Linux Directory Backup using Bash Script and Cron

Step 1: Create the backup script

1. Open terminal and create the script file:

nano /home/kali/backup.sh

2. File Script:

#!/bin/bash

SOURCE_DIR="/home/kali/mydata"

DEST_DIR="/home/kali/backups"

LOG_FILE="/home/kali/backup.log"

TIMESTAMP=$(date +"%Y-%m-%d_%H-%M-%S")

BACKUP_DIR="${DEST_DIR}/backup_${TIMESTAMP}"

mkdir -p "$BACKUP_DIR"

rsync -av --delete "$SOURCE_DIR/" "$BACKUP_DIR/" >> "$LOG_FILE" 2>&1

echo "Backup completed at $TIMESTAMP" >> "$LOG_FILE"

3. Save and exit (Ctrl+O, Enter, Ctrl+X).

Step 2: Make the script executable

Run this command:

chmod +x /home/kali/backup.sh

Step 3: Create the source directory and a test file

sudo mkdir -p /home/kali/mydata

echo "Test file content" | sudo tee /home/kali/mydata/test.txt > /dev/null

Step 4: Run the script manually to test

bash /home/kali/backup.sh

Step 5: Check if backup worked

List backup folders:

ls /home/kali/backups

List contents of a backup folder:

ls /home/kali/backups/backup_<timestamp>

Step 6: Check the backup log

cat /home/kali/backup.log

Step 7: Add a cron job to automate it

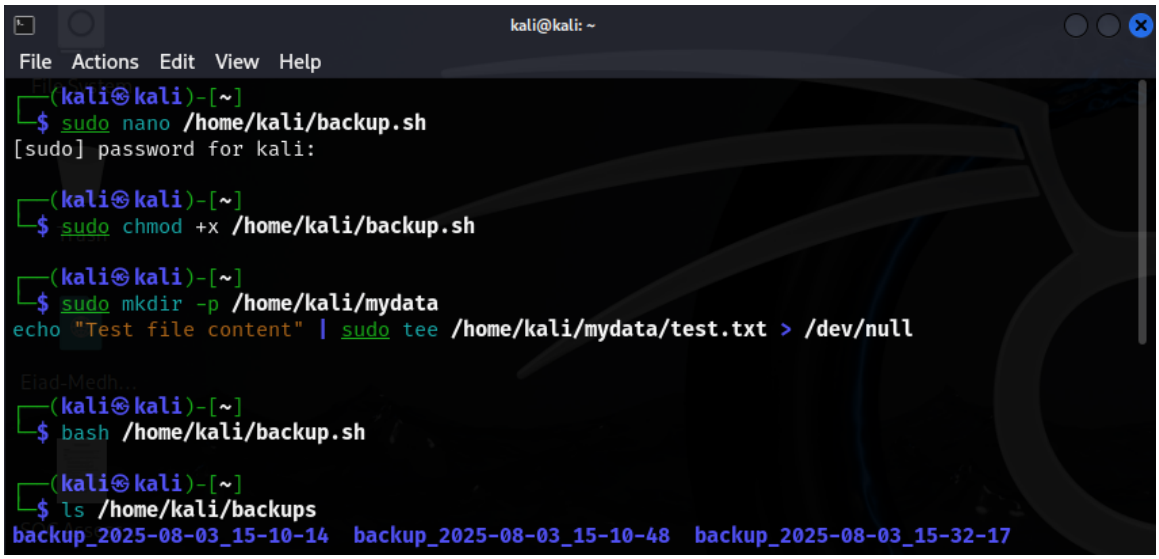
Open crontab editor:

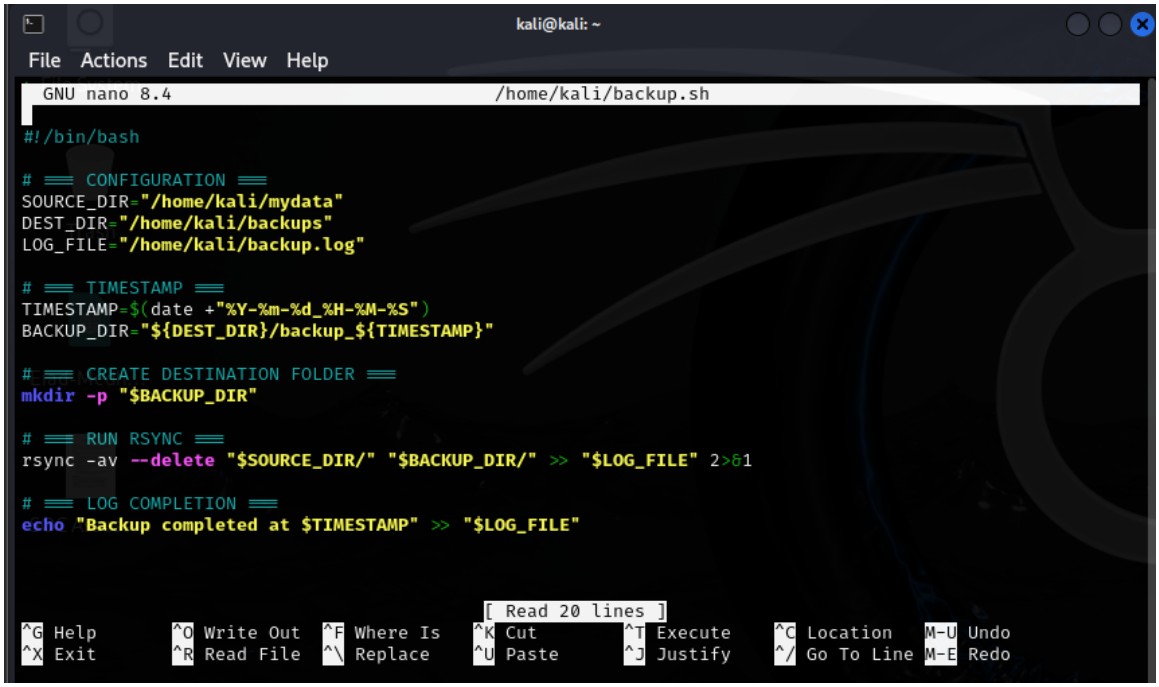
crontab -e

File Script:

