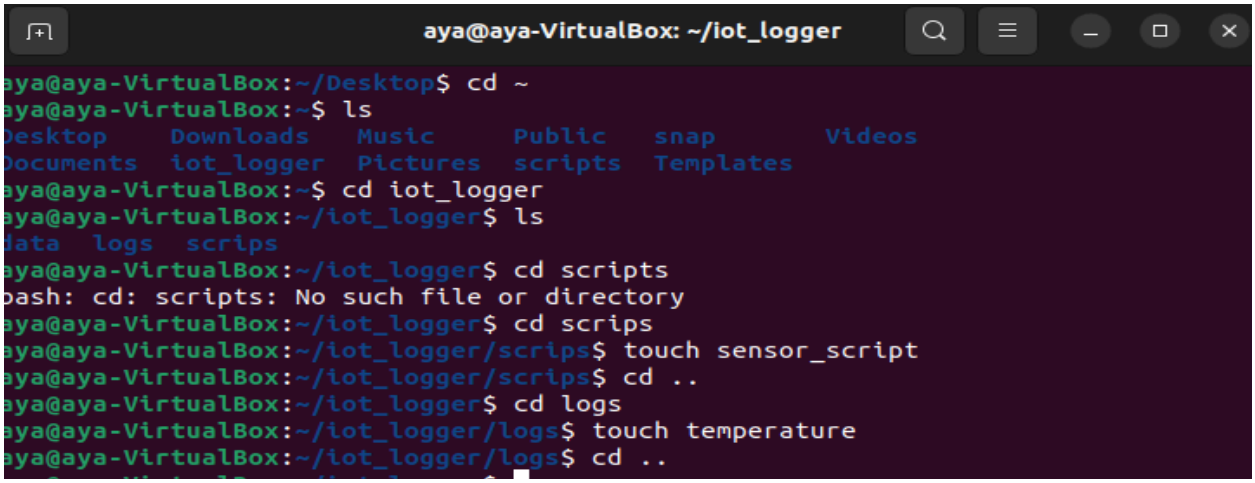
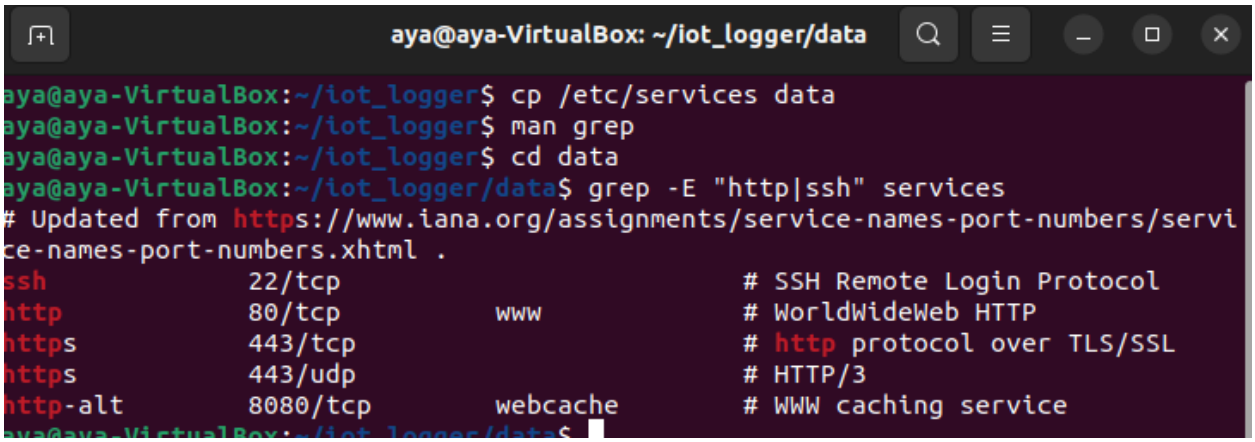
Day 2 – Phase 2: File & Directory Management + Search

