

ALEXIS YAHIR ALVAREZ LEON

Objetivo:

Programar y automatizar respaldos de tres directorios diferentes usando **Shell Script (bash)** y **Crontab**, cumpliendo con los siguientes requisitos:

1. **Directorio 1:** Respalidar automáticamente cada **8 horas durante dos días consecutivos**.
2. **Directorio 2:** Crear dos carpetas (A y B) con nombres diferentes, donde **una desaparece cada 6 horas**. Se ejecuta **dos veces al día**.
3. **Directorio 3:** Respalidar una vez por día, eliminando los respaldos antiguos.

```
alexis@LAPTOP-9EVLNCK: ~$ mkdir -p ~/canny/backups ~/canny/dir1 ~/canny/dir2 ~/canny/dir3
alexis@LAPTOP-9EVLNCK: ~$ ls -l
total 116
-rw-r--r-- 1 alexis alexis 1371 Oct 16 16:41 IDUNICO.txt
drwxr-xr-x 3 alexis alexis 4096 Aug 23 17:34 sistemas-operativos-
-rw-r--r-- 1 antonio yaned 768 Sep 26 16:08 UltCon2025B.txt
-rw-r--r-- 1 alexis alexis 47 Sep 1 17:15 archivo.txt
drwxr-xr-x 13 alexis alexis 4096 Oct 21 21:36 canny
-rw-r--r-- 1 alexis alexis 1 Aug 28 15:33 canny.py
-rwxr-xr-x 1 root root 1224 Oct 16 16:40 crear_usuario.sh
-rw-r--r-- 1 alexis alexis 91 Sep 25 15:35 fonseca.txt
-rwxr-xr-x 1 alexis alexis 75 Oct 16 20:18 funciones.sh
-rw-r--r-- 1 alexis alexis 15 Oct 16 16:12 hola_mundo.txt
-rwxr-xr-x 1 root root 225 Oct 16 15:52 llanto.sh
drwxr-xr-x 2 alexis alexis 4096 Oct 16 20:14 subdirectorio
-rw-r--r-- 1 alexis alexis 128 Sep 25 15:36 monosaurio.txt
-rwxr-xr-x 1 root root 76 Oct 16 16:14 name.sh
-rw-r--r-- 1 alexis alexis 13 Oct 16 16:15 nombre.txt
-rw-r--r-- 1 alexis alexis 438 Sep 25 15:44 output.txt
-rw-r--r-- 1 alexis alexis 38297 Aug 28 20:28 packages.txt
-rw-r--r-- 1 alexis alexis 219 Sep 25 15:43 salida.txt
-rw-r--r-- 1 alexis alexis 219 Sep 25 15:39 salidauno.txt
-rw-r--r-- 1 root root 65 Oct 16 15:46 to-do.txt
alexis@LAPTOP-9EVLNCK: ~$ /home/alexis/canny/Tareas/backup_tarea.sh
-bash: /home/alexis/canny/Tareas/backup_tarea.sh: No such file or directory
alexis@LAPTOP-9EVLNCK: ~$ /home/alexis/canny/Tareas/backup_tarea.sh
-bash: /home/alexis/canny/Tareas/backup_tarea.sh: No such file or directory
alexis@LAPTOP-9EVLNCK: ~$ nano ~/canny/Tareas/backup_tarea.sh
alexis@LAPTOP-9EVLNCK: ~$ chmod +x ~/canny/Tareas/backup_tarea.sh
alexis@LAPTOP-9EVLNCK: ~$ ls -l
total 116
-rw-r--r-- 1 alexis alexis 1371 Oct 16 16:41 IDUNICO.txt
drwxr-xr-x 3 alexis alexis 4096 Aug 23 17:34 sistemas-operativos-
-rw-r--r-- 1 antonio yaned 768 Sep 26 16:08 UltCon2025B.txt
-rw-r--r-- 1 alexis alexis 47 Sep 1 17:15 archivo.txt
drwxr-xr-x 13 alexis alexis 4096 Oct 21 21:36 canny
-rw-r--r-- 1 alexis alexis 1 Aug 28 15:33 canny.py
-rwxr-xr-x 1 root root 1224 Oct 16 16:40 crear_usuario.sh
-rw-r--r-- 1 alexis alexis 91 Sep 25 15:35 fonseca.txt
-rwxr-xr-x 1 alexis alexis 75 Oct 16 20:18 funciones.sh
```

```
alexis@LAPTOP-9EVLNCKC: ~  
alexis@LAPTOP-9EVLNCKC: $ nano ~/canny/Tareas/backup_tarea.sh  
alexis@LAPTOP-9EVLNCKC: $ chmod +x ~/canny/Tareas/backup_tarea.sh  
alexis@LAPTOP-9EVLNCKC: $ ls -l  
