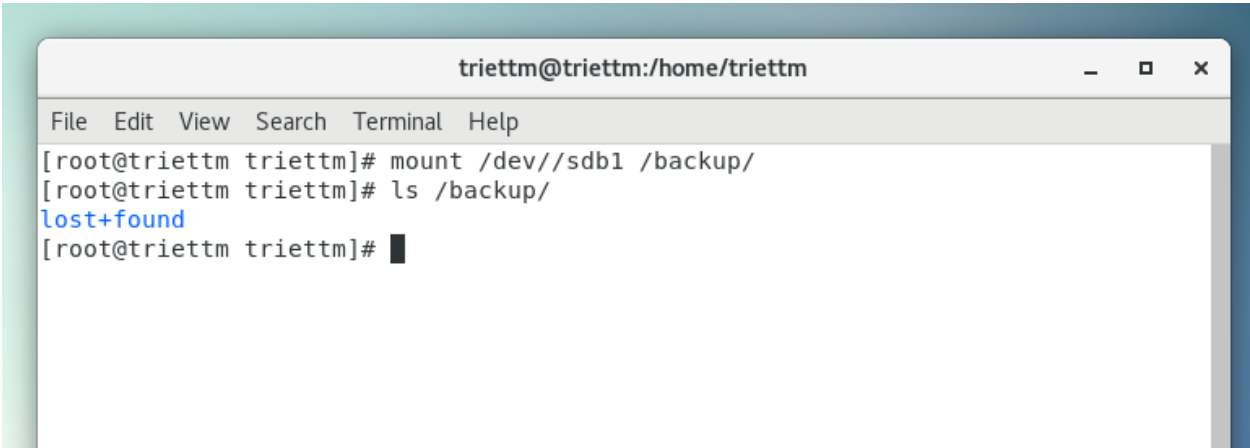Tên: Trần Minh Triết

MSSV: SE172241

Ta add thêm một ổ cứng vào để demo backup, tiến hành partition và định dạng cho ổ cứng đó

```
[root@triettm triettm]# mkfs.ext3 /dev/sdb1
mke2fs 1.42.9 (28-Dec-2013)
Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
Stride=0 blocks, Stripe width=0 blocks
131072 inodes, 524032 blocks
26201 blocks (5.00%) reserved for the super user
First data block=0
Maximum filesystem blocks=536870912
16 block groups
32768 blocks per group, 32768 fragments per group
8192 inodes per group
Superblock backups stored on blocks:
        32768, 98304, 163840, 229376, 294912

Allocating group tables: done
Writing inode tables: done
Creating journal (8192 blocks): done
Writing superblocks and filesystem accounting information: done

[root@triettm triettm]# 
```

Mount thành công ổ cứng vào folder /backup

```
triettm@triettm:/home/triettm
File  Edit  View  Search  Terminal  Help
[root@triettm triettm]# mount /dev//sdb1 /backup/
[root@triettm triettm]# ls /backup/
lost+found
[root@triettm triettm]# 
```

Config file fstab để config ko mất mỗi lần reboot

```
                  triettm@triettm:/home/triettm                    _   □   ✕

 File  Edit  View  Search  Terminal  Help
  GNU nano 2.3.1              File: /etc/fstab                      Modified


#
# /etc/fstab
# Created by anaconda on Thu Jan  5 11:19:35 2023
#
# Accessible filesystems, by reference, are maintained under '/dev/disk'
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info
#
/dev/mapper/centos-root /                         xfs     defaults      0 0
UUID=32ab924c-b23c-446b-a51d-92c636862baa /boot                xfs     defau$
/dev/mapper/centos-swap swap                      swap    defaults      0 0
/dev/sdb1               /backup                    ext3    defaults      0 0




^G Get Help    ^O WriteOut    ^R Read File  ^Y Prev Page  ^K Cut Text   ^C Cur Pos
^X Exit        ^J Justify     ^W Where Is   ^V Next Page  ^U UnCut Text ^T To Spell
```

