

Lab Exercises on Cron Jobs

Exercise 1: Understanding Cron Syntax

Objective:

Understand and practice the syntax of cron job scheduling.

Instructions:

1. Open the terminal on your Linux machine.

Check the current scheduled cron jobs using:

```
crontab -l
```

2. Write down the syntax structure for cron jobs:

```
* * * * * command_to_execute
```

```
|||||
|||| +---- Day of the week (0 - 6) (Sunday = 0)
||| +----- Month (1 - 12)
|| +----- Day of the month (1 - 31)
| +----- Hour (0 - 23)
+----- Minute (0 - 59)
```

3. Explain the meaning of each field.

Exercise 2: Creating a Simple Cron Job

Objective:

Schedule a cron job to execute a basic command.

Instructions:

Open the crontab editor:

```
crontab -e
```

1. Add the following cron job to create a timestamped log file every minute:
`***** echo "Cron Job Executed at $(date)" >> ~/cron_log.txt`
- 2.
3. Save and exit the editor.

Verify that the job has been added:

```
crontab -l
```

4. Check the log file after a few minutes:
`cat ~/cron_log.txt`

Exercise 3: Scheduling a Daily Backup

Objective:

Create a cron job to back up a directory every day at midnight.

Instructions:

Open the crontab editor:

```
crontab -e
```

1. Add a cron job that creates a backup of the `/home/user/Documents/` directory:
`0 0 * * * tar -czf ~/backup_$(date +%Y%m%d).tar.gz /home/rocky/`
2. Save and exit the editor.
3. Wait until the next execution or manually test the command in the terminal.

Exercise 4: Running a Script with Cron

Objective:

Automate script execution using cron.

Instructions:

Create a simple script that prints a message and saves it to a log file:

```
nano ~/test_script.sh
```

Add the following content:

```
#!/bin/bash
```

```
echo "Script executed at $(date)" >> ~/script_log.txt
```

1. Make the script executable:
`chmod +x ~/test_script.sh`

2. Open the crontab editor:
`crontab -e`
3. Add the following line to execute the script every 5 minutes:
`* /5 * * * * ~/test_script.sh`
4. Save and exit.

Verify that the script runs and check the log file after some time:
`cat ~/script_log.txt`

Exercise 5: Removing and Managing Cron Jobs

Objective:

Learn how to remove and troubleshoot cron jobs.

Instructions:

List all existing cron jobs:
`crontab -l`

1. Remove all cron jobs:
`crontab -r`
2. Verify that no jobs exist:
`crontab -l`
3. *(This should return no output)*
4. Recreate any necessary cron jobs.

Conclusion:

These exercises help you understand, create, and manage cron jobs effectively. Experiment further by modifying schedules and automating different tasks!