total 116  
-rw-r--r-- 1 alexis alexis 1371 Oct 16 16:41 IDUNICO.txt  
drwxr-xr-x 3 alexis alexis 4096 Aug 23 17:34 Sistemas-Operativos-  
-rw-r--r-- 1 antonio yaned 768 Sep 26 16:08 UltCon2025B.txt  
-rw-r--r-- 1 alexis alexis 47 Sep 1 17:15 archivo.txt  
drwxr-xr-x 13 alexis alexis 4096 Oct 21 21:36 canny  
-rw-r--r-- 1 alexis alexis 1 Aug 28 15:33 canny.py  
-rw-r-xr-x 1 root root 1224 Oct 16 16:40 crear_usuario.sh  
-rw-r--r-- 1 alexis alexis 91 Sep 25 15:35 fonseca.txt  
-rw-r-xr-x 1 alexis alexis 75 Oct 16 20:18 funciones.sh  
-rw-r--r-- 1 alexis alexis 15 Oct 16 16:12 hola_mundo.txt  
-rw-r-xr-x 1 root root 225 Oct 16 15:52 llanto.sh  
drwxr-xr-x 2 alexis alexis 4096 Oct 16 20:14 mldiretorio  
-rw-r--r-- 1 alexis alexis 128 Sep 25 15:36 monosaurio.txt  
-rw-r-xr-x 1 root root 76 Oct 16 16:14 name.sh  
-rw-r--r-- 1 alexis alexis 13 Oct 16 16:15 nombre.txt  
-rw-r--r-- 1 alexis alexis 438 Sep 25 15:44 output.txt  
-rw-r--r-- 1 alexis alexis 38297 Aug 28 20:28 packages.txt  
-rw-r--r-- 1 alexis alexis 219 Sep 25 15:43 salida.txt  
-rw-r--r-- 1 alexis alexis 219 Sep 25 15:39 salidauno.txt  
-rw-r--r-- 1 root root 65 Oct 16 15:46 to-do.txt  
alexis@LAPTOP-9EVLNCKC: $ bash ~/canny/Tareas/backup_tarea.sh  
tar: Removing leading '/' from member names  
tar: Removing leading '/' from member names  
alexis@LAPTOP-9EVLNCKC: $  
  
alexis@LAPTOP-9EVLNCKC: ~  
alexis@LAPTOP-9EVLNCKC: $ nano ~/canny/Tareas/backup_tarea.sh  
alexis@LAPTOP-9EVLNCKC: $ chmod +x ~/canny/Tareas/backup_tarea.sh  
alexis@LAPTOP-9EVLNCKC: $ ls -l  
total 116  
-rw-r--r-- 1 alexis alexis 1371 Oct 16 16:41 IDUNICO.txt  
drwxr-xr-x 3 alexis alexis 4096 Aug 23 17:34 Sistemas-Operativos-  
-rw-r--r-- 1 antonio yaned 768 Sep 26 16:08 UltCon2025B.txt  
-rw-r--r-- 1 alexis alexis 47 Sep 1 17:15 archivo.txt  
drwxr-xr-x 13 alexis alexis 4096 Oct 21 21:36 canny  
-rw-r--r-- 1 alexis alexis 1 Aug 28 15:33 canny.py  
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-rw-r--r-- 1 alexis alexis 219 Sep 25 15:43 salida.txt  
-rw-r--r-- 1 alexis alexis 219 Sep 25 15:39 salidauno.txt  
-rw-r--r-- 1 root root 65 Oct 16 15:46 to-do.txt  
alexis@LAPTOP-9EVLNCKC: $ bash ~/canny/Tareas/backup_tarea.sh  
tar: Removing leading '/' from member names  
tar: Removing leading '/' from member names  
alexis@LAPTOP-9EVLNCKC: $ ls ~/canny/backups  
backup.log dir1.backup_2025-10-21_21:40.tar.gz dir3.backup_2025-10-21_21:40.tar.gz  
alexis@LAPTOP-9EVLNCKC: $ cat ~/canny/backups/backup.log  
=====  
Tue Oct 21 21:40:10 CST 2025: Iniciando respaldo automático  
Tue Oct 21 21:40:10 CST 2025: Respaldo de DIR1 completado  
Tue Oct 21 21:40:10 CST 2025: Carpetas A y B creadas en DIR2  
Tue Oct 21 21:40:10 CST 2025: Carpetas viejas (>6h) eliminadas en DIR2  
Tue Oct 21 21:40:10 CST 2025: Respaldo de DIR3 completado y limpieza de archivos >1 día  
Tue Oct 21 21:40:10 CST 2025: Tarea finalizada  
=====  
alexis@LAPTOP-9EVLNCKC: $
```