1. Kiểm tra xem linux đã nhận hard disk mới hay chưa

```
                    triettm@triettm:/home/triettm          _   ▢   ✕

File   Edit   View   Search   Terminal   Help
[root@triettm triettm]# mount /dev//sdb1 /backup/
[root@triettm triettm]# ls /backup/
lost+found
[root@triettm triettm]# nano /etc/fstab
[root@triettm triettm]# cat /proc/partitions
major minor  #blocks   name

      8        0   52428800 sda
      8        1    1048576 sda1
      8        2   51379200 sda2
      8       16    2097152 sdb
      8       17    2096128 sdb1
     11        0    1048575 sr0
    253        0   47308800 dm-0
    253        1    4063232 dm-1
[root@triettm triettm]#
```

```
[root@triettm triettm]# fdisk -l

Disk /dev/sda: 53.7 GB, 53687091200 bytes, 104857600 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk label type: dos
Disk identifier: 0x000a45c0

   Device Boot      Start         End      Blocks   Id  System
/dev/sda1   *        2048     2099199     1048576   83  Linux
/dev/sda2         2099200   104857599    51379200   8e  Linux LVM

Disk /dev/sdb: 2147 MB, 2147483648 bytes, 4194304 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk label type: dos
Disk identifier: 0x1129d70c

   Device Boot      Start         End      Blocks   Id  System
/dev/sdb1            2048     4194303     2096128   83  Linux

Disk /dev/mapper/centos-root: 48.4 GB, 48444211200 bytes, 94617600 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes


Disk /dev/mapper/centos-swap: 4160 MB, 4160749568 bytes, 8126464 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

[root@triettm triettm]#
```

Sử dụng lệnh rsync để backup backup cho user triettm. Tất cả các file nằm trong /home/triettm sẽ được backup (đồng bộ) đến vị trí mới là /backup. Nếu như file hay folder ở trong /home/triettm bị xóa đi, thì file hay folder đã được sync lần trước trong /backup vẫn không bị xóa và giữ lại. Ta login vào user triettm và tạo ra một số file và thư mục theo cấu trúc sau:

```
[triettm@triettm test2]$ seq 1000 > backup1_1.txt
[triettm@triettm test2]$ cat backup1_1.txt
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
```

```
File   Edit   View   Search   Terminal   Help
[triettm@triettm test1]$ cd ..
[triettm@triettm ~]$ ls -lh
total 0
drwxr-xr-x. 2 triettm triettm  6 Jan  5 11:30 Desktop
drwxr-xr-x. 2 triettm triettm  6 Jan  5 11:29 Documents
drwxr-xr-x. 2 triettm triettm  6 Jan  5 11:29 Downloads
drwxr-xr-x. 2 triettm triettm  6 Jan  5 11:29 Music
drwxr-xr-x. 2 triettm triettm  6 Jan  5 11:29 Pictures
drwxr-xr-x. 2 triettm triettm  6 Jan  5 11:29 Public
drwxr-xr-x. 2 triettm triettm  6 Jan  5 11:29 Templates
drwxrwxr-x. 3 triettm triettm 39 Mar 16 10:48 test1
drwxr-xr-x. 2 triettm triettm  6 Jan  5 11:29 Videos
[triettm@triettm ~]$
```

```
[triettm@triettm ~]$ cd test1/
[triettm@triettm test1]$ ls -lh
total 4.0K
-rw-rw-r--. 1 triettm triettm 292 Mar 16 10:48 backup_2.txt
drwxrwxr-x. 2 triettm triettm  27 Mar 16 10:47 test2
[triettm@triettm test1]$
```

