



CONESTOGA

Connect Life and Learning

Student Name:	Aagam Sanjay Shah
Deliverable:	In-Class Tasks Week 10 Assignment
Course Name:	NTWK8141-24S-Sec3-Linux Server

Date Assigned:	10/07/2024
Date Due:	11/07/2024
Rules:	<ul style="list-style-type: none">• Individual.• Cheating is not allowed.• Plagiarism counts as cheating!• That FAILURE to submit work in the course can result in a grade of 'F' or 'I' for failure to complete the course!

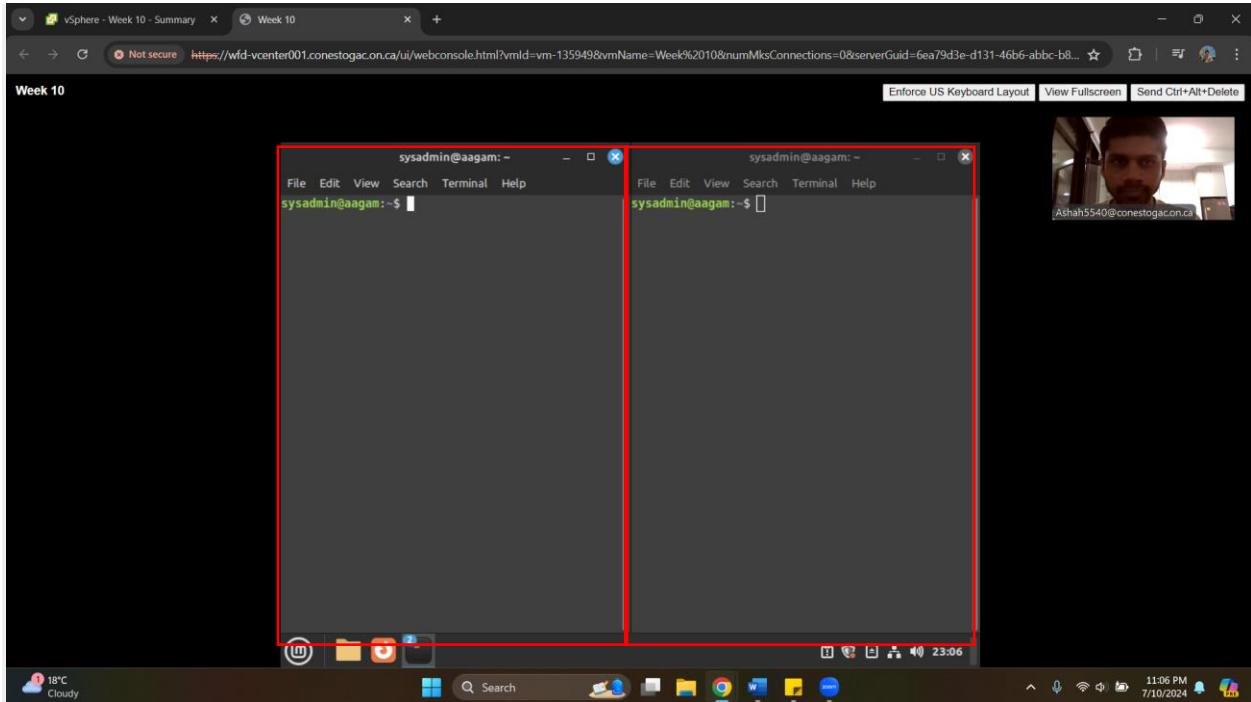
1. Week 10 Slide 12

In Class Task: Processes 1

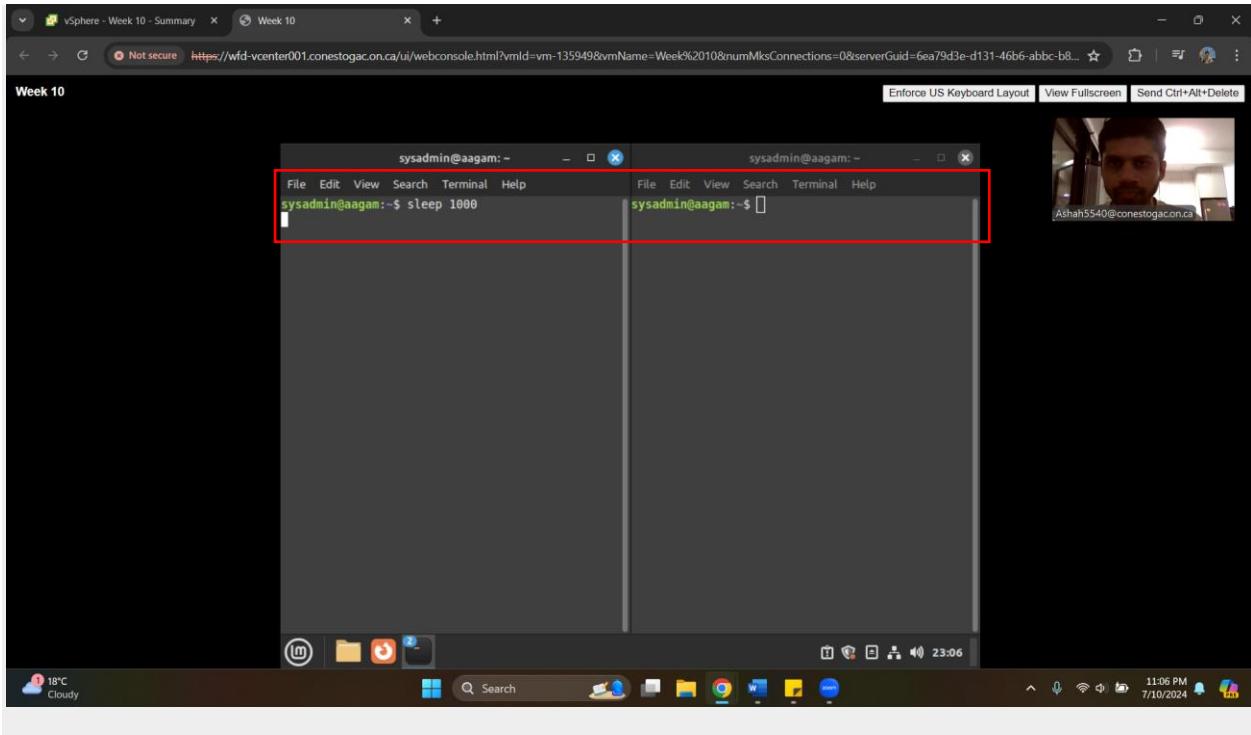
Complete the Real World Scenario: Managing a Running Process in Ch14

MANAGING A RUNNING PROCESS

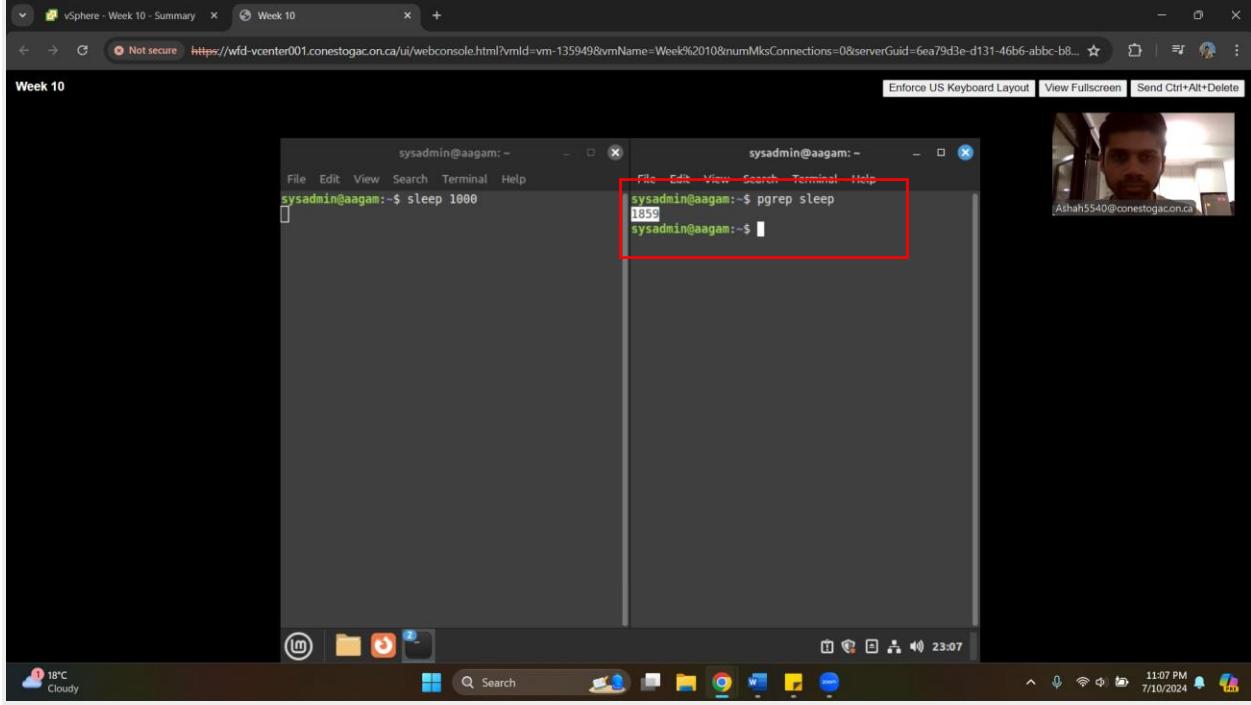
1. Log into your Linux system and open two new command prompt windows. If you're using virtual terminals, open two separate virtual terminal sessions.



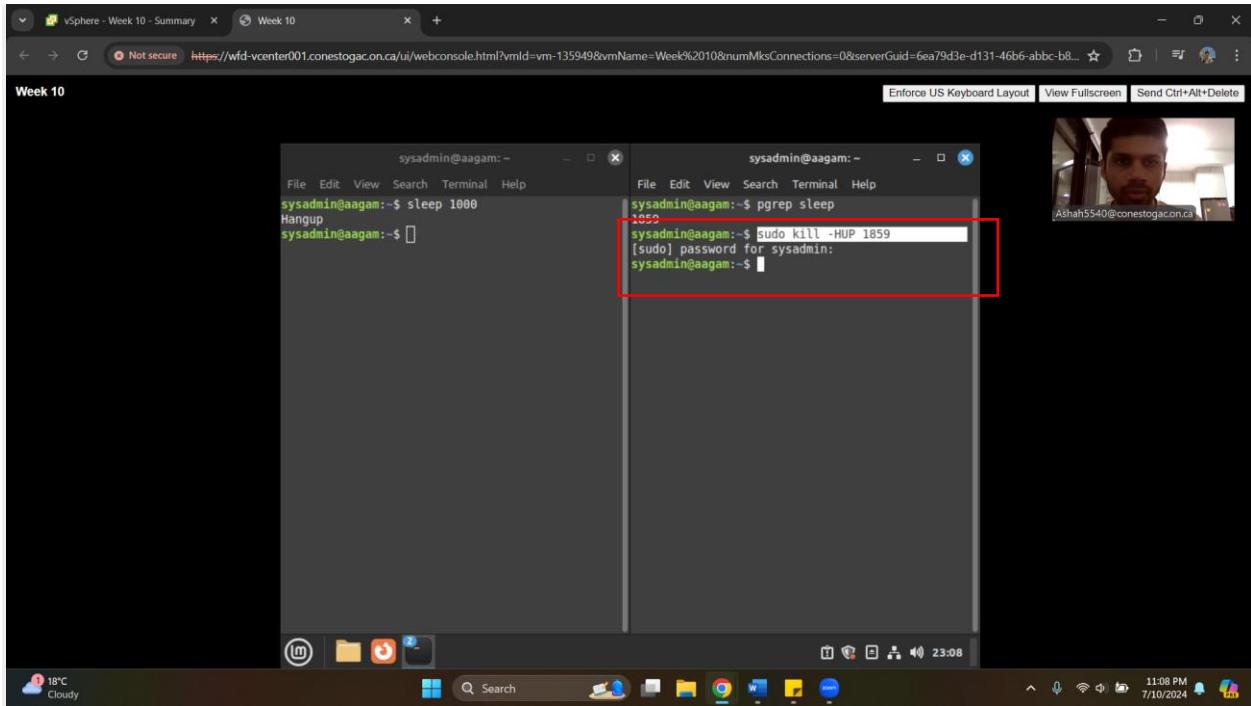
2. In the first command prompt, enter a command to run the `sleep` program for 1,000 seconds by typing `sleep 1000`.



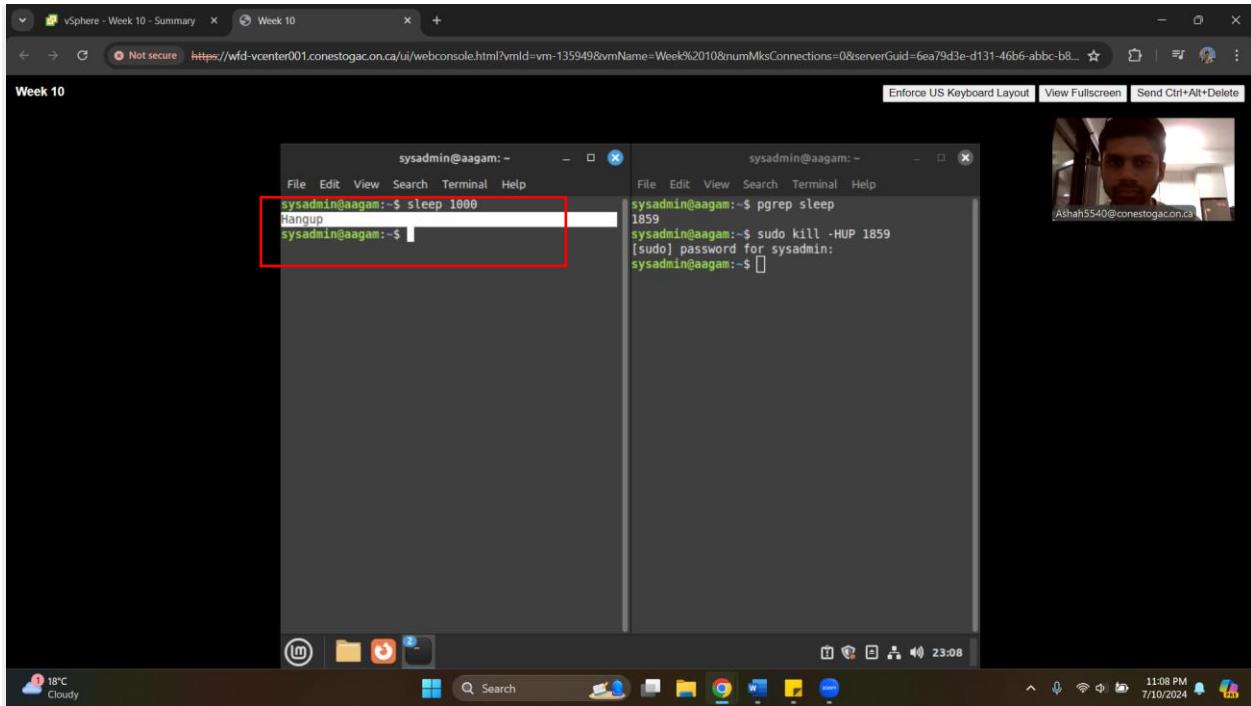
3. In the second command prompt window or virtual terminal session, look for the PID of the sleep program by typing **pgrep sleep**.



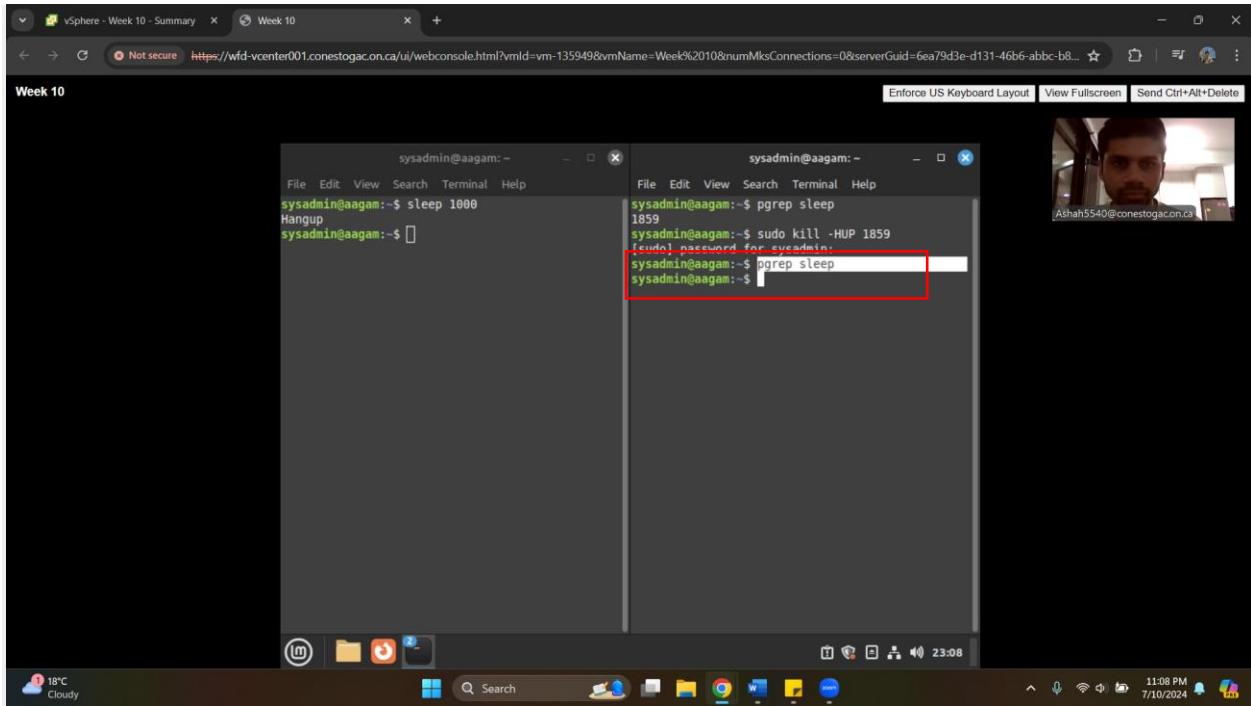
4. Once you know the PID, use the **kill** command to stop it prematurely by typing **sudo kill -HUP pid**, where *pid* is the PID of the sleep program you found in step 3.
→ PID is "1859"



5. Observe the command prompt in the first window. It should return, indicating that the sleep program is no longer running.