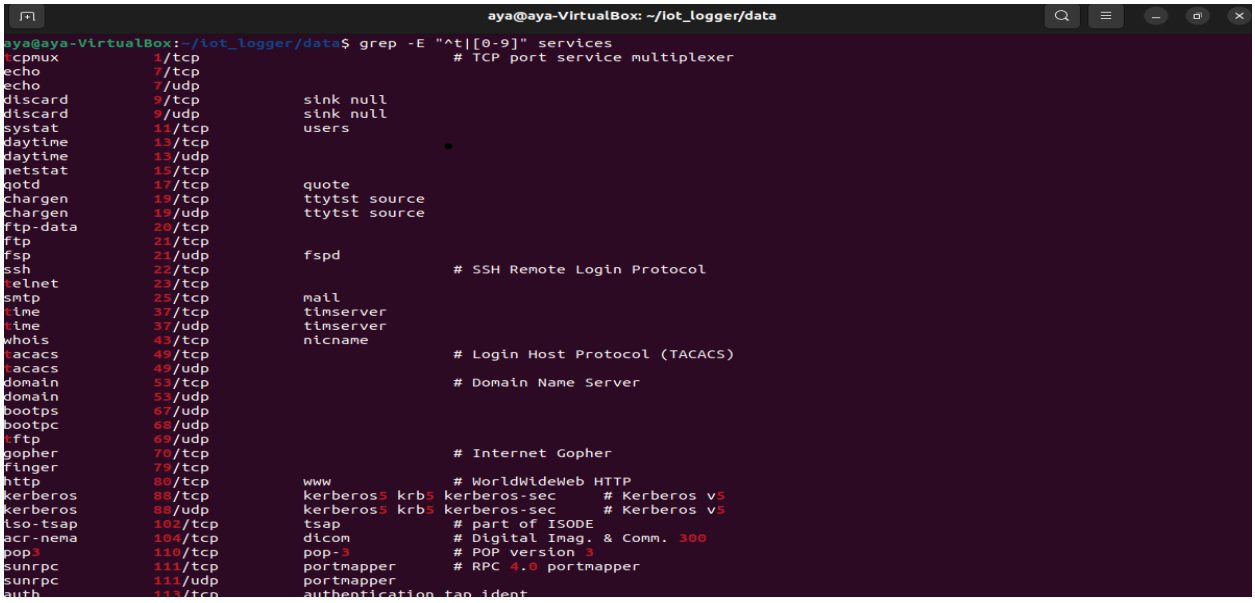
1)



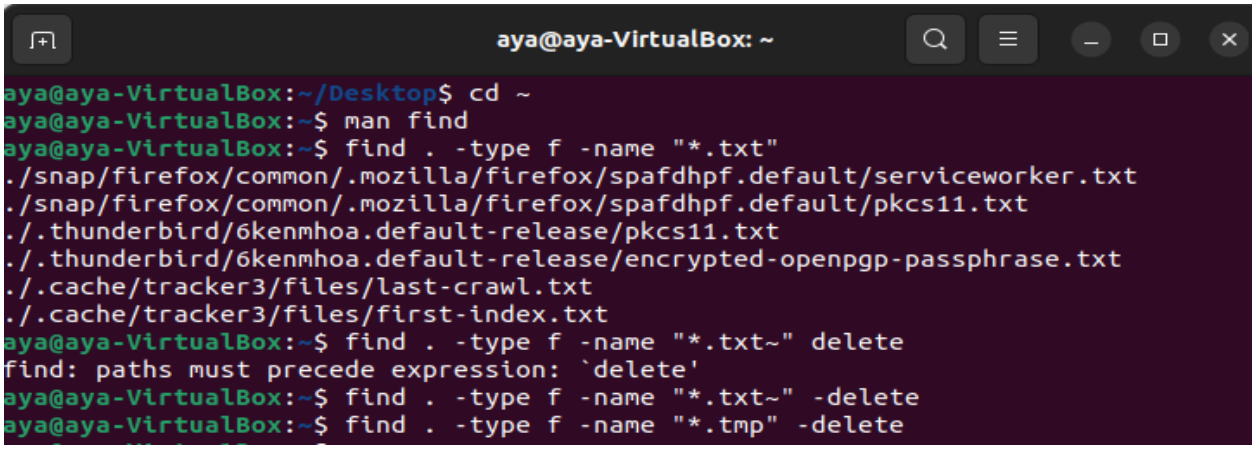
2)



