

Capstone Task Day 02

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Tasks:

- 1.~/iot_logger/logs \$ touch temperature.log
~/iot_logger/scripts \$ touch sensor_script.py
- 2.~/iot_logger/data \$ sudo cp /etc/services ./ && grep -Ei '(ssh | http)' services
- 3.~/iot_logger/data \$ grep -E '^(^t| [0-9])' services
- 4.~/iot_logger/data \$ find /home/ibrahim/ -type f -name "*.txt"
- 5.~/iot_logger/logs \$ ln temperature.log temperature_hard.log
~/iot_logger/logs \$ ln -s temperature.log temperature_soft.log
- 6.~/iot_logger \$ tree

-----screenshot-----

```
ibrahim@rpi4: ~/iot_logger
ibrahim@rpi4:~/iot_logger $ touch logs/temperature.log
ibrahim@rpi4:~/iot_logger $ touch scripts/sensor_script.py
ibrahim@rpi4:~/iot_logger $ sudo cp /etc/services ./ && grep -Ei '(ssh | http)' services
# Updated from https://www.iana.org/assignments/service-names-port-numbers/service-names-port-numbers.xhtml .
ssh      22/tcp      # SSH Remote Login Protocol
http     80/tcp      www         # WorldWideWeb HTTP
https    443/tcp     # http protocol over TLS/SSL
https    443/udp     # HTTP/3
hkp      11371/tcp    # OpenPGP HTTP Keyserver
ibrahim@rpi4:~/iot_logger $ grep -E '^(^t| [0-9])' services
tcpmux   1/tcp      # TCP port service multiplexer
telnet   23/tcp
time     37/tcp    timserver
time     37/udp    timserver
tacacs   49/tcp    # Login Host Protocol (TACACS)
tacacs   49/udp
tftp     69/udp
acr-nema 104/tcp    dicom       # Digital Imag. & Comm. 300
pop3     110/tcp    pop-3       # POP version 3
sunrpc   111/tcp    portmapper  # RPC 4.0 portmapper
imap2    143/tcp    imap        # Interim Mail Access P 2 and 4
talk     517/udp
tinc     655/tcp    # tinc control port
tinc     655/udp
telnet   992/tcp    # Telnet over SSL
rtcm-sc104 2101/tcp  # RTCM SC-104 IANA 1/29/99
afs3-fileserver 7000/udp
tproxy   8081/tcp    # Transparent Proxy
clc-build-daemon 8990/tcp  # Common lisp build daemon
tfido    60177/tcp  # fidonet EMSI over telnet
ibrahim@rpi4:~/iot_logger $ find /home/ibrahim/ -type f -name "*.txt"
/home/ibrahim/SIC_7/blynk/lib/python3.11/site-packages/gpiozero/fonts/14seg.txt
/home/ibrahim/SIC_7/blynk/lib/python3.11/site-packages/gpiozero/fonts/7seg.txt
/home/ibrahim/SIC_7/blynk/lib/python3.11/site-packages/blynk_library_python-0.2.0.dist-info/top_level.txt
/home/ibrahim/SIC_7/blynk/lib/python3.11/site-packages/colorzero-2.0.dist-info/top_level.txt
/home/ibrahim/SIC_7/blynk/lib/python3.11/site-packages/colorzero-2.0.dist-info/LICENSE.txt
/home/ibrahim/SIC_7/blynk/lib/python3.11/site-packages/pip/_vendor/vendor.txt
/home/ibrahim/SIC_7/blynk/lib/python3.11/site-packages/RPi.GPIO-0.7.1.egg-info/top_level.txt
/home/ibrahim/SIC_7/blynk/lib/python3.11/site-packages/RPi.GPIO-0.7.1.egg-info/SOURCES.txt
/home/ibrahim/SIC_7/blynk/lib/python3.11/site-packages/RPi.GPIO-0.7.1.egg-info/installed-files.txt
/home/ibrahim/SIC_7/blynk/lib/python3.11/site-packages/RPi.GPIO-0.7.1.egg-info/dependency_links.txt
/home/ibrahim/SIC_7/blynk/lib/python3.11/site-packages/setuptools-66.1.1.dist-info/top_level.txt
```

```
ibrahim@rpi4: ~/iot_logger
ibrahim@rpi4:~/iot_logger $ ln logs/temperature.log logs/temperature_hard.log
ibrahim@rpi4:~/iot_logger $ ln -s logs/temperature.log logs/temperature_soft.log
ibrahim@rpi4:~/iot_logger $ tree
.
|-- data
|   |-- services
|-- logs
|   |-- temperature.log
|   |-- temperature_hard.log
|   |-- temperature_soft.log -> logs/temperature.log
|-- scripts
|   |-- sensor_script.py
4 directories, 5 files
ibrahim@rpi4:~/iot_logger $
```

Open-Ended Questions:

1. File types:

1.1. Regular File: .txt, .bin, .jpg, and .out files start with (-) in file permissions like this file : -rw-r--r--

1.2. Directory: special type of files stores files or directories starts with (d) in file permissions like this file : drwxr-xr-x

1.3. Symbolic link: it is similar to a shortcut to file or directory starts with (l) in file permissions like this file : lrwxrwxrwx

1.4. character device file: refer to device deals with stream data like keyboard starts with (c) in file permissions like this file : crw-rw-rw-

2. Hard link vs Soft link:

2.1. Hard link: give a file second name to the same data (new pointer to the same data) uses in backup without more disk usage

2.2. Soft link: is like a shortcut to file or directory uses to organize data.

3. rmdir vs rm -r

3.1. rmdir: remove only empty directories.

3.2. rm -r: remove all directories even not empty with files or subdirectories

Thank You....