6. Check the running processes to ensure the command is no longer running by typing **pgrep sleep**.



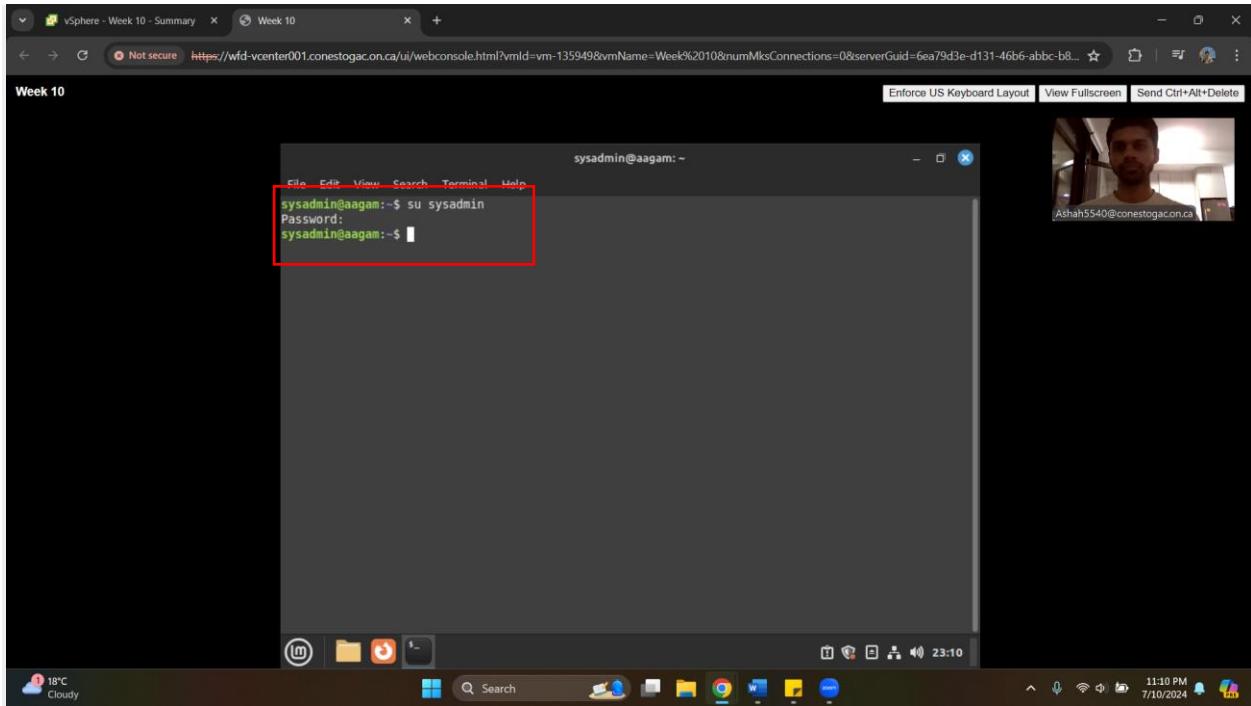
2. Week 10 Slide 25

In Class Task: journalctl 1

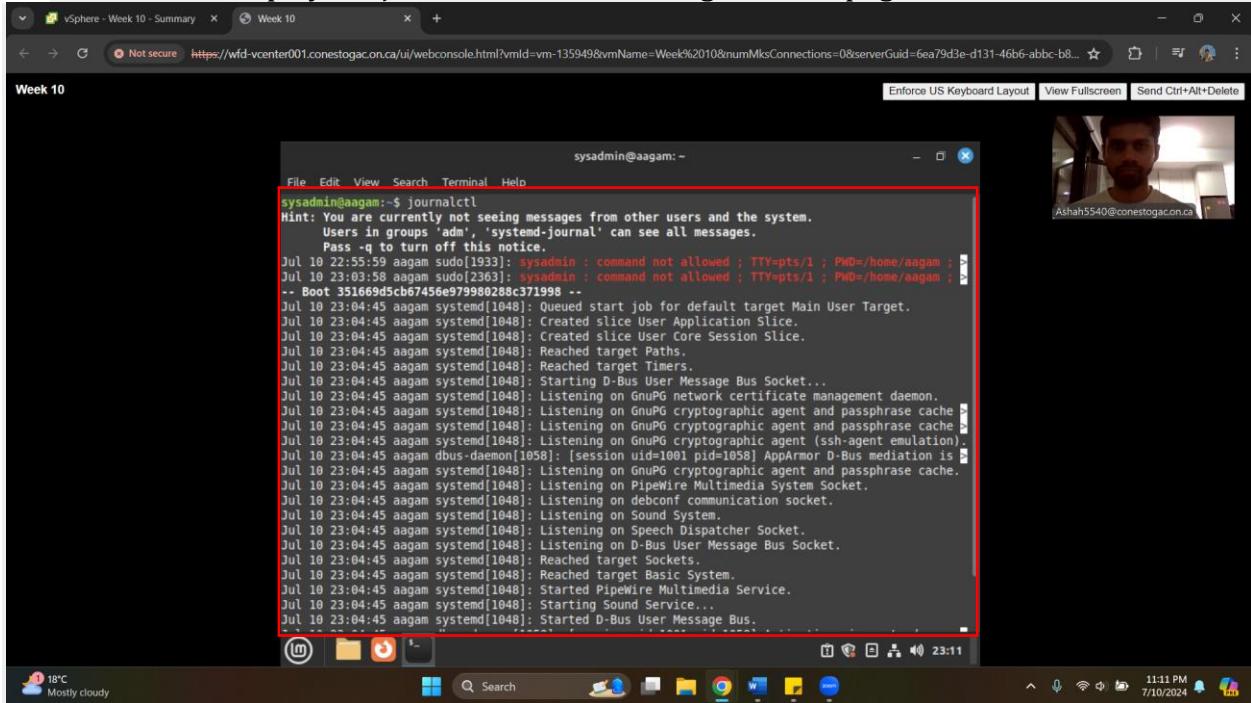
Complete the Real World Scenario: Exploring the Use of the JOURNALCTL Utility in Ch 15
Use the UID match field to filter for entries from your user only.

EXPLORING THE USE OF THE JOURNALCTL UTILITY

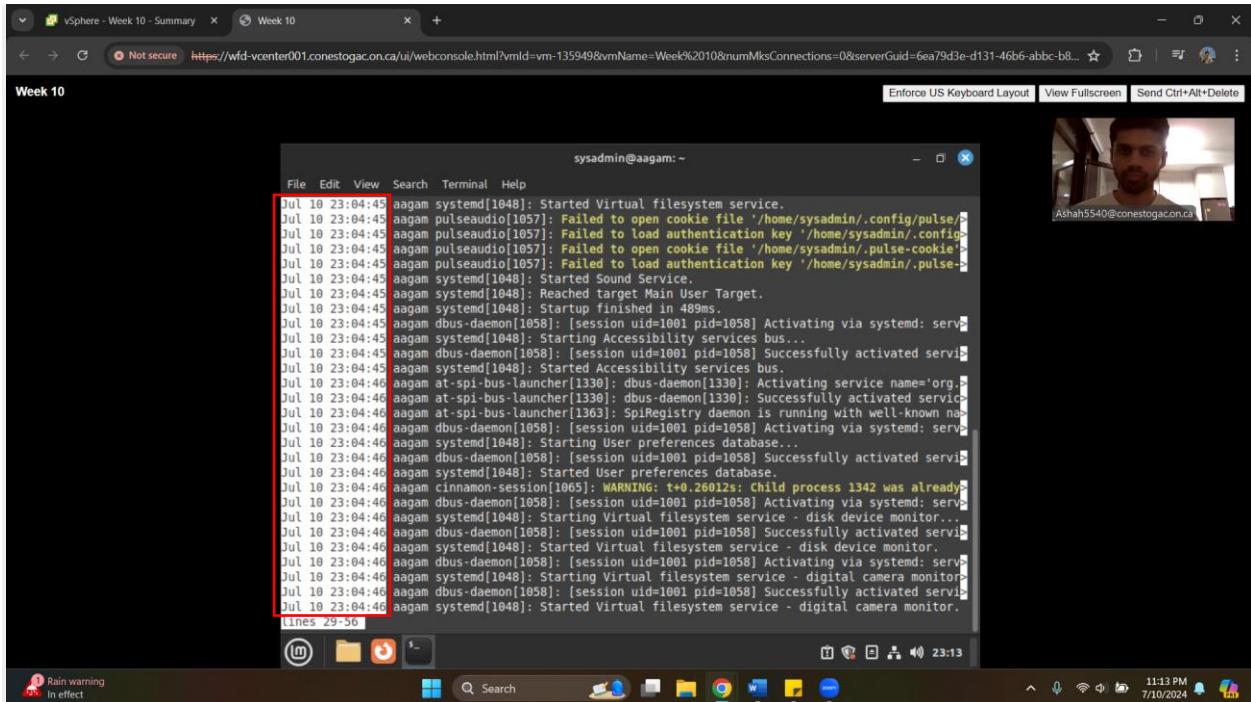
1. If you are on an Ubuntu distribution, log into your Linux system using the `sysadmin` account and the password you created for it. If you are on a Red Hat-based distro, such as CentOS, log into your Linux system using the `root` account and the password you created for it.



2. View the oldest entries in the journal file by typing **journalctl** and pressing Enter. This will display the journal file entries using the **less** pager.



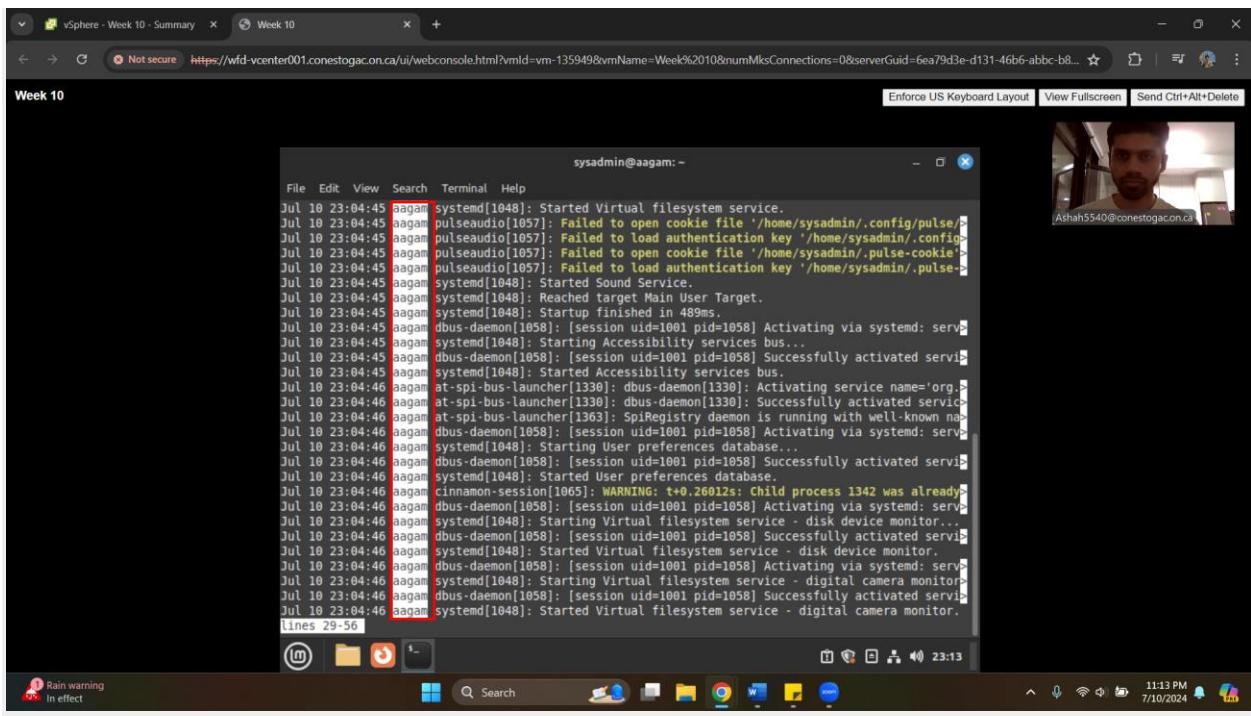
3. Press the spacebar to go to the next page in the journal file display. Notice the date and time stamps to the far left of the display.



A screenshot of a terminal window titled "sysadmin@aagam: ~". The window displays a series of log entries from the system's kernel and user-space daemons. The logs are timestamped from Jul 10 23:04:45 to Jul 10 23:04:46. The log entries include messages about the startup of various services like Virtual filesystem service, Sound Service, and Accessibility services. A red box highlights the first few log entries. The terminal window has a dark theme with white text. The desktop environment around the terminal includes a video call interface with a person named "Ashah5540@conestogacon.ca", a taskbar with icons for search, file explorer, and browser, and a system tray showing the date and time.

```
Jul 10 23:04:45 aagam systemd[1048]: Started Virtual filesystem service.
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to open cookie file '/home/sysadmin/.config/pulse/cookie'
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to load authentication key '/home/sysadmin/.config/pulse/cookie'
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to open cookie file '/home/sysadmin/.pulse-cookie'
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to load authentication key '/home/sysadmin/.pulse-cookie'
Jul 10 23:04:45 aagam systemd[1048]: Started Sound Service.
Jul 10 23:04:45 aagam systemd[1048]: Reached target Main User Target.
Jul 10 23:04:45 aagam systemd[1048]: Startup finished in 489ms.
Jul 10 23:04:45 aagam systemd[1048]: Starting Accessibility services bus...
Jul 10 23:04:45 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.Accessibility'
Jul 10 23:04:45 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:04:45 aagam systemd[1048]: Started Accessibility services bus.
Jul 10 23:04:45 aagam at-spi-bus-launcher[1330]: Activating service name='org.freedesktop.DBus'
Jul 10 23:04:46 aagam at-spi-bus-launcher[1330]: dbus-daemon[1330]: Successfully activated service
Jul 10 23:04:46 aagam at-spi-bus-launcher[1330]: dbus-daemon is running with well-known name 'org.freedesktop.DBus'
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.DBus'
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:04:46 aagam systemd[1048]: Starting User preferences database...
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.Preferences'
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:04:46 aagam cinnamon-session[1065]: WARNING: t+0.26012s: Child process 1342 was already
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.Cinnamon.Session'
Jul 10 23:04:46 aagam systemd[1048]: Starting Virtual filesystem service - disk device monitor...
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:04:46 aagam systemd[1048]: Starting Virtual filesystem service - digital camera monitor...
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:04:46 aagam systemd[1048]: Started Virtual filesystem service - digital camera monitor.
Jul 10 23:04:46 aagam systemd[1048]: Started Virtual filesystem service - digital camera monitor.
Lines 29-56
```

4. Note the system hostname in the display, which should be one column to the right of the date and time stamps. Record the hostname. i.e.: "aagam"



A screenshot of a terminal window titled "sysadmin@aagam: ~". The window displays a series of log entries from the system's kernel and user-space daemons. The logs are timestamped from Jul 10 23:04:45 to Jul 10 23:04:46. The log entries include messages about the startup of various services like Virtual filesystem service, Sound Service, and Accessibility services. A red box highlights the first few log entries. The terminal window has a dark theme with white text. The desktop environment around the terminal includes a video call interface with a person named "Ashah5540@conestogacon.ca", a taskbar with icons for search, file explorer, and browser, and a system tray showing the date and time.

```
Jul 10 23:04:45 aagam systemd[1048]: Started Virtual filesystem service.
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to open cookie file '/home/sysadmin/.config/pulse/cookie'
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to load authentication key '/home/sysadmin/.config/pulse/cookie'
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to open cookie file '/home/sysadmin/.pulse-cookie'
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to load authentication key '/home/sysadmin/.pulse-cookie'
Jul 10 23:04:45 aagam systemd[1048]: Started Sound Service.
Jul 10 23:04:45 aagam systemd[1048]: Reached target Main User Target.
Jul 10 23:04:45 aagam systemd[1048]: Startup finished in 489ms.
Jul 10 23:04:45 aagam systemd[1048]: Starting Accessibility services bus...
Jul 10 23:04:45 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.Accessibility'
Jul 10 23:04:45 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
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Jul 10 23:04:45 aagam at-spi-bus-launcher[1330]: Activating service name='org.freedesktop.DBus'
Jul 10 23:04:46 aagam at-spi-bus-launcher[1330]: dbus-daemon[1330]: Successfully activated service
Jul 10 23:04:46 aagam at-spi-bus-launcher[1330]: dbus-daemon is running with well-known name 'org.freedesktop.DBus'
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.DBus'
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:04:46 aagam systemd[1048]: Starting User preferences database...
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.Preferences'
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:04:46 aagam cinnamon-session[1065]: WARNING: t+0.26012s: Child process 1342 was already
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.Cinnamon.Session'
Jul 10 23:04:46 aagam systemd[1048]: Starting Virtual filesystem service - disk device monitor...
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:04:46 aagam systemd[1048]: Starting Virtual filesystem service - digital camera monitor...
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:04:46 aagam systemd[1048]: Started Virtual filesystem service - digital camera monitor.
Jul 10 23:04:46 aagam systemd[1048]: Started Virtual filesystem service - digital camera monitor.
Lines 29-56
```

