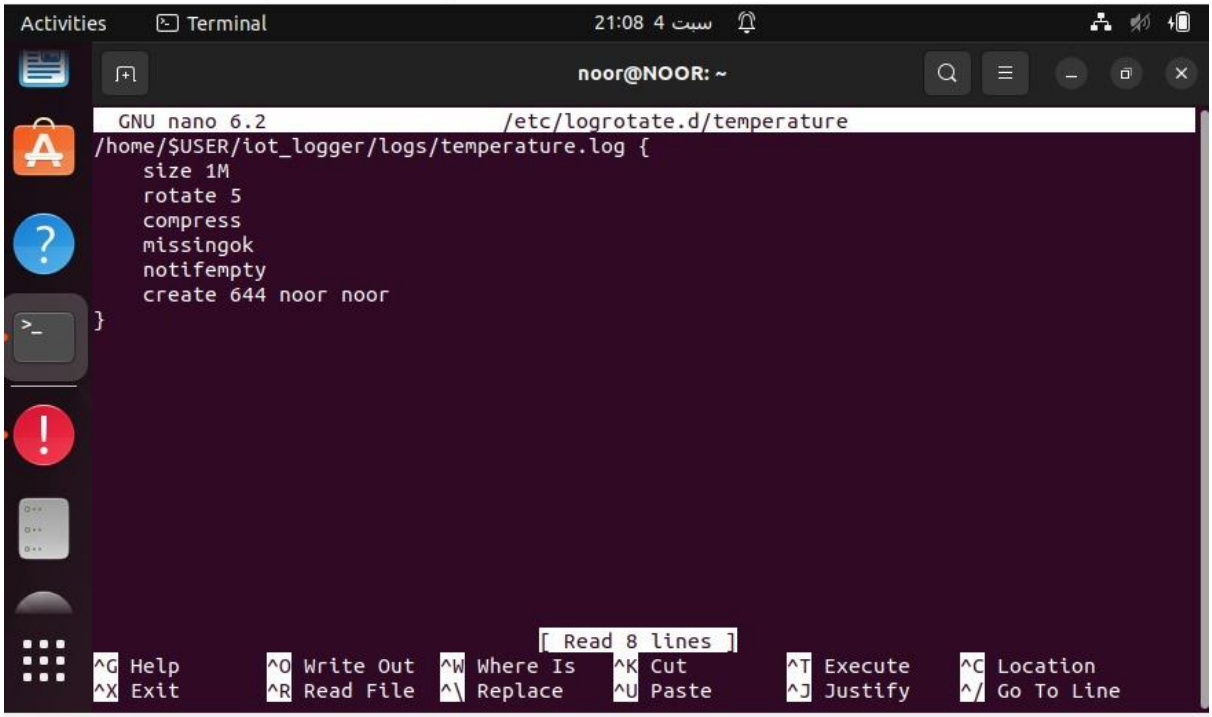
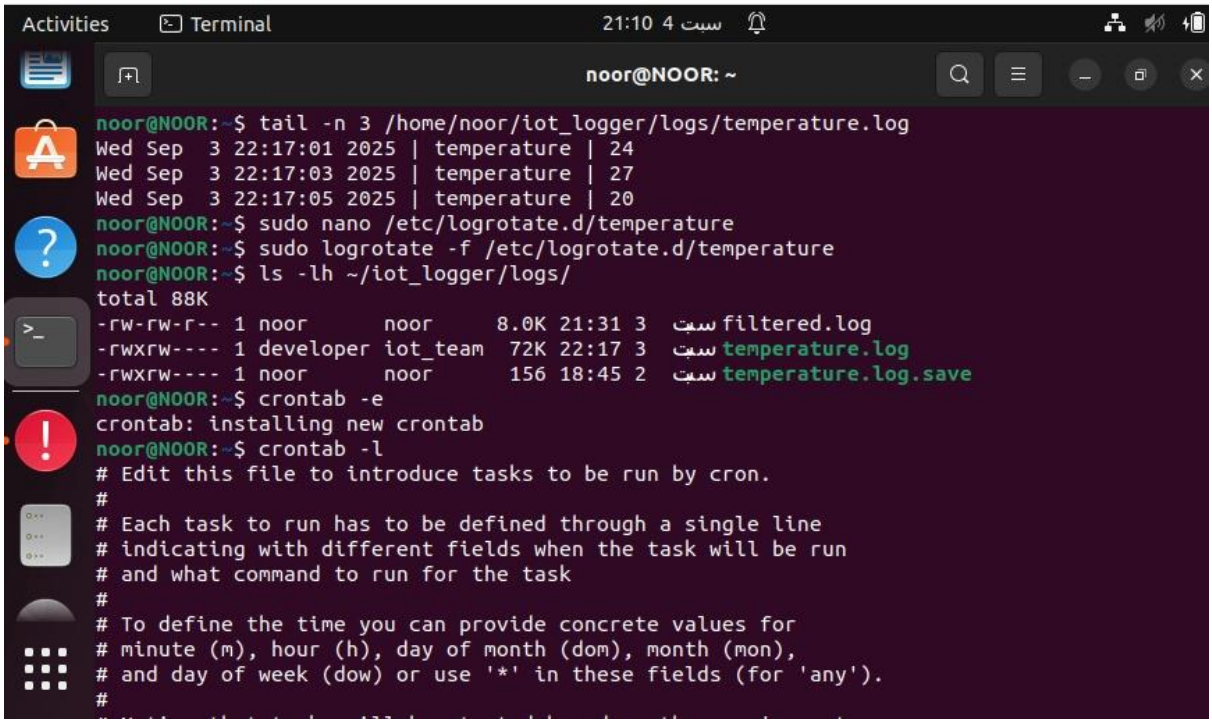
