

# Презентация по лабораторной работе №8

## Планировщики событий

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## Цели и задачи работы

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## Цель работы

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Получить навыки работы с планировщиками событий **cron** и **at** в ОС Linux.

## Ход выполнения работы

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# Проверка службы cron

```
eragdzhabekova@eragdzhabekova:~$ su
Password:
root@eragdzhabekova:/home/eragdzhabekova# systemctl status crond -l
● crond.service - Command Scheduler
    Loaded: loaded (/usr/lib/systemd/system/crond.service; enabled; preset: enabled)
    Active: active (running) since Sat 2025-10-04 12:35:02 MSK; 9min ago
      Invocation: aa619fac41664967ac2d686a8bf65e06
        Main PID: 1172 (crond)
          Tasks: 1 (limit: 12313)
        Memory: 1M (peak: 1.3M)
          CPU: 8ms
        CGroup: /system.slice/crond.service
                └─1172 /usr/sbin/crond -n

Notice: journal has been rotated since unit was started, output may be incomplete.
```

```
root@eragdzhabekova:/home/eragdzhabekova# cat /etc/crontab
SHELL=/bin/bash
PATH=/sbin:/bin:/usr/sbin:/usr/bin
MAILTO=root

# For details see man 4 crontabs

# Example of job definition:
# .----- minute (0 - 59)
# | .----- hour (0 - 23)
# | | .----- day of month (1 - 31)
# | | | .---- month (1 - 12) OR jan,feb,mar,apr ...
# | | | | .--- day of week (0 - 6) (Sunday=0 or 7) OR sun,mon,tue,wed,thu,fri,sat
# | | | | |
# * * * * * user-name command to be executed
```

```
root@eragdzhabekova:/home/eragdzhabekova# crontab -e
no crontab for root - using an empty one
crontab: installing new crontab
root@eragdzhabekova:/home/eragdzhabekova# crontab -l
root@eragdzhabekova#
```

## Изучение файла /etc/crontab



The screenshot shows a terminal window with a red header bar containing the text "eragdzhabekova@eragdzhabekova:/home/eragdzhabe". The main area of the terminal displays the following crontab entry:

```
*/1 * * * * logger This message is written from root cron
```

Рис. 2: Просмотр crontab

## Создание задания cron

```
root@eragdzhabekova:/home/eragdzhabekova# crontab -l
root@eragdzhabekova:/home/eragdzhabekova# crontab -e
crontab: installing new crontab
Backup of root's previous crontab saved to /root/.cache/crontab/crontab.bak
root@eragdzhabekova:/home/eragdzhabekova# crontab -l
*/1 * * * * logger This message is written from root cron
root@eragdzhabekova:/home/eragdzhabekova# grep written /var/log/messages
root@eragdzhabekova:/home/eragdzhabekova# grep written /var/log/messages
Oct  4 12:49:01 eragdzhabekova root[5176]: This message is written from root cron
Oct  4 12:50:01 eragdzhabekova root[5306]: This message is written from root cron
root@eragdzhabekova:/home/eragdzhabekova#
```

Рис. 3: Добавление задания cron

## Проверка выполнения задания



A screenshot of a terminal window with a red header bar. The header bar contains a small icon on the left and the text "eragdzhabekova@eragdzhabekova:/home/eragdzhabek" on the right. The main window area shows a single line of text: "0 \*/1 \* \* 1-5 logger This message is written from root cron". The text is colored orange, indicating it was written by the root user.

```
0 */1 * * 1-5 logger This message is written from root cron
```

