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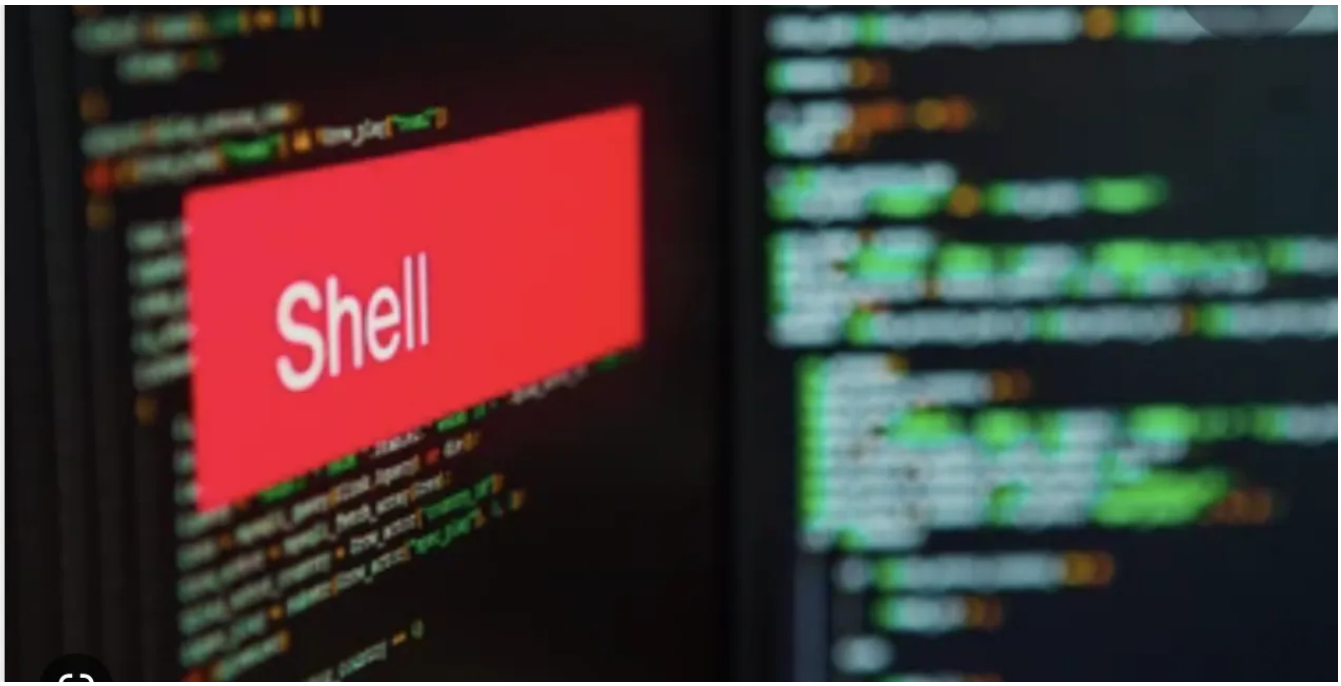
Day 5 : Advanced Linux Shell Scripting with User management



1) Write a bash script createDirectoriess1.sh that when the script is executed with three given arguments (one is the directory name and second is the start number of directories and the third is the end number of directories) it creates a specified number of directories with a dynamic directory name.

Example 1: When the script is executed as

```
./createDirectories.sh day 1 90
```