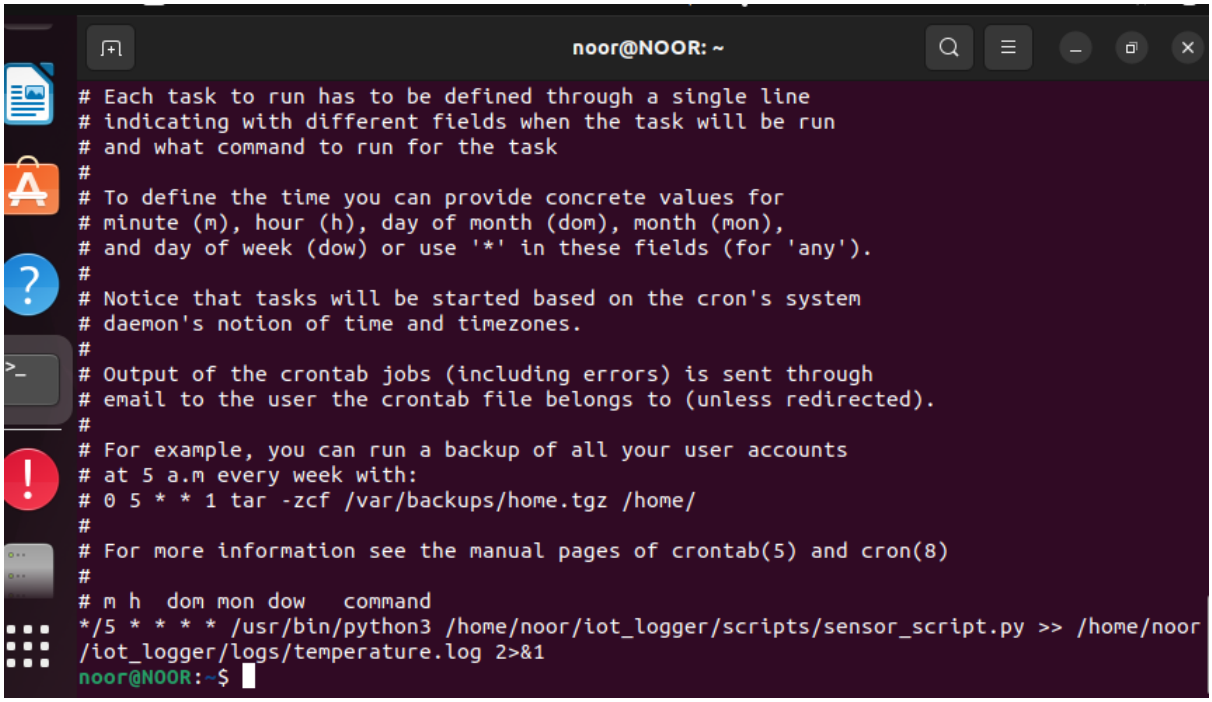
File Machine View Input Devices Help

