



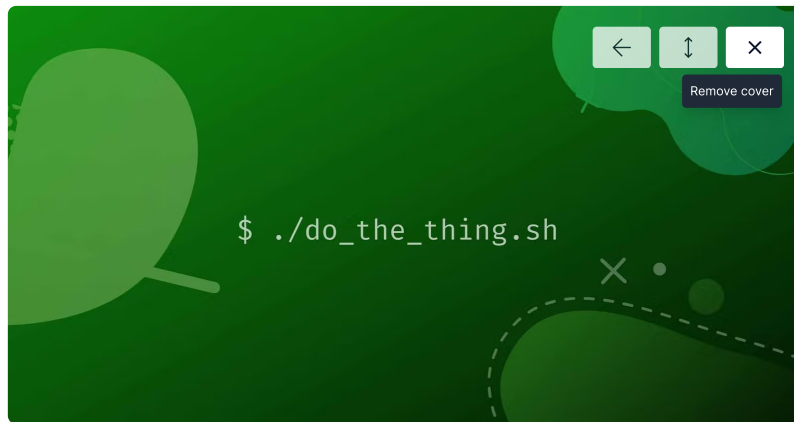
Saved



Preview

Publish

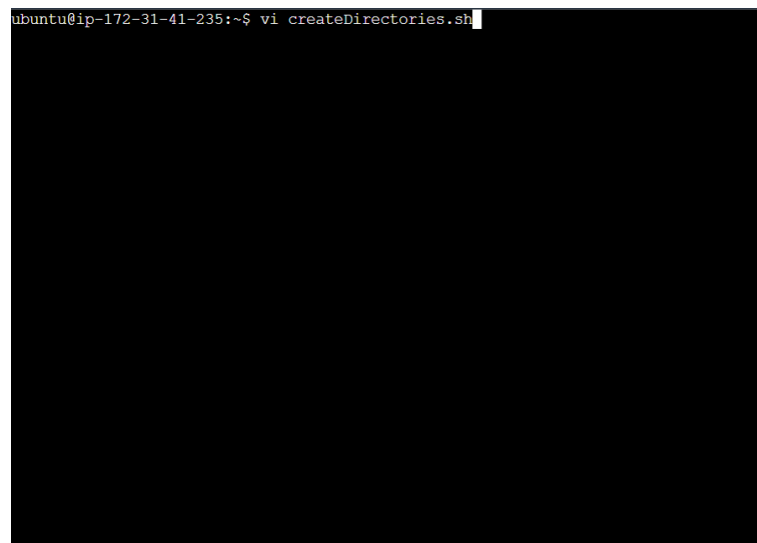
Add Subtitle



Advanced Linux Shell Scripting for DevOps Enginners with User

#90DaysOfDevOps

(1) Write a bash script **createdirectories.sh** that when the script is executed with three given arguments (one is the directory name and the 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.



```
#!/bin/bash

echo "Enter Directory name:- "
read dirName

echo "Enter start day of directory:- "
read startDate

echo "Enter end day of directory:- "
read endDate

for (( i = $startDate ; i <= $endDate ; i++));
do
    mkdir "$dirName-$i"
done

-- INSERT --
```

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

```
src_dir="/home/ubuntu/scripts"
tgt_dir="/home/ubuntu/backups"

curr_timestamp=$(date "+Y-m-d-%H-%M-%S")
backup_file="$tgt_dir/$curr_timestamp.tgz"

echo "Taking backup on $curr_timestamp"
echo "Backup file"

tar czf $backup_file --absolute-names $src_dir
echo "Backup complete"
```

(3) Read about Cron and Crontab, to automate the backup Script.

Cron is the system's main scheduler for running jobs or tasks unattended. A command called `crontab` allows the user to submit, edit or delete entries to cron. A `crontab` file is a user file that holds the scheduling information.

Crontab -l: If you want to add a new cron entry, use the following command and enter it in a text editor.

Crontab -e: It is possible to programme jobs to repeat themselves. This is referred to as job scheduling. The cron service or a daemon called crond handles this process. and crontab -r removes the current crontab configuration.

(4) Read about User Management.

A user is an entity, in a Linux operating system, that can manipulate files and perform several other operations. Each user is assigned an ID that is unique for each user in the operating system. We will learn about users and commands which are used to get information about the users. After installation of the operating system, the ID 0 is assigned to the root user and the IDs 1 to 999 (both inclusive) are assigned to the system users hence the ids for local user begins from 1000 onwards.

