

Lab 6 – Linux Processes and Services Systems

Administration

Instructions

The web development team is having trouble working with some of the services that you have previously installed on their server.

Check to make sure the following services are started and enabled on the system:

Samba (There are two services, smb and nmb)

Apache (The service name is httpd)

SSH (The service name is sshd)

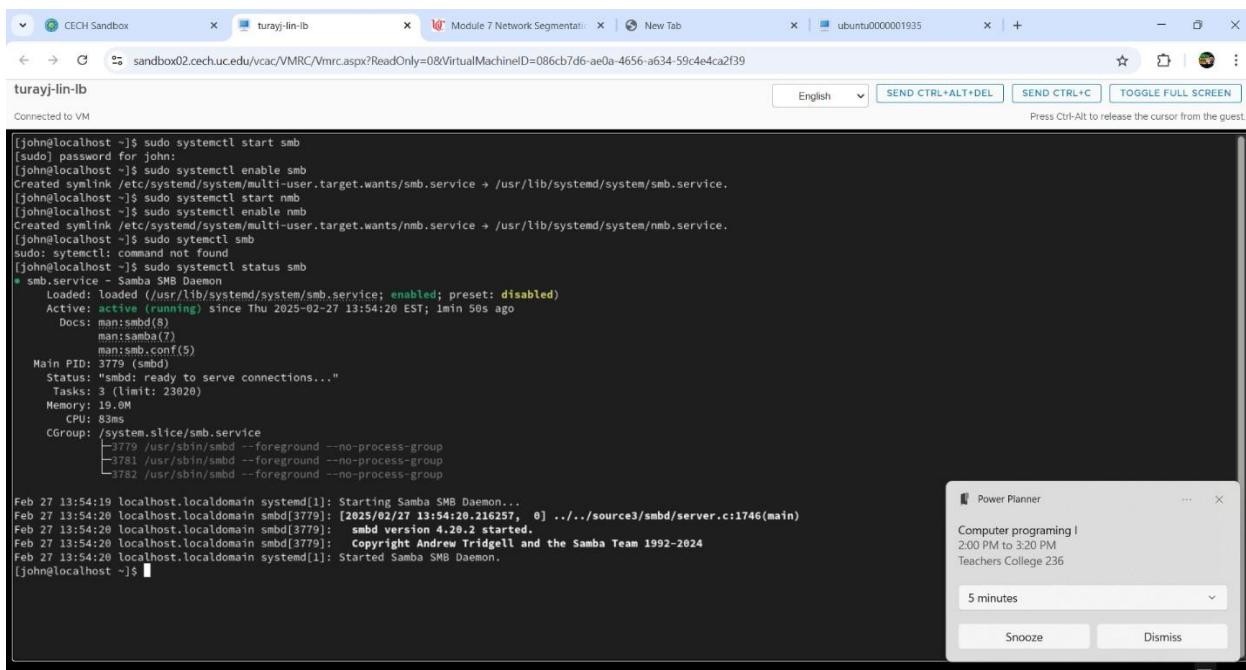
They would also like to monitor the CPU usage on the system. They request that you create a log file that displays the all running processes sorted by CPU usage. They would like this log to record this data every weekday at noon. Please be sure to include timestamps in the log file.

Screenshots

Paste the required screen shots under each description.

1. Paste a screen shot showing the status of each of requested services (4 total)

- a. Smb



A screenshot of a terminal window titled "turayj-lin-lb". The window shows the command "sudo systemctl start smb" being run, followed by the output of "systemctl status smb". The status output indicates that the service is active (running) since Thu 2025-02-27 13:54:20 EST, with a main PID of 3779. It lists three tasks: 3 (limit: 23028), Memory: 19.0M, and CPU: 83ms. The CGroup path is /system.slice/smb.service. The log output shows the service starting and the version information: "Copyright Andrew Tridgell and the Samba Team 1992-2024". A small Power Planner window is visible in the bottom right corner.

```
[john@localhost ~]$ sudo systemctl start smb
[sudo] password for john:
[john@localhost ~]$ sudo systemctl enable smb
Created symlink /etc/systemd/system/multi-user.target.wants/smb.service → /usr/lib/systemd/system/smb.service.
[john@localhost ~]$ sudo systemctl start nmb
[john@localhost ~]$ sudo systemctl enable nmb
Created symlink /etc/systemd/system/multi-user.target.wants/nmb.service → /usr/lib/systemd/system/nmb.service.
[john@localhost ~]$ sudo systemctl smb
sudo: systemctl: command not found
[john@localhost ~]$ sudo systemctl status smb
● smb.service - Samba SMB Daemon
   Loaded: loaded (/usr/lib/systemd/system/smb.service; enabled; preset: disabled)
     Active: active (running) since Thu 2025-02-27 13:54:20 EST; 1min 50s ago
       Docs: man:smbd(8)
             man:samba(7)
             man:smb.conf(5)
 Main PID: 3779 (smbd)
   Status: "smbd: ready to serve connections..."
    Tasks: 3 (limit: 23028)
   Memory: 19.0M
      CPU: 83ms
     CGroup: /system.slice/smb.service
             └─3779 /usr/sbin/smbd --foreground --no-process-group
               ├─3781 /usr/sbin/smbd --foreground --no-process-group
               ├─3782 /usr/sbin/smbd --foreground --no-process-group

Feb 27 13:54:19 localhost.localdomain systemd[1]: Starting Samba SMB Daemon...
Feb 27 13:54:20 localhost.localdomain smbd[3779]: [2025/02/27 13:54:20.216257,  0] ../../source3/smbd/server.c:1746(main)
Feb 27 13:54:20 localhost.localdomain smbd[3779]:      smbd version 4.20.2 started.
Feb 27 13:54:20 localhost.localdomain smbd[3779]: Copyright Andrew Tridgell and the Samba Team 1992-2024
Feb 27 13:54:20 localhost.localdomain systemd[1]: Started Samba SMB Daemon.

[john@localhost ~]$
```