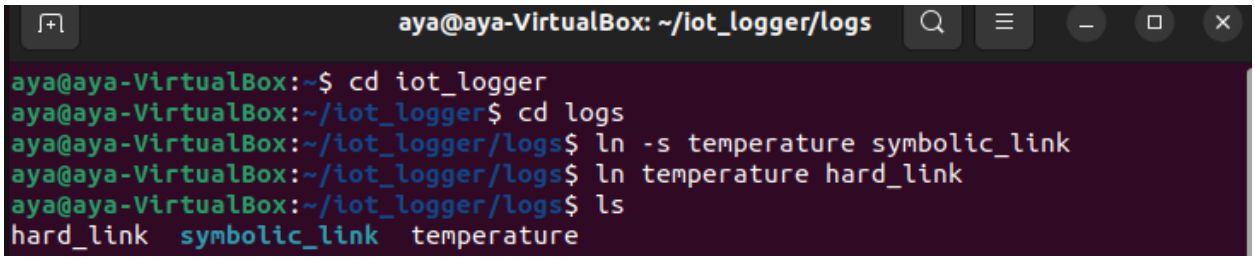
3)



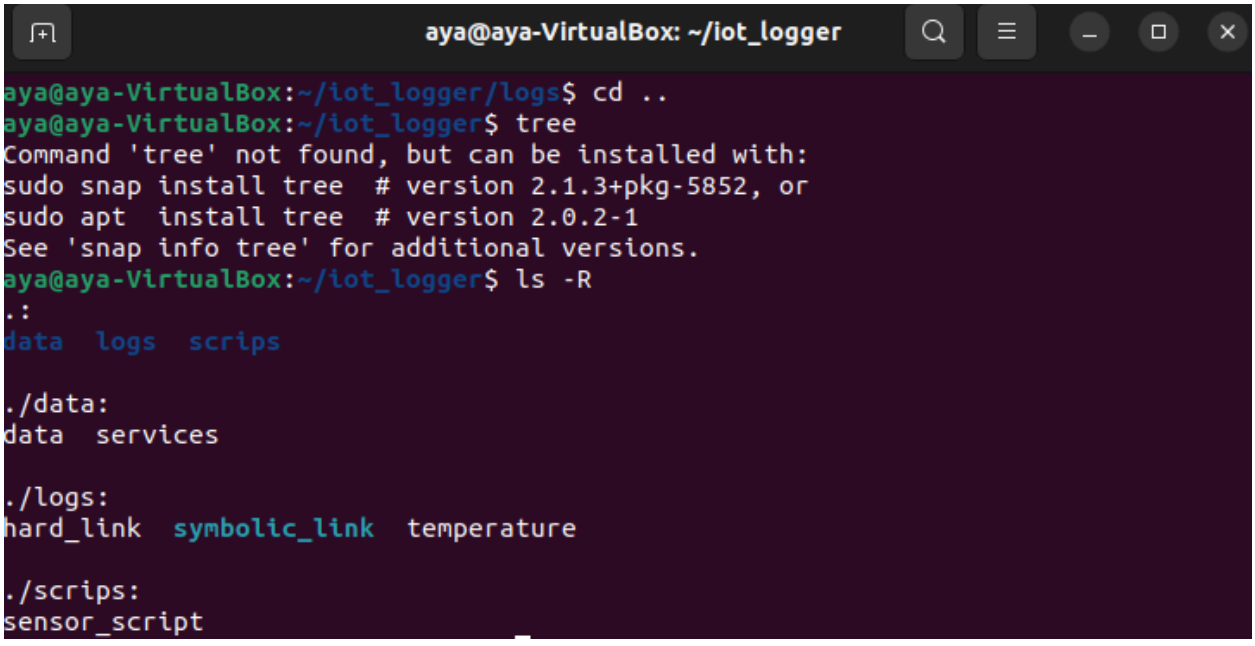
4)