Herramienta Recortes

Captura de pantalla copiada en el portapapeles
Guardado automáticamente en la carpeta de capturas de pantalla.

Marcado y uso compartido

```
alexis@LAPTOP-9EVLMMCK: ~ - x Ubuntu
GNU nano 7.2 /tmp/crontab.Y0yw7o/crontab *
# 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
# === RESPALDO AUTOMÁTICO TAREA SISTEMAS OPERATIVOS ===
# Directorio 1: respaldo cada 8 horas (2 días consecutivos = 6 respaldos)
0 */8 * * * bash /home/alexis/canny/Tareas/backup_tarea.sh >> /home/alexis/canny/backups/cron.log 2>&1
# Directorio 2: crear dos carpetas y eliminar una cada 6 horas (dos veces al día)
0 */6 * * * bash /home/alexis/canny/Tareas/backup_tarea.sh >> /home/alexis/canny/backups/cron.log 2>&1
# Directorio 3: eliminar respaldos mayores a 1 día
0 0 * * * bash /home/alexis/canny/Tareas/backup_tarea.sh >> /home/alexis/canny/backups/cron.log 2>&1

Help      Write Out  Where Is   Cut        Execute    Location   M-U Undo   M-A Set Mark  M-] To Bracket
Exit      Read File  Replace    Paste      Justify    Go To Line M-E Redo   M-C Copy   M-~ Where Was

16°C
Prac. despedido
Buscar
09:43 p. m.
21/10/2025

alexis@LAPTOP-9EVLMMCK: ~ - x Ubuntu
alexis@LAPTOP-9EVLMMCK: $ crontab -e
no crontab for alexis - using an empty one

Select an editor. To change later, run 'select-editor'.
 1. /bin/nano        <---- easiest
 2. /usr/bin/vim.basic
 3. /usr/bin/vim.tiny
 4. /bin/ed

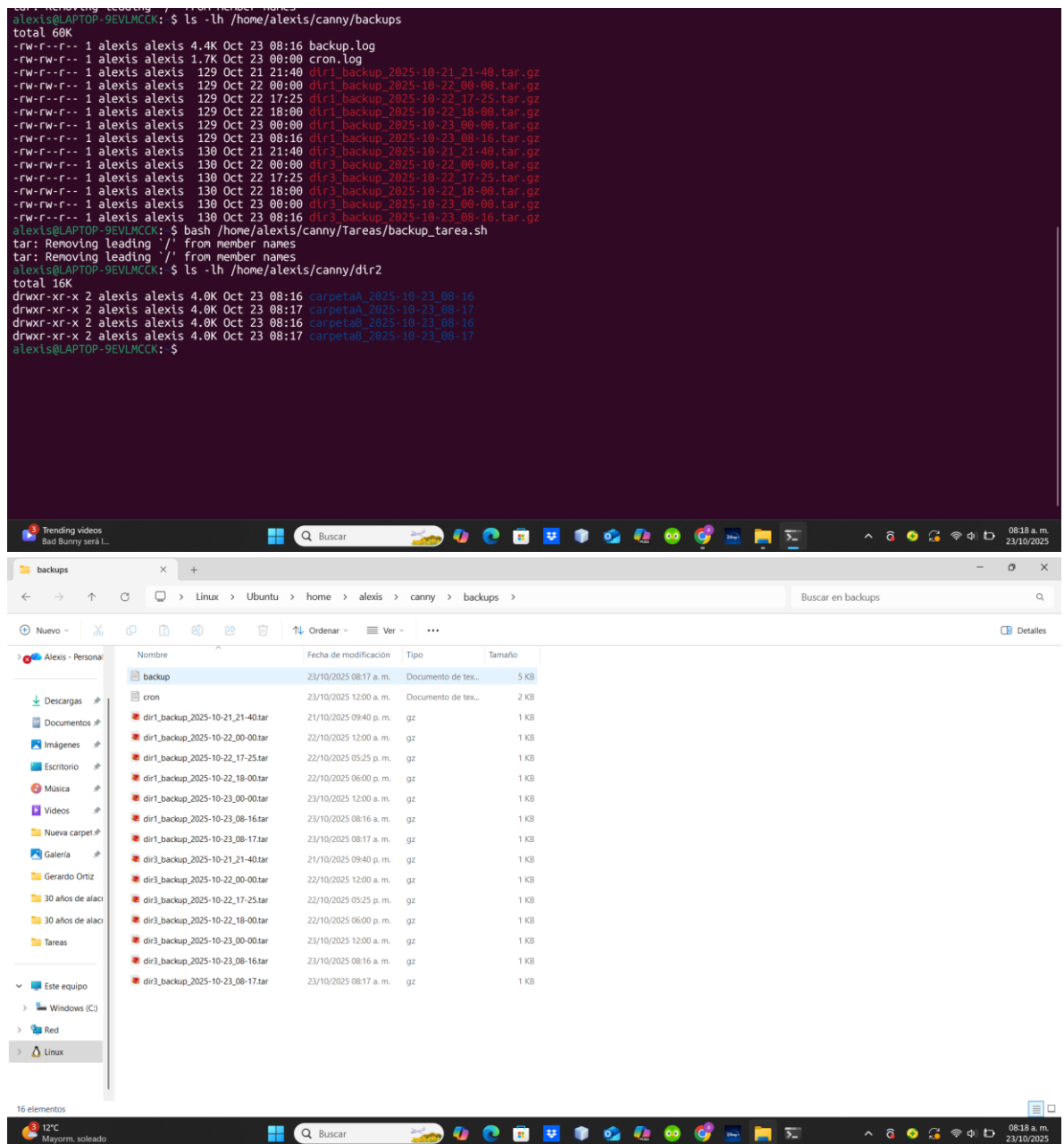
Choose 1-4 [1]: 1
crontab: installing new crontab
alexis@LAPTOP-9EVLMMCK: $ crontab -l
# Edit this file to introduce tasks to be run by cron.
#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run
