

Branden Solomon

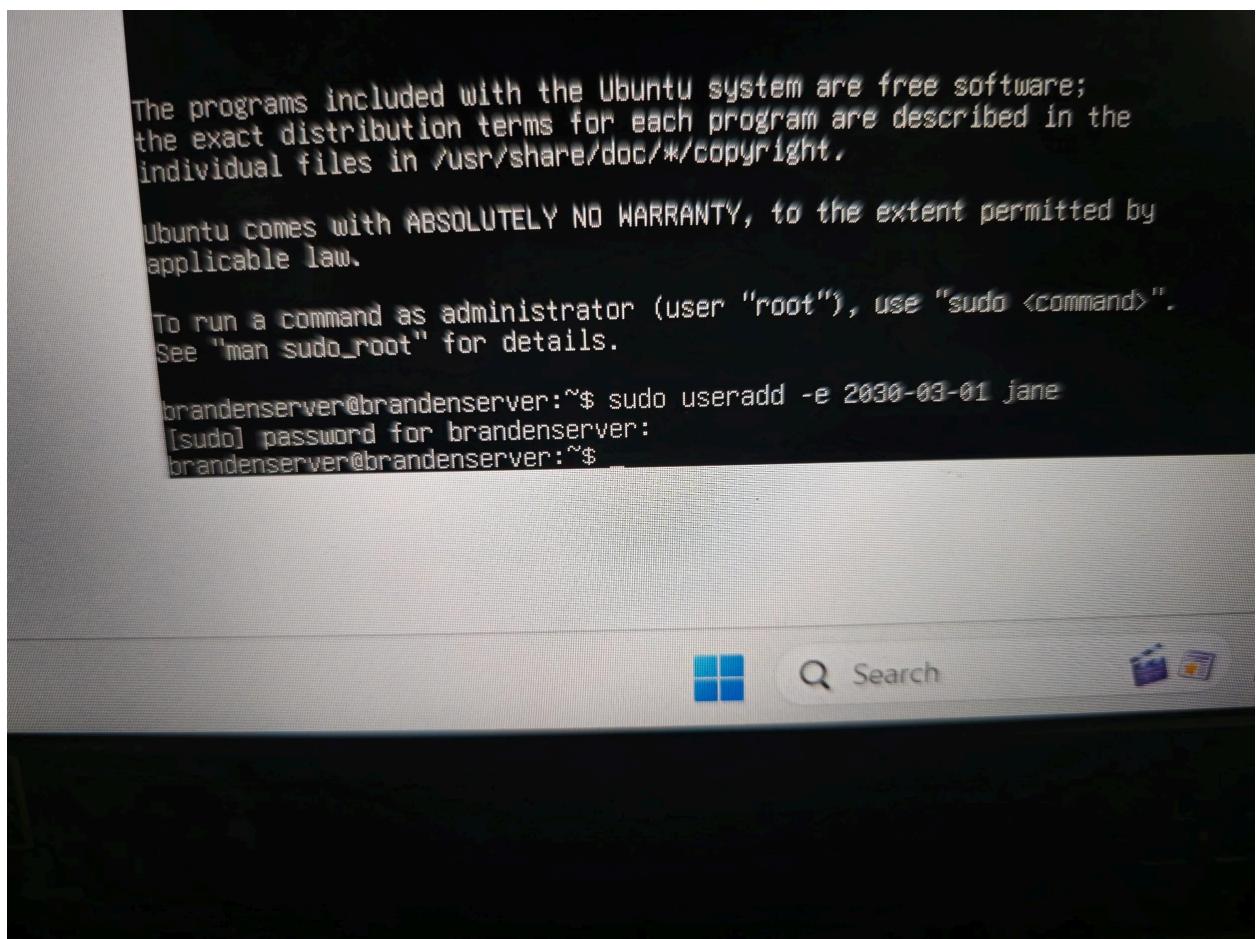
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CTEC 435

Users & Groups Lab

Part 1



The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

```
brandenserver@brandenserver:~$ sudo useradd -e 2030-03-01 jane
[sudo] password for brandenserver:
brandenserver@brandenserver:~$
```

1.

A screenshot of a terminal window. At the top, there is a menu bar with options like 'File', 'Edit', 'View', 'Search', 'Help', and 'Services'. Below the menu, the terminal prompt shows the user 'brandenserver' at 'brandenserver'. The user has just typed the command 'sudo useradd -r apache' and is awaiting the system's response. The background of the terminal window is dark.

```
brandenserver@brandenserver:~$ sudo useradd -r apache  
brandenserver@brandenserver:~$ _
```

2.

VirtualBox

Devices Help

```
brandenserver@brandenserver:~$ sudo chage -E -1 jane
brandenserver@brandenserver:~$ -
```

3.

```
brandenserver$ sudo Useradd -m -s /bin/csh Jack
useradd: user 'Jack' already exists
brandenserver$ grep Jack /etc/passwd
Jack:x:1002:1002::/home/Jack:/bin/csh
brandenserver$
```

4.

Oracle VirtualBox

File Devices Help

```
brandenserver@brandenserver:~$ getent passwd jack
brandenserver@brandenserver:~$ sudo useradd -m -s /bin/csh jack
brandenserver@brandenserver:~$ getent passwd jack
jack:x::1002:1002:/home/jack:/bin/csh
brandenserver@brandenserver:~$ sudo userdel -r jack
userdel: Jack mail spool (/var/mail/jack) not found
brandenserver@brandenserver:~$ getent passwd jack
brandenserver@brandenserver:~$ sudo rm -rf /home/jack
brandenserver@brandenserver:~$ _
```

5.

- Oracle VirtualBox
Input Devices Help

```
brandenserver@brandenserver:~$ sudo passwd --expire jane
passwd: password changed.
brandenserver@brandenserver:~$ sudo chage -l jane | grep "Password must be changed"
brandenserver@brandenserver:~$ _
```

6.

g] - Oracle VirtualBox

Input Devices Help

```
brandenserver@brandenserver:~$ sudo groupadd developers
[sudo] password for brandenserver:
brandenserver@brandenserver:~$ getent group developers
developers:x:1002:
brandenserver@brandenserver:~$ sudo usermod -aG developers jane
brandenserver@brandenserver:~$ groups jane
jane : jane developers
brandenserver@brandenserver:~$
```

7.

inning] - Oracle VirtualBox

View Input Devices Help

```
brandenserver@brandenserver:~$ sudo groupadd -g 9875 cricket
brandenserver@brandenserver:~$ getent group cricket
cricket:x:9875:
brandenserver@brandenserver:~$ _
```

8.

