

# CYSE 270: Linux System for Cybersecurity

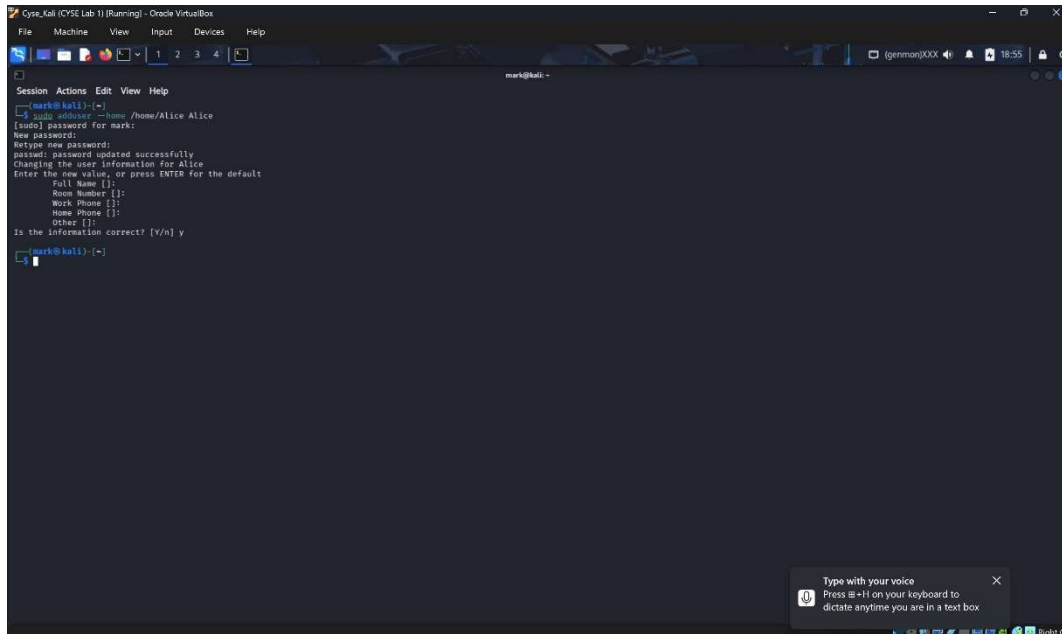
## Assignment-9

Mark Prather

### Task A - Backup your system (Using crontab) [100 points]

Scenario: Performing system backup can be time-consuming, and the process is often overlooked. For this scenario:

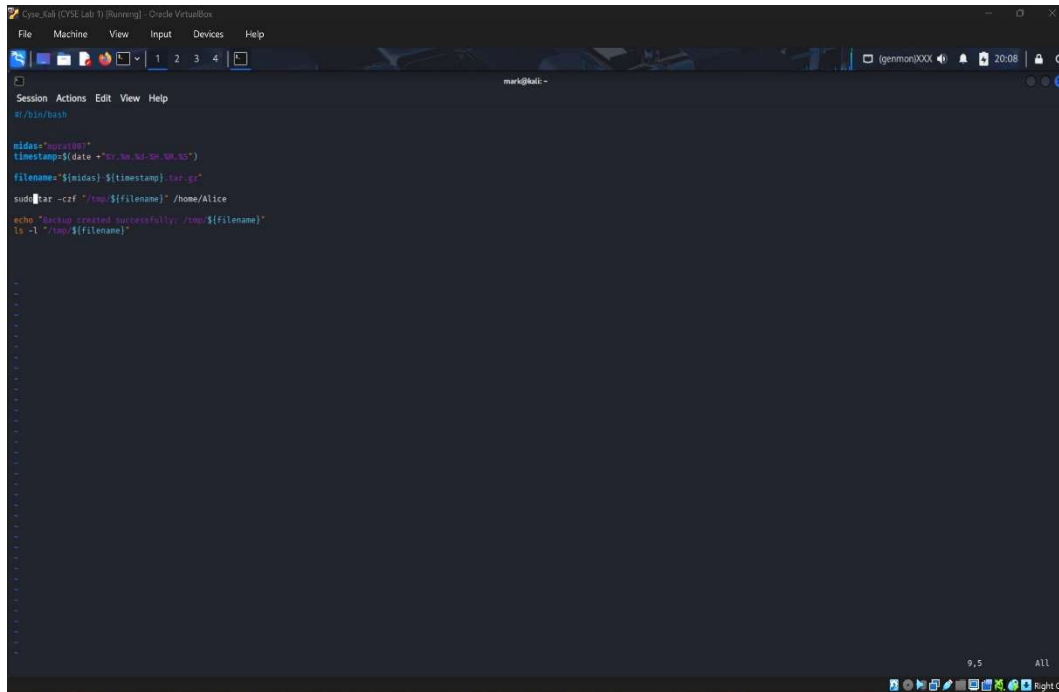
#### 1. (10 Points) Create a new user Alice (with home directory).



```
mark@kali:~$ sudo adduser --home /home/Alice Alice
[sudo] password for mark:
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for Alice
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [y/n] y
mark@kali:~$
```