# and what command to run for the task
#
# 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').
#
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#
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#
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# 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
# === RESPALDO AUTOMÁTICO TAREA SISTEMAS OPERATIVOS ===
# Directorio 1: respaldo cada 8 horas (2 días consecutivos = 6 respaldos)
0 */8 * * * bash /home/alexis/canny/Tareas/backup_tarea.sh >> /home/alexis/canny/backups/cron.log 2>&1
# Directorio 2: crear dos carpetas y eliminar una cada 6 horas (dos veces al día)
```

```
alexis@LAPTOP-9EVLNCKK: ~  
2. /usr/bin/vim.basic  
3. /usr/bin/vim.tiny  
4. /bin/ed  
Choose 1-4 [1]: 1  
crontab: installing new crontab  
alexis@LAPTOP-9EVLNCKK: $ 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  
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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').  
  
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=== RESPALDO AUTOMÁTICO TAREA SISTEMAS OPERATIVOS ===  
Directorio 1: respaldo cada 8 horas (2 días consecutivos = 6 respaldos)  
*/8 * * * bash /home/alexis/canny/Tareas/backup_tarea.sh >> /home/alexis/canny/backups/cron.log 2>&1  
Directorio 2: crear dos carpetas y eliminar una cada 6 horas (dos veces al día)  
*/6 * * * bash /home/alexis/canny/Tareas/backup_tarea.sh >> /home/alexis/canny/backups/cron.log 2>&1  
Directorio 3: eliminar respaldos mayores a 1 día  
0 * * * bash /home/alexis/canny/Tareas/backup_tarea.sh >> /home/alexis/canny/backups/cron.log 2>&1  
alexis@LAPTOP-9EVLNCKK: $  
  
alexis@LAPTOP-9EVLNCKK: $ cat /home/alexis/canny/backups/cron.log  
