

Centro Universitario del Estado de México UAEM
Ingeniería en Computación
Sistemas Operativos



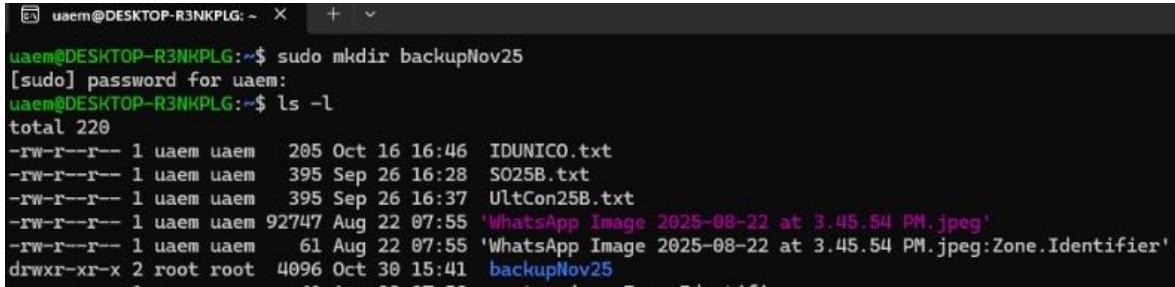
Tarea. Backup programado

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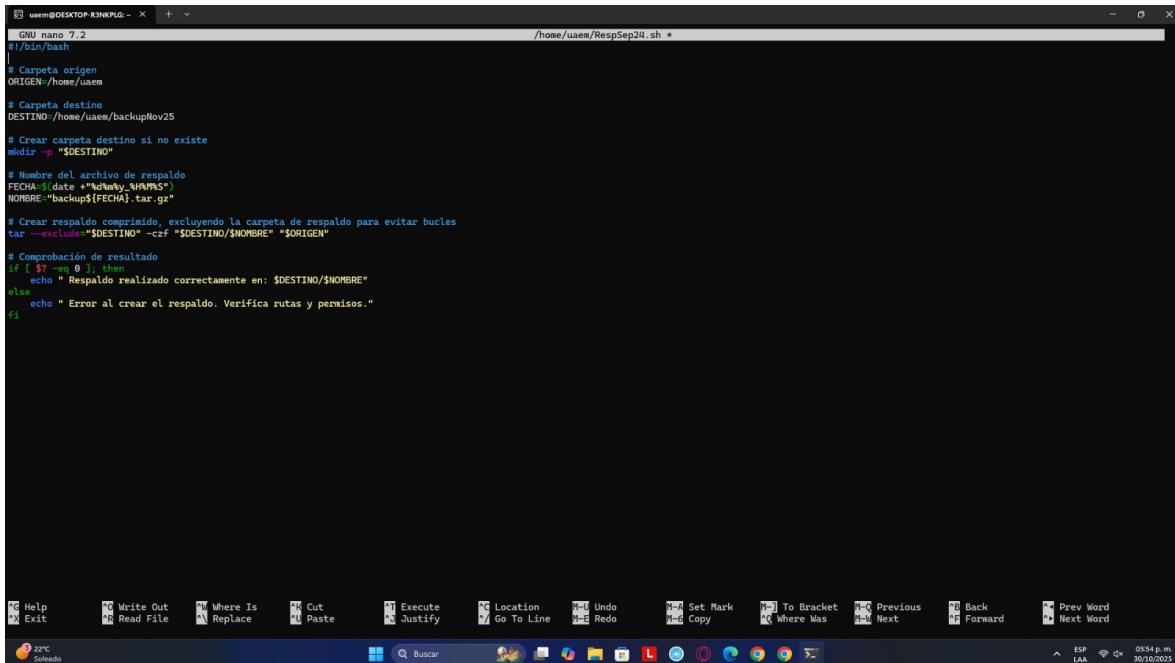
Tarea. Backup programado