aya@aya-VirtualBox: ~
aya@aya-VirtualBox:~/Desktop$ cd ~
aya@aya-VirtualBox:~$ man find
aya@aya-VirtualBox:~$ find . -type f -name "*.txt"
./snap/firefox/common/.mozilla/firefox/spafdhpf.default/serviceworker.txt
./snap/firefox/common/.mozilla/firefox/spafdhpf.default/pkcs11.txt
./.thunderbird/6kenmhoa.default-release/pkcs11.txt
./.thunderbird/6kenmhoa.default-release/encrypted-openpgp-passphrase.txt
./.cache/tracker3/files/last-crawl.txt
./.cache/tracker3/files/first-index.txt
aya@aya-VirtualBox:~$ find . -type f -name "*.txt~" delete
find: paths must precede expression: `delete'
aya@aya-VirtualBox:~$ find . -type f -name "*.txt~" -delete
aya@aya-VirtualBox:~$ find . -type f -name "*.tmp" -delete

5)


aya@aya-VirtualBox: ~/iot_logger/logs
aya@aya-VirtualBox:~$ cd iot_logger
aya@aya-VirtualBox:~/iot_logger$ cd logs
aya@aya-VirtualBox:~/iot_logger/logs$ ln -s temperature symbolic_link
aya@aya-VirtualBox:~/iot_logger/logs$ ln temperature hard_link
aya@aya-VirtualBox:~/iot_logger/logs$ ls
hard_link symbolic_link temperature

6)


aya@aya-VirtualBox: ~/iot_logger
aya@aya-VirtualBox:~/iot_logger/logs$ cd ..
aya@aya-VirtualBox:~/iot_logger$ tree
Command 'tree' not found, but can be installed with:
sudo snap install tree # version 2.1.3+pkg-5852, or
sudo apt install tree # version 2.0.2-1
See 'snap info tree' for additional versions.
aya@aya-VirtualBox:~/iot_logger$ ls -R
.:
data logs scrips
./data:
data services
./logs:
hard_link symbolic_link temperature
./scrips:
sensor_script

Open-Ended Questions

1) Everything on linus is as a file in which there are many file types such as the regular file which contains data such as text, images, executables, log like /etc/passwd, sample.txt. Another type of file is the directory (equivalent to folder in windows) which is a special file that contains other files such as /home. For the symbolic link, it is a shortcut to another file where it has a different inode than the original file and If the original file deletes, the link will break. For the device, there are two different types (character and block device) in which the character device provides direct access to hardware (character by character), and the block device it does the same function but it provides access to hardware in blocks such as dev/sda/
   We check the file types using "ls -l" command in which the first character of each line shows the file type (- → regular file, d → directory, l → symbolic link, c → character device, b → block device)

2) Hard link: is a direct pointer to the original file in which it has the same inode of the original file, it increases the number of links, and when the original file is deleted, the hard link does not get affected. It may be considered as another filename referring to the exact same data (maybe as a backup to ensure file availability even if the original filename is deleted).
   Symbolic link: is a shortcut or a reference to the original file which has a different inode from the original file, the number of links is the same, and when the file is deleted, the link does not work. It can be used if I want a shortcut to a file or directory like for the file descriptors (0: input, 1: output, 2: error) where these files have symbolic links to the terminals they are working on.
3) rmdir: used to delete empty directories only (if it is filled, it will fail to delete →Safer, since it won't delete data accidentally).
   rm -r (recursive remove): deletes a directory and everything inside it (files & subdirectories) which is dangerous if not used carefully because it can delete large amounts of data by mistake from the user.