5. Press Q to quit out of the less pager.

A screenshot of a terminal window titled "sysadmin@aagam: ~". The window displays a log of system events from July 10, 2024, at 23:04:45. The log includes messages about starting various services like Virtual filesystem service, Sound Service, and Accessibility services bus. It also shows the activation of dbus-daemon and the cinnamon-session. A red box highlights the command "Jul 10 23:04:46 aagam systemd[1048]: Started Virtual filesystem service." at the bottom of the log. The terminal window has a dark background with white text. The desktop environment includes a video call interface on the right showing a person's face, and a taskbar at the bottom with icons for file explorer, search, and other applications.

```
File Edit View Search Terminal Help
sysadmin@aagam: ~
Jul 10 23:04:45 aagam systemd[1048]: Started Virtual filesystem service.
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to open cookie file '/home/sysadmin/.config/pulse/cookie'
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to load authentication key '/home/sysadmin/.config/pulse/cookie'
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to open cookie file '/home/sysadmin/.pulse-cookie'
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to load authentication key '/home/sysadmin/.pulse-cookie'
Jul 10 23:04:45 aagam systemd[1048]: Started Sound Service.
Jul 10 23:04:45 aagam systemd[1048]: Reached target Main User Target.
Jul 10 23:04:45 aagam systemd[1048]: Startup finished in 489ms.
Jul 10 23:04:45 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.DBus'
Jul 10 23:04:45 aagam systemd[1048]: Starting Accessibility services bus...
Jul 10 23:04:45 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:04:45 aagam systemd[1048]: Started Accessibility services bus.
Jul 10 23:04:46 aagam at-spi-bus-launcher[1330]: Activating service name='org.freedesktop.AutostartManager'
Jul 10 23:04:46 aagam at-spi-bus-launcher[1330]: dbus-daemon[1330]: Successfully activated service
Jul 10 23:04:46 aagam at-spi-bus-launcher[1363]: Spidey daemon is running with well-known name
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.DBus'
Jul 10 23:04:46 aagam systemd[1048]: Starting User preferences database...
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:04:46 aagam systemd[1048]: Started User preferences database.
Jul 10 23:04:46 aagam cinnamon-session[1065]: WARNING: t+0.26012s: Child process 1342 was already
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.DBus'
Jul 10 23:04:46 aagam systemd[1048]: Starting Virtual filesystem service - disk device monitor...
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:04:46 aagam systemd[1048]: Started Virtual filesystem service - disk device monitor.
Jul 10 23:04:46 aagam systemd[1048]: Starting Virtual filesystem service - digital camera monitor...
Jul 10 23:04:46 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:04:46 aagam systemd[1048]: Started Virtual filesystem service - digital camera monitor.
Jul 10 23:04:46 aagam systemd[1048]: Started Virtual filesystem service - digital camera monitor.
sysadmin@aagam: $
```

6. View your system's hostname, by typing `echo $HOSTNAME` and pressing Enter. Record the hostname.

A screenshot of a terminal window titled "sysadmin@aagam: ~". The window displays the command "echo \$HOSTNAME" being typed and its output "aagam". A red box highlights the command "sysadmin@aagam: \$ echo \$HOSTNAME" and its output "aagam". The terminal window has a dark background with white text. The desktop environment includes a video call interface on the right showing a person's face, and a taskbar at the bottom with icons for file explorer, search, and other applications.

```
File Edit View Search Terminal Help
sysadmin@aagam: ~
sysadmin@aagam: $ echo $HOSTNAME
aagam
sysadmin@aagam: $
```

7. Determine if the hostnames you recorded in steps 4 and 6 match. They should.
→ Yes, Hostname “**aagam**” matches with steps 4 and 6
8. View the newest entries in the journal file by typing `journalctl -e` and pressing Enter. Take a look at the latest events on your system that have entries in the journal.

Week 10

Enforce US Keyboard Layout View Fullscreen Send Ctrl+Alt+Delete

```

sysadmin@aagam:~$ journalctl -e
Hint: You are currently not seeing messages from other users and the system.
      Users in groups 'adm', 'systemd-journal' can see all messages.
      Pass -q to turn off this notice.
Jul 10 23:04:58 aagam systemd[1048]: Started GNOME Terminal Server.
Jul 10 23:04:58 aagam systemd[1048]: Started VTE child process 1733 launched by gnome-terminal-server
Jul 10 23:05:07 aagam systemd[1048]: Started VTE child process 1755 launched by gnome-terminal-server
Jul 10 23:05:09 aagam org.cinnamon.CalendarServer[1631]: SET TIME: from 2024-06-30T00:00:00-04 to
Jul 10 23:05:09 aagam org.cinnamon.CalendarServer[1631]: Discovered calendar: Birthdays & Anniversaries
Jul 10 23:05:09 aagam org.cinnamon.CalendarServer[1631]: Discovered calendar: Personal
Jul 10 23:05:09 aagam org.cinnamon.CalendarServer[1631]: SET TIME: from 2024-06-30T00:00:00-04 to
Jul 10 23:05:17 aagam cinnamon-session[1065]: WARNING: t+32.08492s: Detected that screensaver has been active for 32 seconds.
Jul 10 23:06:05 aagam systemd[1048]: Started VTE child process 1831 launched by gnome-terminal-server
Jul 10 23:06:23 aagam systemd[1048]: Started VTE child process 1849 launched by gnome-terminal-server
Jul 10 23:07:58 aagam sudo[1865]: sysadmin : TTY=pts/1 ; PWD=/home/sysadmin ; USER=root ; COMMAND=/bin/bash
Jul 10 23:07:58 aagam sudo[1865]: pam_unix(sudo:session): session opened for user root(uid=0) by aagam(uid=1001)
Jul 10 23:07:58 aagam sudo[1865]: pam_unix(sudo:session): session closed for user root
Jul 10 23:09:50 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.DBus'
Jul 10 23:09:50 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:09:50 aagam systemd[1048]: Started GNOME Terminal Server.
Jul 10 23:09:50 aagam systemd[1048]: Started VTE child process 1900 launched by gnome-terminal-server
Jul 10 23:09:50 aagam sudo[1986]: sysadmin : TTY=pts/0 ; PWD=/home/sysadmin ; USER=root ; COMMAND=/bin/bash
Jul 10 23:10:00 aagam sudo[1986]: pam_unix(sudo:session): session opened for user root(uid=0) by aagam(uid=1001)
Jul 10 23:10:18 aagam sudo[1986]: pam_unix(sudo:session): session closed for user root
Jul 10 23:10:19 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.DBus'
Jul 10 23:10:19 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:10:19 aagam systemd[1048]: Starting GNOME Terminal Server...
Jul 10 23:10:19 aagam systemd[1048]: Started GNOME Terminal Server.
Jul 10 23:10:19 aagam systemd[1048]: Started GNOME Terminal Server.

sysadmin@aagam:~
```

11:15 PM 7/10/2024

Week 10

Enforce US Keyboard Layout View Fullscreen Send Ctrl+Alt+Delete

```

sysadmin@aagam:~$ journalctl -e
Hint: You are currently not seeing messages from other users and the system.
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      Pass -q to turn off this notice.
Jul 10 23:04:58 aagam systemd[1048]: Started GNOME Terminal Server.
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Jul 10 23:05:07 aagam systemd[1048]: Started VTE child process 1755 launched by gnome-terminal-server
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Jul 10 23:05:09 aagam org.cinnamon.CalendarServer[1631]: Discovered calendar: Birthdays & Anniversaries
Jul 10 23:05:09 aagam org.cinnamon.CalendarServer[1631]: Discovered calendar: Personal
Jul 10 23:05:09 aagam org.cinnamon.CalendarServer[1631]: SET TIME: from 2024-06-30T00:00:00-04 to
Jul 10 23:05:17 aagam cinnamon-session[1065]: WARNING: t+32.08492s: Detected that screensaver has been active for 32 seconds.
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Jul 10 23:07:58 aagam sudo[1865]: sysadmin : TTY=pts/1 ; PWD=/home/sysadmin ; USER=root ; COMMAND=/bin/bash
Jul 10 23:07:58 aagam sudo[1865]: pam_unix(sudo:session): session opened for user root(uid=0) by aagam(uid=1001)
Jul 10 23:07:58 aagam sudo[1865]: pam_unix(sudo:session): session closed for user root
Jul 10 23:09:50 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.DBus'
Jul 10 23:09:50 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:09:50 aagam systemd[1048]: Started GNOME Terminal Server.
Jul 10 23:09:50 aagam systemd[1048]: Started VTE child process 1900 launched by gnome-terminal-server
Jul 10 23:09:50 aagam sudo[1986]: sysadmin : TTY=pts/0 ; PWD=/home/sysadmin ; USER=root ; COMMAND=/bin/bash
Jul 10 23:10:00 aagam sudo[1986]: pam_unix(sudo:session): session opened for user root(uid=0) by aagam(uid=1001)
Jul 10 23:10:18 aagam sudo[1986]: pam_unix(sudo:session): session closed for user root
Jul 10 23:10:19 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.DBus'
Jul 10 23:10:19 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:10:19 aagam systemd[1048]: Starting GNOME Terminal Server...
Jul 10 23:10:19 aagam systemd[1048]: Started GNOME Terminal Server.
Jul 10 23:10:19 aagam systemd[1048]: Started GNOME Terminal Server.

sysadmin@aagam:~
```

11:15 PM 7/10/2024

Week 10

Enforce US Keyboard Layout View Fullscreen Send Ctrl+Alt+Delete

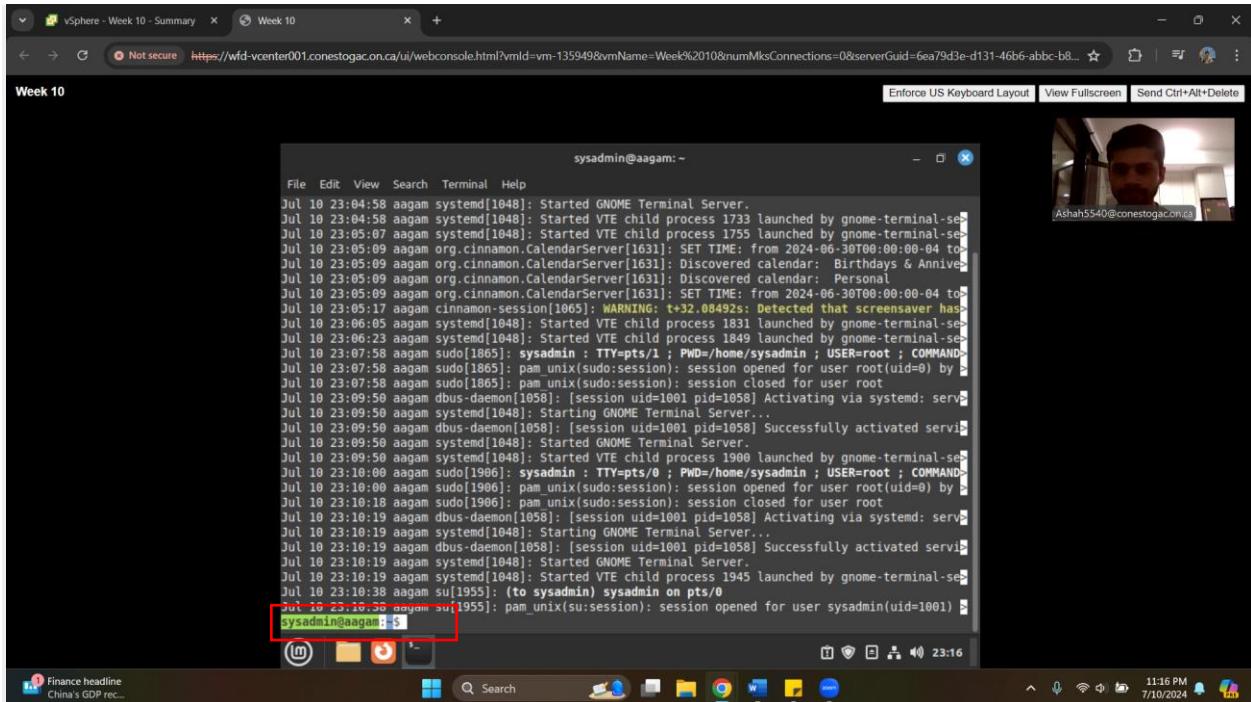
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Jul 10 23:05:09 aagam org.cinnamon.CalendarServer[1631]: Discovered calendar: Personal
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Jul 10 23:09:50 aagam sudo[1986]: sysadmin : TTY=pts/0 ; PWD=/home/sysadmin ; USER=root ; COMMAND=/bin/bash
Jul 10 23:10:00 aagam sudo[1986]: pam_unix(sudo:session): session opened for user root(uid=0) by aagam(uid=1001)
Jul 10 23:10:18 aagam sudo[1986]: pam_unix(sudo:session): session closed for user root
Jul 10 23:10:19 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: service name='org.freedesktop.DBus'
Jul 10 23:10:19 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated service
Jul 10 23:10:19 aagam systemd[1048]: Starting GNOME Terminal Server...
Jul 10 23:10:19 aagam systemd[1048]: Started GNOME Terminal Server.
Jul 10 23:10:19 aagam systemd[1048]: Started GNOME Terminal Server.

sysadmin@aagam:~
```

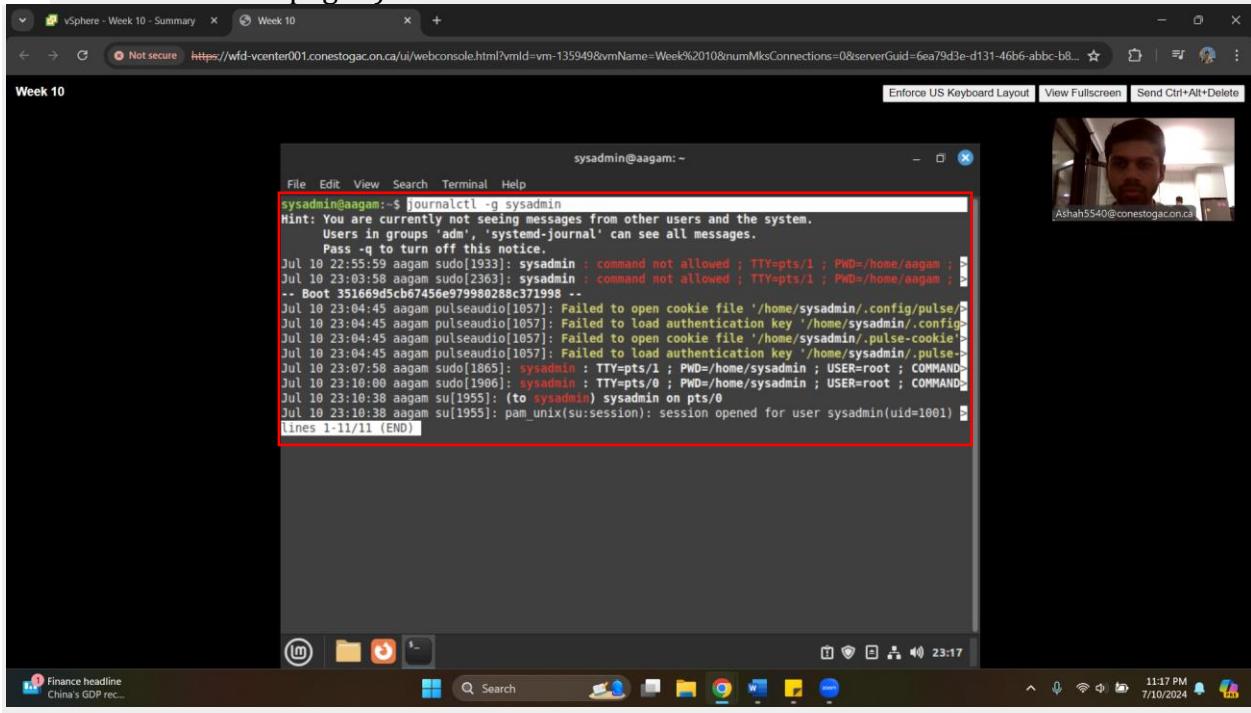
11:15 PM 7/10/2024

9. Press Q to quit out of the less pager.



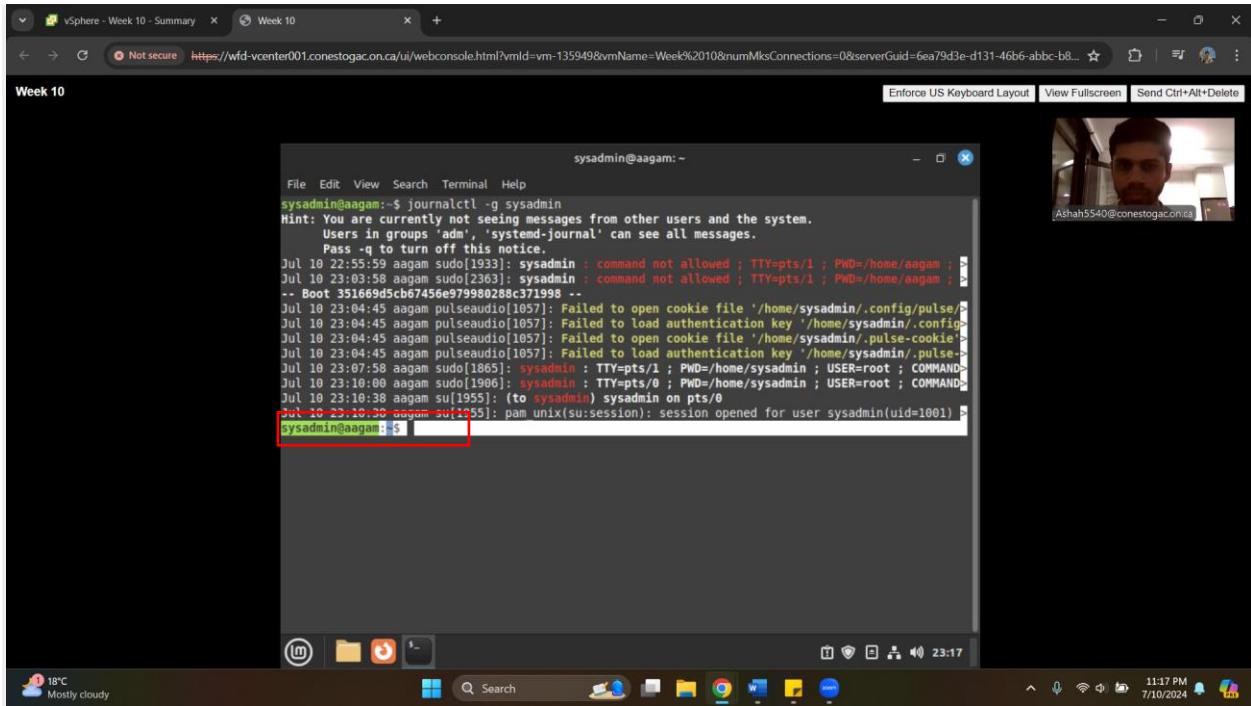
```
sysadmin@aagam: ~
File Edit View Search Terminal Help
Jul 10 23:04:58 aagam systemd[1048]: Started GNOME Terminal Server.
Jul 10 23:04:58 aagam systemd[1048]: Started VTE child process 1733 launched by gnome-terminal-se...
Jul 10 23:05:07 aagam systemd[1048]: Started VTE child process 1755 launched by gnome-terminal-se...
Jul 10 23:05:09 aagam org.cinnamon.CalendarServer[1631]: SET TIME: from 2024-06-30T00:00:00-04 to ...
Jul 10 23:05:09 aagam org.cinnamon.CalendarServer[1631]: Discovered calendar: Birthdays & Anniv...
Jul 10 23:05:09 aagam org.cinnamon.CalendarServer[1631]: Discovered calendar: Personal
Jul 10 23:05:09 aagam org.cinnamon.CalendarServer[1631]: SET TIME: from 2024-06-30T00:00:00-04 to ...
Jul 10 23:05:17 aagam cinnamon-session[1065]: WARNING: t+32.08492s: Detected that screensaver has ...
Jul 10 23:06:05 aagam systemd[1048]: Started VTE child process 1831 launched by gnome-terminal-se...
Jul 10 23:06:23 aagam systemd[1048]: Started VTE child process 1849 launched by gnome-terminal-se...
Jul 10 23:07:58 aagam sudo[1865]: sysadmin : TTY=pts/1 ; PWD=/home/sysadmin ; USER=root ; COMMAND=...
Jul 10 23:07:58 aagam sudo[1865]: pam_unix(sudo:session): session opened for user root(uid=0) by ...
Jul 10 23:07:58 aagam sudo[1865]: pam_unix(sudo:session): session closed for user root
Jul 10 23:09:58 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: serv...
Jul 10 23:09:58 aagam systemd[1048]: Starting GNOME Terminal Server...
Jul 10 23:09:58 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated servi...
Jul 10 23:09:58 aagam systemd[1048]: Started GNOME Terminal Server.
Jul 10 23:09:58 aagam systemd[1048]: Started VTE child process 1900 launched by gnome-terminal-se...
Jul 10 23:10:00 aagam sudo[1986]: sysadmin : TTY=pts/0 ; PWD=/home/sysadmin ; USER=root ; COMMAND=...
Jul 10 23:10:00 aagam sudo[1986]: pam_unix(sudo:session): session opened for user root(uid=0) by ...
Jul 10 23:10:18 aagam sudo[1906]: pam_unix(sudo:session): session closed for user root
Jul 10 23:10:19 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Activating via systemd: serv...
Jul 10 23:10:19 aagam systemd[1048]: Starting GNOME Terminal Server...
Jul 10 23:10:19 aagam dbus-daemon[1058]: [session uid=1001 pid=1058] Successfully activated servi...
Jul 10 23:10:19 aagam systemd[1048]: Started GNOME Terminal Server.
Jul 10 23:10:19 aagam systemd[1048]: Started VTE child process 1945 launched by gnome-terminal-se...
Jul 10 23:10:38 aagam su[1955]: (to sysadmin) sysadmin on pts/0
Jul 10 23:10:38 aagam su[1955]: pam_unix(su:session): session opened for user sysadmin(uid=1001)
sysadmin@aagam: $
```

10. Now, search for particular information in the journal, by typing **journalctl -g sysadmin** and pressing Enter. Look at the various items recorded concerning your sysadmin account. (If there is more than one page of information, press the spacebar to view a few pages.)