Ta tạo folder test1 và test2 để demo các câu lệnh backup

```
drwxrwxr-x. 2 triettm triettm  27 Mar 16 10:47 test2
[triettm@triettm test1]$ rsync -au /home/triettm/ /backup
rsync: chgrp "/backup/." failed: Operation not permitted (1)
rsync: mkstemp "/backup/.ICEauthority.ndajHv" failed: Permission denied (13)
rsync: mkstemp "/backup/.bash_history.11j77C" failed: Permission denied (13)
rsync: mkstemp "/backup/.bash_logout.VaxVyK" failed: Permission denied (13)
rsync: mkstemp "/backup/.bash_profile.N1NJZR" failed: Permission denied (13)
rsync: mkstemp "/backup/.bashrc.rN7xqZ" failed: Permission denied (13)
rsync: mkstemp "/backup/.esd_auth.zRumR6" failed: Permission denied (13)
rsync: recv_generator: mkdir "/backup/.cache" failed: Permission denied (13)
*** Skipping any contents from this failed directory ***
rsync: recv_generator: mkdir "/backup/.config" failed: Permission denied (13)
*** Skipping any contents from this failed directory ***
rsync: recv_generator: mkdir "/backup/.dbus" failed: Permission denied (13)
*** Skipping any contents from this failed directory ***
rsync: recv_generator: mkdir "/backup/.local" failed: Permission denied (13)
*** Skipping any contents from this failed directory ***
rsync: recv_generator: mkdir "/backup/.mozilla" failed: Permission denied (13)
*** Skipping any contents from this failed directory ***
rsync: recv_generator: mkdir "/backup/Desktop" failed: Permission denied (13)
*** Skipping any contents from this failed directory ***
rsync: recv_generator: mkdir "/backup/Documents" failed: Permission denied (13)
*** Skipping any contents from this failed directory ***
rsync: recv_generator: mkdir "/backup/Downloads" failed: Permission denied (13)
*** Skipping any contents from this failed directory ***
rsync: recv_generator: mkdir "/backup/Music" failed: Permission denied (13)
*** Skipping any contents from this failed directory ***
rsync: recv_generator: mkdir "/backup/Pictures" failed: Permission denied (13)
*** Skipping any contents from this failed directory ***
rsync: recv_generator: mkdir "/backup/Public" failed: Permission denied (13)
*** Skipping any contents from this failed directory ***
rsync: recv_generator: mkdir "/backup/Templates" failed: Permission denied (13)
*** Skipping any contents from this failed directory ***
rsync: recv_generator: mkdir "/backup/Videos" failed: Permission denied (13)
*** Skipping any contents from this failed directory ***
rsync: recv_generator: mkdir "/backup/test1" failed: Permission denied (13)
*** Skipping any contents from this failed directory ***
rsync error: some files/attrs were not transferred (see previous errors) (code 23) at main.c(1179) [sender=3.1.2]
[triettm@triettm test1]$
```

Ta gặp lỗi permission denied vì thế ta cần sử dùng quyền root để thực hiên câu lệnh này

```
                              triettm@triettm:/home/triettm/test1
File  Edit  View  Search  Terminal  Help
[root@triettm test1]# rsync -au /home/triettm/ /backup
[root@triettm test1]# ls /backup/
Desktop  Documents  Downloads  lost+found  Music  Pictures  Public  Templates  test1  Videos
[root@triettm test1]#
```

Ta đã backup thành công vào trong folder backup

Tiến hành kiểm tra các content ta đã tạo để test

```
[root@triettm test1]# cd /backup/test1/
[root@triettm test1]# ls
backup_2.txt   test2
[root@triettm test1]# head backup_2.txt
1
2
3
4
5
6
7
8
9
10
[root@triettm test1]#
```

Nice đã thành công

```
[root@triettm test1]# cd test2/
[root@triettm test2]# head backup1_1.txt
1
2
3
4
5
6
7
8
9
10
[root@triettm test2]#
```

-u : update nghĩa là bỏ qua không truyền các file, với các file này nó đang có tính chất mới hơn ở chỗ người nhận.

-a : nghĩa là archive. Option –a này thay thế cho tất cả các yếu tố mà ta muốn backup của file là

    -r : backup recursive (backup toàn bộ file và folder nằm bên dưới thư mục)

    - l : backup link

    -t : bảo tồn yếu tố thời gian của file và folder

    -p : permission của đối tượng. Bao gồm –o quyền owner, -g quyền group owner

-d : các dạng file đặc biệt khác

- Ta thử tạo ra file test123 bên trong home folder của user triettm

- Nếu như ta dùng câu lệnh ở trên "rsync –au /home/triettm /BACKUP " và sau đó xóa đi file test123.txt. Cuối cùng thực hiện lại lệnh backup ở trên.