- To list out all the users in Linux

```
awk -F':' '{print $1}' /etc/passwd
```

```
ubuntu@ip-172-31-41-235:~$ awk -F':' '{ print $1}' /etc/passwd
root
daemon
bin
sys
sync
games
man
lp
mail
news
uucp
proxy
www-data
backup
list
irc
gnats
nobody
systemd-network
systemd-resolve
messagebus
systemd-timesync
syslog
apt
tss
uidd
tcpdump
```

- Using the id command, You can get the ID of any username

```
id username
```

```
ubuntu@ip-172-31-41-235:~$ id ubuntu
uid=1000(ubuntu) gid=1000(ubuntu) groups=1000(ubuntu),4(admin),20(dialout),24(cdrom),25(floppy),27(audio),30(dsp),44(video),46(plugdev),119(netdev),120(lxd)
ubuntu@ip-172-31-41-235:~$
```

- The command to add a user.

```
sudo useradd username
```

```
ubuntu@ip-172-31-41-235:~$ sudo useradd Prabhu
```

```
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:102:105:/:nonexistent:/usr/sbin/nologin
systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
syslog:x:104:111:/:home/syslog:/usr/sbin/nologin
_apt:x:105:65534:/:nonexistent:/usr/sbin/nologin
tss:x:106:112:TPM software stack,,,:/var/lib/tpm:/bin/false
uidd:x:107:113:/:run/uidd:/usr/sbin/nologin
tcpdump:x:108:114:/:nonexistent:/usr/sbin/nologin
sshd:x:109:65534:/:run/sshd:/usr/sbin/nologin
pollinate:x:110:1:/:var/cache/pollinate:/bin/false
landscape:x:111:116:/:var/lib/landscape:/usr/sbin/nologin
fwupd-refresh:x:112:117:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin
ec2-instance-connect:x:113:65534:/:nonexistent:/usr/sbin/nologin
chrony:x:114:121:Chrony daemon,,,:/var/lib/chrony:/usr/sbin/nologin
ubuntu:x:1000:1000:Ubuntu:/home/ubuntu:/bin/bash
lxd:x:999:100:/:var/snap/lxd/common/lxd:/bin/false
Prabhu:x:1001:1001:/:home/Prabhu:/bin/sh
ubuntu@ip-172-31-41-235:~$
```

- Using passwd command to assign a password to a user.

```
passwd username
```

```
ubuntu@ip-172-31-41-235:~$ sudo passwd Prabhu
New password:
Retype new password:
passwd: password updated successfully
ubuntu@ip-172-31-41-235:~$
```

- Accessing a user configuration file.

```
cat /etc/passwd
```

```

ubuntu@ip-172-31-41-235:~$ cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:102:105:/:nonexistent:/usr/sbin/nologin
systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
syslog:x:104:111:/:home/syslog:/usr/sbin/nologin
_apt:x:105:65534:/:nonexistent:/usr/sbin/nologin
tss:x:106:112:TPM software stack,,,:/var/lib/tpm:/bin/false
uidd:x:107:113:/:run/uidd:/usr/sbin/nologin
tcpdump:x:108:114:/:nonexistent:/usr/sbin/nologin

```

(5) Create 2 users and just display their usernames.

```
sudo useradd username
```

```

ubuntu@ip-172-31-41-235:~$ sudo useradd Prabhakar
ubuntu@ip-172-31-41-235:~$ sudo useradd Raj
ubuntu@ip-172-31-41-235:~$ █

```

```

proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
messagebus:x:102:105:/:nonexistent:/usr/sbin/nologin
systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
syslog:x:104:111:/:home/syslog:/usr/sbin/nologin
_apt:x:105:65534:/:nonexistent:/usr/sbin/nologin
tss:x:106:112:TPM software stack,,,:/var/lib/tpm:/bin/false
uidd:x:107:113:/:run/uidd:/usr/sbin/nologin
tcpdump:x:108:114:/:nonexistent:/usr/sbin/nologin
sshd:x:109:65534:/:run/sshd:/usr/sbin/nologin
pollinate:x:110:1:/:var/cache/pollinate:/bin/false
landscape:x:111:116:/:var/lib/landscape:/usr/sbin/nologin
fwupd-refresh:x:112:117:fwupd-refresh user,,,:/run/systemd:/usr/sbin/nologin
ec2-instance-connect:x:113:65534:/:nonexistent:/usr/sbin/nologin
_chrony:x:114:121:Chrony daemon,,,:/var/lib/chrony:/usr/sbin/nologin
ubuntu:x:1000:1000:Ubuntu:/home/ubuntu:/bin/bash
lxd:x:999:100:/:var/snap/lxd/common/lxd:/bin/false
Prabhu:x:1001:1001:/:home/Prabhu:/bin/sh
Prabhakar:x:1002:1002:/:home/Prabhakar:/bin/sh
Raj:x:1003:1003:/:home/Raj:/bin/sh
ubuntu@ip-172-31-41-235:~$ █

```

Thanks for giving your valuable time to read this article. If you find this insightful and want to read more kindly follow me.

~Prabhakar Yadav