- b. Nmb

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Connected to VM

```
man:smb.conf($)
Main PID: 3779 (smbd)
Status: "smbd: ready to serve connections..."
Tasks: 3 (limit: 23020)
Memory: 19.0M
CPU: 83ms
CGroup: /system.slice/smb.service
└─3779 /usr/sbin/smbd --foreground --no-process-group
  ├─3781 /usr/sbin/smbd --foreground --no-process-group
  └─3782 /usr/sbin/smbd --foreground --no-process-group

Feb 27 13:54:19 localhost.localdomain systemd[1]: Starting Samba SMB Daemon...
Feb 27 13:54:20 localhost.localdomain smbd[3779]: [2025/02/27 13:54:20.216257,  0] .../source3/smbd/server.c:1746(main)
Feb 27 13:54:20 localhost.localdomain smbd[3779]:   smbd version 4.20.2 started.
Feb 27 13:54:20 localhost.localdomain smbd[3779]: Copyright Andrew Tridgell and the Samba Team 1992-2024
Feb 27 13:54:20 localhost.localdomain systemd[1]: Started Samba SMB Daemon.
[john@localhost ~]$ sudo systemctl status nmb
● nmb.service - Samba NMB Daemon
  Loaded: loaded (/usr/lib/systemd/system/nmb.service; enabled; preset: disabled)
  Active: active (running) since Thu 2025-02-27 13:55:14 EST; 2min 34s ago
    Docs: man:nmbd(8)
          man:samba(7)
          man:smb.conf(5)
  Main PID: 3833 (nmbd)
  Status: "nmbd: ready to serve connections..."
  Tasks: 1 (limit: 23020)
  Memory: 3.0M
  CPU: 41ms
  CGroup: /system.slice/nmb.service
    └─3833 /usr/sbin/nmbd --foreground --no-process-group

Feb 27 13:55:14 localhost.localdomain systemd[1]: Starting Samba NMB Daemon...
Feb 27 13:55:14 localhost.localdomain nmbd[3833]: [2025/02/27 13:55:14.369383,  0] .../source3/nmbd/nmbd.c:901(main)
Feb 27 13:55:14 localhost.localdomain nmbd[3833]:   nmbd version 4.20.2 started.
Feb 27 13:55:14 localhost.localdomain nmbd[3833]: Copyright Andrew Tridgell and the Samba Team 1992-2024
Feb 27 13:55:14 localhost.localdomain systemd[1]: Started Samba NMB Daemon.
[john@localhost ~]$
```

Power Planner

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5 minutes

Snooze Dismiss

c. Httpd

Connected to VM

```
Tasks: 1 (limit: 23020)
Memory: 3.0M
CPU: 41ms
CGroup: /system.slice/nmb.service
└─3833 /usr/sbin/nmbd --foreground --no-process-group

Feb 27 13:55:14 localhost.localdomain systemd[1]: Starting Samba NMB Daemon...
Feb 27 13:55:14 localhost.localdomain nmbd[3833]: [2025/02/27 13:55:14.369383,  0] .../source3/nmbd/nmbd.c:901(main)
Feb 27 13:55:14 localhost.localdomain nmbd[3833]:   nmbd version 4.20.2 started.
Feb 27 13:55:14 localhost.localdomain nmbd[3833]: Copyright Andrew Tridgell and the Samba Team 1992-2024
Feb 27 13:55:14 localhost.localdomain systemd[1]: Started Samba NMB Daemon.
[john@localhost ~]$ sudo systemctl status httpd
sudo: systemctl: command not found
[john@localhost ~]$ sudo systemctl status httpd
● httpd.service - The Apache HTTP Server
  Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: disabled)
  Drop-In: /usr/lib/systemd/system/httpd.service.d
    └─php-fpm.conf
  Active: active (running) since Thu 2025-02-27 13:43:15 EST; 15min ago
    Docs: man:httpd.service(8)
  Main PID: 1670 (httpd)
  Status: "Total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Bytes served/sec: 0 B/sec"
  Tasks: 177 (limit: 23020)
  Memory: 27.0M
  CPU: 701ms
  CGroup: /system.slice/httpd.service
    ├─1670 /usr/sbin/httpd -DFOREGROUND
    ├─1799 /usr/sbin/httpd -DFOREGROUND
    ├─1791 /usr/sbin/httpd -DFOREGROUND
    ├─1792 /usr/sbin/httpd -DFOREGROUND
    └─1793 /usr/sbin/httpd -DFOREGROUND

Feb 27 13:43:15 localhost.localdomain systemd[1]: Starting The Apache HTTP Server...
Feb 27 13:43:15 localhost.localdomain httpd[1670]: AH00558: httpd: Could not reliably determine the server's fully qualified domain name, using
Feb 27 13:43:15 localhost.localdomain systemd[1]: Started The Apache HTTP Server.
Feb 27 13:43:15 localhost.localdomain httpd[1670]: Server configured, listening on: port 80
[lines 1-22/22 (END)]
```

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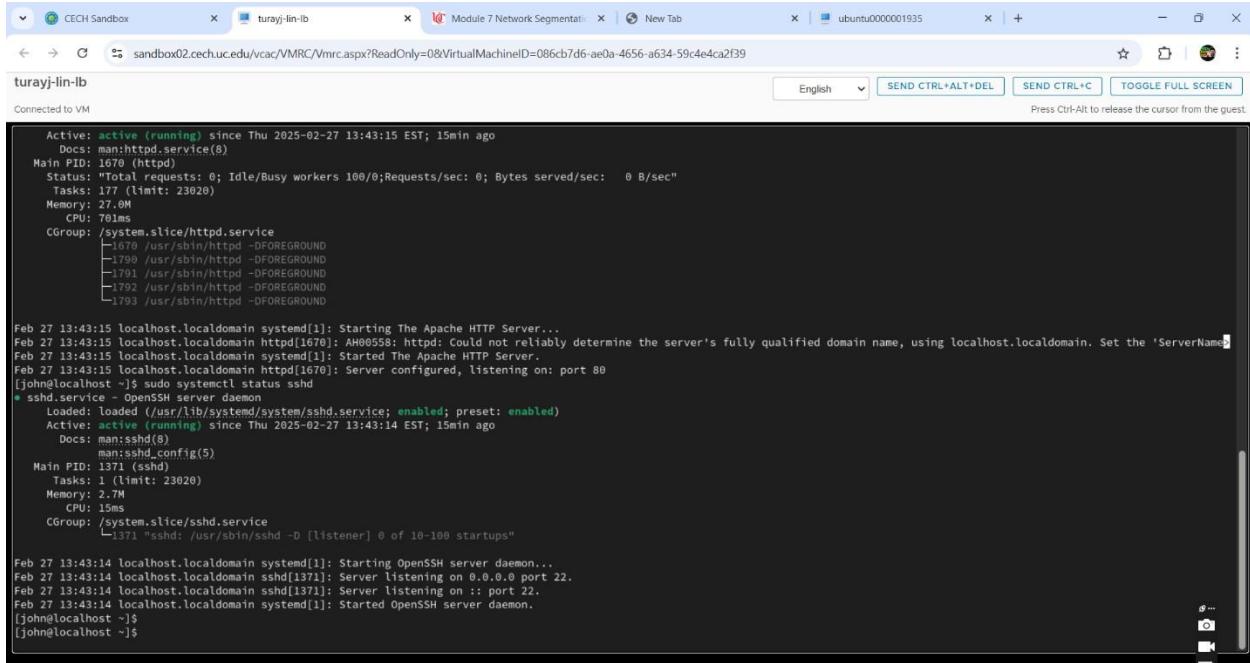
5 minutes