- Nếu ta muốn xóa file tại /BACKUP (nơi chứa file backup) với điều kiện file này không có ở tại vị trí /home/triettm (file hay folder cần được backup) thì ta thêm biết –delete vào trong câu lệnh rsync ở trên. Câu lệnh sẽ là rsync –auv -delete /home/triettm /BACKUP

```
triettm/.local/share/nautilus/scripts/
triettm/.local/share/sounds/
triettm/.local/share/telepathy/
triettm/.local/share/telepathy/mission-control/
triettm/.local/share/telepathy/mission-control/accounts-goa.cfg
triettm/.local/share/telepathy/mission-control/accounts.cfg
triettm/.local/share/tracker/
triettm/.local/share/tracker/data/
triettm/.local/share/tracker/data/.meta.isrunning
triettm/.local/share/tracker/data/tracker-store.journal
triettm/.local/share/tracker/data/tracker-store.ontology.journal
triettm/.local/share/webkitgtk/
triettm/.local/share/webkitgtk/databases/
triettm/.local/share/webkitgtk/databases/indexeddb/
triettm/.local/share/webkitgtk/databases/indexeddb/v1/
triettm/.local/share/webkitgtk/deviceidhashsalts/
triettm/.local/share/webkitgtk/deviceidhashsalts/1/
triettm/.local/share/webkitgtk/localstorage/
triettm/.mozilla/
triettm/.mozilla/extensions/
triettm/.mozilla/plugins/
triettm/Desktop/
triettm/Documents/
triettm/Downloads/
triettm/Music/
triettm/Pictures/
triettm/Public/
triettm/Templates/
triettm/Videos/
triettm/test1/
triettm/test1/backup_2.txt
triettm/test1/test2/
triettm/test1/test2/backup1_1.txt

sent 4,278,243 bytes  received 1,739 bytes  8,559,964.00 bytes/sec
total size is 4,268,438  speedup is 1.00
[root@triettm triettm]# ls /backup/
backup1.txt  Desktop  Documents  Downloads  lost+found  Music  Pictures  Public  Templates  test1  test123.txt  triettm  Videos
[root@triettm triettm]#
```

1. CPIO

Incremental backup 1


```
[root@triettm triettm]# cd /root/
[root@triettm ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg
[root@triettm ~]# mkdir backup
[root@triettm ~]# mkdir cpiofull
[root@triettm ~]# S
```



```
[root@triettm ~]# find /home/ -print | cpio -oF /root/backup/cpiofull
8362 blocks
[root@triettm ~]#
```

Ta tìm coi trong thư mục home có tổng cộng bao nhiêu file rồi lưu vào file cpiofull

```
[root@triettm ~]# touch /home/newfile1 /home/newfile2
[root@triettm ~]# find /home/ -cnewer /root/backup/cpiofull -print
/home/
/home/triettm/.config/nautilus
/home/triettm/.config/nautilus/desktop-metadata
/home/newfile1
/home/newfile2
[root@triettm ~]#
```

Sau khi test thử tạo thêm 2 file mới ta dùng câu lệnh find cùng option -cnewer để tìm kiếm sự khác biệt với file đã backup trước đó.

```
[root@triettm ~]# find /home/ -cnewer /root/backup/cpiofull -print | cpio -oF /root/backup/cpioinc1
2 blocks
[root@triettm ~]#
```

Incremental backup 2:

```
2 blocks
[root@triettm ~]# touch /home/newfile3
[root@triettm ~]# touch /home/newfile4
[root@triettm ~]# find /home/ -cnewer /root/backup/cpioinc1 -print
/home/
/home/triettm/.config/nautilus
/home/triettm/.config/nautilus/desktop-metadata
/home/triettm/.local/share/gvfs-metadata
/home/triettm/.local/share/gvfs-metadata/root
/home/triettm/.local/share/gvfs-metadata/root-bea0eaf8.log
/home/newfile3
/home/newfile4
[root@triettm ~]# S
```

```
[root@triettm ~]# find /home/ -cnewer /root/backup/cpioinc1 -print | cpio -oF /root/backup/cpioinc2
66 blocks
[root@triettm ~]#
```

