CYSE 270: Linux System for Cybersecurity

Assignment - 10

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) and

```
eric@eric-VirtualBox:~$ sudo useradd -m Alice
[sudo] password for eric:
eric@eric-VirtualBox:~$
```

COMMAND: sudo useradd -m 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:

a.

• Take 2 inputs with their values- your MIDAS name and current date (for example, midas=svatsa).

• Create a variable named as filename that should be assigned the value as MIDAS-date (example output after executing the script would be like, svatsa-2021.3.17-01.16.430).

• Using tar command, create a tape archive for Alice's home directory (/home/Alice) and the filename created above (in step-2-ii). (Please learn about tar command in Linux for its usage)

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

c. To optimize the disk usage, pick a compression algorithm (bz2, gzip, or xv) to compress the tar file you created in /var/backups/ in the previous step-2b.

```
#!/bin/bash
midas=epres
curr_date=$(date +"%Y.%m.%d-%H.%M.%"S)

echo "Midas:" $midas
echo "Current date:" $curr_date

tar_file="/var/backups/$tar_file$midas-$curr_date.tar"

tar -cvf $tar_file /home/Alice

mv $tar_file /var/backups/

sudo gzip $tar_file
```

3. (30 Points) **Create a crontab file to keep the scheduled task running for 3 minutes, then check the contents in the /var/backups** directory. Your output should

be look similar to the following:

```
# m h  dom mon dow   command
*/1 * * * * sudo /home/Alice/lab10script.sh
```

```
eric@eric-VirtualBox:~$ sudo ./lab10script.sh
Midas: epres
Current date: 2024.04.02-16.33.01
tar: Removing leading `/' from member names
/home/Alice/
/home/Alice/.bashrc
/home/Alice/.bash_logout
/home/Alice/.profile
mv: '/var/backups/epres-2024.04.02-16.33.01.tar' and '/var/backups/epres-2024.04
.02-16.33.01.tar' are the same file
```

```
eric@eric-VirtualBox:~$ ls /var/backups
epres-2024.04.02-16.31.00.tar.gz
epres-2024.04.02-16.32.03.tar.gz
epres-2024.04.02-16.33.01.tar.gz
```

COMMANDS: 1. sudo ./lab10script.sh 2. ls /var/backups

```
┌──(svatsa-kali㉿svatsa-kali)-[~]
└─$ ls /var/backups
apt.extended_states.0
apt.extended_states.1.gz
svatsa-2022.04.08-13.04.30.gz
svatsa-2022.04.08-13.04.39.gz
```

4. (10 Points) **Cancel** the crontab jobs.

```
eric@eric-VirtualBox:~$ crontab -r
eric@eric-VirtualBox:~$
```

COMMAND: crontab -r

Note: As the script needs to write contents in the “/var/backups” folder, which is owned by root, you should consider the permission issue properly. (Using sudo to create crontab file)

Reference: How to Format Date for Display or Use In a Shell Script- https://www.cyberciti.biz/faq/linux-unix-formatting-dates-for-display/

Reference: How to append date timestamp to filename- https://crunchify.com/shell-script-append-timestamp-to-file-name/