VirtualBox

Devices Help

```
brandenserver@brandenserver:~$ sudo groupmod -n soccer cricket
brandenserver@brandenserver:~$ getent group soccer
soccer:x:9875:
brandenserver@brandenserver:~$ _
```

9.

Oracle VirtualBox

File Devices Help

```
brandenserver@brandenserver:~$ sudo useradd -u 5322 -G soccer sam
brandenserver@brandenserver:~$ id sam
uid=5322(sam) gid=5322(sam) groups=5322(sam),9875(soccer)
brandenserver@brandenserver:~$
```

10.

] - Oracle VirtualBox

Input Devices Help

```
brandenserver@brandenserver:~$ sudo groupadd rugby
brandenserver@brandenserver:~$ sudo usermod -g rugby sam
brandenserver@brandenserver:~$ id sam
uid=5322(sam) gid=9876(rugby) groups=9876(rugby),9875(soccer)
brandenserver@brandenserver:~$ _
```

11.

The screenshot shows a terminal window within a VirtualBox interface. The title bar reads "VirtualBox" and the menu bar includes "Devices" and "Help". The terminal window displays the following command-line session:

```
brandenserver@brandenserver:~$ grep appdevs /etc/group
brandenserver@brandenserver:~$ getent group appdevs
brandenserver@brandenserver:~$ _
```

12.

[Running] - Oracle VirtualBox
View Input Devices Help

```
brandenserver@brandenserver:~$ sudo chage -W 2 jane
brandenserver@brandenserver:~$ sudo chage -l | jane
Usage: chage [options] LOGIN

Options:
  -d, --lastday LAST_DAY      set date of last password change to LAST_DAY
  -E, --expiredate EXPIRE_DATE set account expiration date to EXPIRE_DATE
  -h, --help                   display this help message and exit
  -i, --iso8601                use YYYY-MM-DD when printing dates
  -I, --inactive INACTIVE     set password inactive after expiration
                              to INACTIVE
  -l, --list                   show account aging information
  -m, --mindays MIN_DAYS      set minimum number of days before password
                              change to MIN_DAYS
  -M, --maxdays MAX_DAYS      set maximum number of days before password
                              change to MAX_DAYS
  -R, --root CHROOT_DIR       directory to chroot into
  -W, --warndays WARN_DAYS    set expiration warning days to WARN_DAYS

Command 'jane' not found, did you mean:
  command 'jaxe' from deb jaxe (3.5-14)
  command 'jake' from deb node-jake (10.8.5+~1.0.4-3)
Try: sudo apt install <deb name>
brandenserver@brandenserver:~$
```

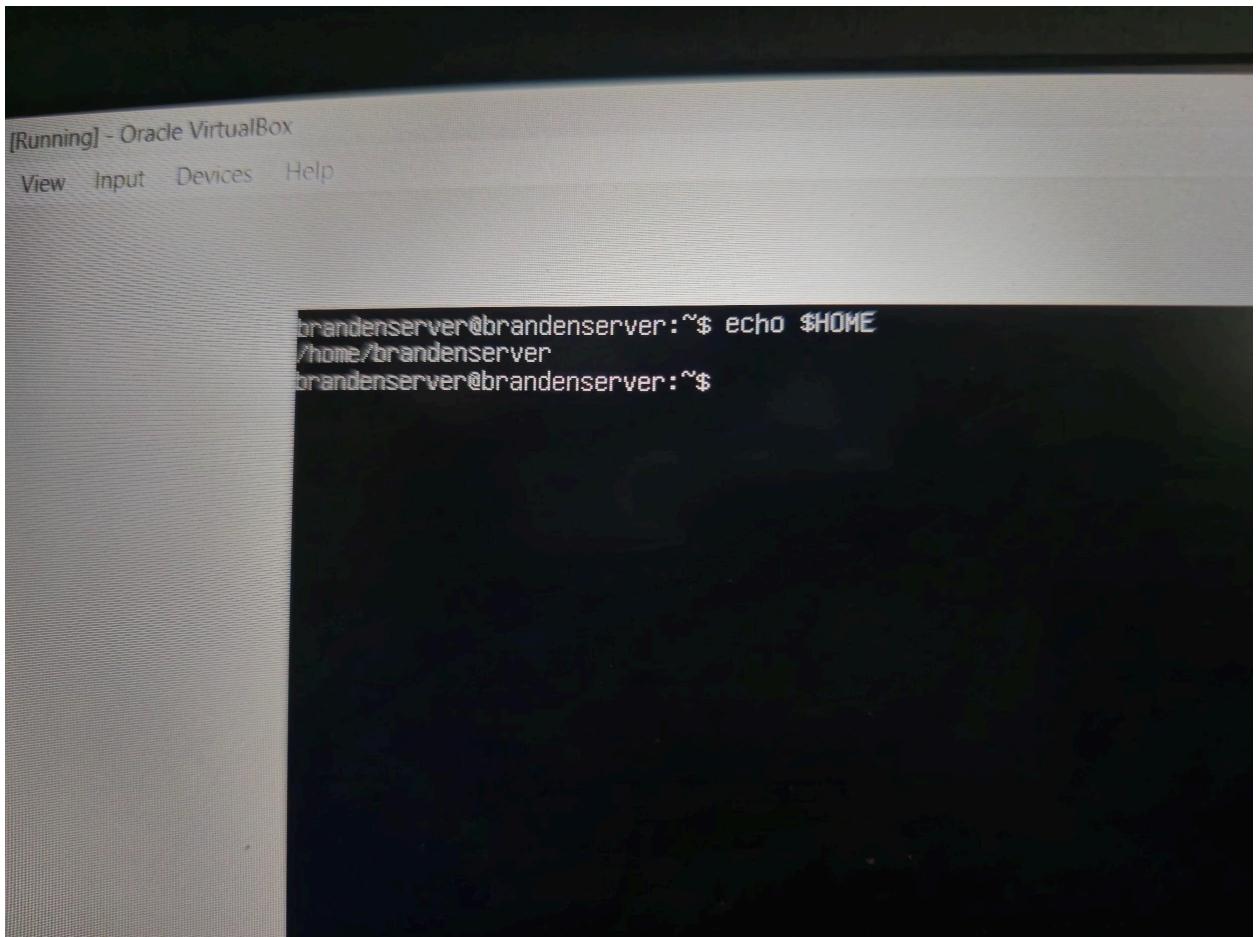
13.