1. Cree una carpeta en su escritorio la cual se llame backupNov25



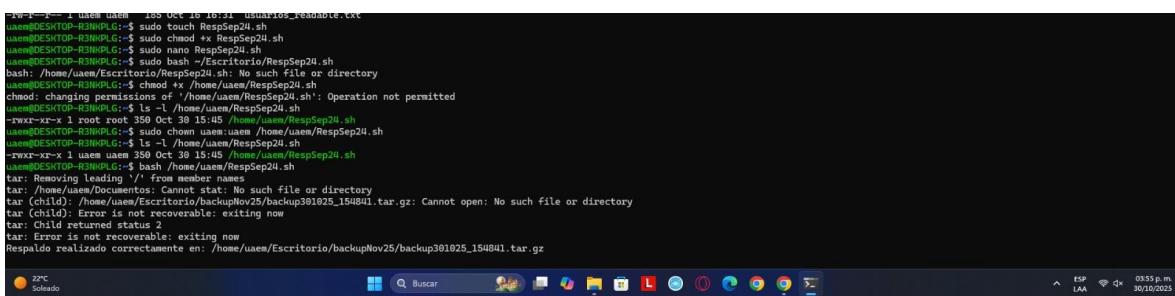
```
uaem@DESKTOP-R3NKPLG:~$ sudo mkdir backupNov25
[sudo] password for uaem:
uaem@DESKTOP-R3NKPLG:~$ ls -l
total 220
-rw-r--r-- 1 uaem uaem 205 Oct 16 16:46 IDUNICO.txt
-rw-r--r-- 1 uaem uaem 395 Sep 26 16:28 SO25B.txt
-rw-r--r-- 1 uaem uaem 395 Sep 26 16:37 UltCon25B.txt
-rw-r--r-- 1 uaem uaem 92747 Aug 22 07:55 'WhatsApp Image 2025-08-22 at 3.45.54 PM.jpeg'
-rw-r--r-- 1 uaem uaem 61 Aug 22 07:55 'WhatsApp Image 2025-08-22 at 3.45.54 PM.jpeg.Zone.Identifier'
drwxr-xr-x 2 root root 4096 Oct 30 15:41 backupNov25
```

2. Cree un Shell Bash en su escritorio con nombre RespSep24 el cual realice el respaldo de una carpeta de su equipo



```
uaem@DESKTOP-R3NKPLG:~$ nano 7.2
#!/bin/bash
# Carpeta origen
ORIGEN=/home/uaem
# Carpeta destino
DESTINO=/home/uaem/backupNov25
# Crear carpeta destino si no existe
mkdir -p "$DESTINO"
# Nombre del archivo de respaldo
FECHA=$(date +"\%d%b%Y_%H%M%S")
NOMBRE="backup${FECHA}.tar.gz"
# Crear respaldo comprimido, excluyendo la carpeta de respaldo para evitar bucles
tar --exclude="$DESTINO" -czf "$DESTINO/$NOMBRE" "$ORIGEN"
# Comprobación de resultado
if [ $? -eq 0 ]; then
    echo "Respaldo realizado correctamente en: $DESTINO/$NOMBRE"
else
    echo "Error al crear el respaldo. Verifica rutas y permisos."
fi
```

3. Pruebe que funciona correctamente tal Shell Bash. Para lo cual deberá ejecutar el Shell Bash y mostrar el respaldo realizado en su escritorio



```
uaem@DESKTOP-R3NKPLG:~$ ls -l /home/uaem/RespSep24.sh
uaem@DESKTOP-R3NKPLG:~$ sudo chmod +x RespSep24.sh
uaem@DESKTOP-R3NKPLG:~$ sudo nano RespSep24.sh
uaem@DESKTOP-R3NKPLG:~$ bash /home/uaem/RespSep24.sh
bash: /home/uaem/Escritorio/RespSep24.sh: No such file or directory
uaem@DESKTOP-R3NKPLG:~$ chmod +x /home/uaem/RespSep24.sh
chmod: changing permissions of '/home/uaem/RespSep24.sh': Operation not permitted
uaem@DESKTOP-R3NKPLG:~$ ls -l /home/uaem/RespSep24.sh
-rwxr-xr-x 1 root root 350 Oct 30 15:45 /home/uaem/RespSep24.sh
uaem@DESKTOP-R3NKPLG:~$ ls -l /home/uaem/RespSep24.sh
-rwxr-xr-x 1 uaem uaem 350 Oct 30 15:45 /home/uaem/RespSep24.sh
uaem@DESKTOP-R3NKPLG:~$ bash /home/uaem/RespSep24.sh
tar: Removing leading '/' from member names
tar: /home/uaem/Documents: Cannot stat: No such file or directory
tar: /home/uaem/Escritorio/backupNov25/backup301025_154841.tar.gz: Cannot open: No such file or directory
tar (child): Error is not recoverable: exiting now
tar: Child returned status 2
tar: Error is not recoverable: exiting now
Respaldo realizado correctamente en: /home/uaem/Escritorio/backupNov25/backup301025_154841.tar.gz
```