Check our backup files

```
[root@triettm ~]# cpio -tF /root/backup/cpioinc1 2>/dev/null
/home/
/home/triettm/.config/nautilus
/home/triettm/.config/nautilus/desktop-metadata
/home/newfile1
/home/newfile2
[root@triettm ~]#
```

```
[root@triettm ~]# cpio -tF /root/backup/cpioinc2 2>/dev/null
/home/
/home/triettm/.config/nautilus
/home/triettm/.config/nautilus/desktop-metadata
/home/triettm/.local/share/gvfs-metadata
/home/triettm/.local/share/gvfs-metadata/root
/home/triettm/.local/share/gvfs-metadata/root-bea0eaf8.log
/home/newfile3
/home/newfile4
[root@triettm ~]#
```

Restore Full backup:

```
File  Edit  View  Search  Terminal  Help
[root@triettm ~]# rm -rf /home/*
[root@triettm ~]# ls /home/
[root@triettm ~]# ls /home/
[root@triettm ~]# cd /
[root@triettm /]# cpio -iF /root/backup/cpiofull 2>/dev/null
[root@triettm /]# ls home/
triettm
[root@triettm /]#
```

Chúng ta thành công khôi phục lại thư mục triettm sau khi bị xóa từ file backup

Restore Incremental backup 1:

```
                                                          triettm@triettm:/
File  Edit  View  Search  Terminal  Help
[root@triettm /]# cpio -iF /root/backup/cpioinc1 2>/dev/null
[root@triettm /]# ls /home/
newfile1  newfile2  triettm
[root@triettm /]#
```
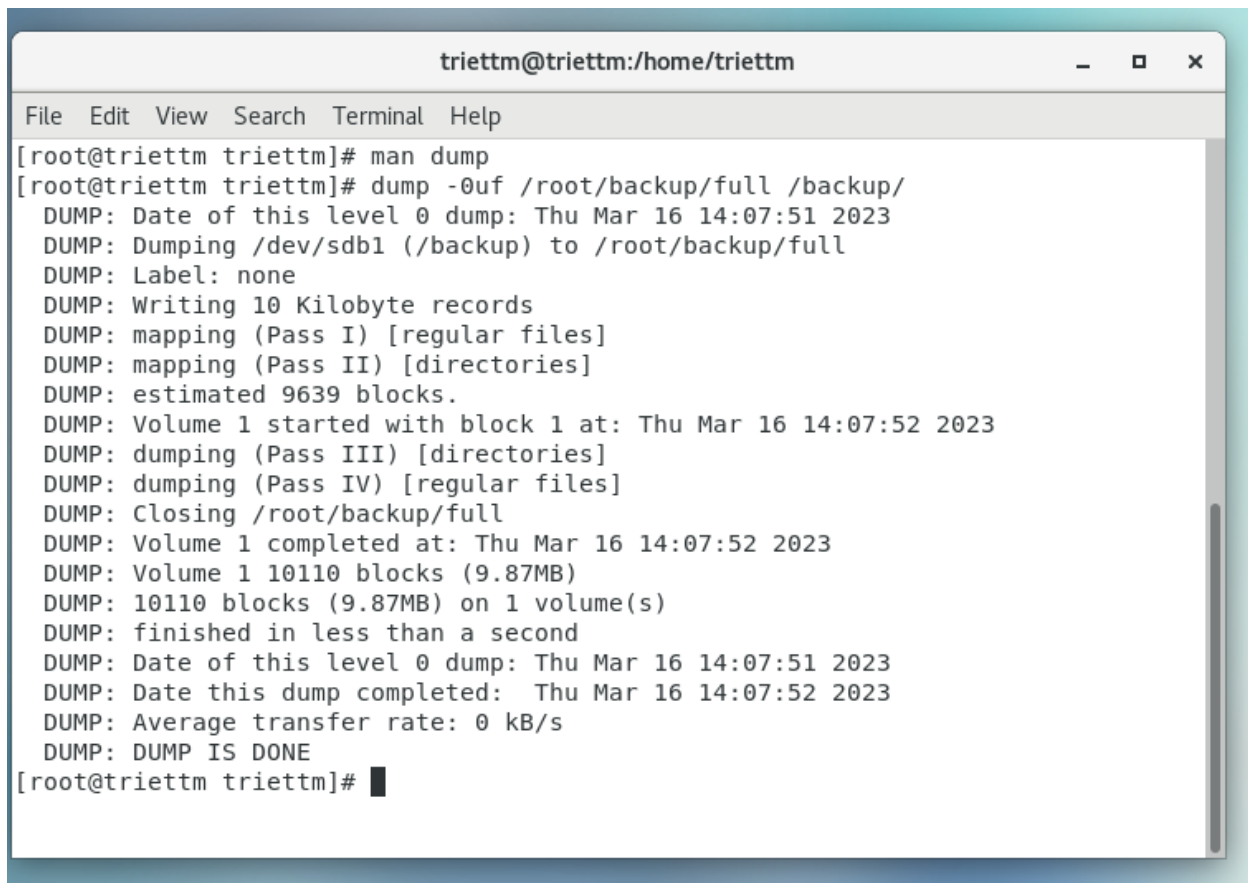
Restore Incremental backup 2:

```
newfile1  newfile2  triettm
[root@triettm /]# cpio -iF /root/backup/cpioinc2 2>/dev/null
[root@triettm /]# ls /home/
newfile1  newfile2  newfile3  newfile4  triettm
[root@triettm /]#
```

