Cron

A **cron job** is a scheduled task in Linux that runs automatically at specified intervals using the **cron daemon**. You can use **crontab** (cron table) to define these jobs.

1. Install Cron (If Not Installed)

On Ubuntu and Kali Linux, cron is usually pre-installed. To ensure it is installed, run:

bash

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```
sudo apt update

sudo apt install cron -y
```

2. Start and Enable Cron Service

Ensure cron is running and set to start on boot:

bash

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```
sudo systemctl start cron

sudo systemctl enable cron
```

Check status:

bash

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```
sudo systemctl status cron
```

3. Open Crontab for Editing

To edit the cron jobs for the current user:

bash

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```
crontab -e
```

For system-wide cron jobs (requires sudo):

bash

CopyEdit

```
sudo crontab -e
```

4. Crontab Syntax

A cron job follows this syntax:

pgsql

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```
* * * * * command-to-execute
| | | | |
| | | | +---- Day of the week (0 - Sunday, 6 - Saturday)
| | | +------ Month (1 - 12)
| | +-------- Day of the month (1 - 31)
| +---------- Hour (0 - 23)
+------------ Minute (0 - 59)
```

5. Examples of Cron Jobs

Run a script every minute

bash

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```
* * * * * /path/to/script.sh
```

Run a backup script at 2 AM daily

bash

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```
0 2 * * * /path/to/backup.sh
```

Clear logs every Sunday at midnight

bash

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```
0 0 * * 0 rm -rf /var/log/*.log
```

Restart Apache server every day at midnight

bash

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```
0 0 * * * sudo systemctl restart apache2
```

Send a notification every Monday at 9 AM

bash

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```
0 9 * * 1 echo "Weekly report due!" | mail -s "Reminder" user@example.com
```

6. List and Remove Cron Jobs

- List cron jobs:

bash

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```
crontab -l
```

- Remove all cron jobs:

bash

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```
crontab -r
```

7. Verify Cron Jobs

Check cron logs to see if jobs are running:

bash

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```
sudo journalctl -u cron --since "1 hour ago"
```

You can also check logs in /var/log/syslog:

bash

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```
grep CRON /var/log/syslog
```

Would you like help with a specific cron job setup? 🚀

4o

You said:

how to use bash scritping on corn job with example code program on ubuntu and kali ?

ChatGPT said:

Using Bash Scripting with Cron Jobs on Ubuntu & Kali Linux

To use a **Bash script** in a **cron job**, follow these steps:

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1. Create a Bash Script

Write a simple Bash script. For example, let's create a script that logs the current date and time.

bash

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```
#!/bin/bash


echo "Cron Job Executed: $(date)" >> /home/user/cron_log.txt
```

Steps to Create the Script:

1. Open a terminal and create the script file:

bash

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```
nano /home/user/my_script.sh
```

2. Paste the script inside the file.
3. Save the file (Press CTRL + X, then Y, and Enter).

4. Make the script executable:

bash

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```
chmod +x /home/user/my_script.sh
```

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2. Add the Script to a Cron Job

Now, we schedule this script in crontab.

1. Open the crontab editor:

bash

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```
crontab -e
```

2. Add a new cron job to run the script every minute:

bash

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```
* * * * * /bin/bash /home/user/my_script.sh
```

   - This executes the script every **minute**.
   - Change the schedule as needed.

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3. Verify and Monitor

- **Check if the cron job is running**:

bash

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```
crontab -l
```

- **Check logs for cron execution**:

bash

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```
grep CRON /var/log/syslog
```

- **Check the log file**:

bash

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```
cat /home/user/cron_log.txt
```

Example: Backup Script with Cron Job

Let's create a **backup script** that copies files from /home/user/documents to /home/user/backup.

Backup Script (backup.sh)

bash

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```
#!/bin/bash

SOURCE="/home/user/documents"
DEST="/home/user/backup"
LOGFILE="/home/user/backup_log.txt"

mkdir -p "$DEST"
cp -r "$SOURCE"/* "$DEST"/
echo "Backup Completed: $(date)" >> "$LOGFILE"
```

Steps to Schedule in Cron

1. **Make script executable**:

bash

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```
chmod +x /home/user/backup.sh
```

2. **Edit crontab**:

bash

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```
crontab -e
```

3. **Add cron job to run the backup every day at 2 AM**:

bash

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```
0 2 * * * /bin/bash /home/user/backup.sh
```

4. **Verify Execution**:

bash

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```
cat /home/user/backup_log.txt
```

Common Cron Job Issues & Fixes

1. **Cron job not running?**
    - Ensure cron service is active:

bash

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```
sudo systemctl start cron
sudo systemctl enable cron
```

   - Check cron logs:

bash

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```
grep CRON /var/log/syslog
```

   - Use absolute paths in the script (e.g., /usr/bin/bash instead of bash).

2. **Script permissions issue?**
    - Make sure the script is executable:

bash

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```
chmod +x /home/user/my_script.sh
```

3. **Environment variables missing?**
    - Add this line at the beginning of your script:

bash

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```
source ~/.bashrc
```

Conclusion

You can automate almost anything using Bash scripts and cron jobs, such as **backups, log rotation, server monitoring, and alerts**. 🚀

Would you like help with a specific script? 😊