4. En su Shell Bash agregue la ruta de la carpeta creada en 1, para que todos los respaldos se guarden en tal carpeta

```
uaem@DESKTOP-R3NPKPLG:~$ ls ~
IDUNICO.txt  WhatsApp Image 2025-08-22 at 3.45.54 PM.jpeg*
RespSep24.sh  WhatsApp Image 2025-08-22 at 3.45.54 PM.jpeg:Zone.Identifier*
S025B.txt  backupNov25
UltCon25B.txt  cartas.jpeg:Zone.Identifier
uaem@DESKTOP-R3NPKPLG:~$ sudo chown -R uaem:uaem /home/uaem/backupNov25
chmod u+rwx /home/uaem/backupNov25
uaem@DESKTOP-R3NPKPLG:~$ sudo nano /home/uaem/RespSep24.sh
uaem@DESKTOP-R3NPKPLG:~$ bash /home/uaem/RespSep24.sh
tar: Removing leading '/' from member names
Respaldo realizado correctamente en: /home/uaem/backupNov25/backup301025_155432.tar.gz
uaem@DESKTOP-R3NPKPLG:~$ ls -lh /home/uaem/backupNov25
total 5.6M
-rw-r--r-- 1 uaem uaem 5.6M Oct 30 15:54 backup301025_155432.tar.gz
uaem@DESKTOP-R3NPKPLG:~$ |
```



Nombre el backup creado de la siguiente forma:

- backupDDMMYY_HHMMSS

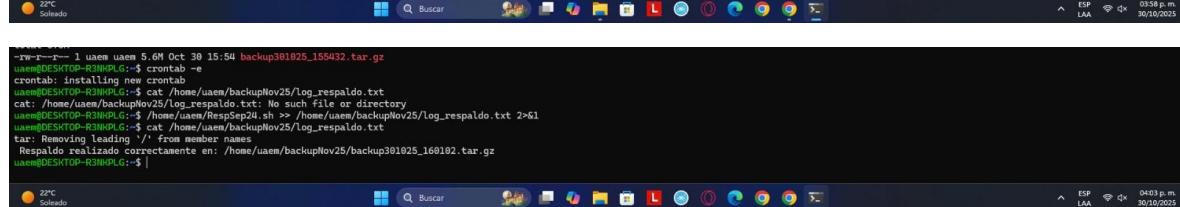
5. Ahora programe su Shell Bash para que se ejecute cada 3 horas con 5 minutos y 10 segundos durante un día entero (puede emplear de 5 pm a 5 pm), recuerde indicar m, h, dom, mon, dow (no utilice *).

```
uaem@DESKTOP-R3NPKPLG:~$ nano 7.2
# 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 -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h dom mon dow   command
50 16 * * * /home/actualizar.sh >> /home/uaem/update.txt
5 17,20,23,2,5,8,11,14,17 * * * /home/uaem/RespSep24.sh
```



6. Verifique que se van creando los backups correctamente

```
uaem@DESKTOP-R3NPKPLG:~$ ls -lh /home/uaem/backupNov25
total 5.6M
-rw-r--r-- 1 uaem uaem 5.6M Oct 30 15:54 backup301025_155432.tar.gz
uaem@DESKTOP-R3NPKPLG:~$ crontab -e
crontab: installing new crontab
uaem@DESKTOP-R3NPKPLG:~$ cat /home/uaem/backupNov25/log_respaldo.txt
cat: /home/uaem/backupNov25/log_respaldo.txt: No such file or directory
uaem@DESKTOP-R3NPKPLG:~$ cat /home/uaem/actualizar.sh >> /home/uaem/backupNov25/log_respaldo.txt 2>&1
uaem@DESKTOP-R3NPKPLG:~$ cat /home/uaem/actualizar.sh >> /home/uaem/backupNov25/log_respaldo.txt 2>&1
tar: Removing leading '/' from member names
Respaldo realizado correctamente en: /home/uaem/backupNov25/backup301025_160102.tar.gz
uaem@DESKTOP-R3NPKPLG:~$ |
```



A screenshot of a Linux desktop environment. At the top, there is a terminal window titled "uaem@DESKTOP-R3NKPLG: ~". The window contains the following command and its output:

```
uaem@DESKTOP-R3NKPLG:~$ ls -lh /home/uaem/backupNov25/
total 12M
-rw-r--r-- 1 uaem uaem 5.6M Oct 30 15:54 backup301025_155432.tar.gz
-rw-r--r-- 1 uaem uaem 5.6M Oct 30 16:01 backup301025_160102.tar.gz
-rw-r--r-- 1 uaem uaem 132 Oct 30 16:01 log_respaldo.txt
uaem@DESKTOP-R3NKPLG:~$ |
```

The desktop interface includes a dock with various icons (File Manager, Terminal, etc.) and a system tray in the bottom right corner displaying network status (ESP LAA), battery level (04:16 p.m.), and date (05/11/2025).