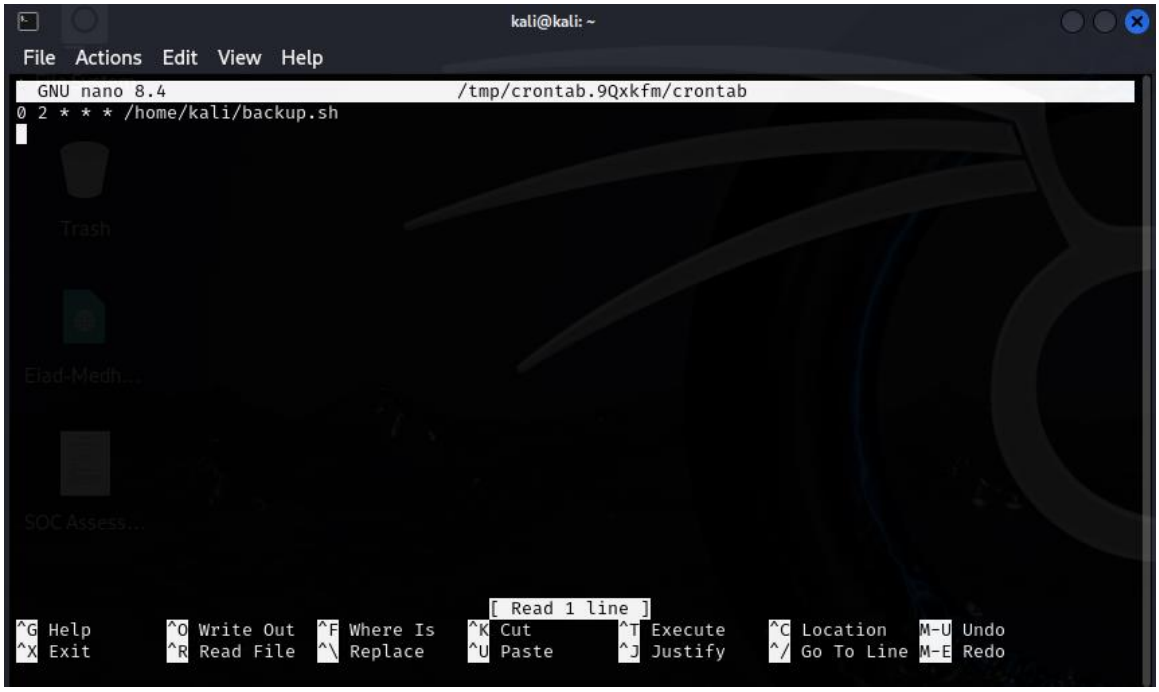
0 2 * * * /home/kali/backup.sh

This runs the backup daily at 2:00 AM.




kali@kali: ~
File Actions Edit View Help
GNU nano 8.4 /home/kali/backup.sh
#!/bin/bash
# ═══ CONFIGURATION ═══
SOURCE_DIR="/home/kali/mydata"
DEST_DIR="/home/kali/backups"
LOG_FILE="/home/kali/backup.log"
# ═══ TIMESTAMP ═══
TIMESTAMP=$(date +"%Y-%m-%d_%H-%M-%S")
BACKUP_DIR="${DEST_DIR}/backup_${TIMESTAMP}"
# ═══ CREATE DESTINATION FOLDER ═══
mkdir -p "$BACKUP_DIR"
═══ RUN RSYNC ═══
rsync -av --delete "$SOURCE_DIR/" "$BACKUP_DIR/" >> "$LOG_FILE" 2>&1
═══ LOG COMPLETION ═══
echo "Backup completed at $TIMESTAMP" >> "$LOG_FILE"
[Read 20 lines]
^G Help ^O Write Out ^F Where Is ^K Cut ^T Execute ^C Location M-U Undo
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^/ Go To Line M-E Redo


kali@kali: ~
File Actions Edit View Help
└─$ cat /home/kali/backup.log
sending incremental file list
./
test.txt
sent 141 bytes received 38 bytes 358.00 bytes/sec
total size is 13 speedup is 0.07
Backup completed at 2025-08-03_15-10-14
sending incremental file list
./
test.txt
sent 141 bytes received 38 bytes 358.00 bytes/sec
total size is 13 speedup is 0.07
Backup completed at 2025-08-03_15-10-48
sending incremental file list
./
test.txt
sent 146 bytes received 38 bytes 368.00 bytes/sec
total size is 18 speedup is 0.10
Backup completed at 2025-08-03_15-32-17
┌──(kali㉿kali)-[~]
└─$ crontab -e
crontab: installing new crontab


kali@kali: ~
File Actions Edit View Help
GNU nano 8.4 /tmp/crontab.9Qxkfm/crontab
0 2 * * * /home/kali/backup.sh
Trash
Elad-Medh...
SOC Assess...
[Read 1 line]
^G Help ^O Write Out ^F Where Is ^K Cut ^T Execute ^C Location M-U Undo
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^/ Go To Line M-E Redo