Рис. 4: Проверка логов cron

## Создание сценария в /etc/cron.hourly

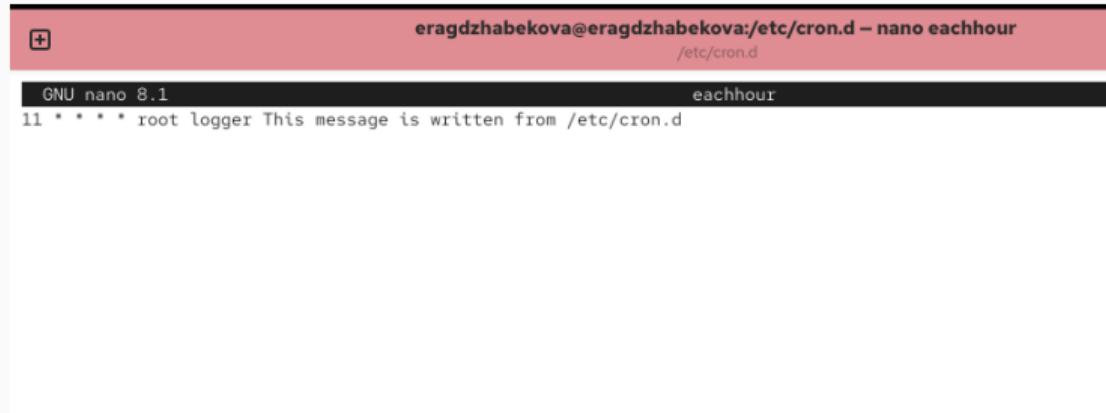


The screenshot shows a terminal window with a red header bar. The header bar contains a small icon with a plus sign, the user's name and host 'eragdzhabekova@eragdzhabekova', the path '/etc/cron.hourly', and the file name '-'. Below the header, the terminal title 'eachhour' is displayed. The main area of the terminal shows the command 'GNU nano 8.1' followed by a shell script. The script starts with '#!/bin/sh' and contains the command 'logger This message is written at \$(date)'. The terminal window has a light gray background and a dark gray header bar.

```
GNU nano 8.1                               eachhour
#!/bin/sh
logger This message is written at $(date)
```

Рис. 5: Создание сценария eachhour

## Добавление задания в /etc/cron.d



The screenshot shows a terminal window with a pink header bar. The header contains the user information "eragdzhabekova@eragdzhabekova:/etc/cron.d – nano eachhour" and the path "/etc/cron.d". Below the header is a black toolbar with the text "GNU nano 8.1" on the left and "eachhour" on the right. The main area of the terminal shows the contents of a file:

```
11 * * * * root logger This message is written from /etc/cron.d
```

Рис. 6: Задание в /etc/cron.d

## Проверка службы atd

```
root@eragdzhabekova:/etc/cron.d#  
root@eragdzhabekova:/etc/cron.d# systemctl status atd  
● atd.service - Deferred execution scheduler  
   Loaded: loaded (/usr/lib/systemd/system/atd.service; enabled; preset: enabled)  
   Active: active (running) since Sat 2025-10-04 12:35:02 MSK; 21min ago  
     Invocation: 8f7ecf2b57904d92ad203af1bedc12c9  
       Docs: man:atd(8)  
     Main PID: 1171 (atd)  
        Tasks: 1 (limit: 12313)  
      Memory: 320K (peak: 1.1M)  
        CPU: 4ms  
      CGroup: /system.slice/atd.service  
              └─1171 /usr/sbin/atd -f  
  
Notice: journal has been rotated since unit was started, output may be incomplete.  
root@eragdzhabekova:/etc/cron.d# at 12:59  
warning: commands will be executed using /bin/sh  
at Sat Oct  4 12:59:00 2025  
at> logger message from at  
at> <EOT>  
job 1 at Sat Oct  4 12:59:00 2025  
root@eragdzhabekova:/etc/cron.d# atq  
1      Sat Oct  4 12:59:00 2025 a root  
root@eragdzhabekova:/etc/cron.d# grep 'from at' /var/log/messages  
root@eragdzhabekova:/etc/cron.d# grep 'from at' /var/log/messages  
Oct  4 12:59:00 eragdzhabekova root[6510]: message from at  
root@eragdzhabekova:/etc/cron.d# grep written /var/log/messages  
Oct  4 13:01:01 eragdzhabekova root[6778]: This message is written at Sat Oct 4 01:01:01 PM MSK 2025  
root@eragdzhabekova:/etc/cron.d# █
```

Рис. 7: Планирование через at

## Итоги работы

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## Вывод

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В ходе лабораторной работы изучены средства автоматизации в Linux:

- Настройка и использование **cron** для периодических задач.
- Создание скриптов и расписаний в системных каталогах cron.
- Планирование единичных заданий с помощью **at**.

Получены практические навыки по организации автоматического выполнения задач в операционной системе Linux.