```
sysadmin@aagam: ~
File Edit View Search Terminal Help
sysadmin@aagam: ~ $ journalctl -g sysadmin
Hint: You are currently not seeing messages from other users and the system.
      Users in group `adm', `systemd-journal' can see all messages.
      Pass -q to turn off this notice.
Jul 10 22:55:59 aagam sudo[1933]: sysadmin : command not allowed ; TTY=pts/1 ; PWD=/home/aagam ; ...
Jul 10 23:03:58 aagam sudo[2363]: sysadmin : command not allowed ; TTY=pts/1 ; PWD=/home/aagam ; ...
-- Boot 3516695d5cb67456e97998828c371998 --
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to open cookie file '/home/sysadmin/.config/pulse...
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to load authentication key '/home/sysadmin/.config...
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to open cookie file '/home/sysadmin/.pulse-cookie...
Jul 10 23:04:45 aagam pulseaudio[1057]: Failed to load authentication key '/home/sysadmin/.pulse...
Jul 10 23:07:58 aagam sudo[1865]: sysadmin : TTY=pts/1 ; PWD=/home/sysadmin ; USER=root ; COMMAND=...
Jul 10 23:10:00 aagam sudo[1986]: sysadmin : TTY=pts/0 ; PWD=/home/sysadmin ; USER=root ; COMMAND=...
Jul 10 23:10:38 aagam su[1955]: (to sysadmin) sysadmin on pts/0
Jul 10 23:10:38 aagam su[1955]: pam_unix(su:session): session opened for user sysadmin(uid=1001)
(lines 1-11/11 (END))
```

11. Press Q to quit the less pager.



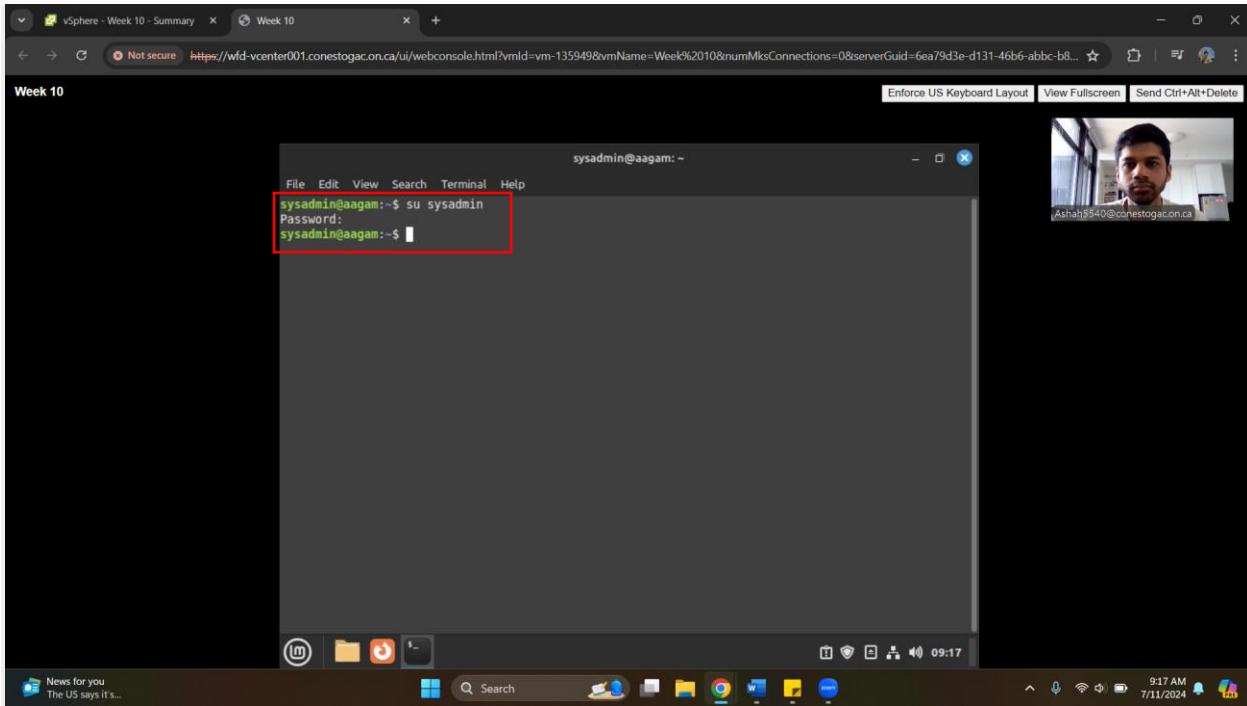
3. Week 10 Slide 28

In Class Task: journalctl 2

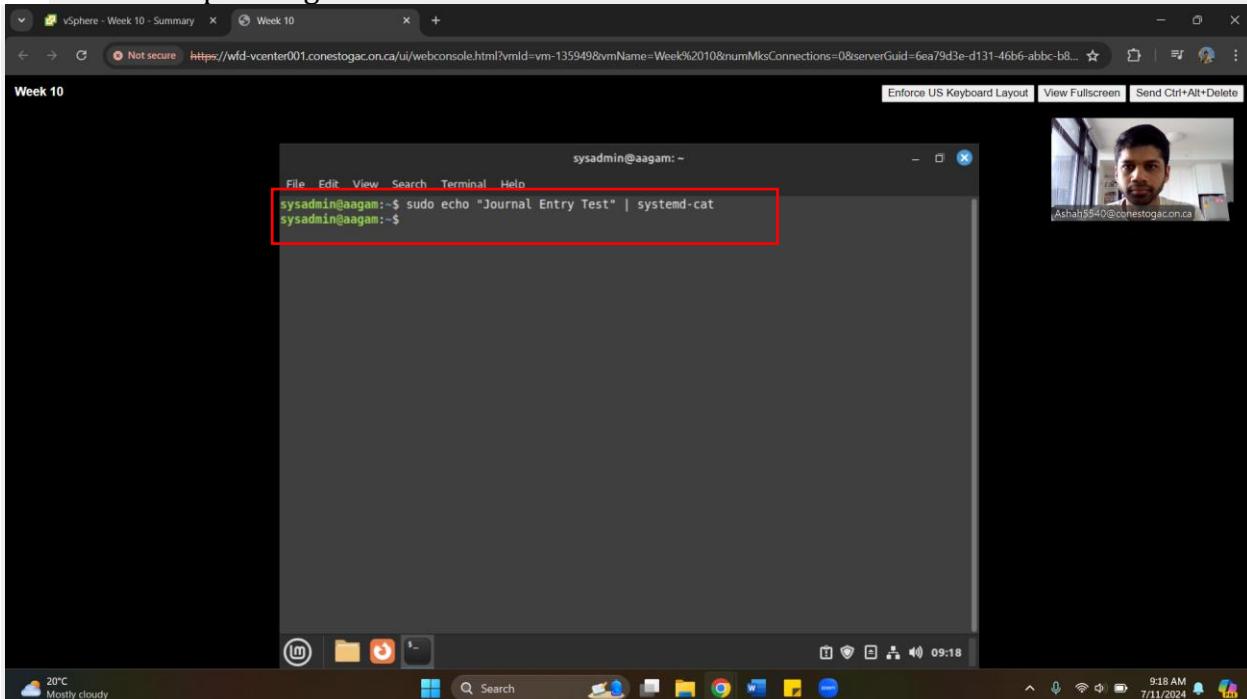
Complete the Real World Scenario: Adding Entries to the Journal Utility in Ch 15

ADDING ENTRIES TO THE JOURNAL

1. If you are on an Ubuntu distribution, log into your Linux system using the `sysadmin` account and the password you created for it. If you are on a Red Hat-based distro, such as CentOS, log into your Linux system using the `root` account and the password you created for it.



2. If you are on an Ubuntu system, create a journal entry by typing **sudo echo "Journal Entry Test" | systemd-cat** and pressing Enter. If you are on a Red Hat-based system, such as CentOS, create a journal entry by typing **echo "Journal Entry Test" | systemd-cat** and pressing Enter.



3. Locate your entry in the journal by typing **journalctl --no-pager -e -g "Journal Entry Test"** and pressing Enter. Do you see your journal entry? You should. If not, go back and reattempt step 2.

→ Yes, I can see the journal entry

```
sysadmin@aagam:~$ journalctl -no-pager -e -g "Journal Entry Test"
Hint: You are currently not seeing messages from other users and the system.
      Users in groups 'adm', 'systemd-journal' can see all messages.
      Pass -q to turn off this notice.
-- Boot 351695d5cb67456e979980288c371998 --
-- Boot b2a65c802ecf4e6e953877ef6b189b70 --
Jul 11 09:18:05 aagam sudo[1816]: sysadmin : TTY=pts/0 ; PWD=/home/sysadmin ; USER=root ; COMMAND=/usr/bin/echo 'Journal Entry Test'
Jul 11 09:18:20 aagam sudo[1822]: sysadmin : TTY=pts/0 ; PWD=/home/sysadmin ; USER=root ; COMMAND=/usr/bin/echo 'Journal Entry Test'
Jul 11 09:18:20 aagam cat[1823]: Journal Entry Test
sysadmin@aagam:~$
```

4. Try adding additional journal entries and then finding them using the appropriate `journalctl` command.

```
sysadmin@aagam:~$ sudo echo "Linux is wonderful" | systemd-cat
sysadmin@aagam:~$ journalctl -no-pager -e -g "Linux is wonderful"
Hint: You are currently not seeing messages from other users and the system.
      Users in groups 'adm', 'systemd-journal' can see all messages.
      Pass -q to turn off this notice.
-- Boot 351695d5cb67456e979980288c371998 --
-- Boot b2a65c802ecf4e6e953877ef6b189b70 --
Jul 11 09:20:33 aagam sudo[1833]: sysadmin : TTY=pts/0 ; PWD=/home/sysadmin ; USER=root ; COMMAND=/usr/bin/echo 'Linux is wonderful'
Jul 11 09:20:33 aagam cat[1834]: Linux is wonderful
sysadmin@aagam:~$
```

A screenshot of a Linux desktop environment. In the top right corner, there is a video call interface showing a person's face. The desktop bar at the bottom has icons for a regional road closure, a search bar, and various application icons. A terminal window titled 'sysadmin@aagam: ~' is open, displaying a log file with several lines of text. One specific line, 'Jul 11 09:20:33 aagam cat[1834]: Linux is wonderful', is highlighted with a red rectangle. The terminal window also shows the command 'cat[1834]' and the message 'Lines 249-276/276 (END)'. The desktop background is a light blue gradient.

