

Презентация по лабораторной работе №8

Планировщики событий

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Цели и задачи работы

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

Ход выполнения работы

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:/home/eragdzhabekova#
```

A terminal window with a pink title bar. The title bar contains a plus icon on the left and the text 'eragdzhbekova@eragdzhbekova:/home/eragdzhabe' on the right. The terminal area is white and displays a single line of text: '* /1 * * * logger This message is written from root cron'. The text is in a monospaced font with some characters highlighted in color (asterisk in red, slash in green, 1 in blue, asterisk in red, asterisk in blue, asterisk in purple, asterisk in purple, logger in orange). A black cursor is at the end of the line. On the left side of the terminal, there is a vertical sidebar with several small, colorful icons.

```
eragdzhbekova@eragdzhbekova:/home/eragdzhabe
*/1 * * * logger This message is written from root cron
```

Рис. 2: Просмотр crontab

```
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



A screenshot of a terminal window. The title bar at the top is red and contains a plus icon on the left and the text "eragdzhbekova@eragdzhbekova:/home/eragdzhbekova" on the right. The terminal content shows a cron job entry: "0 */1 * * 1-5 logger This message is written from root cron". The entry is color-coded: "0" is orange, "*/1" is green, "*" is purple, "*" is purple, "1-5" is purple, "logger" is orange, and the rest of the line is orange. There is a black cursor at the end of the line. Below the entry are several tilde (~) characters, indicating the terminal is in a directory listing or similar view.

```
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 pink title bar. The title bar contains a plus icon, the username and host 'eragdzhabekova@eragdzhabekova', the current directory '/etc/cron.hourly', and a prompt character '-'. Below the title bar is a black bar with 'GNU nano 8.1' on the left and 'eachhour' on the right. The main area of the terminal is white and contains the text: a blue prompt '#!/bin/sh', followed by the command 'logger This message is written at \$(date)' on the next line.

```
eragdzhabekova@eragdzhabekova:/etc/cron.hourly -  
/etc/cron.hourly  
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 the nano text editor open. The title bar at the top reads "eragdzhbekova@eragdzhbekova:/etc/cron.d – nano eachhour". The editor's status bar at the bottom indicates "GNU nano 8.1" and "eachhour". The main text area contains a single line: "11 * * * * root logger This message is written from /etc/cron.d".

```
eragdzhbekova@eragdzhbekova:/etc/cron.d – nano eachhour
/etc/cron.d
GNU nano 8.1                                     eachhour
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

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.