Part 2

A screenshot of a terminal window with a dark background. At the top, there is a menu bar with three items: "Input", "Devices", and "Help". Below the menu, the terminal prompt is visible: "brandenserver@brandenserver:~\$". A command is being typed into the terminal, starting with "\$ echo \$VARIABLE_NAME". The command is partially visible, ending with "brandenserver@brandenserver:~\$".

```
brandenserver@brandenserver:~$ echo $VARIABLE_NAME  
brandenserver@brandenserver:~$
```

1.



2.

ng] - Oracle VirtualBox

Input Devices Help

```
brandenserver@brandenserver:~$ source /etc/profile
brandenserver@brandenserver:~$ echo $MYVAR
value
brandenserver@brandenserver:~$ _
```

3.

```
KDG_SESSION_ID=8
KDG_RUNTIME_DIR=/run/user/1000
XDG_DATA_DIRS=/usr/local/share:/usr/share:/var/lib/snapd/desktop
HUSHLOGIN=False
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
DBUS_SESSION_BUS_ADDRESS=unix:path=/run/user/1000/bus
MAIL=/var/mail/brandenserver
/_/usr/bin/env
brandenserver$brandenserver:~$ env > /home/brandenserver/.env
brandenserver$brandenserver:~$ cat /home/brandenserver/.env
SHELL=/bin/bash
CREDENTIALS_DIRECTORY=/run/credentials/getty@tty1.service
MEMORY_PRESSURE_WRITE=297Z8ayMDAwNDgNjRwDhNAA=
XDG_SEAT=seat0
PWD=/home/brandenserver
LOGNAME=brandenserver
XDG_SESSION_TYPE=tty
SYSTEMD_EXEC_PID=10-1899
HOME=/home/brandenserver
LANG=en_US.UTF-8
LS_COLORS=r=0;01:34:ln=01:36:wh=00:pi=40:33:so=01:35:do=01:35:bd=40:33:01:cd=40:33:01:or=40:31:01:ml=00:su=37:41:sg=30:43:ca=00:tm=30:42:ow=34:42:st=37:44:z=01:31:*.zip=01:31:*.tgz=01:31:*.arc=01:31:*.arj=01:31:*.tar=01:31:*.tar.gz=01:31:*.lz=01:31:*.lzo=01:31:*.xz=01:31:*.bz=01:31:*.bz2=01:31:*.tbz=01:31:*.tar.bz=01:31:*.tar.xz=01:31:*.tar.lrz=01:31:*.xz=01:31:*.xzst=01:31:*.xzst2=01:31:*.bz2=01:31:*.bz=01:31:*.tbz2=01:31:*.tbz=01:31:*.tar.tbz=01:31:*.cab=01:31:*.wim=01:31:*.swm=01:31:*.dum=01:31:*.esd=01:31:*.avif=01:35:*.jpg=01:35:*.jpeg=01:35:*.mjpeg=01:35:*.gif=01:35:*.bm=01:35:*.pbm=01:35:*.pgm=01:35:*.ppm=01:35:*.tga=01:35:*.xbm=01:35:*.xpm=01:35:*.tif=01:35:*.tiff=01:35:*.png=01:35:*.pcx=01:35:*.mov=01:35:*.mpg=01:35:*.mpeg=01:35:*.mp4=01:35:*.rmvb=01:35:*.mkv=01:35:*.webm=01:35:*.webp=01:35:*.ogg=01:35:*.mp3=01:35:*.flac=00:36:*.m4a=00:36:*.mid=00:36:*.midi=00:36:*.mka=00:36:*.mp3=00:36:*.mpc=00:36:*.ogg=00:36:*.ra=00:36:*.wav=00:36:*.ogg=00:36:*.opus=00:36:*.spx=00:36:*.xspf=00:36:*.xspf=00:36:*.xspf=00:36:*.part=00:90:*.rej=00:90:*.rpmnew=00:90:*.rpmorig=00:90:*.rpmsave=00:90:*.sup=00:90:*.tmp=00:90:*.ucf-new=00:90:*.ucf-old=00:90:*.ucf-dist=00:90:*.ucf-new=00:90:*.ucf-old=00:90:
MEMORY_PRESSURE_WRITE=/sys/fs/cgroup/system.slice/system-getty.slice/getty@tty1.service/memory.pressure
INVOCATION_ID=0ae2bb191dd54610872fe95e30635cdd
LESSCLOSE=/usr/bin/lesspipe %s %
XDG_SESSION_CLASS=user
TERM=xterm
LESSOPEN=-| /usr/bin/lesspipe %
USER=brandenserver
SHVLW=1
QDG_VTRN=1
XDG_SESSION_ID=8
KDG_RUNTIME_DIR=/run/user/1000
XDG_DATA_DIRS=/usr/local/share:/usr/share:/var/lib/snapd/desktop
HUSHLOGIN=False
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
DBUS_SESSION_BUS_ADDRESS=unix:path=/run/user/1000/bus
MAIL=/var/mail/brandenserver
/_/usr/bin/env
brandenserver$brandenserver:~$
```

4.

```
#!/bin/bash
# ~/.bash_aliases, instead of adding them here directly.
# See /usr/share/doc/bash-doc/examples in the bash-doc package.
if [ -f ~/.bash_aliases ]; then
    . ~/.bash_aliases
fi

# enable programmable completion features (you don't need to enable
# this, if it's already enabled in /etc/bash.bashrc and /etc/profile
# sources /etc/bash.bashrc).
if ! shopt -oq posix; then
    if [ -f /usr/share/bash-completion/bash_completion ]; then
        . /usr/share/bash-completion/bash_completion
    elif [ -f /etc/bash_completion ]; then
        . /etc/bash_completion
    fi
fi
export MYVAR="TRUE"

brandenserver@brandenserver:~$
```

5.