then it creates 90 directories as `day1 day2 day3 .... day90`

$1 — First argument

$2 — Second argument

$3 — Third argument

```
#!/bin/bash

for ((i=$2 ;i<=$3 ;i++))
do
        mkdir /home/ubuntu/bash/$1$i
done

~
~
~
~
~
~
```

```
[ubuntu@ip-172-31-10-54:~/bash$ vim task1.sh
[ubuntu@ip-172-31-10-54:~/bash$ chmod 700 task1.sh
[ubuntu@ip-172-31-10-54:~/bash$  ./task1.sh day 1 90
[ubuntu@ip-172-31-10-54:~/bash$ ls
day1   day14  day19  day23  day28  day32  day37  day41  day46  day50  day55  day6   day64  day69  day73  day78  day82  day87  task1.sh
day10  day15  day2   day24  day29  day33  day38  day42  day47  day51  day56  day60  day65  day7   day74  day79  day83  day88
day11  day16  day20  day25  day3   day34  day39  day43  day48  day52  day57  day61  day66  day70  day75  day8   day84  day89
day12  day17  day21  day26  day30  day35  day4   day44  day49  day53  day58  day62  day67  day71  day76  day80  day85  day9
day13  day18  day22  day27  day31  day36  day40  day45  day5   day54  day59  day63  day68  day72  day77  day81  day86  day90
ubuntu@ip-172-31-10-54:~/bash$
```

2) Create a Script to back up all your work done till now.

```
#!/bin/bash
####################################
#
# Backup Files of AllFiles Repo.
#
####################################
# What to backup.
backup_files="/home/ubuntu/Allfiles/*"

# Where to backup to.
dest="/home/ubuntu/backupfolder"

# Create archive filename.
day=$(date +"%d-%b-%y-%S")


mkdir  $dest/$day
# Backup the files
cp -r $backup_files $dest/$day

# Print end status message.
echo
echo "Backup finished"
date

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```

output : Allfiles folder get copied in /home/ubuntu/backupfolder with that date-name folder

```
ubuntu@ip-172-31-10-54:~$ cd backupfolder/
ubuntu@ip-172-31-10-54:~/backupfolder$ ls
16-Feb-23-50
ubuntu@ip-172-31-10-54:~/backupfolder$ cd
ubuntu@ip-172-31-10-54:~$ bash backup.sh

Backup finished
Thu Feb 16 14:54:53 UTC 2023
ubuntu@ip-172-31-10-54:~$ cd backupfolder/
ubuntu@ip-172-31-10-54:~/backupfolder$ ls
16-Feb-23-50  16-Feb-23-53
ubuntu@ip-172-31-10-54:~/backupfolder$
```

3) Read About Cron and Crontab, to automate the Script

Cron is a job scheduler utility, In simple terms it executes described commands/script at a particular predefined interval.

crontab is basically a table in which we maintain all the cron jobs that we need to execute in our system.

1. **command to check the crontab list:**

```
crontab -l
```

2.create a new cron job and when u run this command first time it will ask you to select editor like nano ,vim etc and then select editor as per you choice and add new line in file:

```
crontab -e
```

Example : Add below line in file open after crontab -e

0 0 1,5 * * echo “hello” >> /home/ubuntu/logs.txt

0 0 1,5 * * is a cron pattern which indicates that this particular command should run on 1st and 5th date of every month at 00:00 and output of the script will be appended to the logs.txt file.

1. Minute (0–59)
2. Hour (0–23)
3. Day of the month (1–31)
4. Month (1–12)
5. Day of the week (0–7, where both 0 and 7 represent Sunday)
6. Command to be executed

4) Read about User Management

User management refers to the process of creating, modifying, and deleting user accounts on a computer system or network. It also includes managing user permissions and access to resources.

On Linux systems, user management can be done using the command line tools such as `useradd`, `usermod`, `userdel`, `passwd`, and `groupadd`, `groupmod`, `groupdel`.

1. Command to add a user

sudo useradd username

2. Command to assign password to a user

passwd username

3. Command to access user configuration

cat /etc/passwd

4. Command to change user id

usermod -u new_id username

5. Command to modify group id of a user

usermod -g new_group_id username

6. Command to delete a user

userdel -r username

5) Create 2 users and just display their Usernames

```
ubuntu@ip-172-31-10-54:~$ sudo useradd Sanjanadevops
ubuntu@ip-172-31-10-54:~$ sudo useradd Testersanju
ubuntu@ip-172-31-10-54:~$ cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
```

```
Sanjanadevops:x:1002:1002::/home/Sanjanadevops:/bin/sh
Testersanju:x:1003:1003::/home/Testersanju:/bin/sh
```

_Thank you

_Sanjana✌🏻