```
File Edit View Search Terminal Help
sysadmin@aagam: ~
Jul 11 09:16:10 aagam systemd[1049]: Starting Virtual filesystem metadata service...
Jul 11 09:16:10 aagam dbus-daemon[1059]: [session uid=1001 pid=1059] Successfully activated service com.ubuntu.Upstart-Kernal-Hook
Jul 11 09:16:10 aagam systemd[1049]: Started Virtual filesystem metadata service.
Jul 11 09:16:18 aagam dbus-daemon[1059]: [session uid=1001 pid=1059] Activating via systemd: service name='org.freedesktop.DBus'
Jul 11 09:16:18 aagam systemd[1049]: Created slice Slice /app/org.gnome.Terminal.
Jul 11 09:16:18 aagam systemd[1049]: Starting GNOME Terminal Server...
Jul 11 09:16:18 aagam dbus-daemon[1059]: [session uid=1001 pid=1059] Successfully activated service com.ubuntu.Upstart-Kernel-Hook
Jul 11 09:16:18 aagam systemd[1049]: Started GNOME Terminal Server.
Jul 11 09:16:18 aagam systemd[1049]: Started VTE child process 1714 launched by gnome-terminal-server
Jul 11 09:16:29 aagam pulseaudio[1058]: GetManagedObjects() failed: org.freedesktop.DBus.Error.TimedOut
Jul 11 09:16:29 aagam org.cinnamon.CalendarServer[1609]: SET TIME: from 2024-06-30T00:00:00-04 to 2024-07-01T00:00:00+00
Jul 11 09:16:29 aagam org.cinnamon.CalendarServer[1609]: Discovered calendar: Birthdays & Anniversaries
Jul 11 09:16:29 aagam org.cinnamon.CalendarServer[1609]: Discovered calendar: Personal
Jul 11 09:16:29 aagam org.cinnamon.CalendarServer[1609]: SET TIME: from 2024-06-30T00:00:00-04 to 2024-07-01T00:00:00+00
Jul 11 09:16:38 aagam cinnamon-session[1066]: WARNING: t+32.1252s: Detected that screensaver has been active for 32.1252s
Jul 11 09:17:00 aagam su[1805]: (to sysadmin) sysadmin on pts/0
Jul 11 09:18:05 aagam sudo[1816]: sysadmin : TTY=pts/0 ; PWD=/home/sysadmin ; USER=root ; COMMAND=/bin/cat
Jul 11 09:18:05 aagam sudo[1816]: pam_unix(sudo:session): session opened for user root(uid=0) by aagam(uid=1001)
Jul 11 09:18:20 aagam sudo[1822]: sysadmin : TTY=pts/0 ; PWD=/home/sysadmin ; USER=root ; COMMAND=/bin/cat
Jul 11 09:18:20 aagam sudo[1822]: pam_unix(sudo:session): session opened for user root(uid=0) by aagam(uid=1001)
Jul 11 09:18:20 aagam sudo[1822]: pam_unix(sudo:session): session closed for user root
Jul 11 09:18:20 aagam sudo[1823]: Journal Entry Test
Jul 11 09:20:33 aagam cat[1833]: sysadmin : TTY=pts/0 ; PWD=/home/sysadmin ; USER=root ; COMMAND=/bin/cat
Jul 11 09:20:33 aagam sudo[1833]: pam_unix(sudo:session): session opened for user root(uid=0) by aagam(uid=1001)
Jul 11 09:20:33 aagam sudo[1834]: pam_unix(sudo:session): session closed for user root
Jul 11 09:20:33 aagam cat[1834]: Linux is wonderful
Lines 249-276/276 (END)
```

4. Week 10 Slide 36

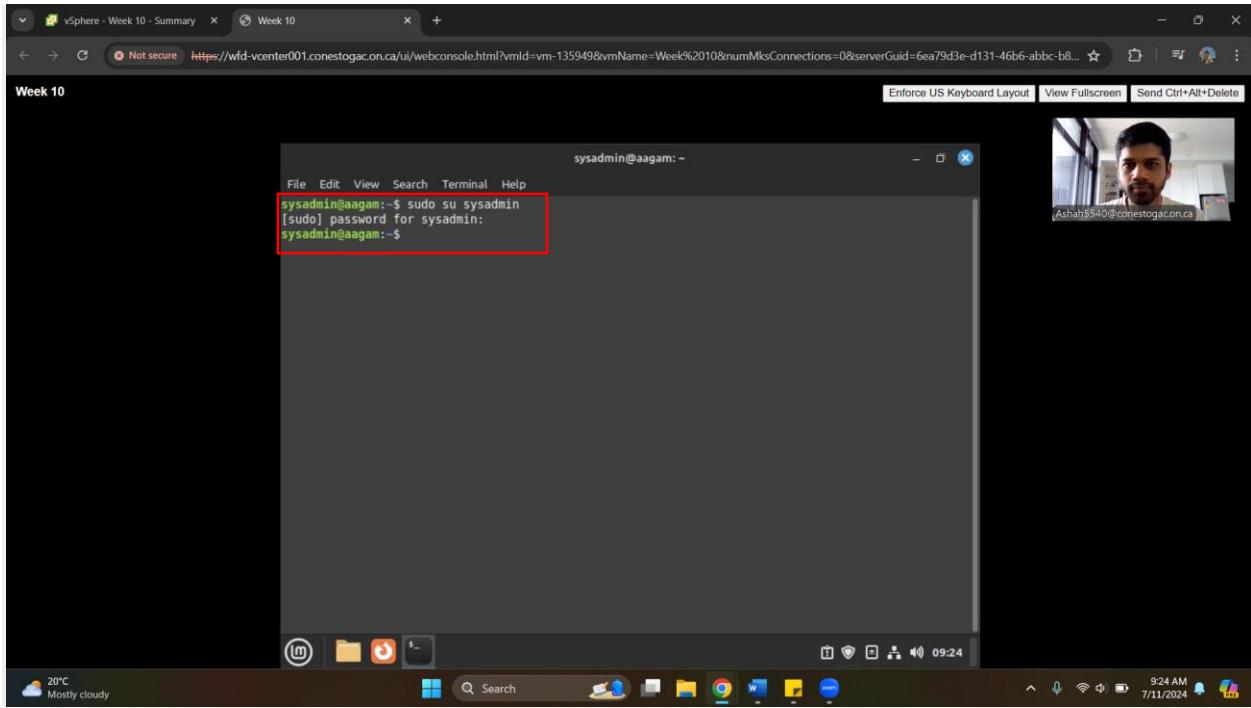
In Class Task: rsyslog

Complete the Real World Scenario: Looking at the rsyslog Configuration

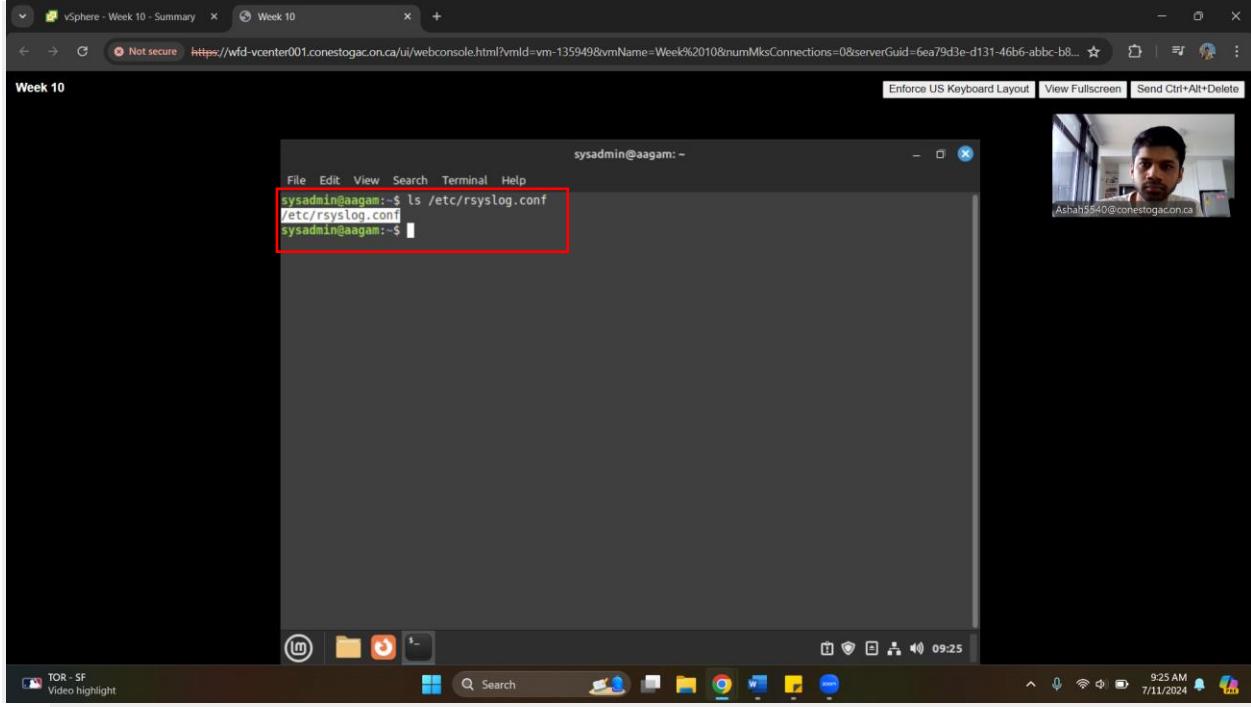
Files in Ch 15

LOOKING AT THE RSYSLOG CONFIGURATION FILES

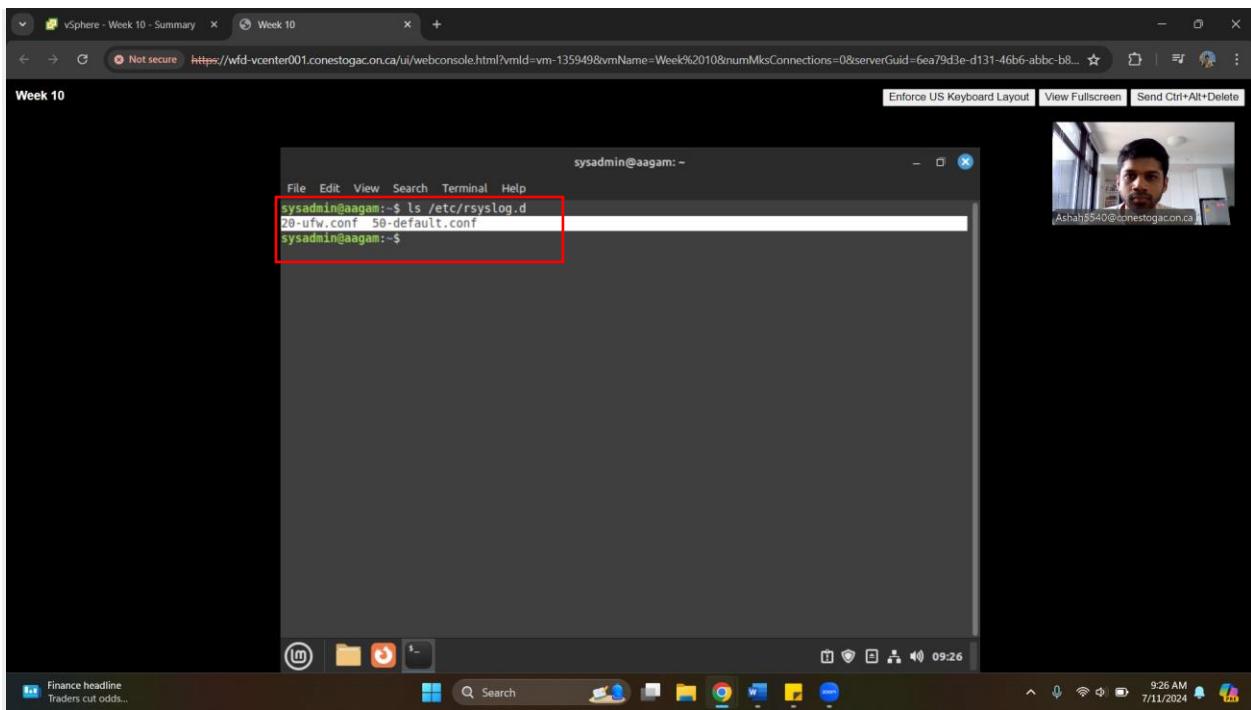
1. Log into your Linux system using the `sysadmin` account and the password you created for it.



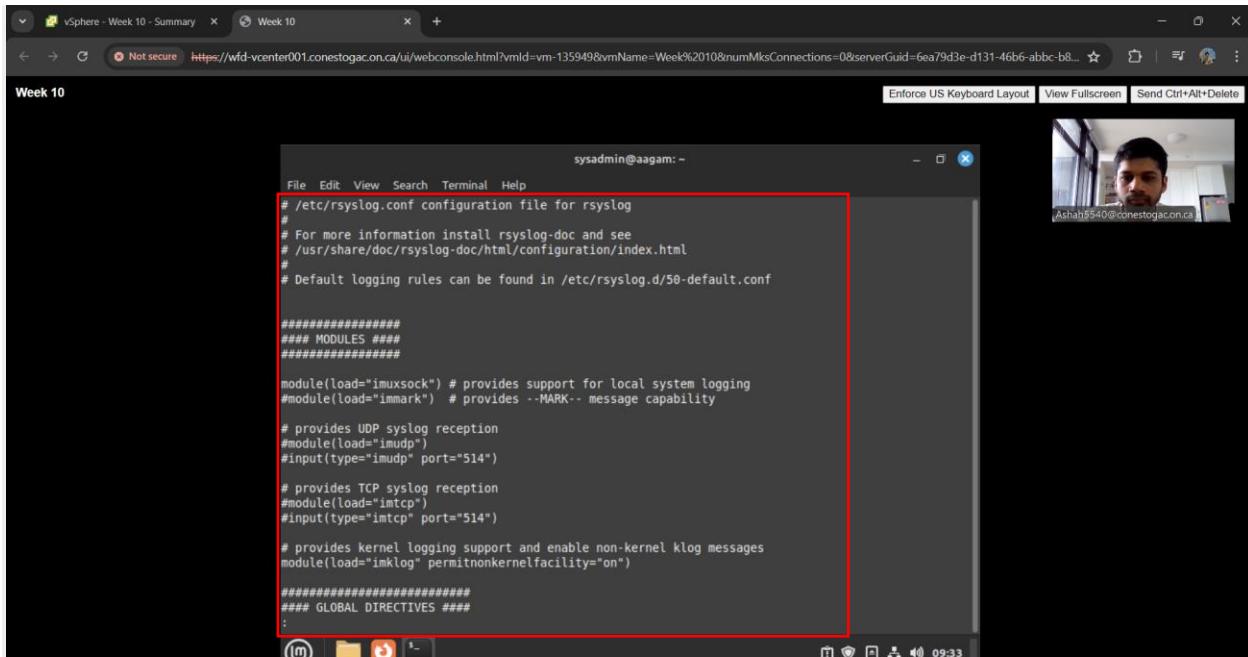
2. Determine if the rsyslog configuration is on your system, by typing `ls /etc/rsyslog.conf` and pressing Enter. If the configuration file is on your system, continue with these steps. If it is not, then there is no need to continue, because your system does not have rsyslog.



3. Determine if there are any configurations files in the `/etc/rsyslog.d/` directory by typing `ls /etc/rsyslog.d/` and pressing Enter. Do you see files? If so, record their names.
→ 20-ufw.conf, 50-default.conf



4. Take a look at the rsyslog configuration file's contents by typing `less /etc/rsyslog.conf` and pressing Enter. Stay in the `less` pager for the next several steps.



```

sysadmin@aagam: ~
File Edit View Search Terminal Help
# /etc/rsyslog.conf configuration file for rsyslog
#
# For more information install rsyslog-doc and see
# /usr/share/doc/rsyslog-doc/html/configuration/index.html
#
# Default logging rules can be found in /etc/rsyslog.d/50-default.conf

#####
### MODULES #####
#####

module(load="imuxsock") # provides support for local system logging
#module(load="immark") # provides --MARK-- message capability

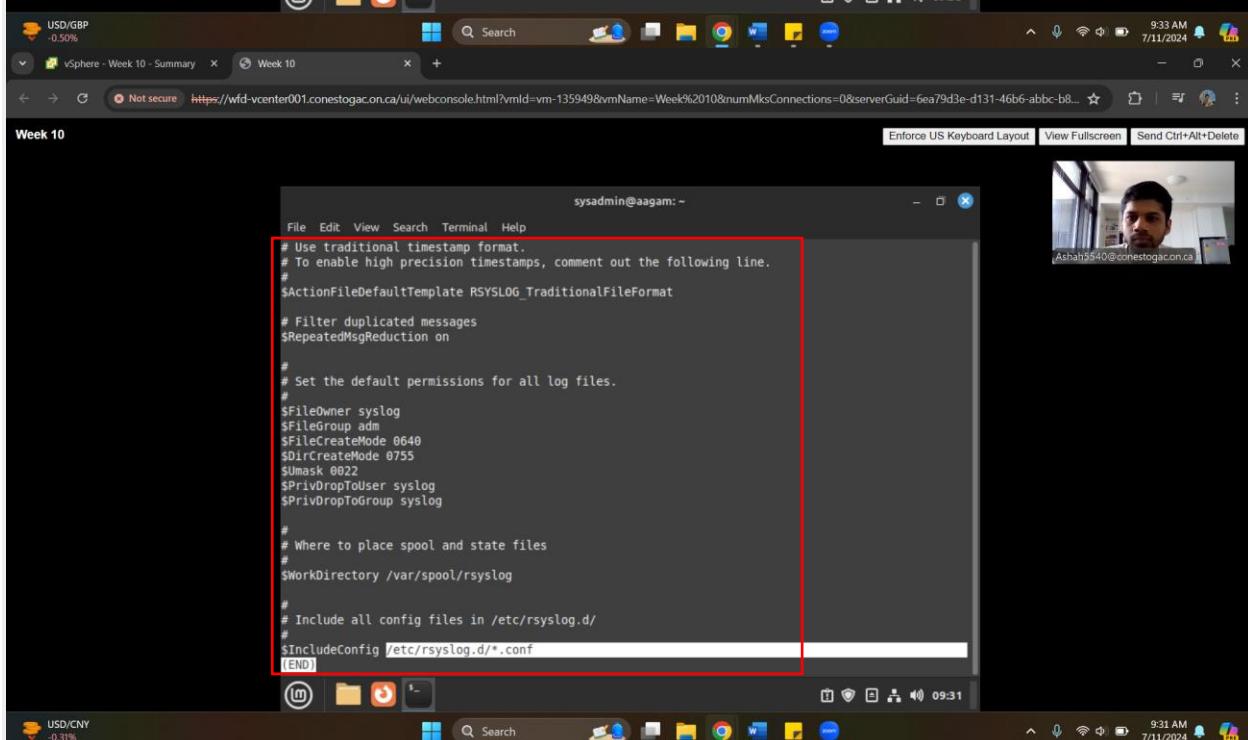
# provides UDP syslog reception
#module(load="imudp")
#input(type="imudp" port="514")

# provides TCP syslog reception
#module(load="imtcp")
#input(type="imtcp" port="514")

# provides kernel logging support and enable non-kernel klog messages
module(load="imklog" permitnonkernelfacility="on")

#####
### GLOBAL DIRECTIVES ###
:

```

```

sysadmin@aagam: ~
File Edit View Search Terminal Help
# Use traditional timestamp format.
# To enable high precision timestamps, comment out the following line.
#
$ActionFileDefaultTemplate RSYSLOG_TraditionalFileFormat

# Filter duplicated messages
$RepeatedMsgReduction on

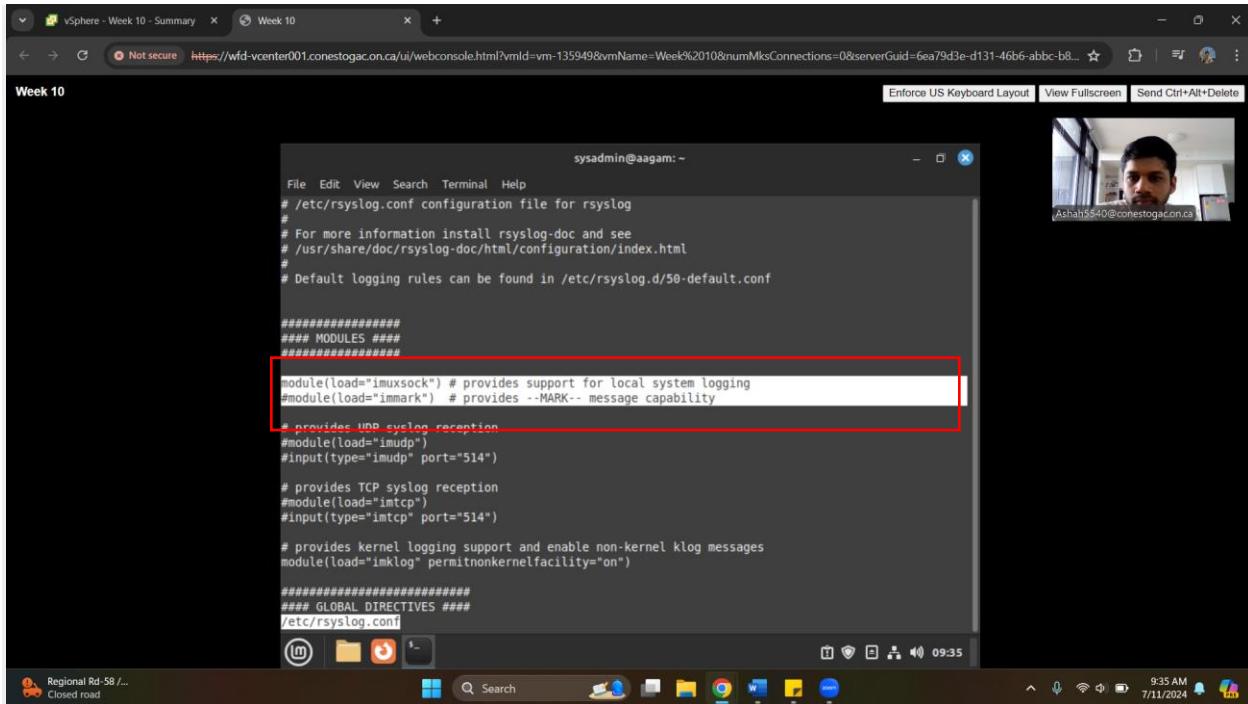
#
# Set the default permissions for all log files.
#
$FileOwner syslog
$FileGroup adm
$FileCreateMode 0640
$DirCreateMode 0755
$UMask 0022
$PrivDropToUser syslog
$PrivDropToGroup syslog

#
# Where to place spool and state files
#
$WorkDirectory /var/spool/rsyslog

#
# Include all config files in /etc/rsyslog.d/
#
$IncludeConfig /etc/rsyslog.d/*.conf
(END)

```

5. From the journal client method information covered in the preceding “Layering Your Logging” section, as well as the modules loaded through your system's `/etc/rsyslog.conf` file, determine whether your rsyslog application is acting as a journal client.