Search



Devices Help

```
brandenserver@brandenserver:~$ source /home/brandenserver/.bashrc
brandenserver@brandenserver:~$ echo $MYVAR
TRUE
brandenserver@brandenserver:~$
```

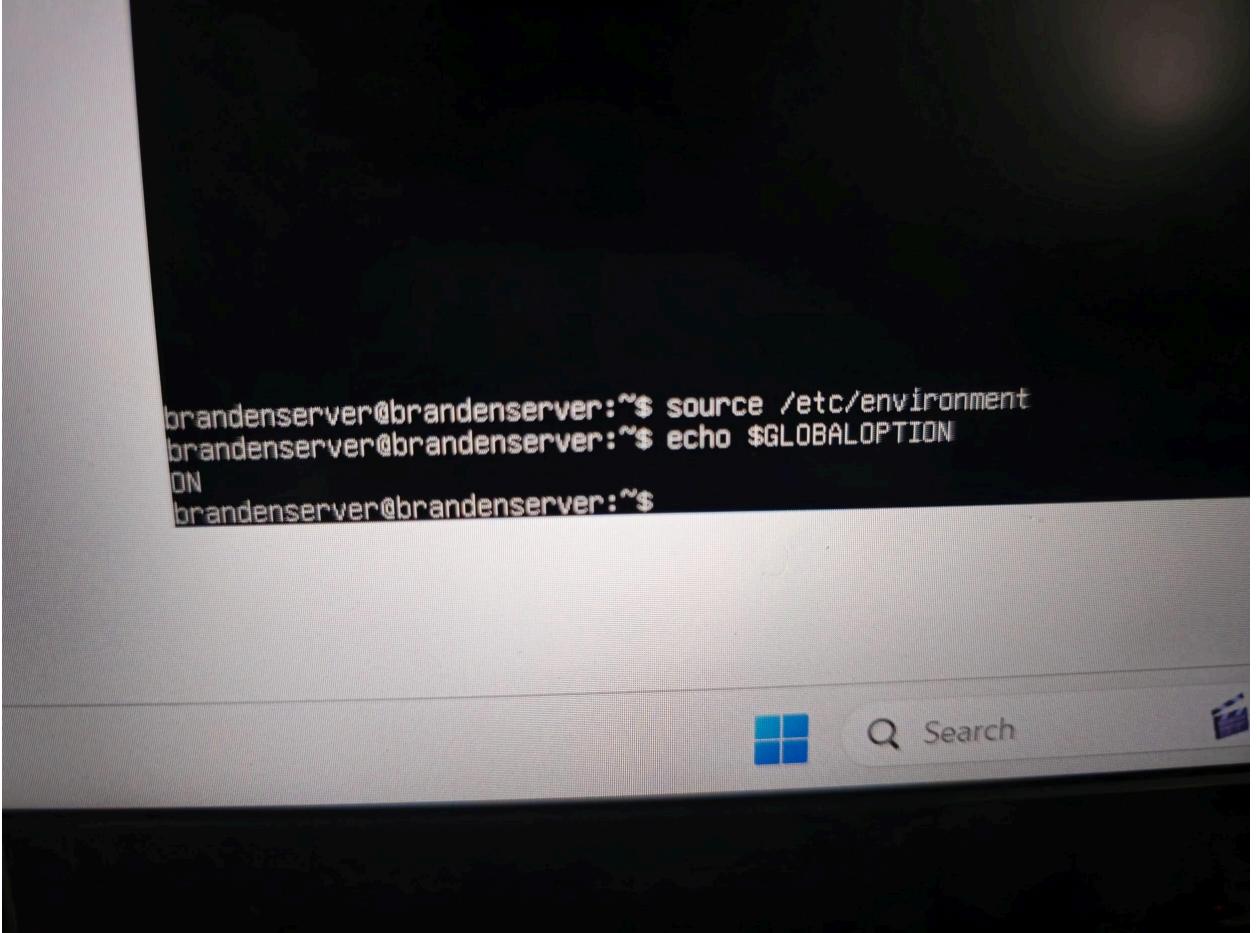
Box
Help

```
brandenserver@brandenserver:~$ echo $GLOBALENV > /home/brandenserver/globalenv
brandenserver@brandenserver:~$ cat /home/brandenserver/globalenv
brandenserver@brandenserver:~$
```

6.

```
brandenserver@brandenserver:~$ ls /etc/skel  
brandenserver@brandenserver:~$ sudo mkdir /home/brandenserver/default_data  
mkdir: cannot create directory '/home/brandenserver/default_data': File exists  
brandenserver@brandenserver:~$ ls -a /home/brandenserver/default_data  
..  
brandenserver@brandenserver:~$ ls /etc/skel  
brandenserver@brandenserver:~$ echo "export PS1='[\u001b \W]\$ '" > home/brandenserver/default_data/.bashrc  
-bash: home/brandenserver/default_data/.bashrc: No such file or directory  
brandenserver@brandenserver:~$ echo "export PATH=$PATH:/usr/local/bin" > /home/brandenserver/default_data/.profile  
-bash: /home/brandenserver/default_data/.profile: Permission denied  
brandenserver@brandenserver:~$ ls -a /home/brandenserver/default_data  
..  
brandenserver@brandenserver:~$ _
```

7.



brandenserver@brandenserver:~\$ source /etc/environment
brandenserver@brandenserver:~\$ echo \$GLOBALOPTION
ON
brandenserver@brandenserver:~\$

8.

```
if [ -d /etc/profile.d ]; then
    for i in /etc/profile.d/*.*; do
        if [ -r $i ]; then
            . $i
        fi
    done
    unset i
fi
echo "Welcome to our server!"
```