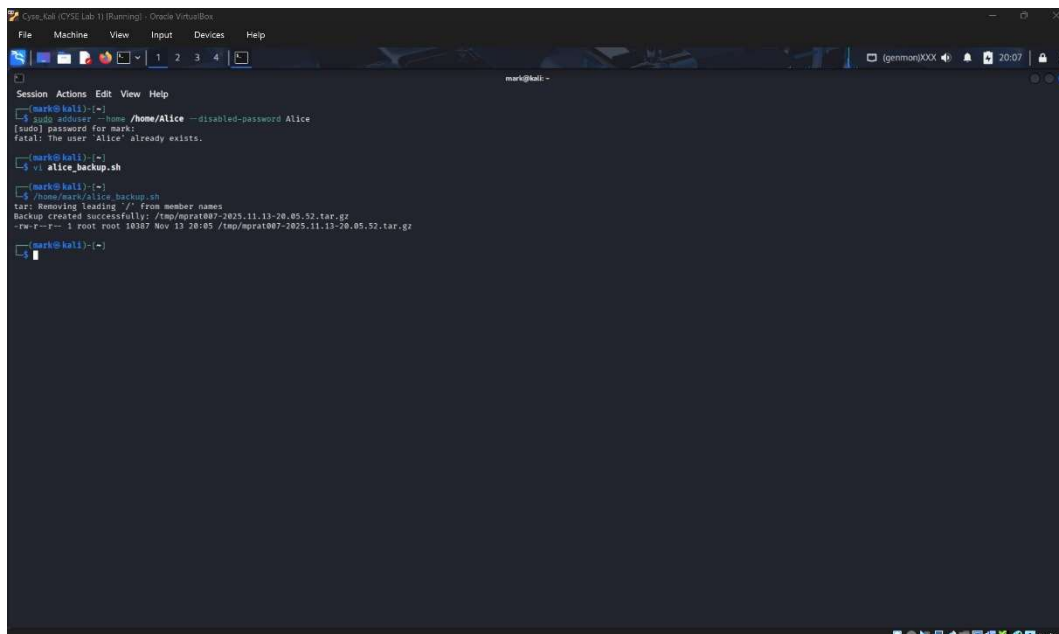
used sudo adduser --home /home/Alice Alice

2. (50 Points) Write a shell script that backups Alice's home directory by creating a tar file (tape archive), using the following steps:  
step a



```
CyberJail (CISE Lab 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
mark@kali:~$
Session Actions Edit View Help
# /bin/bash

midas=$(hostname)
timestamp=$(date +"%Y_%m_%d_%H_%M_%S")
filename=${midas}_${timestamp}.tar.gz
sudo tar -czf "/tmp/${filename}" /home/Alice
echo "Backup created successfully: /tmp/${filename}"
ls -l "/tmp/${filename}"
```



```
CyberJail (CISE Lab 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
mark@kali:~$
Session Actions Edit View Help
[mark@kali]~$ sudo midas@kali:~$ cd /home/Alice --disabled-password Alice
[sudo] password for mark:
fatal: The user 'Alice' already exists.
[mark@kali]~$ vi alice_backup.sh
[mark@kali]~$ ./home/vars/alice_backup.sh
tar: Removing leading '/' from member names
Backup created successfully: /tmp/mprat007-2025.11.13-20.05.52.tar.gz
-rw-r--r-- 1 root root 10387 Nov 13 20:05 /tmp/mprat007-2025.11.13-20.05.52.tar.gz
[mark@kali]~$
```