```
sysadmin@aagam: ~
File Edit View Search Terminal Help
# /etc/rsyslog.conf configuration file for rsyslog
#
# For more information install rsyslog-doc and see
# /usr/share/doc/rsyslog-doc/html/configuration/index.html
#
# Default logging rules can be found in /etc/rsyslog.d/50-default.conf

#####
### MODULES #####
#####

module(load="imuxsock") # provides support for local system logging
#module(load="immark") # provides --MARK-- message capability

# provides UDP syslog reception
#module(load="imudp")
#input(type="imudp" port="514")

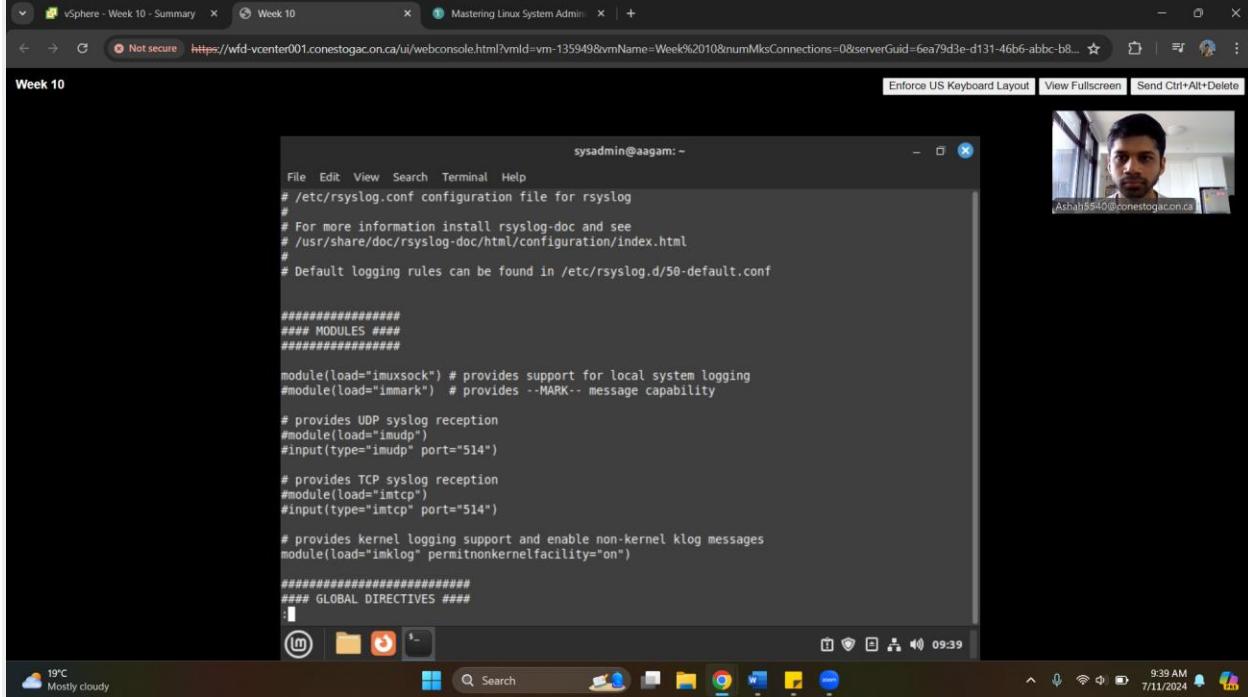
# provides TCP syslog reception
#module(load="imtcp")
#input(type="imtcp" port="514")

# provides kernel logging support and enable non-kernel klog messages
module(load="imklog" permittnonkernelfacility="on")

#####
### GLOBAL DIRECTIVES #####
/etc/rsyslog.conf
```

6. From the information covered in “The syslog Protocol” and “Basic Logging Using *rsyslogd*” sections in this chapter, locate the syslog protocol severity value of `emerg` in the `/etc/rsyslog.conf` file. If you find it here, record what happens when this type of event occurs on the system.

→ I didn't see any “`emerg`” severity level value in the `/etc/rsyslog.conf` file.



```
sysadmin@aagam: ~
File Edit View Search Terminal Help
# /etc/rsyslog.conf configuration file for rsyslog
#
# For more information install rsyslog-doc and see
# /usr/share/doc/rsyslog-doc/html/configuration/index.html
#
# Default logging rules can be found in /etc/rsyslog.d/50-default.conf

#####
### MODULES #####
#####

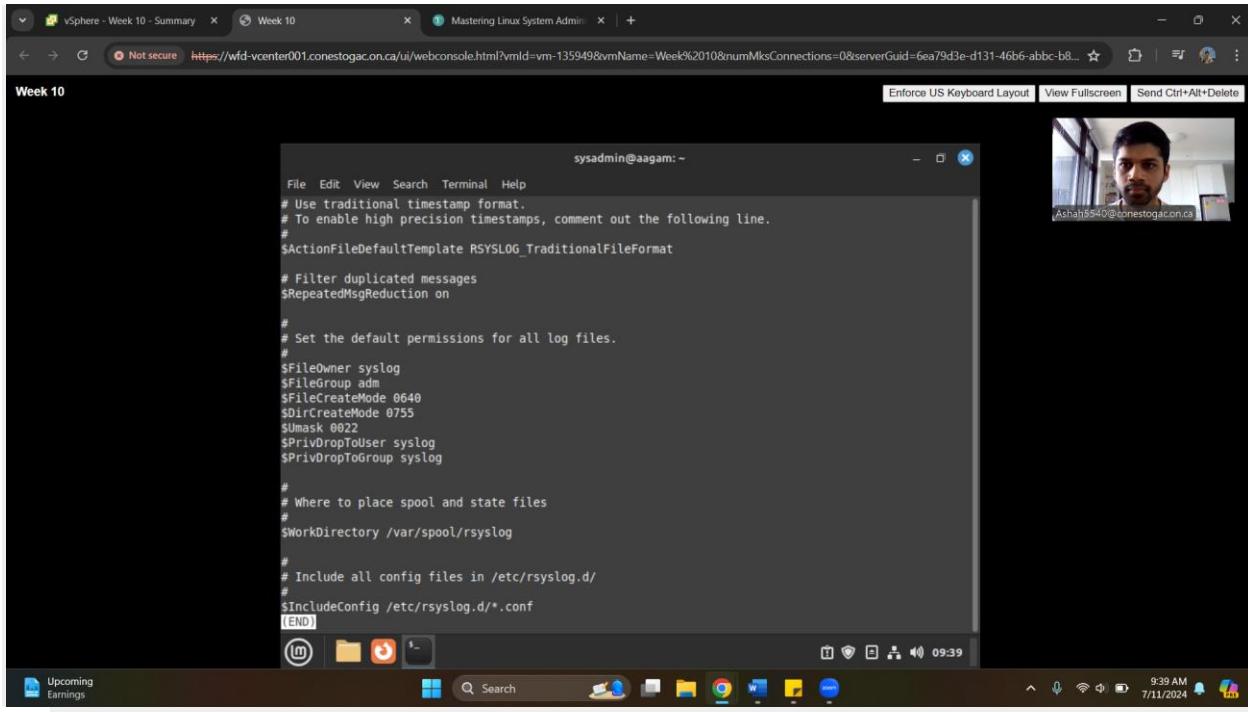
module(load="imuxsock") # provides support for local system logging
#module(load="immark") # provides --MARK-- message capability

# provides UDP syslog reception
#module(load="imudp")
#input(type="imudp" port="514")

# provides TCP syslog reception
#module(load="imtcp")
#input(type="imtcp" port="514")

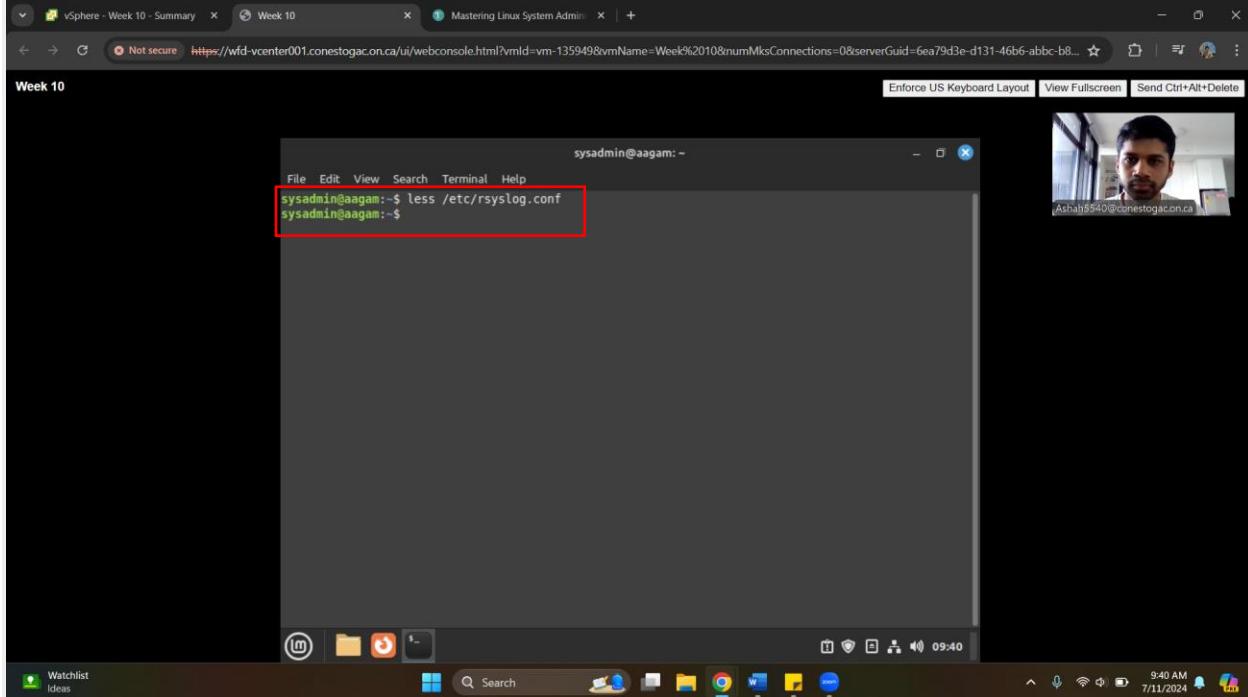
# provides kernel logging support and enable non-kernel klog messages
module(load="imklog" permittnonkernelfacility="on")

#####
### GLOBAL DIRECTIVES #####
:/
```



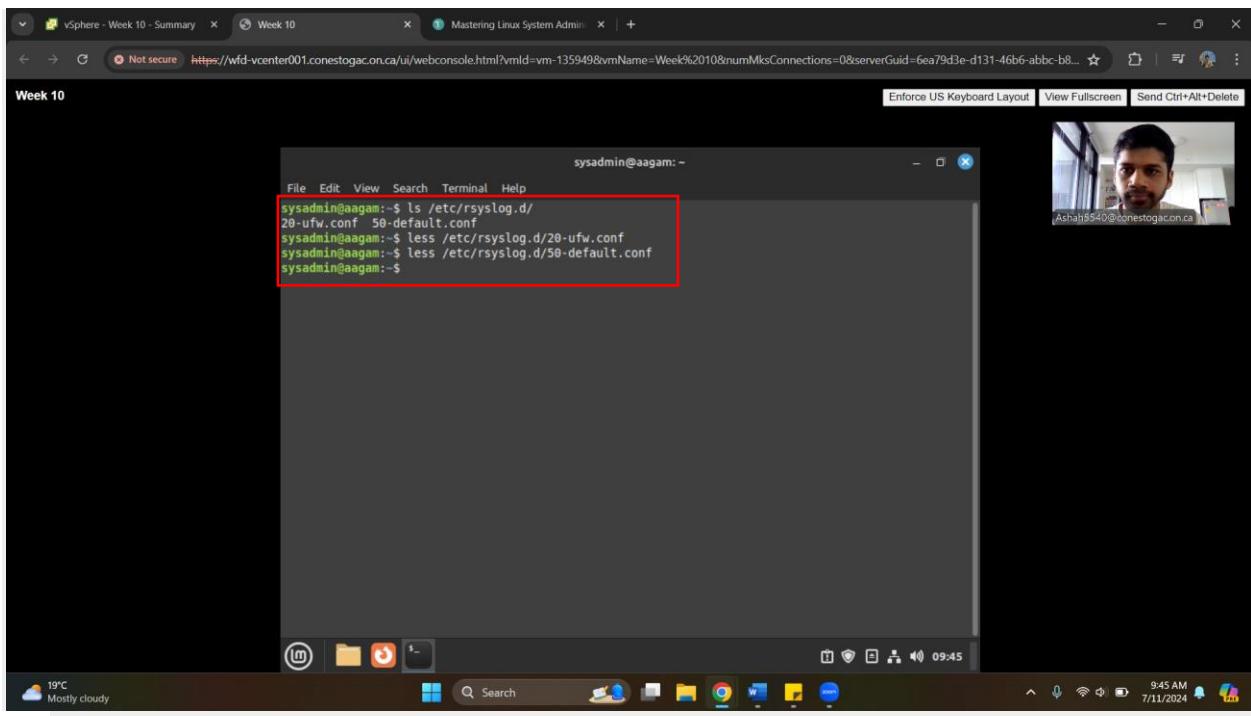
```
sysadmin@aagam: ~
File Edit View Search Terminal Help
# Use traditional timestamp format.
# To enable high precision timestamps, comment out the following line.
#
$ActionFileDefaultTemplate RSYSLOG_TraditionalFileFormat
#
# Filter duplicated messages
$RepeatedMsgReduction on
#
# Set the default permissions for all log files.
#
$fileOwner syslog
$fileGroup adm
$fileCreateMode 0640
$dirCreateMode 0755
$umask 0022
$PrivDropToUser syslog
$PrivDropToGroup syslog
#
# Where to place spool and state files
#
$workDirectory /var/spool/rsyslog
#
# Include all config files in /etc/rsyslog.d/
#
$IncludeConfig /etc/rsyslog.d/*.conf
(END)
```

7. Press q to quit the less pager.



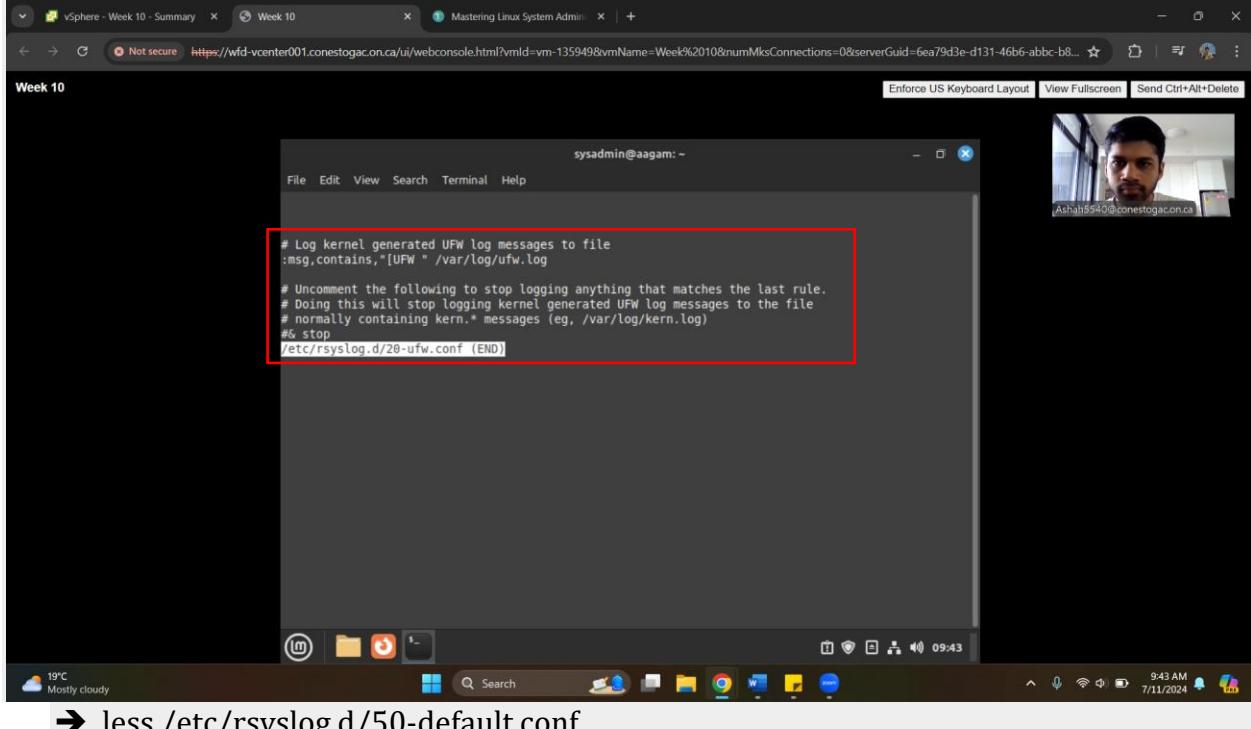
```
sysadmin@aagam: ~
File Edit View Search Terminal Help
sysadmin@aagam:~$ less /etc/rsyslog.conf
sysadmin@aagam:~$
```

8. If in step 6, you did not locate the `emerg` severity value in the `/etc/rsyslog.conf` file, and you have files in the `/etc/rsyslog.d/` directory, look through those files for what happens when this type of event occurs on the system, and record your findings.