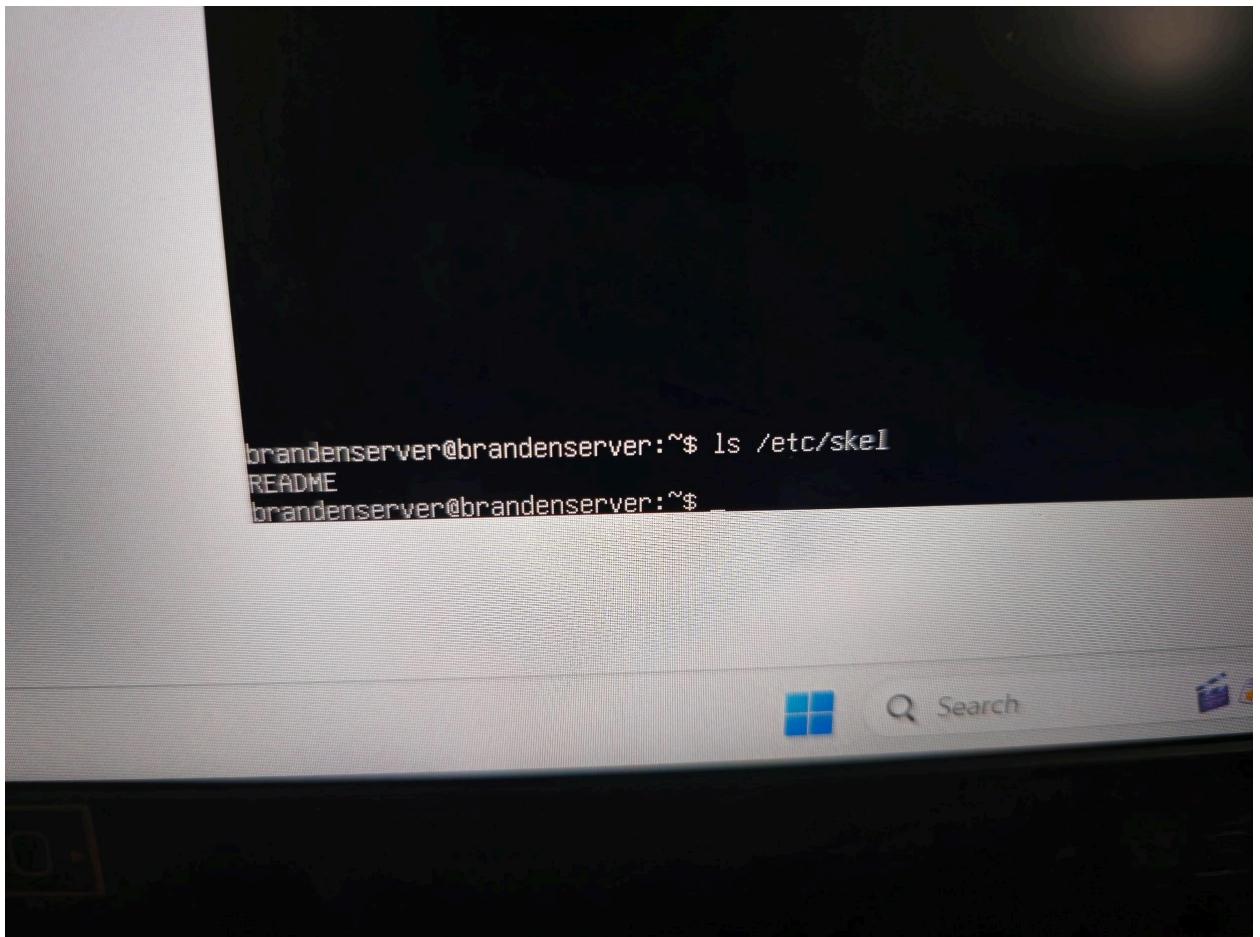


```
brandenserver@brandenserver:~$ source /etc/profile
Welcome to our server!
brandenserver@brandenserver:~$
```



The image shows a screenshot of a Windows operating system desktop. A terminal window is open in the foreground, displaying a shell script and its execution results. Below the terminal, the Windows taskbar is visible, featuring the Start button, a search bar, and several pinned application icons.

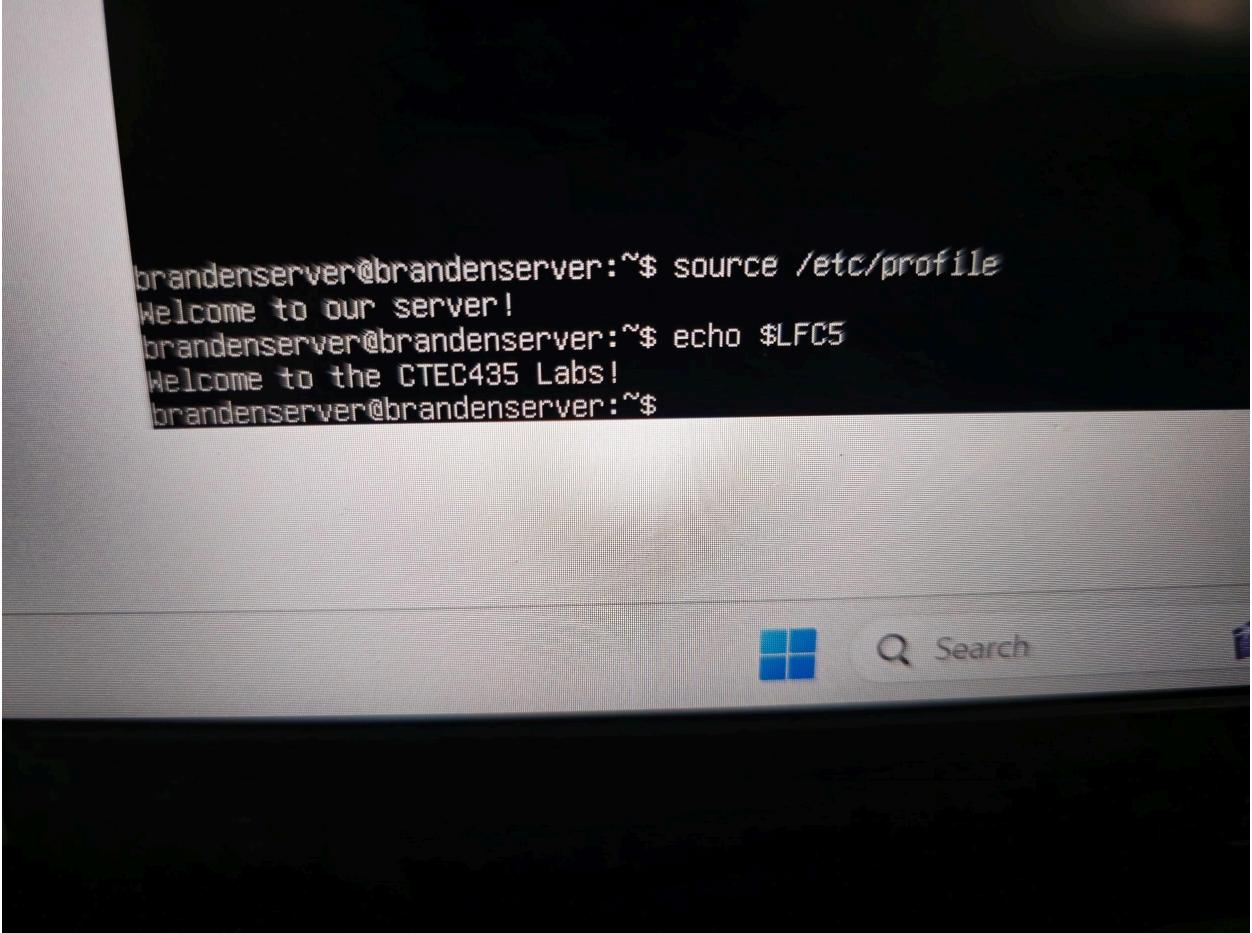
9.