Snooze Dismiss

d. Sshd

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A screenshot of a terminal window titled "turayi-lin-lb". The window shows a log of system events and service status. Key entries include:

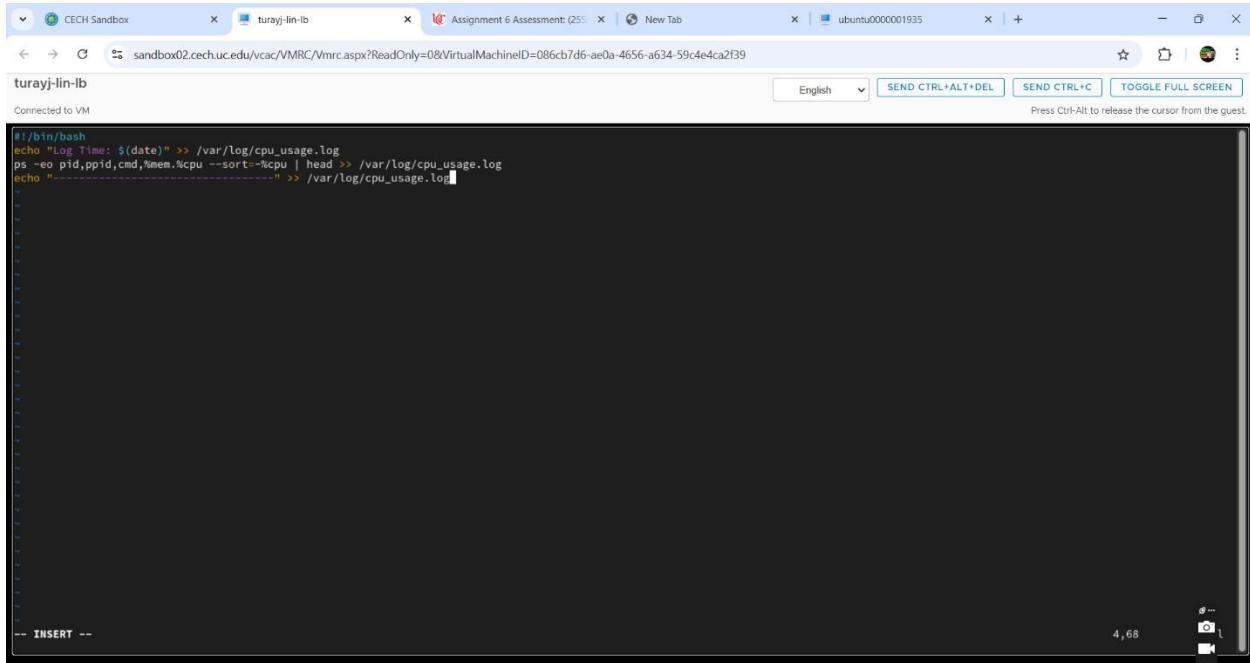
- Apache HTTP Server starting up.
- SSH server (sshd) starting up.
- OpenSSH server daemon starting up.

```
Active: active (running) since Thu 2025-02-27 13:43:15 EST; 15min ago
Docs: man:htpd.service(8)
Main PID: 1670 (httpd)
Status: "Total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Bytes served/sec: 0 B/sec"
Tasks: 177 (limit: 23020)
Memory: 27.8M
CPU: 70ms
CGroup: /system.slice/httpd.service
    └─1670 /usr/sbin/httpd -DFOREGROUND
      ├─1790 /usr/sbin/httpd -DFOREGROUND
      ├─1791 /usr/sbin/httpd -DFOREGROUND
      ├─1792 /usr/sbin/httpd -DFOREGROUND
      └─1793 /usr/sbin/httpd -DFOREGROUND

Feb 27 13:43:15 localhost.localdomain systemd[1]: Starting The Apache HTTP Server...
Feb 27 13:43:15 localhost.localdomain httpd[1670]: AH00558: httpd: Could not reliably determine the server's fully qualified domain name, using localhost.localdomain. Set the 'ServerName' directive if you wish to specify one.
Feb 27 13:43:15 localhost.localdomain systemd[1]: Started The Apache HTTP Server.
Feb 27 13:43:15 localhost.localdomain httpd[1670]: Server configured, listening on: port 80
[john@localhost ~]$ sudo systemctl status sshd
● sshd.service - OpenSSH server daemon
   Loaded: loaded (/usr/lib/systemd/system/sshd.service; enabled; preset: enabled)
   Active: active (running) since Thu 2025-02-27 13:43:14 EST; 15min ago
     Docs: man:sshd(8)
           man:sshd_config(5)
 Main PID: 1371 (sshd)
   Tasks: 1 (limit: 23020)
  Memory: 2.7M
    CPU: 15ms
   CGroup: /system.slice/sshd.service
           └─1371 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

Feb 27 13:43:14 localhost.localdomain systemd[1]: Starting OpenSSH server daemon...
Feb 27 13:43:14 localhost.localdomain sshd[1371]: Server listening on 0.0.0.0 port 22.
Feb 27 13:43:14 localhost.localdomain sshd[1371]: Server listening on :: port 22.
Feb 27 13:43:14 localhost.localdomain systemd[1]: Started OpenSSH server daemon.
[john@localhost ~]$ 
[john@localhost ~]$
```