```
sysadmin@aagam: ~
File Edit View Search Terminal Help
sysadmin@aagam:~$ ls /etc/rsyslog.d/
20-ufw.conf 50-default.conf
sysadmin@aagam:~$ less /etc/rsyslog.d/20-ufw.conf
sysadmin@aagam:~$ less /etc/rsyslog.d/50-default.conf
sysadmin@aagam:~$
```

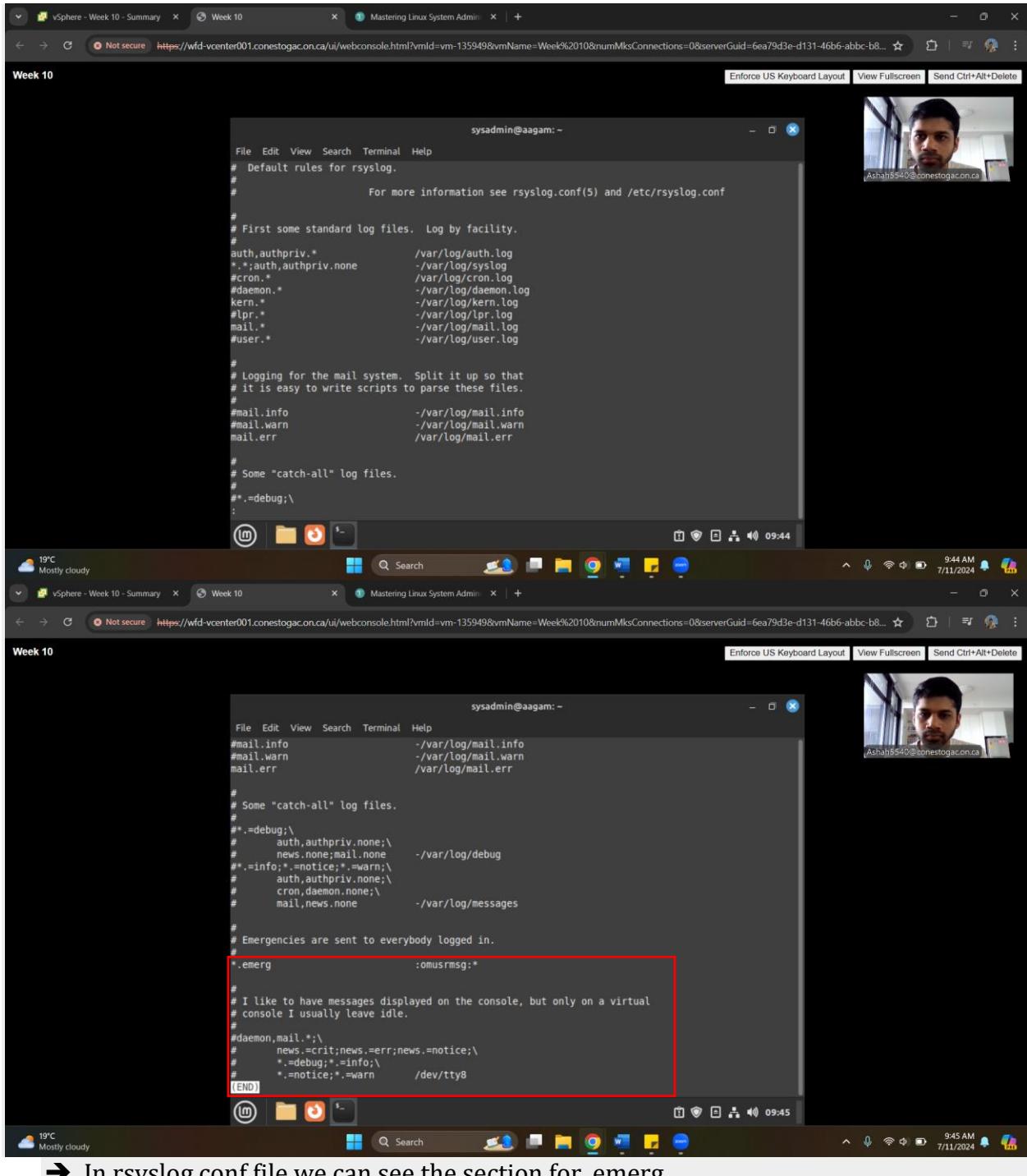
→ less /etc/rsyslog.d/20-ufw.conf



```
sysadmin@aagam: ~
File Edit View Search Terminal Help
# Log kernel generated UFW log messages to file
:msg,contains,"[UFW" /var/log/ufw.log

# Uncomment the following to stop logging anything that matches the last rule.
# Doing this will stop logging kernel generated UFW log messages to the file
# normally containing kern.* messages (eg, /var/log/kern.log)
#& stop
/etc/rsyslog.d/20-ufw.conf {END}
```

→ less /etc/rsyslog.d/50-default.conf



```

sysadmin@aagam: ~
File Edit View Search Terminal Help
# Default rules for rsyslog.
#
# For more information see rsyslog.conf(5) and /etc/rsyslog.conf
#
# First some standard log files. Log by facility.
#
auth,authpriv.*          /var/log/auth.log
*.auth,authpriv.none      /var/log/syslog
#cron.*                   /var/log/cron.log
#daemon.*                 /var/log/daemon.log
kern.*                    /var/log/kern.log
#lpr.*                     /var/log/lpr.log
mail.*                    /var/log/mail.log
#user.*                   /var/log/user.log

#
# Logging for the mail system. Split it up so that
# it is easy to write scripts to parse these files.
#
#mail.info                /var/log/mail.info
#mail.warn                /var/log/mail.warn
mail.err                  /var/log/mail.err

#
# Some "catch-all" log files.
#
#*=debug; \
:

```

19°C Mostly cloudy

Week 10 Not secure https://wfd-vcenter001.conestogac.on.ca/ui/webconsole.html?vmId=vm-135949&vmName=Week%2010&numMksConnections=0&serverGuid=6ea79d3e-d131-46b6-abbc-b8... Enforce US Keyboard Layout View Fullscreen Send Ctrl+Alt+Delete

9:44 AM 7/11/2024

```

sysadmin@aagam: ~
File Edit View Search Terminal Help
#mail.info              -/var/log/mail.info
#mail.warn              -/var/log/mail.warn
mail.err                /var/log/mail.err

#
# Some "catch-all" log files.
#
#*=debug; \
# auth,authpriv.none; \
# news.none;mail.none   -/var/log/debug
#*.info;*.notice;*.warn; \
# auth,authpriv.none; \
# cron,daemon.none; \
# mail,news.none        -/var/log/messages