10.

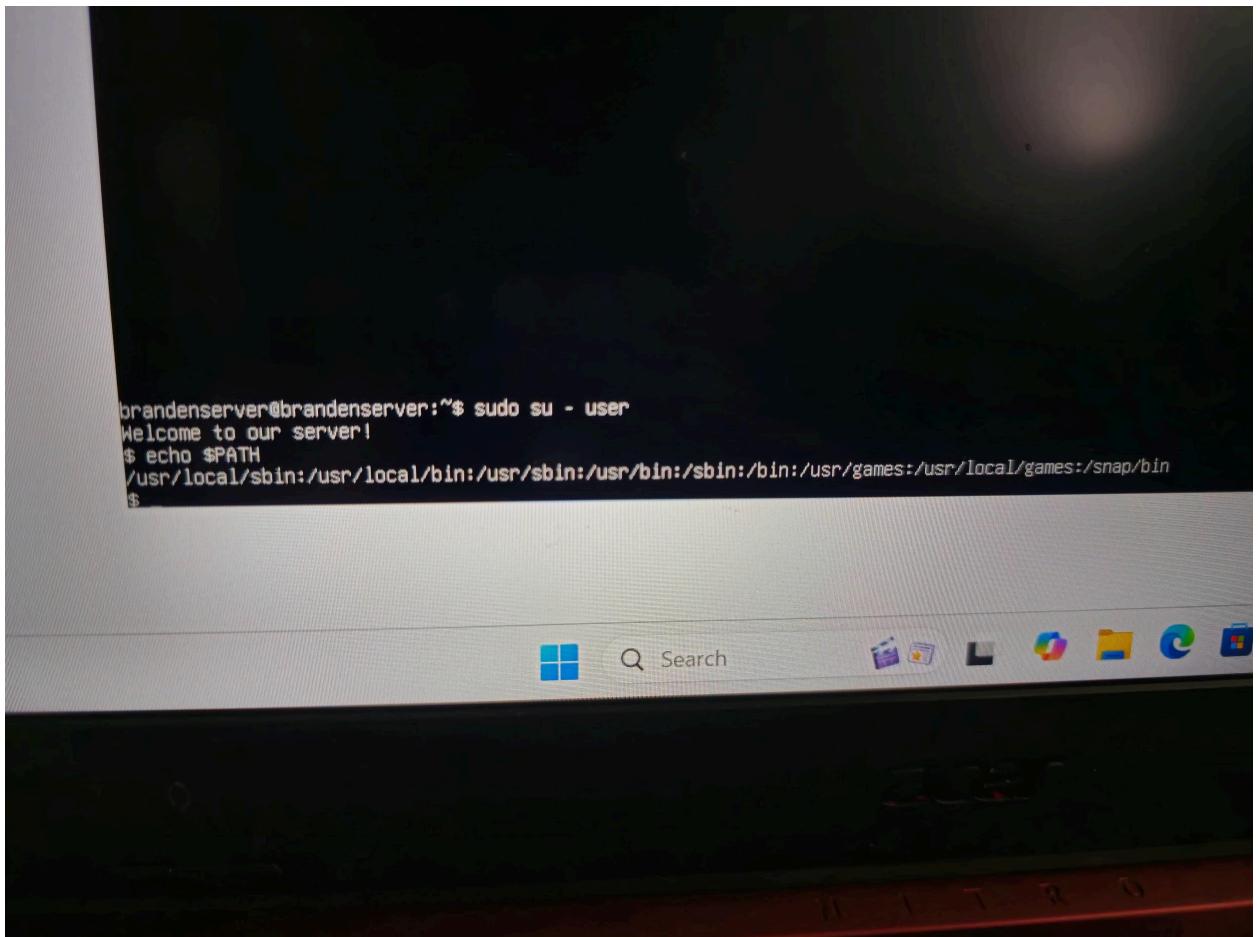
Help

```
brandenserver@brandenserver:~$ sudo mkdir /home/newuser  
brandenserver@brandenserver:~$ sudo chown newuser:newuser /home/newuser  
brandenserver@brandenserver:~$ sudo cp /etc/skel/README /home/newuser/README  
brandenserver@brandenserver:~$ sudo chown newuser:newuser /home/newuser  
brandenserver@brandenserver:~$ ls /home/newuser  
README  
brandenserver@brandenserver:~$ _
```



brandenserver@brandenserver:~\$ source /etc/profile
Welcome to our server!
brandenserver@brandenserver:~\$ echo \$LFC5
Welcome to the CTEC435 Labs!
brandenserver@brandenserver:~\$

11.