2. Paste a screen shot of the script you created to run the log file



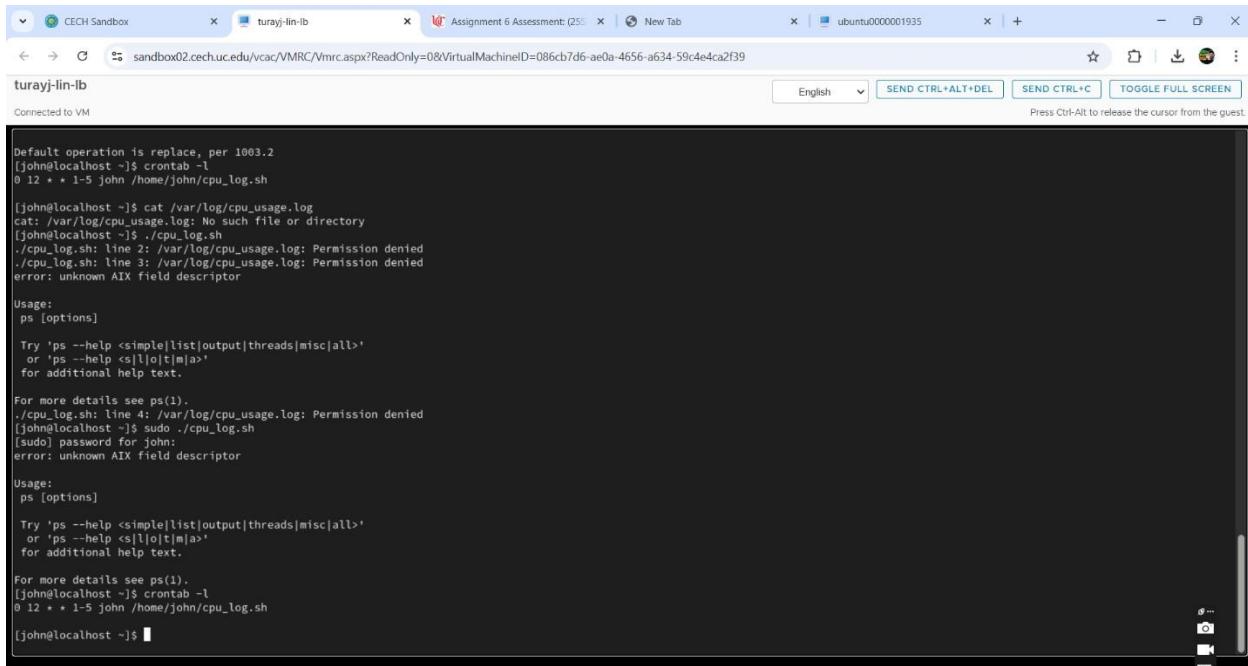
A screenshot of a terminal window titled "turayi-lin-lb". The window shows a script being run to log CPU usage. The script content is:

```
[root@lin-lb ~]# !/bin/bash
echo "Log Time: $(date)" >> /var/log/cpu_usage.log
ps -eo pid,ppid,cmd,%mem,%cpu --sort=-%cpu | head >> /var/log/cpu_usage.log
echo "-.-.----" >> /var/log/cpu_usage.log
```

3. Paste a screen shot of the crontab file showing the schedule for the script to run

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```
Default operation is replace, per 1003.2
[john@localhost ~]$ cronat -l
0 12 * * 1-5 john /home/john/cpu_log.sh

[john@localhost ~]$ cat /var/log/cpu_usage.log
cat: /var/log/cpu_usage.log: No such file or directory
[john@localhost ~]$ ./cpu_log.sh
./cpu_log.sh: line 2: /var/log/cpu_usage.log: Permission denied
./cpu_log.sh: line 3: /var/log/cpu_usage.log: Permission denied
error: unknown AIX Field descriptor

Usage:
ps [options]

Try 'ps --help <simple|list|output|threads|misc|all>'
or 'ps --help <s|l|o|t|m|a>'
for additional help text.

For more details see ps(1).
./cpu_log.sh: line 4: /var/log/cpu_usage.log: Permission denied
[john@localhost ~]$ sudo ./cpu_log.sh
[sudo] password for john:
error: unknown AIX field descriptor

Usage:
ps [options]

Try 'ps --help <simple|list|output|threads|misc|all>'
or 'ps --help <s|l|o|t|m|a>'
for additional help text.

For more details see ps(1).
[john@localhost ~]$ cronat -l
0 12 * * 1-5 john /home/john/cpu_log.sh

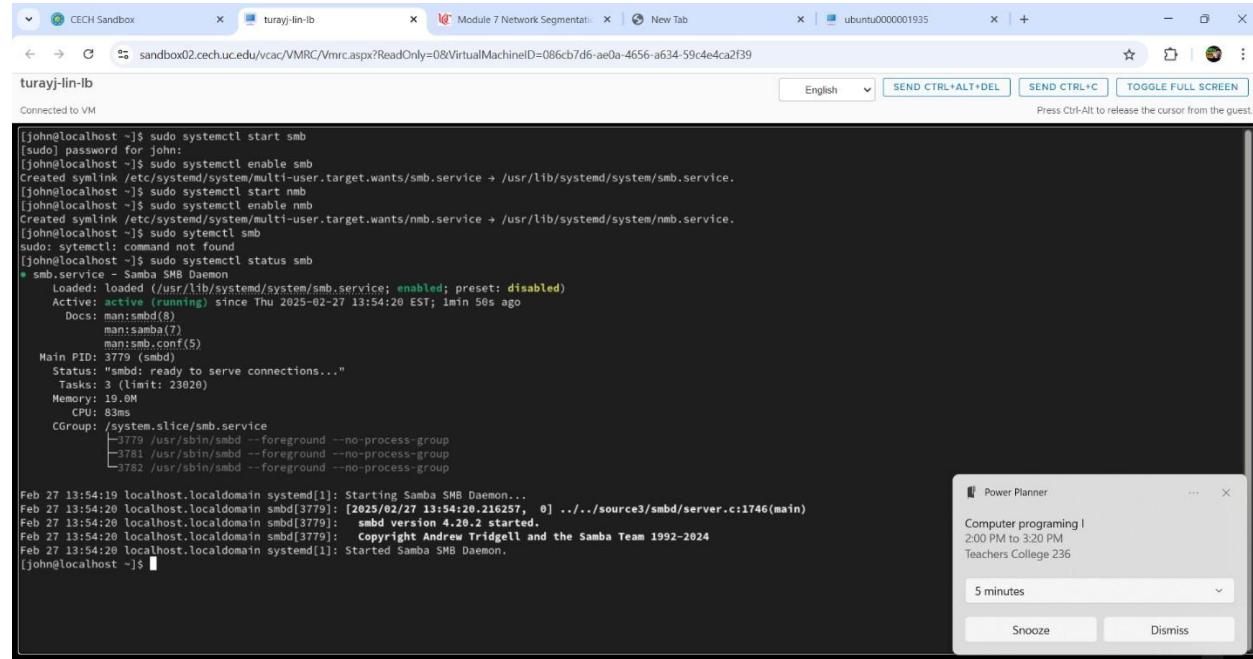
[john@localhost ~]$
```

Documentation

Record and explain all the steps you took to complete the task. Include any commands used, screen shots showing GUI interfaces, or any other information that would help you recreate the task.

Note: You will be allowed to use this documentation to help you complete future assignments.

So first I started by checking the status of all four services :