tar: Removing leading '/' from member names  
tar: Removing leading '/' from member names  
tar: Removing leading '/' from member names  
tar: Removing leading '/' from member names  
tar: Removing leading '/' from member names  
alexis@LAPTOP-9EVLNCKK: $ ls /home/alexis/canny/backups/  
backup.log dir1_backup_2025-10-21_21-40.tar.gz dir3_backup_2025-10-21_21-40.tar.gz  
cron.log dir1_backup_2025-10-22_00-00.tar.gz dir3_backup_2025-10-22_00-00.tar.gz  
alexis@LAPTOP-9EVLNCKK: $  
  
alexis@LAPTOP-9EVLNCKK: $ ls -lh /home/alexis/canny/backups  
total 32K  
-rw-r--r-- 1 alexis alexis 2.2K Oct 22 17:25 backup.log  
-rw-rw-r-- 1 alexis alexis 264 Oct 22 00:00 cron.log  
-rw-r--r-- 1 alexis alexis 129 Oct 21 21:40 dir1_backup_2025-10-21_21-40.tar.gz  
-rw-rw-r-- 1 alexis alexis 129 Oct 22 00:00 dir1_backup_2025-10-22_00-00.tar.gz  
-rw-r--r-- 1 alexis alexis 129 Oct 22 17:25 dir1_backup_2025-10-22_17-25.tar.gz  
-rw-r--r-- 1 alexis alexis 130 Oct 21 21:40 dir3_backup_2025-10-21_21-40.tar.gz  
-rw-rw-r-- 1 alexis alexis 130 Oct 22 00:00 dir3_backup_2025-10-22_00-00.tar.gz  
-rw-r--r-- 1 alexis alexis 130 Oct 22 17:25 dir3_backup_2025-10-22_17-25.tar.gz  
alexis@LAPTOP-9EVLNCKK: $
```

Herramienta Recortes

Captura de pantalla copiada en el portapapeles. Guardado automáticamente en la carpeta de capturas de pantalla.

Marcado y uso compartido



El sistema de respaldo automatizado funciona correctamente bajo **WSL (Ubuntu en Windows)**.

Los respaldos se generan cada 8 horas y las carpetas temporales se crean y eliminan conforme a lo programado.

El cron se ejecuta incluso con la pantalla apagada, mientras la laptop no entre en suspensión