A screenshot of a Linux desktop environment showing a terminal window. The terminal window has a dark background and displays the following text:

```
brandenserver@brandenserver:~$ sudo su - user
Welcome to our server!
$ echo $PATH
/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
$
```

The desktop interface includes a taskbar at the bottom with icons for File Explorer, Task View, Start, and other system functions. The overall theme is dark.

12.

Part 3

1. trinity soft nproc 30
- trinity hard nproc 30

```
brandenserver@brandenserver:~$ ulimit -a
real-time non-blocking time (microseconds, -R) unlimited
core file size          (blocks, -c) 0
data seg size           (kbytes, -d) unlimited
scheduling priority     (-e) 0
file size               (blocks, -f) unlimited
pending signals          (-i) 7575
max locked memory        (kbytes, -l) 251928
max memory size          (kbytes, -m) unlimited
open files               (-n) 1024
pipe size                (512 bytes, -p) 8
POSIX message queues     (bytes, -q) 819200
real-time priority        (-r) 0
stack size                (kbytes, -s) 8192
cpu time                  (seconds, -t) unlimited
max user processes        (-u) 7575
virtual memory             (kbytes, -v) unlimited
file locks                 (-x) unlimited
brandenserver@brandenserver:~$
```

2.



```
brandenserver@brandenserver:~$ sudo sh -c 'ulimit -a > /home/user/limits'
brandenserver@brandenserver:~$ cat /home/user/limits
time(seconds)          unlimited
file(blocks)            unlimited
data(kbytes)            unlimited
stack(kbytes)           8192
coredump(blocks)         0
memory(kbytes)          unlimited
locked memory(kbytes)   251928
process                 7575
nofiles                1024
vmemory(kbytes)         unlimited
locks                  unlimited
rtprio                 0
brandenserver@brandenserver:~$
```

3.

```
#Defaults: xsudo env_keep += "GPG_AGENT_INFO"
# Host alias specification
# User alias specification
# Cmnd alias specification
# User privilege specification
root    ALL=(ALL:ALL) ALL
# Members of the admin group may gain root privileges
xadmin  ALL=(ALL) ALL
# Allow members of group sudo to execute any command
xsudo   ALL=(ALL:ALL) ALL
# See sudoers(5) for more information on "@include" directives:
@includedir /etc/sudoers.d
trinity  ALL=(ALL) NOPASSWD: ALL
trinity  ALL=(ALL) NOPASSWD: /user/bin/mount_

```

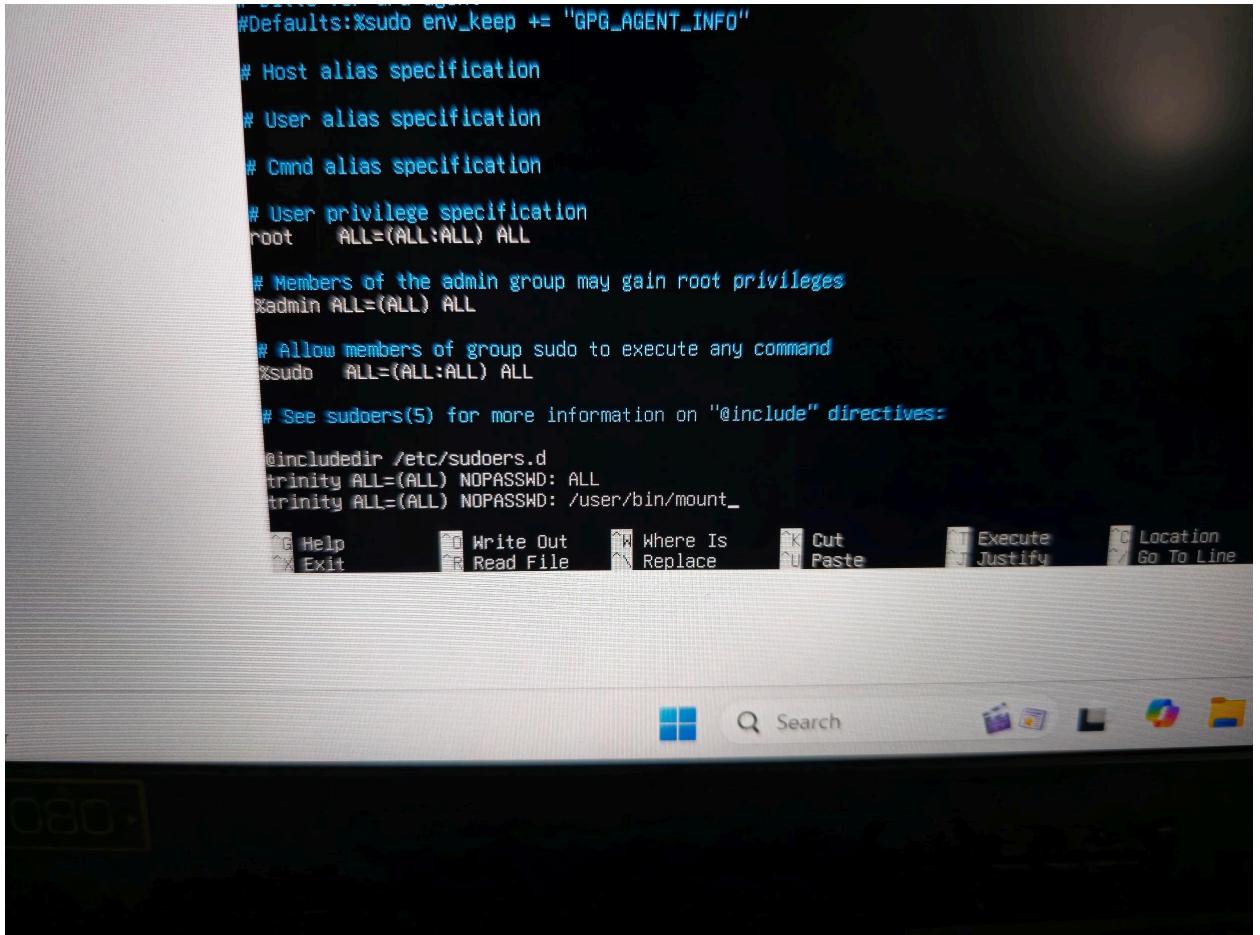
Help Write Out Where Is Cut
Exit Read File Replace Paste Execute Justify Location
Go To Line

