

✎ Module 8 - Assignment

Problem Statement:

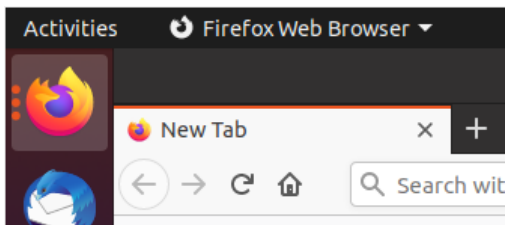
You work for xyz organization. Your job work is to manage Linux-based servers.

You have been asked to:

1. Launch Firefox 3 times, find their PID and use the kill command to close them
2. Monitor incoming logs files to a folder using inotify and output them to a file

Task 1:

Launched Firefox 3 times:



After launching Firefox, I used the `pgrep` command to observe the multiple processes that were spawned:

```
pgrep -f firefox
```

```
hector@hectorsVirtualBox:~$ pgrep -f firefox
3884
4026
4079
4113
4151
```

Now we terminate these processes by piping these PIDs to the `kill -9` command using `xargs` and confirm with `pgrep -f firefox`

```
pgrep -f firefox | xargs -r kill -9
pgrep -f firefox #confirming termination
```

```
hector@hectorsVirtualBox:~$ pgrep -f firefox | xargs -r kill -9
hector@hectorsVirtualBox:~$ pgrep -f firefox
hector@hectorsVirtualBox:~$
```

Task 2:

First I need to install inotify utility

```
sudo apt update -y
sudo apt install inotify-tools -y
```

I'll create a folder to monitor called `log_folder` in `~/Desktop`

```
mkdir log_folder
```

In order to monitor this folder and output the monitoring to a separate file I'll create script `log_monitor.sh` with the following code:

```
#!/bin/bash

# Directory to watch
WATCH_DIR="/home/hector/Desktop/log_folder"

# Output file
OUTPUT_FILE="/home/hector/Desktop/inotifywait_log"

# Remove the output file if it already exists
if [ -e "$OUTPUT_FILE" ]; then
    rm "$OUTPUT_FILE"
fi

# Create the output file
touch "$OUTPUT_FILE"

# Start the monitoring
inotifywait -m -e close_write --format '%w%f' "$WATCH_DIR" | while read -r NEW_FILE; do
    echo "New file detected: $NEW_FILE"
    echo "Appending contents to $OUTPUT_FILE"
    echo "$NEW_FILE" >> "$OUTPUT_FILE"
done
```

The script uses `inotifywait` with `-e close_write` which is triggered when a file is created or written to. Furthermore, the script's output will be recorded in file `inotifywait_log` in `~/Desktop`

Need to make the script `log_monitor.sh` executable

```
chmod +x log_monitor.sh
```

I'll execute the script to start monitoring

```
./log_monitoring.sh
```

```
hector@hectorsVirtualBox:~/Desktop$ ./log_monitor.sh
Setting up watches.
Watches established.
```

To test the monitoring I'll start creating files inside `log_folder`

```
hector@hectorsVirtualBox:~/Desktop/log_folder$ touch hello
hector@hectorsVirtualBox:~/Desktop/log_folder$ touch what
hector@hectorsVirtualBox:~/Desktop/log_folder$ touch is
hector@hectorsVirtualBox:~/Desktop/log_folder$ touch your
hector@hectorsVirtualBox:~/Desktop/log_folder$ touch name
hector@hectorsVirtualBox:~/Desktop/log_folder$
```

We now see our running script has some console output

```
hector@hectorsVirtualBox:~/Desktop$ ./log_monitor.sh
Setting up watches.
Watches established.
New file detected: /home/hector/Desktop/log_folder/hello
Appending contents to /home/hector/Desktop/inotifywait_log
New file detected: /home/hector/Desktop/log_folder/what
Appending contents to /home/hector/Desktop/inotifywait_log
New file detected: /home/hector/Desktop/log_folder/is
Appending contents to /home/hector/Desktop/inotifywait_log
New file detected: /home/hector/Desktop/log_folder/your
Appending contents to /home/hector/Desktop/inotifywait_log
New file detected: /home/hector/Desktop/log_folder/name
Appending contents to /home/hector/Desktop/inotifywait_log
```

Now we check the output file generate by the script `inotifywait_log` an see the files created

```
hector@hectorsVirtualBox:~/Desktop$ cat inotifywait_log
/home/hector/Desktop/log_folder/hello
/home/hector/Desktop/log_folder/what
/home/hector/Desktop/log_folder/is
/home/hector/Desktop/log_folder/your
/home/hector/Desktop/log_folder/name
hector@hectorsVirtualBox:~/Desktop$
```