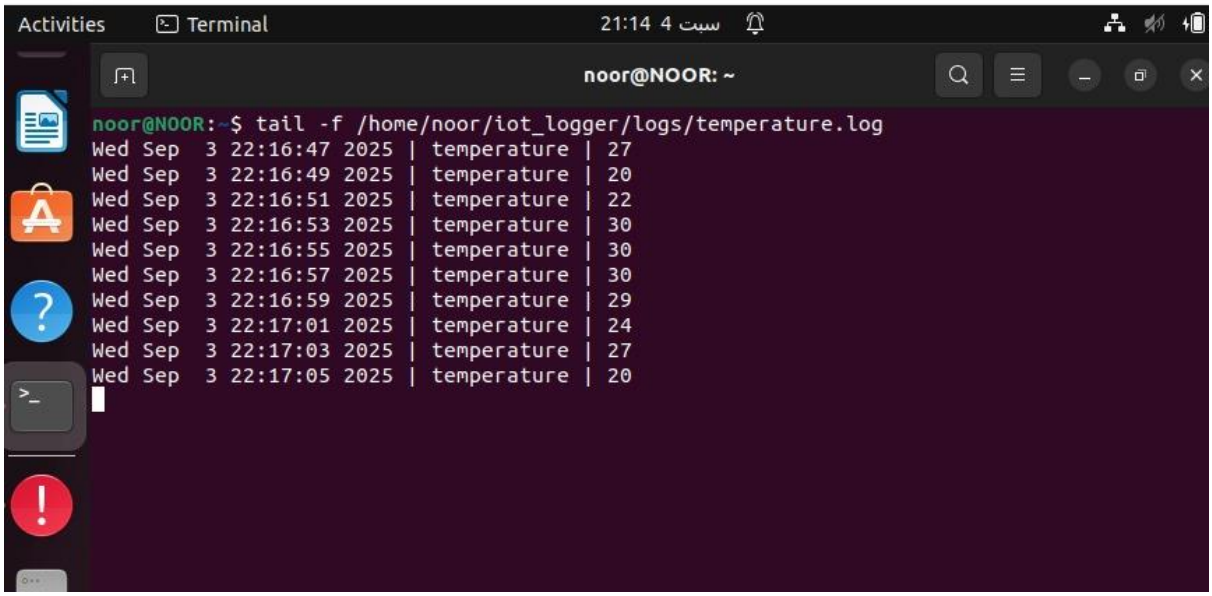


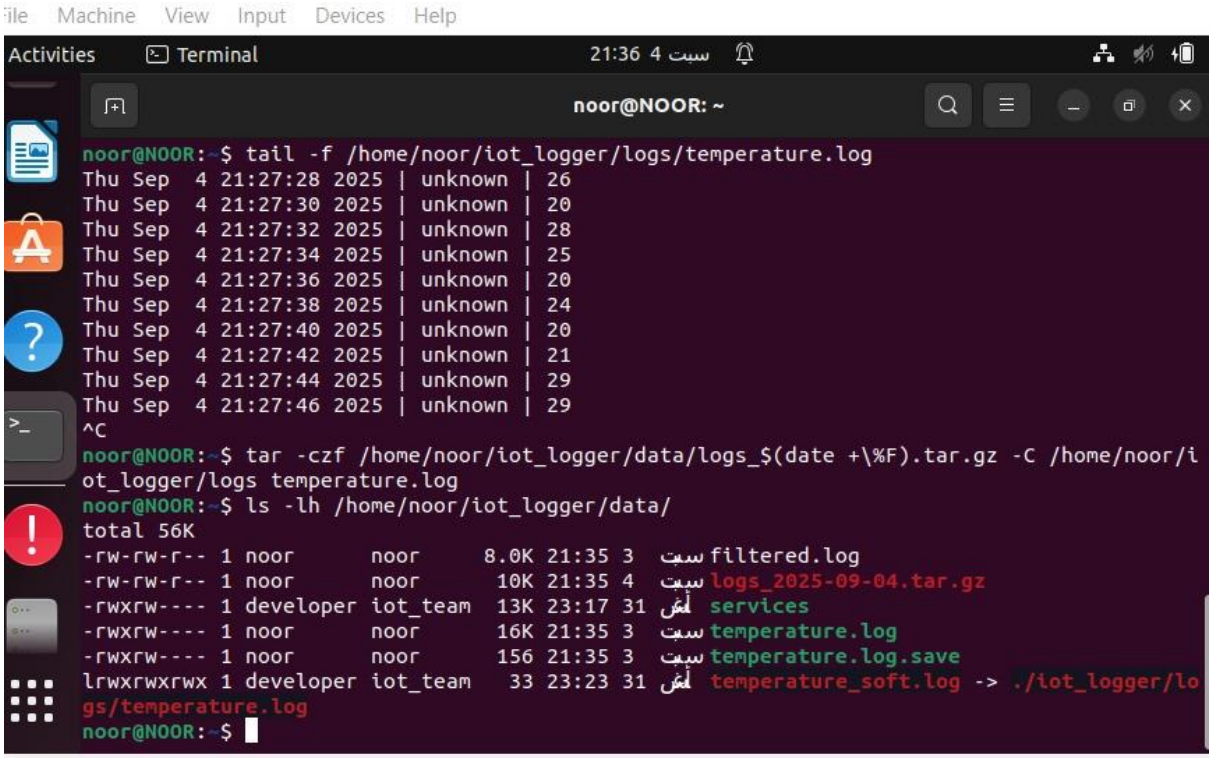
File Machine View Input Devices Help

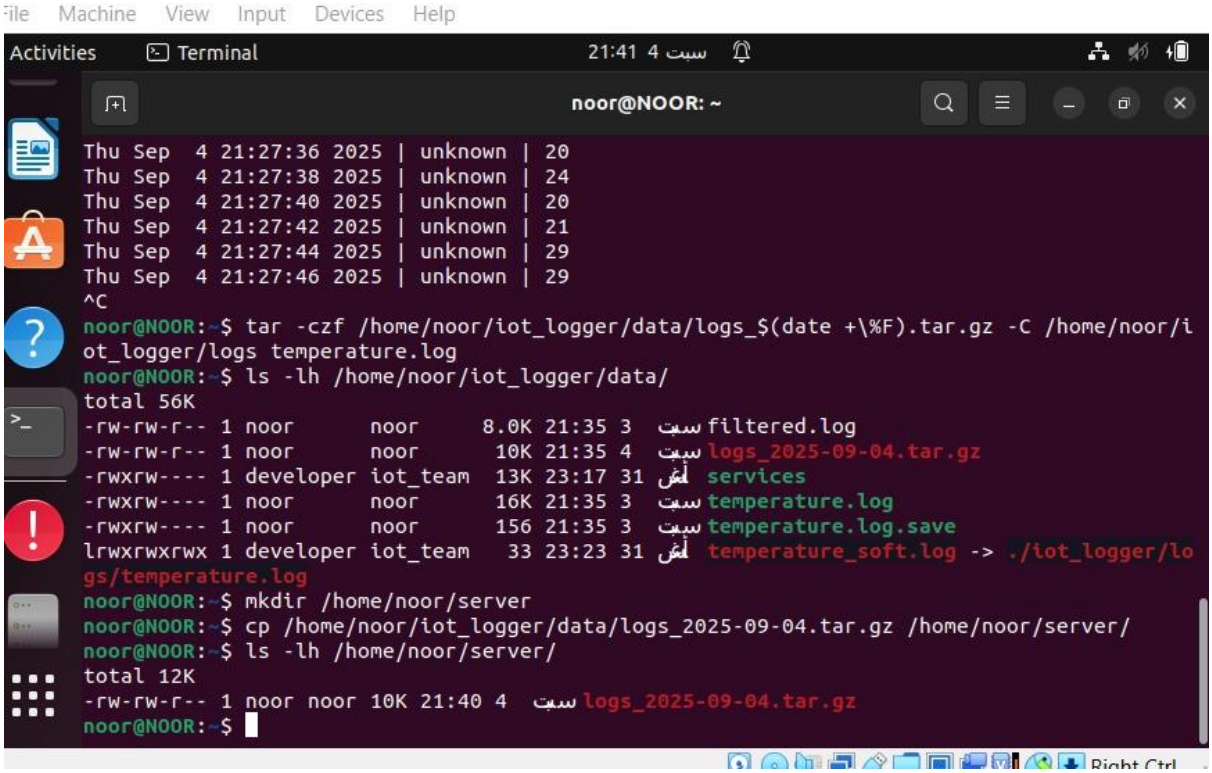




File Machine View Input Devices Help




File Machine View Input Devices Help
Activities
Terminal
21:36 4 سبت
noor@NOOR: ~
noor@NOOR:~$ tail -f /home/noor/iot_logger/logs/temperature.log
Thu Sep 4 21:27:28 2025 | unknown | 26
Thu Sep 4 21:27:30 2025 | unknown | 20
Thu Sep 4 21:27:32 2025 | unknown | 28
Thu Sep 4 21:27:34 2025 | unknown | 25
Thu Sep 4 21:27:36 2025 | unknown | 20
Thu Sep 4 21:27:38 2025 | unknown | 24
Thu Sep 4 21:27:40 2025 | unknown | 20
Thu Sep 4 21:27:42 2025 | unknown | 21
Thu Sep 4 21:27:44 2025 | unknown | 29
Thu Sep 4 21:27:46 2025 | unknown | 29
^C
noor@NOOR:~$ tar -czf /home/noor/iot_logger/data/logs_$(date +\%F).tar.gz -C /home/noor/iot_logger/logs temperature.log
noor@NOOR:~$ ls -lh /home/noor/iot_logger/data/
total 56K
-rw-rw-r-- 1 noor noor 8.0K 21:35 3 سبت filtered.log
-rw-rw-r-- 1 noor noor 10K 21:35 4 سبت logs_2025-09-04.tar.gz
-rwxrw---- 1 developer iot_team 13K 23:17 31 أغس services
-rwxrw---- 1 noor noor 16K 21:35 3 سبت temperature.log
-rwxrw---- 1 noor noor 156 21:35 3 سبت temperature.log.save
lrwxrwxrwx 1 developer iot_team 33 23:23 31 أغس temperature_soft.log -> ./iot_logger/logs/temperature.log
noor@NOOR:~$


File Machine View Input Devices Help
Activities
Terminal
21:41 4 سبت
noor@NOOR: ~
Thu Sep 4 21:27:36 2025 | unknown | 20
Thu Sep 4 21:27:38 2025 | unknown | 24
Thu Sep 4 21:27:40 2025 | unknown | 20
Thu Sep 4 21:27:42 2025 | unknown | 21