4.

```
#Defaults: xsudo env_keep += "GPG_AGENT_INFO"
# Host alias specification
# User alias specification
# Cmnd alias specification
# User privilege specification
root    ALL=(ALL:ALL) ALL
# Members of the admin group may gain root privileges
xadmin  ALL=(ALL) ALL
# Allow members of group sudo to execute any command
xsudo   ALL=(ALL:ALL) ALL
# See sudoers(5) for more information on "@include" directives:
@includedir /etc/sudoers.d
trinity  ALL=(ALL) NOPASSWD: ALL
trinity  ALL=(ALL) NOPASSWD: /user/bin/mount_

```

Help Write Out Where Is Cut
Exit Read File Replace Paste Execute Justify Location
Go To Line



5.

```
##  
##  
#* hard rss 10000  
#@student hard nproc 20  
#@faculty soft nproc 20  
#@faculty hard nproc 50  
#ftp hard nproc 0  
#ftp - chroot /ftp  
#@student - maxlogins 4  
  
# End of file  
stephen hard fsize 4194304  
@salesteam soft nproc 20  
  
G Help W Write Out C Where Is  
X Exit R Read File R Replace K Cut  
L Paste  
  
Windows Search
```

6.

```
##  
##  
#* hard rss 10000  
#@student hard nproc 20  
#@faculty soft nproc 20  
#@faculty hard nproc 50  
#ftp hard nproc 0  
#ftp - chroot /ftp  
#@student - maxlogins 4  
  
# End of file  
stephen hard fsize 4194304  
@salesteam soft nproc 20  
  
G Help W Write Out C Where Is  
X Exit R Read File R Replace K Cut  
L Paste  
  
Windows Search
```

7.

```
# Members of the admin group may gain root privileges
%admin  ALL=(ALL)  ALL

# Allow members of group sudo to execute any command
%sudo   ALL=(ALL:ALL)  ALL

# See sudoers(5) for more information on "@include" directives:

@include /etc/sudoers.d
trinity  ALL=(ALL) NOPASSWD: ALL
trinity  ALL=(ALL) NOPASSWD: /user/bin/mount
%salesteam  ALL=(ALL)  ALL
trinity  ALL=(sam) NOPASSWD: ALL
```

^G Help ^O Write Out ^W Where Is ^X Cut
^X Exit ^R Read File ^Y Replace ^U Paste ^J Justif



Search

8.

```
# Members of the admin group may gain root privileges
%admin  ALL=(ALL)  ALL

# Allow members of group sudo to execute any command
%sudo   ALL=(ALL:ALL)  ALL

# See sudoers(5) for more information on "@include" directives:

@include /etc/sudoers.d
trinity  ALL=(ALL) NOPASSWD: ALL
trinity  ALL=(ALL) NOPASSWD: /user/bin/mount
%salesteam  ALL=(ALL)  ALL
trinity  ALL=(sam) NOPASSWD: ALL
```

^G Help ^O Write Out ^W Where Is ^X Cut
^X Exit ^R Read File ^Y Replace ^U Paste ^J Justif



Search

9.

```
/* soft core 0
#root hard core 100000
*/
#@student hard rss 10000
#@faculty soft nproc 20
#@faculty hard nproc 50
#ftp hard nproc 0
#ftp - chroot /ftp
#@student - maxlogins 4

# End of file
stephen hard fsize 4194304
@salesteam soft nproc 20
@developers hard nproc 10

^G Help      ^O Write Out   ^W Where Is
^X Exit      ^R Read File   ^L Replace   ^K Cut
                                         ^U Paste

Windows Start Button
Search Bar
```

10.

```
GNU nano 7.2                               /etc/pam.d/common-session *
```

```
# /etc/pam.d/common-session - session-related modules common to all services
#
# This file is included from other service-specific PAM config files,
# and should contain a list of modules that define tasks to be performed
# at the start and end of interactive sessions.
#
# As of pam 1.0.1-6, this file is managed by pam-auth-update by default.
# To take advantage of this, it is recommended that you configure any
# local modules either before or after the default block, and use
# pam-auth-update to manage selection of other modules. See
# pam-auth-update(8) for details.
#
# here are the per-package modules (the "Primary" block)
session [default=1]                         pam_permit.so
# here's the fallback if no module succeeds
session requisite                           pam_deny.so
# prime the stack with a positive return value if there isn't one already;
# this avoids us returning an error just because nothing sets a success code
# since the modules above will each just jump around
session required                           pam_permit.so
# The pam_umask module will set the umask according to the system default in
# /etc/login.defs and user settings, solving the problem of different
# umask settings with different shells, display managers, remote sessions etc.
# See "man pam_umask".
session optional                           pam_umask.so
# and here are more per-package modules (the "Additional" block)
session required                           pam_unix.so
session optional                           pam_systemd.so
# end of pam-auth-update config
session required pam_limits.so
```

```
# Members of the admin group may gain root privileges
%admin  ALL=(ALL)  ALL

# Allow members of group sudo to execute any command
%sudo   ALL=(ALL:ALL)  ALL

# See sudoers(5) for more information on "@include" directive

@include /etc/sudoers.d
trinity  ALL=(ALL) NOPASSWD: ALL
trinity  ALL=(ALL) NOPASSWD: /user/bin/mount
%salesteam  ALL=(ALL)  ALL
trinity  ALL=(sam) NOPASSWD: ALL
trinity  ALL=(ALL)  ALL

    ⌘ Help      ⌘ Write Out      ⌘ Where Is
    ⌘ Exit      ⌘ R Read File      ⌘ Replace
                                         ⌘ Cut
                                         ⌘ Paste

    ⌘ Search
```

11.