Step b - Move the tape archive file/tar file (created in step 2-iii) to /var/backups/ directory using correct command in linux.

```

Cysx_kali (CYSE Lab 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

mark@kali ~
Session Actions Edit View Help
[mark@kali]~$ sudo mkpasswd --home /home/Alice --disabled-password Alice
[sudo] password for mark:
fatal: the user 'Alice' already exists.
[mark@kali]~$ vi alice_backup.sh
~/home/mark/alice_backup.sh
tar: Removing leading '/' from member names
Backup created successfully: /tmp/mprat007-2025.11.13-20.05.52.tar.gz
-rw-r--r-- 1 root root 10387 Nov 13 20:05 /tmp/mprat007-2025.11.13-20.05.52.tar.gz
[mark@kali]~$ vi alice_backup.sh
[mark@kali]~$ sudo mv /tmp/mprat007-*.tar.gz /var/backups/
mv: target '/var/backups/': No such file or directory
[mark@kali]~$ sudo mv /tmp/mprat007.tar.gz /var/backups/
mv: cannot stat '/tmp/mprat007.tar.gz': No such file or directory
[mark@kali]~$ sudo mv /tmp/mprat007-*.tar.gz /var/backups/
[mark@kali]~$ ls -ls /var/backups/mprat007-*.tar.gz
-rw-rw-r-- 1 mark mark 45 Nov 13 19:57 /var/backups/mprat007-2025.11.13-19.57.24.tar.gz
-rw-rw-r-- 1 mark mark 45 Nov 13 19:58 /var/backups/mprat007-2025.11.13-19.58.00.tar.gz
-rw-rw-r-- 1 root root 11K Nov 13 20:05 /var/backups/mprat007-2025.11.13-20.05.52.tar.gz
[mark@kali]~$

```

used `sudo mv /tmp/mprat007.tar.gz /var/backups/` then verified.

Step c – pick compression algorithm. I chose gzip in script.

Task B - Create a crontab file to keep the scheduled task running for 3 minutes

```

Cysx_kali (CYSE Lab 1) [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

mark@kali ~
Session Actions Edit View Help
crontab: installing new crontab
[mark@kali]~$ sudo crontab -l
# Edit this file to introduce tasks to be run by cron.
#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields for 'any'.
#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -rcf /var/backups/home.tar /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h dom dow dow command
*/3 * * * * /home/mark/alice_backup.sh
[mark@kali]~$ ls -ltr /var/backups/
total 3928
-rw-rw-r-- 1 root root 287 Aug 27 14:37 dpkg.statoverride-1.gz
-rw-rw-r-- 1 root root 683 Aug 27 14:37 dpkg.statoverride.0
-rw-rw-r-- 1 root root 709915 Aug 27 14:40
-rw-rw-r-- 1 root root 18933 Aug 27 14:40 gpi_extensions_status-1.gz
-rw-rw-r-- 1 root root 3506 Aug 27 14:41 gpi_extensions-1.gz
-rw-rw-r-- 1 root root 32 Sep 2 16:51 dpkg.arch-1.gz
-rw-rw-r-- 1 root root 1161 Sep 2 16:51 dpkg.arch-0.gz
-rw-rw-r-- 1 root root 9833 Oct 8 17:37 dpkg.diversions.0
-rw-rw-r-- 1 root root 2864137 Oct 8 17:39 dpkg.status.0
-rw-rw-r-- 1 root root 109233 Oct 8 17:51 apt-extended_states.0
-rw-rw-r-- 1 root root 0 Oct 13 20:01 dpkg.arch.0
-rw-rw-r-- 1 root root 174808 Oct 13 20:01 alternatives.tar.0
-rw-rw-r-- 1 mark mark 45 Nov 13 19:57 mprat007-2025.11.13-19.47.05.tar.gz
-rw-rw-r-- 1 mark mark 45 Nov 13 19:55 mprat007-2025.11.13-19.55.24.tar.gz
-rw-rw-r-- 1 mark mark 45 Nov 13 19:58 mprat007-2025.11.13-19.58.00.tar.gz
-rw-rw-r-- 1 root root 10387 Nov 13 20:05 mprat007-2025.11.13-20.05.52.tar.gz
[mark@kali]~$

```

used `*/3 * * * * /home/mark/alice_backup.sh` verified multiple backups were made.