.2

overload.log

13:45:12 up 1:59, 1 user, load average: 1.14, 0.44, 0.24

4. Когда файл `overload` достигает размера в 50 кб, то он должен очищаться. В файл `cleanup` должны складываться логи об успешных очистках с временем самой очистки.

GNU nano 7.2

cleanup.log *

Clean moment

Clean moment

```
vboxuser@Ubuntu1:~$ sudo yes "Test line for monitoring script" | head -c 60000 > /home/vboxuser/overload.log
vboxuser@Ubuntu1:~$ sudo nano cleanup.log
```

```
#!/bin/bash

load_av="1.0"

while true; do

    current_load=$(cat /proc/loadavg | awk '{print $1}')

    if (( $(echo "$current_load < $load_av" | bc -l) )); then
        uptime >> /home/vboxuser/test.log
    else
        uptime >> /home/vboxuser/overload.log
    fi

    bytes=$(stat -c %s "/home/vboxuser/overload.log")
    kilobytes=$((bytes/1024))

    if (( $(echo "$kilobytes > 50" | bc -l) )); then
        >/home/vboxuser/overload.log
        uptime1=$(cat uptime)
        echo "Clean moment $uptime1" >> /home/vboxuser/cleanup.log
    fi

    sleep 15
done
```

[Read 27 lines]

5. Написать cron job, проверяющий каждые 10 минут статус вышесозданного юнита.

```
vboxuser@Ubuntu1:~$ crontab -e
no crontab for vboxuser - using an empty one
crontab: installing new crontab
vboxuser@Ubuntu1:~$ sudo systemctl status uptime
[sudo] password for vboxuser:
Warning: The unit file, source configuration file or drop-ins of uptime.service changed on disk. Run 'systemctl daemon-reload' to reload units.
● uptime.service - Uptime script for Innowise
   Loaded: loaded (/etc/systemd/system/uptime.service; enabled; preset: enabled)
   Active: active (running) since Fri 2025-08-22 06:34:47 UTC; 10min ago
     Main PID: 897 (uptime.sh)
       Tasks: 2 (limit: 4604)
    Memory: 1.7M (peak: 3.6M)
       CPU: 598ms
    CGroup: /system.slice/uptime.service
            └─ 897 /bin/bash /home/vboxuser/uptime.sh
               4788 sleep 15
```

```
# at 5 a.m every week with.
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h dom mon dow   command
*/10 * * * * /etc/systemd/system/uptime.service >> /home/vboxuser/cron.log
```

[Read 24 lines]

6. Запустить утилиту ping, вывести запущенный процесс в background, проверить, что процесс находится в фоновом режиме, вернуть процесс в foreground. Остановить процесс, после чего удалить его.

```
vboxuser@Ubuntu1:~$ ping google.com
PING google.com (142.250.203.142) 56(84) bytes of data.
64 bytes from waw07s06-in-f14.1e100.net (142.250.203.142): icmp_seq=1 ttl=109 time=22.3 ms
^Z
[1]+  Stopped                  ping google.com
vboxuser@Ubuntu1:~$ bg $1
[1]+ ping google.com &
vboxuser@Ubuntu1:~$ 64 bytes from waw07s06-in-f14.1e100.net (142.250.203.142): icmp_seq=2 ttl=109 time=38.0 ms
64 bytes from waw07s06-in-f14.1e100.net (142.250.203.142): icmp_seq=3 ttl=109 time=37.9 ms
64 bytes from waw07s06-in-f14.1e100.net (142.250.203.142): icmp_seq=4 ttl=109 time=23.4 ms
64 bytes from waw07s06-in-f14.1e100.net (142.250.203.142): icmp_seq=5 ttl=109 time=36.9 ms

jobs
[1]+  Running                  ping google.com &
vboxuser@Ubuntu1:~$ 64 bytes from waw07s06-in-f14.1e100.net (142.250.203.142): icmp_seq=45 ttl=109 time=38.4 ms
64 bytes from waw07s06-in-f14.1e100.net (142.250.203.142): icmp_seq=46 ttl=109 time=28.6 ms

fg $1
64 bytes from waw07s06-in-f14.1e100.net (142.250.203.142): icmp_seq=75 ttl=109 time=35.4 ms
64 bytes from waw07s06-in-f14.1e100.net (142.250.203.142): icmp_seq=76 ttl=109 time=23.8 ms
64 bytes from waw07s06-in-f14.1e100.net (142.250.203.142): icmp_seq=77 ttl=109 time=36.8 ms
64 bytes from waw07s06-in-f14.1e100.net (142.250.203.142): icmp_seq=78 ttl=109 time=36.1 ms
^Z
[1]+  Stopped                  ping google.com
vboxuser@Ubuntu1:~$
```