Thu Sep 4 21:27:44 2025 | unknown | 29
Thu Sep 4 21:27:46 2025 | unknown | 29
^C
noor@NOOR:~$ tar -czf /home/noor/iot_logger/data/logs_$(date +\%F).tar.gz -C /home/noor/iot_logger/logs temperature.log
noor@NOOR:~$ ls -lh /home/noor/iot_logger/data/
total 56K
-rw-rw-r-- 1 noor noor 8.0K 21:35 3 سبت filtered.log
-rw-rw-r-- 1 noor noor 10K 21:35 4 سبت logs_2025-09-04.tar.gz
-rwxrw---- 1 developer iot_team 13K 23:17 31 أغس services
-rwxrw---- 1 noor noor 16K 21:35 3 سبت temperature.log
-rwxrw---- 1 noor noor 156 21:35 3 سبت temperature.log.save
lrwxrwxrwx 1 developer iot_team 33 23:23 31 أغس temperature_soft.log -> ./iot_logger/logs/temperature.log
noor@NOOR:~$ mkdir /home/noor/server
noor@NOOR:~$ cp /home/noor/iot_logger/data/logs_2025-09-04.tar.gz /home/noor/server/
noor@NOOR:~$ ls -lh /home/noor/server/
total 12K
-rw-rw-r-- 1 noor noor 10K 21:40 4 سبت logs_2025-09-04.tar.gz
noor@NOOR:~$
Right Ctrl

How does cron scheduling work? Show a crontab entry to run a script every 5 minutes.

Cron: runs tasks automatically at a scheduled times and it's a daemon process which runs as a background process

Crontab (cron table) has 5 times fields : min hour day day of week command

*/n = every n units if we want every 5 min */5

Example crontab : */5 * * * * /home/noor/scripts/ this means every 5 minutes it will run the script from this file

Why do we need log rotation? Show an example logrotate config for temperature.log

Because logs keep growing when programs run and if they are never cleaned up the fill up the disk space

Log rotation : archive old logs and compresses them

Ex:

/home/noor/iot_logger/logs/temperature.log

{ daily

rotate 7

compress

missingok

notifempty

create 644 noor noor}

daily : rotate once per day rotate : keep 7 days of logs

compress : compress old logs

missingok : if the file is missing go to next one without issuing an error

create : create a new log with given permissions

Explain the difference between a Virtual Machine and a Container

Virtual machine : runs a full operating system with its own kernel and needs a hypervisor like virtual box ,it is heavy (takes a lot of space) but is isolated

Container : share the host operating system kernel and It runs only the app in an isolated environment also its much lighter and faster

Must containers use the same OS as the host? Why or why not?

yes the container must have the same os as the host because they share the same kernel

you can run different linux distributions at the same time as they share the same kernel

Reflection: Which actions in this project combined multiple Linux concepts (e.g.,

redirection + process monitoring)? How does this apply to real IoT systems

redirection > : to save the output of temperature.log

process monitoring and scheduling : with cron to keep tasks running

permissions & groups to control the access

log rotation : to manage the rowing logs and compress them

in real IOT system : devices like sensors collect data : logs

scheduled tasks : cron process

permission control : used in applications to ensure only authorized people can access specific data

log rotation : storage management