#
# Emergencies are sent to everybody logged in.
#
*.emerg                 :omusrmsg:*

#
# I like to have messages displayed on the console, but only on a virtual
# console I usually leave idle.
#
#daemon,mail.*; \
# news.=crit;news.=err;news.=notice; \
# *=debug;*.info; \
# *.=notice;*.=warn     /dev/tty8
(END)

```

19°C Mostly cloudy

Week 10 Not secure https://wfd-vcenter001.conestogac.on.ca/ui/webconsole.html?vmId=vm-135949&vmName=Week%2010&numMksConnections=0&serverGuid=6ea79d3e-d131-46b6-abbc-b8... Enforce US Keyboard Layout View Fullscreen Send Ctrl+Alt+Delete

9:45 AM 7/11/2024

→ In rsyslog.conf file we can see the section for .emerg

5. Week 10 Slide 44

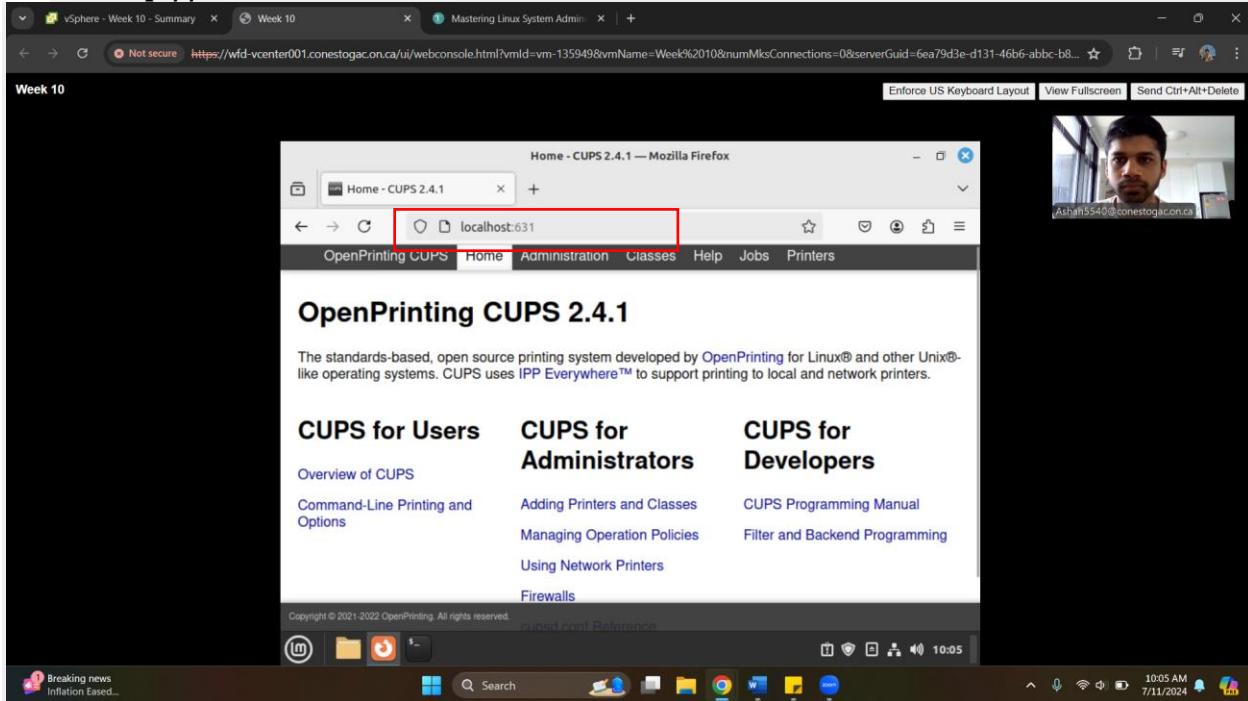
In Class Task: CUPS

Complete the Real World Scenario: Creating a Test Printer in Ch 16

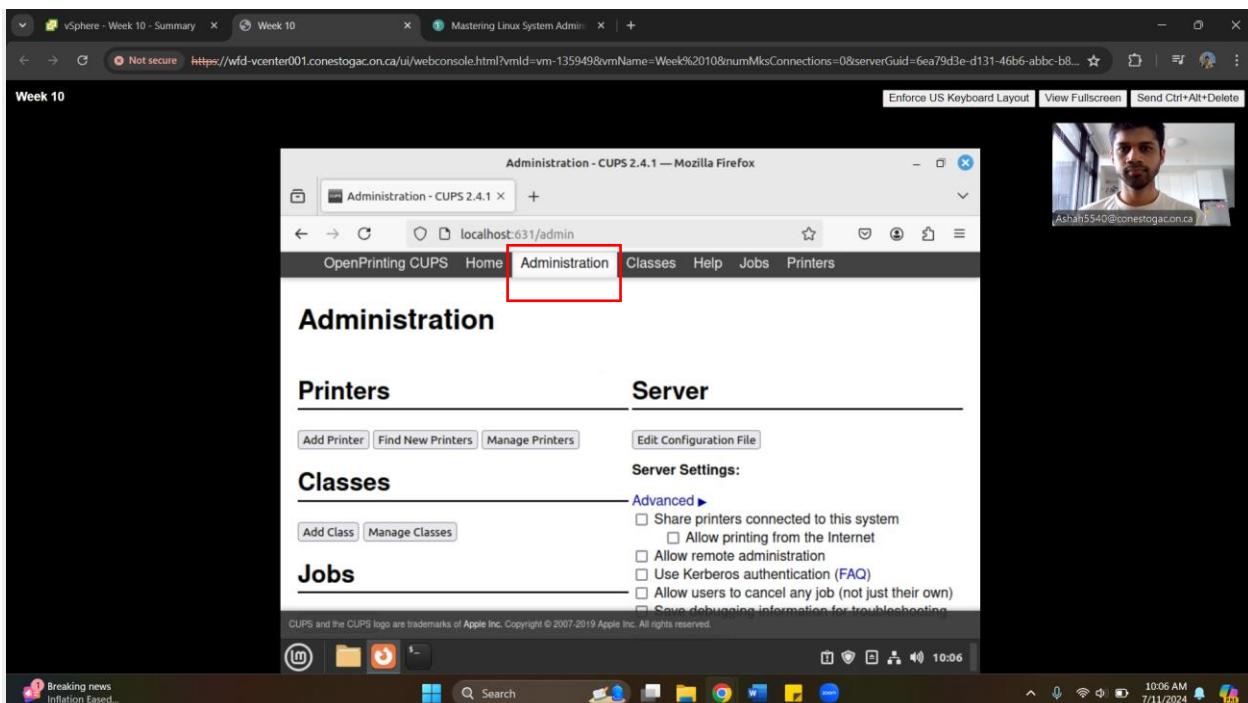
CREATING A TEST PRINTER

1. Connect to the CUPS web interface for your server. Open a browser on a workstation and enter the URL **http://server address:631**, where *server address* is the IP address of your Linux server.

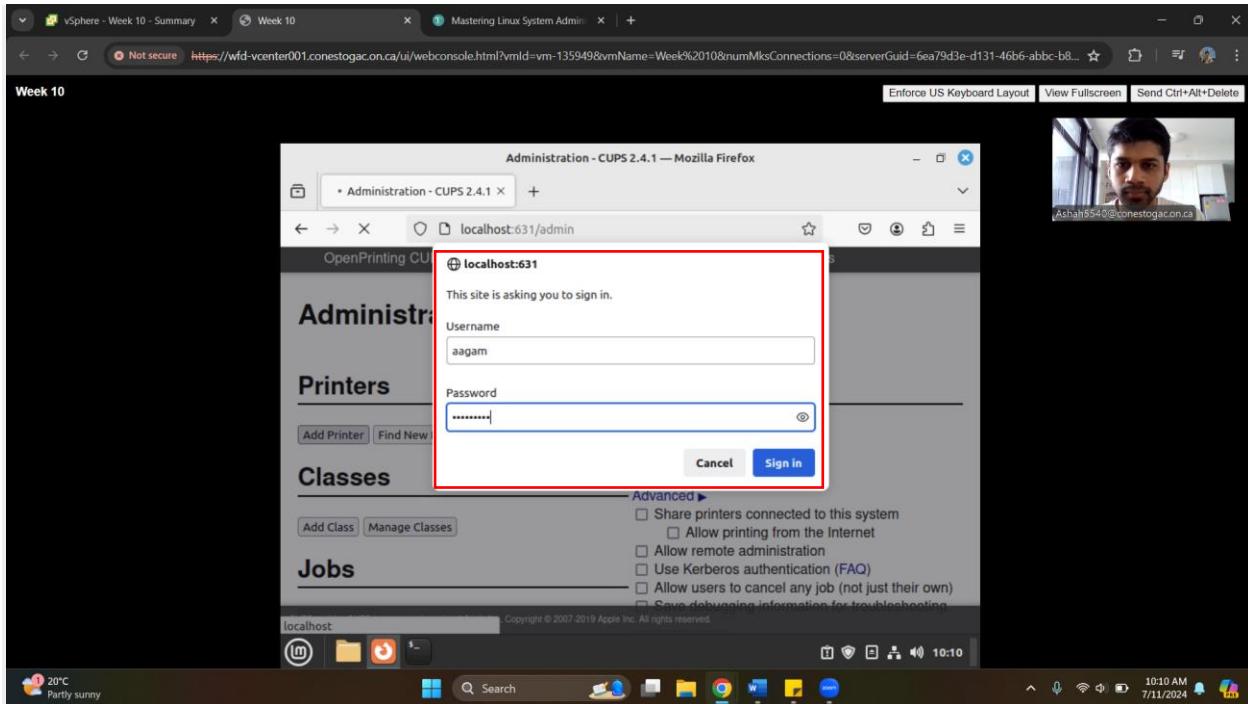
→ **http://localhost:631**



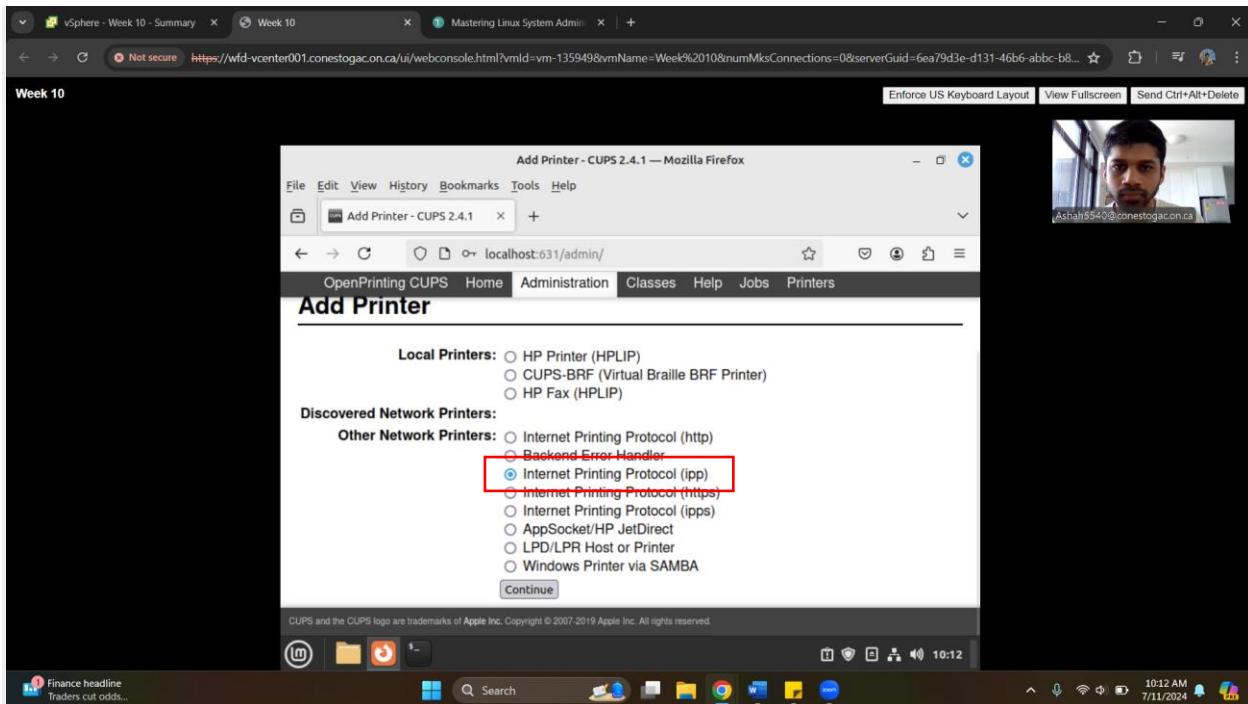
2. Click the Administration tab at the top of the page.



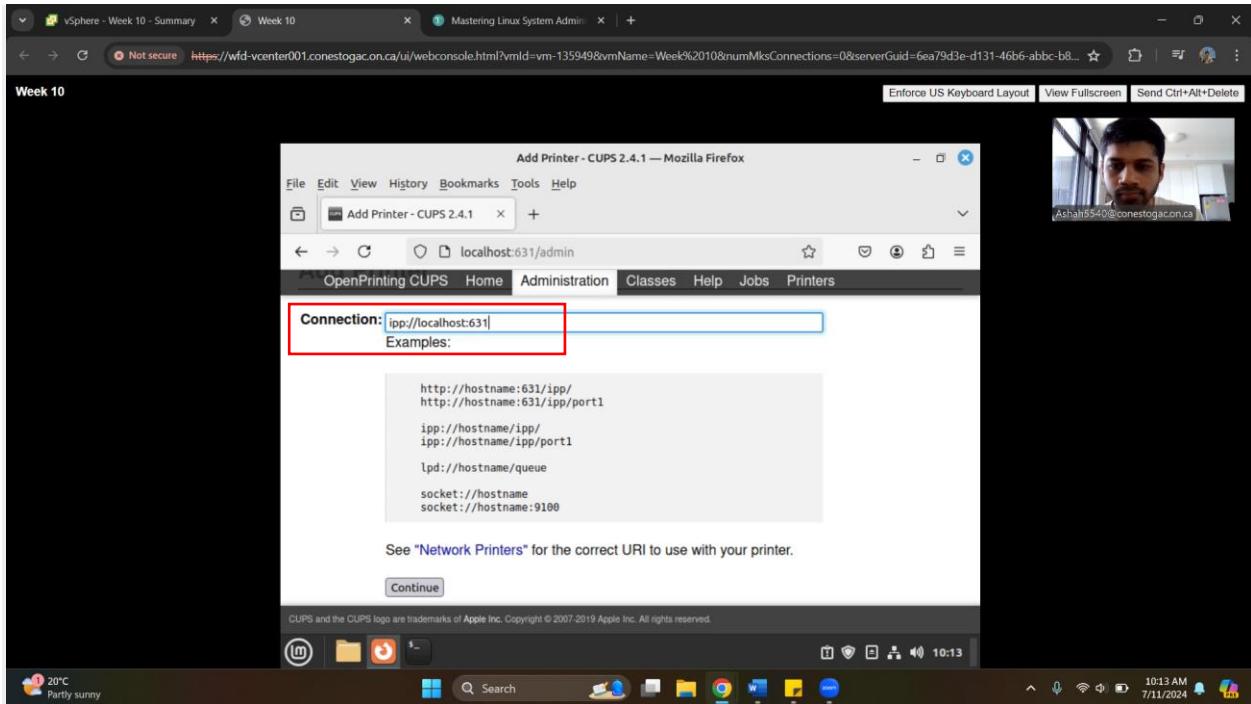
3. Click the Add Printer button and then enter your user ID and password for authentication.



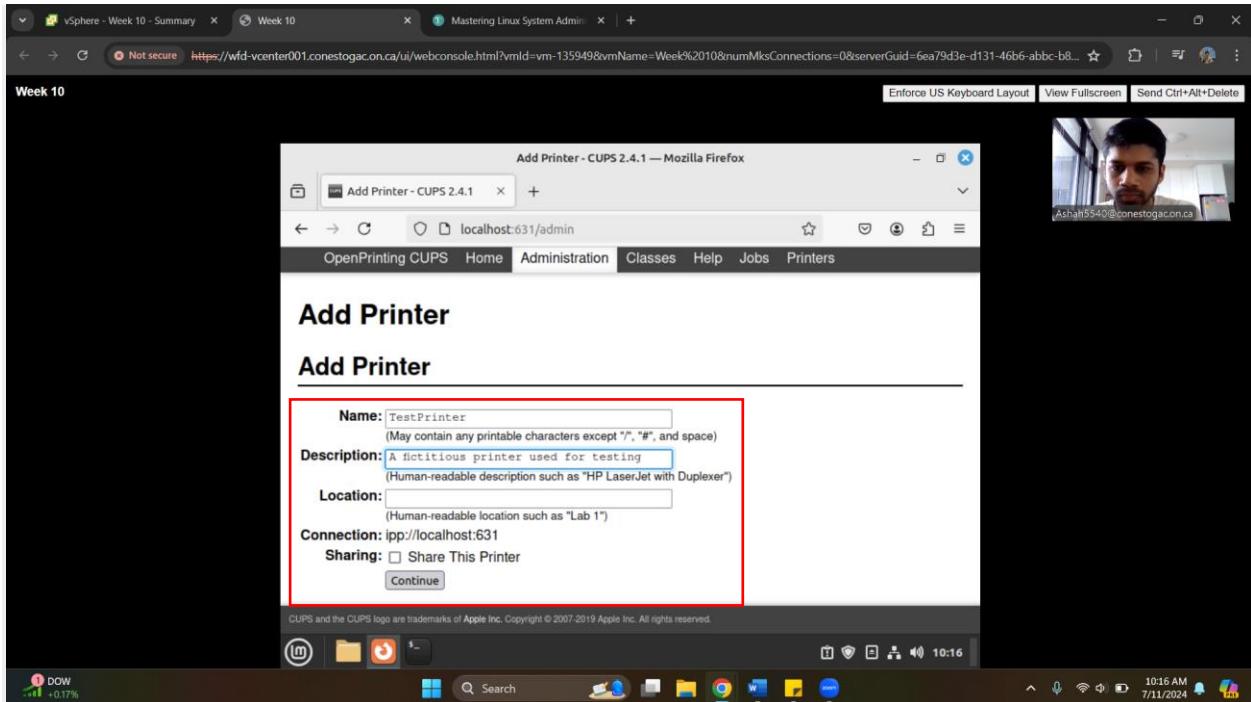
4. On the Add Printer page, select the Internet Printing Protocol (ipp) radio button, and then click the Continue button.



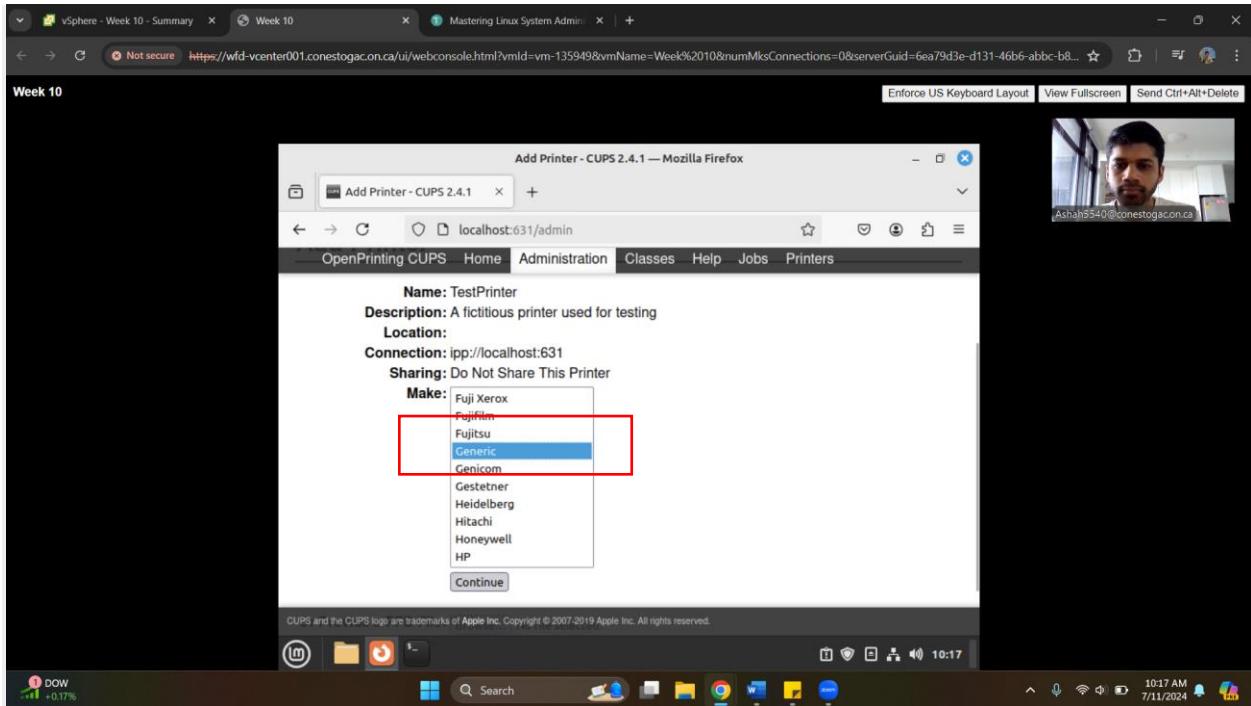
5. For the Connection text box, type **ipp://localhost:631**, and then click the Continue button.



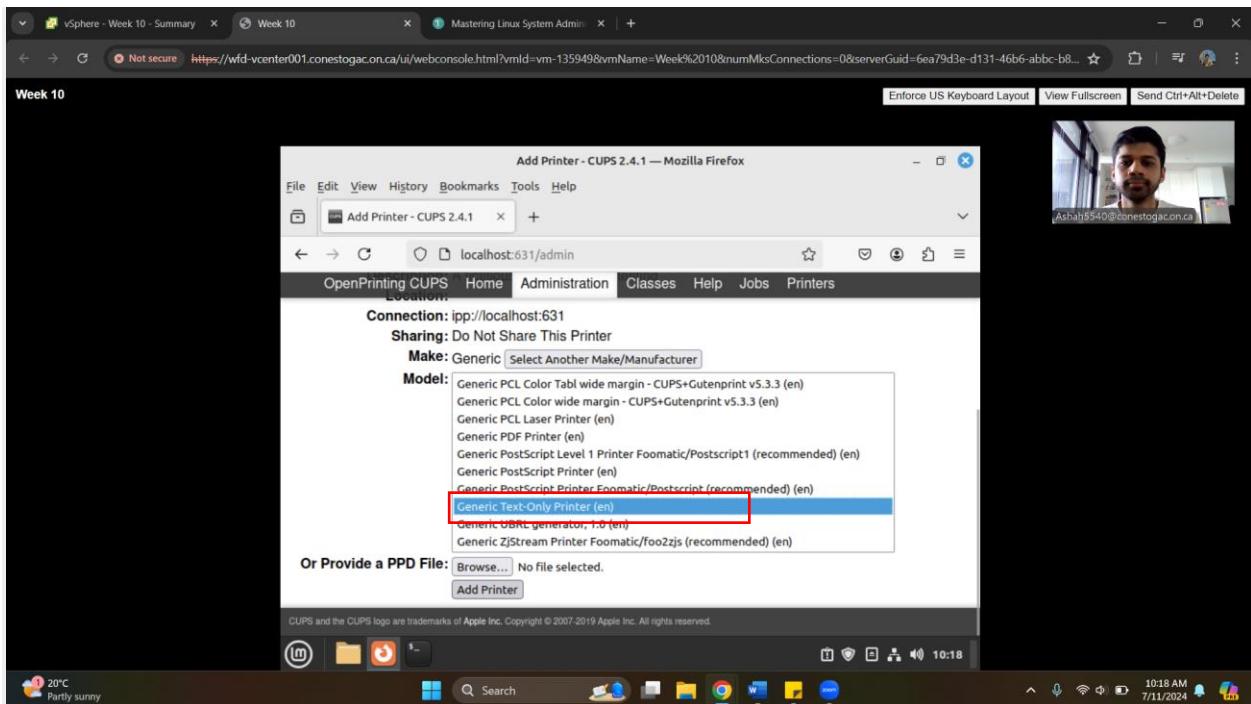
6. In the Name text box, type **TestPrinter**. In the Description text box, type **A fictitious printer used for testing**. Click the Continue button.

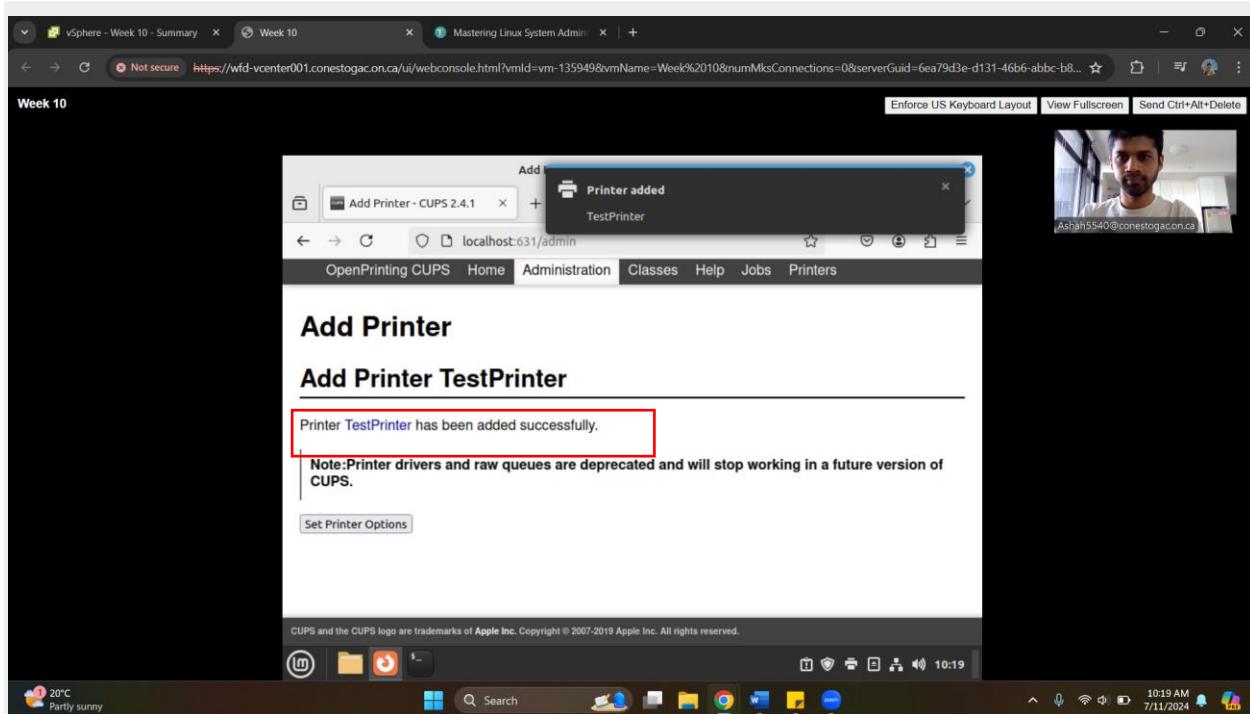


7. In the Make selection box, choose Generic, and then click the Continue button.



8. In the Model selection box, choose Generic Text-Only Printer, and then click the Add Printer button.





9. Click the Printers tab at the top of the page to view the list of printers. You should see the TestPrinter printer appear in the list.