2. DUMP

Dump is a nice tool to backup an entire filesystem (not for a specific subdirectory). It supports full and incremental backup in nature.

Create full backup

```
                    triettm@triettm:/home/triettm              _  □  ×

File  Edit  View  Search  Terminal  Help
[root@triettm triettm]# man dump
[root@triettm triettm]# dump -0uf /root/backup/full /backup/
  DUMP: Date of this level 0 dump: Thu Mar 16 14:07:51 2023
  DUMP: Dumping /dev/sdb1 (/backup) to /root/backup/full
  DUMP: Label: none
  DUMP: Writing 10 Kilobyte records
  DUMP: mapping (Pass I) [regular files]
  DUMP: mapping (Pass II) [directories]
  DUMP: estimated 9639 blocks.
  DUMP: Volume 1 started with block 1 at: Thu Mar 16 14:07:52 2023
  DUMP: dumping (Pass III) [directories]
  DUMP: dumping (Pass IV) [regular files]
  DUMP: Closing /root/backup/full
  DUMP: Volume 1 completed at: Thu Mar 16 14:07:52 2023
  DUMP: Volume 1 10110 blocks (9.87MB)
  DUMP: 10110 blocks (9.87MB) on 1 volume(s)
  DUMP: finished in less than a second
  DUMP: Date of this level 0 dump: Thu Mar 16 14:07:51 2023
  DUMP: Date this dump completed:  Thu Mar 16 14:07:52 2023
  DUMP: Average transfer rate: 0 kB/s
  DUMP: DUMP IS DONE
[root@triettm triettm]#
```

Thành công backup bằng dump

```
   DUMP: DUMP IS DONE
  [root@triettm triettm]# ls -lh
  total 4.0K
  -rw-r--r--. 1 root     root     13 Mar 16 13:03 backup1.txt
  drwxr-xr-x. 2 triettm triettm  6 Mar 16 13:03 Desktop
  drwxr-xr-x. 2 triettm triettm  6 Mar 16 13:03 Documents
  drwxr-xr-x. 2 triettm triettm  6 Mar 16 13:03 Downloads
  drwxr-xr-x. 2 triettm triettm  6 Mar 16 13:03 Music
  drwxr-xr-x. 2 triettm triettm  6 Mar 16 13:03 Pictures
  drwxr-xr-x. 2 triettm triettm  6 Mar 16 13:03 Public
  drwxr-xr-x. 2 triettm triettm  6 Mar 16 13:03 Templates
  drwxrwxr-x. 3 triettm triettm 39 Mar 16 13:03 test1
  drwxr-xr-x. 2 triettm triettm  6 Mar 16 13:03 Videos
  [root@triettm triettm]#
```