```
[john@localhost ~]$ sudo systemctl start smb
[sudo] password for john:
[john@localhost ~]$ sudo systemctl enable smb
Created symlink /etc/systemd/system/multi-user.target.wants/smb.service → /usr/lib/systemd/system/smb.service.
[john@localhost ~]$ sudo systemctl enable nmb
Created symlink /etc/systemd/system/multi-user.target.wants/nmb.service → /usr/lib/systemd/system/nmb.service.
[john@localhost ~]$ sudo systemctl smb
sudo: systemctl: command not found
[john@localhost ~]$ sudo systemctl status smb
● smb.service - Samba SMB Daemon
   Loaded: loaded (/usr/lib/systemd/system/smb.service; enabled; preset: disabled)
   Active: active (running) since Thu 2025-02-27 13:54:20 EST; 1min 56s ago
     Docs: man:smbd(8)
           man:samba(7)
           man:smb.conf(5)
   Main PID: 3779 (smbd)
  Status: "smbd: ready to serve connections..."
    Tasks: 3 (limit: 23020)
   Memory: 19.0M
      CPU: 83ms
     CGroup: /system.slice/smb.service
             ├─3779 /usr/sbin/smbd --foreground --no-process-group
             ├─3781 /usr/sbin/smbd --foreground --no-process-group
             ├─3782 /usr/sbin/smbd --foreground --no-process-group

Feb 27 13:54:19 localhost.localdomain systemd[1]: Starting Samba SMB Daemon...
Feb 27 13:54:20 localhost.localdomain smbd[3779]: [2025/02/27 13:54:20.216257, 0] .../source3/smbd/server.c:1746(main)
Feb 27 13:54:20 localhost.localdomain smbd[3779]: smbd version 4.20.2 started.
Feb 27 13:54:20 localhost.localdomain smbd[3779]: Copyright Andrew Tridgell and the Samba Team 1992-2024
Feb 27 13:54:20 localhost.localdomain systemd[1]: Started Samba SMB Daemon.

[john@localhost ~]$
```

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5 minutes
Snooze Dismiss

Lab 6 – Linux Processes and Services Systems Administration

CECH Sandbox turayi-lin-lb Module 7 Network Segmentation New Tab ubuntu0000001935

turayi-lin-lb

Connected to VM

```
man:smb.conf(5)
Main PID: 3779 (smbd)
Status: "smbd: ready to serve connections..."
Tasks: 3 (limit: 23020)
Memory: 19.8M
CPU: 83ms
CGroup: /system.slice/smb.service
└─3779 /usr/sbin/smbd --foreground --no-process-group
  ├─3781 /usr/sbin/smbd --foreground --no-process-group
  └─3782 /usr/sbin/smbd --foreground --no-process-group

Feb 27 13:54:19 localhost.localdomain systemd[1]: Starting Samba SMB Daemon...
Feb 27 13:54:20 localhost.localdomain smbd[3779]: [2025/02/27 13:54:20.216257,  0] ../../source3/smbd/server.c:1746(main)
Feb 27 13:54:20 localhost.localdomain smbd[3779]:   smbd version 4.20.2 started.
Feb 27 13:54:20 localhost.localdomain smbd[3779]: Copyright Andrew Tridgell and the Samba Team 1992-2024
Feb 27 13:54:20 localhost.localdomain systemd[1]: Started Samba SMB Daemon.
[john@localhost ~]$ sudo systemctl status nmb
● nmb.service - Samba NMB Daemon
  Loaded: loaded (/usr/lib/systemd/system/nmb.service; enabled; preset: disabled)
  Active: active (running) since Thu 2025-02-27 13:55:14 EST; 2min 34s ago
    Docs: man:nmbd(8)
          man:samba(7)
          man:smb.conf(5)
  Main PID: 3833 (nmbd)
  Status: "nmbd: ready to serve connections..."
  Tasks: 1 (limit: 23020)
  Memory: 3.0M
  CPU: 41ms
  CGroup: /system.slice/nmb.service
  └─3833 /usr/sbin/nmbd --foreground --no-process-group

Feb 27 13:55:14 localhost.localdomain systemd[1]: Starting Samba NMB Daemon...
Feb 27 13:55:14 localhost.localdomain nmbd[3833]: [2025/02/27 13:55:14.369383,  0] ../../source3/nmbd/nmbd.c:901(main)
Feb 27 13:55:14 localhost.localdomain nmbd[3833]:   nmbd version 4.20.2 started.
Feb 27 13:55:14 localhost.localdomain nmbd[3833]: Copyright Andrew Tridgell and the Samba Team 1992-2024
Feb 27 13:55:14 localhost.localdomain systemd[1]: Started Samba NMB Daemon.
[john@localhost ~]$
```

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CECH Sandbox turayi-lin-lb Module 7 Network Segmentation New Tab ubuntu0000001935

turayi-lin-lb

Connected to VM

```
Tasks: 1 (limit: 23020)
Memory: 3.0M
CPU: 41ms
CGroup: /system.slice/nmb.service
└─3833 /usr/sbin/nmbd --foreground --no-process-group

Feb 27 13:55:14 localhost.localdomain systemd[1]: Starting Samba NMB Daemon...
Feb 27 13:55:14 localhost.localdomain nmbd[3833]: [2025/02/27 13:55:14.369383,  0] ../../source3/nmbd/nmbd.c:901(main)
Feb 27 13:55:14 localhost.localdomain nmbd[3833]:   nmbd version 4.20.2 started.
Feb 27 13:55:14 localhost.localdomain nmbd[3833]: Copyright Andrew Tridgell and the Samba Team 1992-2024
Feb 27 13:55:14 localhost.localdomain systemd[1]: Started Samba NMB Daemon.
[john@localhost ~]$ sudo systemctl status httpd
sudo: systemctl: command not found
[john@localhost ~]$ sudo systemctl status httpd
● httpd.service - The Apache HTTP Server
  Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: disabled)
  Drop-In: /usr/lib/systemd/system/httpd.service.d
    └─php-fpm.conf
  Active: active (running) since Thu 2025-02-27 13:43:15 EST; 15min ago
    Docs: man:httpd.service(8)
  Main PID: 1670 (httpd)
  Status: "Total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Bytes served/sec: 0 B/sec"
  Tasks: 177 (limit: 23020)
  Memory: 27.0M
  CPU: 701ms
  CGroup: /system.slice/httpd.service
  └─1670 /usr/sbin/httpd -DFOREGROUND
    ├─1798 /usr/sbin/httpd -DFOREGROUND
    ├─1791 /usr/sbin/httpd -DFOREGROUND
    ├─1792 /usr/sbin/httpd -DFOREGROUND
    └─1793 /usr/sbin/httpd -DFOREGROUND

Feb 27 13:43:15 localhost.localdomain systemd[1]: Starting The Apache HTTP Server...
Feb 27 13:43:15 localhost.localdomain httpd[1670]: httpd: Could not reliably determine the server's fully qualified domain name, using
Feb 27 13:43:15 localhost.localdomain systemd[1]: Started The Apache HTTP Server.
Feb 27 13:43:15 localhost.localdomain httpd[1670]: Server configured, listening on: port 80
[lines 1-22/22 (END)]
```

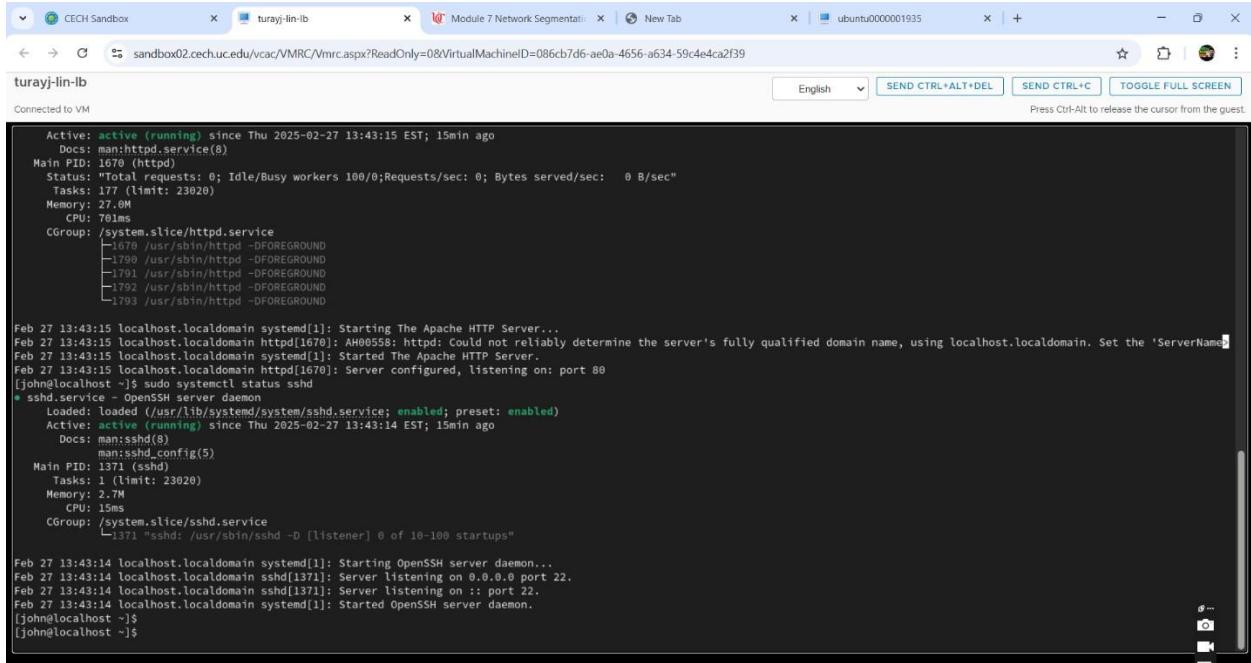
Power Planner

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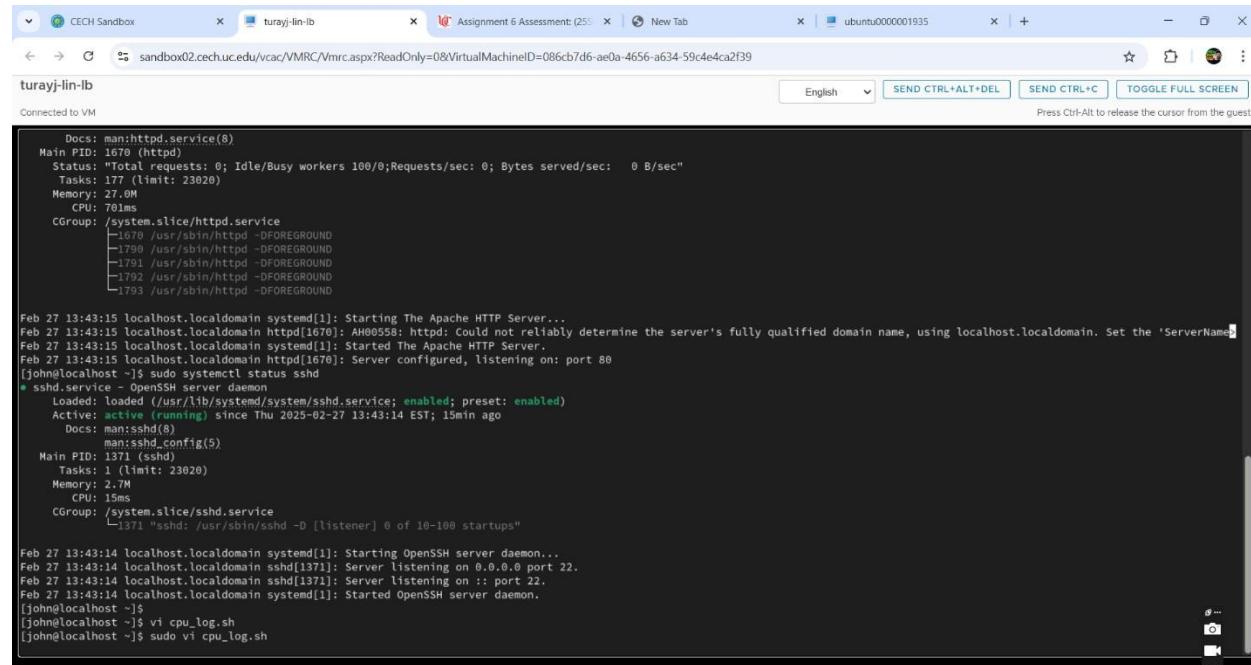
Administration



The screenshot shows a terminal window titled "turayi-lin-lb" with the command "cat /var/log/syslog" running. The output displays system logs and service status. Key entries include:

- Apache HTTP Server starting up.
- SSH daemon (sshd) starting up.
- Logs for Apache and SSHd services.
- Logs for the OpenSSH server.

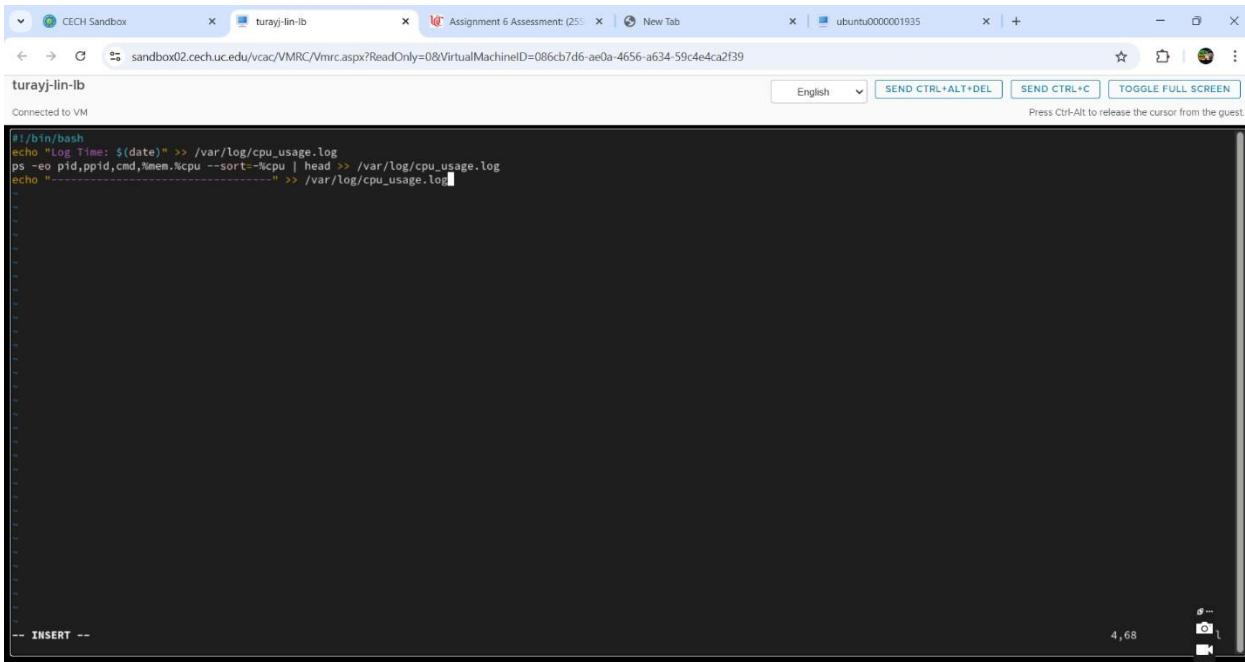
Next I created the script to run the log file:



The screenshot shows a terminal window titled "turayi-lin-lb" with the command "cat /var/log/syslog" running. The output displays system logs and service status, identical to the previous screenshot but with a different timestamp (Feb 27 13:43:15).

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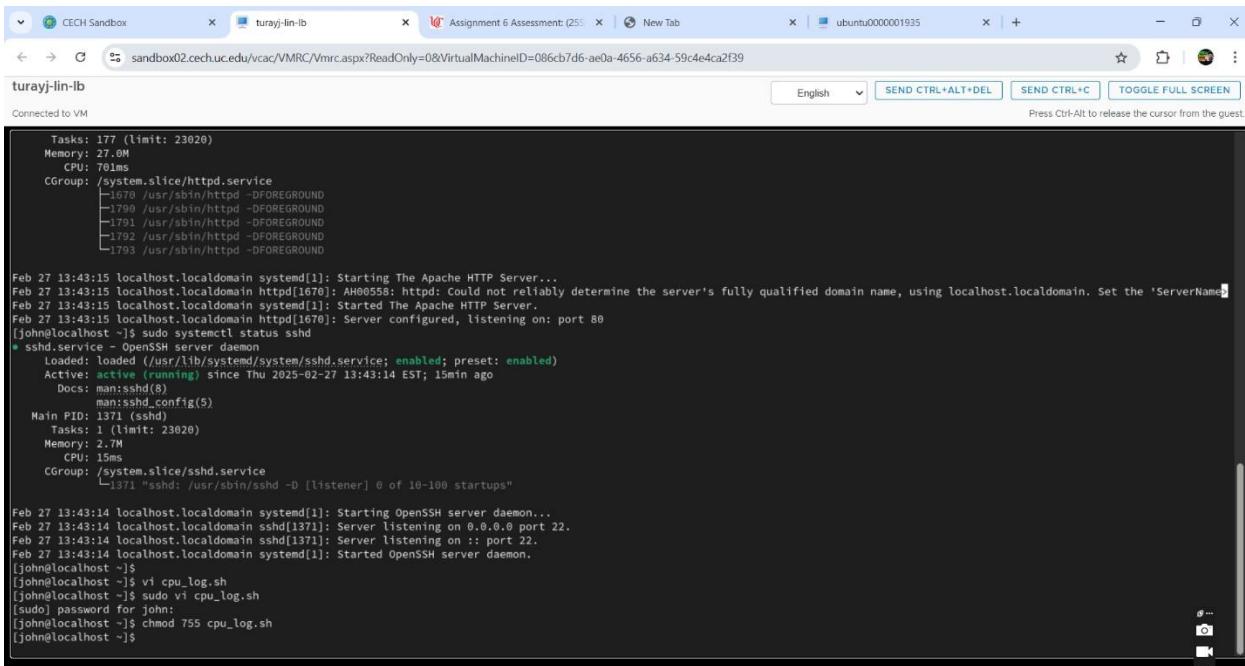


A screenshot of a terminal window titled "turayi-lin-lb". The window shows a command being run in a bash shell:

```
#!/bin/bash
echo "Log Time: $(date)" >> /var/log/cpu_usage.log
ps -eo pid,ppid,cmd,%mem,%cpu --sort=-%cpu | head > /var/log/cpu_usage.log
echo "" > /var/log/cpu_usage.log
```

The terminal interface includes tabs for "CECH Sandbox", "Assignment 6 Assessment: (25)", "New Tab", and "ubuntu0000001935". It has standard window controls and a status bar at the bottom.

Then I made the file executable:



A screenshot of a terminal window titled "turayi-lin-lb". The window shows the output of the command "systemctl status" for the sshd and httpd services:

```
Tasks: 177 (limit: 23020)
Memory: 27.0M
CPU: 70ms
CGroup: /system.slice/httpd.service
└─1770 /usr/sbin/httpd -DFOREGROUND
   ├─1780 /usr/sbin/httpd -DFOREGROUND
   ├─1791 /usr/sbin/httpd -DFOREGROUND
   ├─1792 /usr/sbin/httpd -DFOREGROUND
   └─1793 /usr/sbin/httpd -DFOREGROUND

Feb 27 13:43:15 localhost.localdomain systemd[1]: Starting The Apache HTTP Server...
Feb 27 13:43:15 localhost.localdomain httpd[1670]: AH00558: httpd: Could not reliably determine the server's fully qualified domain name, using localhost.localdomain. Set the 'ServerName' or 'ServerAlias' directive.
Feb 27 13:43:15 localhost.localdomain systemd[1]: Started The Apache HTTP Server.
Feb 27 13:43:15 localhost.localdomain httpd[1670]: Server configured, listening on: port 80
[john@localhost ~]$ sudo systemctl status sshd
● sshd.service - OpenSSH server daemon
   Loaded: loaded (/usr/lib/systemd/system/sshd.service; enabled; preset: enabled)
     Active: active (running) since Thu 2025-02-27 13:43:14 EST; 15min ago
       Docs: man:sshd(8)
             man:sshd_config(5)
     Main PID: 1371 (sshd)
        Tasks: 1 (limit: 23020)
      Memory: 2.7M
         CPU: 15ms
      CGroup: /system.slice/sshd.service
              └─1371 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

Feb 27 13:43:14 localhost.localdomain systemd[1]: Starting OpenSSH server daemon...
Feb 27 13:43:14 localhost.localdomain sshd[1371]: Server listening on 0.0.0.0 port 22.
Feb 27 13:43:14 localhost.localdomain sshd[1371]: Server listening on :: port 22.
Feb 27 13:43:14 localhost.localdomain systemd[1]: Started OpenSSH server daemon.
[john@localhost ~]$
```

Then I created the crontab file:

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Feb 27 13:43:14 localhost.localdomain sshd[1371]: Server listening on 0.0.0.0 port 22.
Feb 27 13:43:14 localhost.localdomain sshd[1371]: Server listening on :: port 22.
Feb 27 13:43:14 localhost.localdomain system[1]: Started OpenSSH server daemon.
[john@localhost ~]\$
[john@localhost ~]\$ vi cpu_log.sh
[john@localhost ~]\$ sudo vi cpu_log.sh
[sudo] password for john:
[john@localhost ~]\$ chmod 755 cpu_log.sh
[john@localhost ~]\$ crontab -e
no crontab for john - using an empty one
crontab: installing new crontab
:wq

Then I verified the file by showing the output of the schedule:

Default operation is replace, per 1003.
[john@localhost ~]\$ crontab -l
0 12 * * 1-5 john /home/john/cpu_log.sh

[john@localhost ~]\$ cat /var/log/cpu_usage.log
cat: /var/log/cpu_usage.log: No such file or directory
[john@localhost ~]\$./cpu_log.sh
./cpu_log.sh: line 2: /var/log/cpu_usage.log: Permission denied
./cpu_log.sh: line 3: /var/log/cpu_usage.log: Permission denied
error: unknown AIX field descriptor

Usage:
ps [options]

Try 'ps --help <simple|list|output|threads|misc|all>'
or 'ps --help <[l|o|t|m]>'
for additional help text.

For more details see ps().
./cpu_log.sh: line 4: /var/log/cpu_usage.log: Permission denied
[john@localhost ~]\$ sudo ./cpu_log.sh
[sudo] password for john:
error: unknown AIX field descriptor

Usage:
ps [options]

Try 'ps --help <simple|list|output|threads|misc|all>'
or 'ps --help <[l|o|t|m]>'
for additional help text.

For more details see ps().
[john@localhost ~]\$ crontab -l
0 12 * * 1-5 john /home/john/cpu_log.sh

[john@localhost ~]\$

Lab 6 – Linux Processes and Services Systems
Administration