Create incremental backup 1

```
                    triettm@triettm:/home/triettm                _  □  ✕

File  Edit  View  Search  Terminal  Help
[root@triettm triettm]# dump -1uf /root/backup/incremental1 /backup/
  DUMP: Date of this level 1 dump: Thu Mar 16 14:10:25 2023
  DUMP: Date of last level 0 dump: Thu Mar 16 14:07:51 2023
  DUMP: Dumping /dev/sdb1 (/backup) to /root/backup/incremental1
  DUMP: Label: none
  DUMP: Writing 10 Kilobyte records
  DUMP: mapping (Pass I) [regular files]
  DUMP: mapping (Pass II) [directories]
  DUMP: estimated 52 blocks.
  DUMP: Volume 1 started with block 1 at: Thu Mar 16 14:10:25 2023
  DUMP: dumping (Pass III) [directories]
  DUMP: dumping (Pass IV) [regular files]
  DUMP: Closing /root/backup/incremental1
  DUMP: Volume 1 completed at: Thu Mar 16 14:10:25 2023
  DUMP: Volume 1 50 blocks (0.05MB)
  DUMP: 50 blocks (0.05MB) on 1 volume(s)
  DUMP: finished in less than a second
  DUMP: Date of this level 1 dump: Thu Mar 16 14:10:25 2023
  DUMP: Date this dump completed:  Thu Mar 16 14:10:25 2023
  DUMP: Average transfer rate: 0 kB/s
  DUMP: DUMP IS DONE
[root@triettm triettm]#
```

```
   DUMP: DUMP IS DONE
[root@triettm triettm]# ls -alh /root/backup/
total 15M
drwxr-xr-x. 2 root root   86 Mar 16 14:10 .
dr-xr-x---. 7 root root  255 Mar 16 14:04 ..
-rw-r--r--. 1 root root 4.1M Mar 16 11:27 cpiofull
-rw-r--r--. 1 root root 1.0K Mar 16 11:30 cpioinc1
-rw-r--r--. 1 root root  33K Mar 16 12:58 cpioinc2
-rw-r--r--. 1 root root 9.9M Mar 16 14:07 full
-rw-r--r--. 1 root root  50K Mar 16 14:10 incremental1
[root@triettm triettm]# █
```

Create incremental backup 2:

File   Edit   View   Search   Terminal   Help

```
[root@triettm triettm]# dump -2uf /root/backup/incremental2 /backup/
  DUMP: Date of this level 2 dump: Thu Mar 16 14:12:03 2023
  DUMP: Date of last level 1 dump: Thu Mar 16 14:10:25 2023
  DUMP: Dumping /dev/sdb1 (/backup) to /root/backup/incremental2
  DUMP: Label: none
  DUMP: Writing 10 Kilobyte records
  DUMP: mapping (Pass I) [regular files]
  DUMP: mapping (Pass II) [directories]
  DUMP: estimated 56 blocks.
  DUMP: Volume 1 started with block 1 at: Thu Mar 16 14:12:03 2023
  DUMP: dumping (Pass III) [directories]
  DUMP: dumping (Pass IV) [regular files]
  DUMP: Closing /root/backup/incremental2
  DUMP: Volume 1 completed at: Thu Mar 16 14:12:03 2023
  DUMP: Volume 1 50 blocks (0.05MB)
  DUMP: 50 blocks (0.05MB) on 1 volume(s)
  DUMP: finished in less than a second
  DUMP: Date of this level 2 dump: Thu Mar 16 14:12:03 2023
  DUMP: Date this dump completed:  Thu Mar 16 14:12:03 2023
  DUMP: Average transfer rate: 0 kB/s
  DUMP: DUMP IS DONE
[root@triettm triettm]#
```

```
[root@triettm triettm]# ls -alh /root/backup/
total 15M
drwxr-xr-x. 2 root root  106 Mar 16 14:12 .
dr-xr-x---. 7 root root  255 Mar 16 14:04 ..
-rw-r--r--. 1 root root 4.1M Mar 16 11:27 cpiofull
-rw-r--r--. 1 root root 1.0K Mar 16 11:30 cpioinc1
-rw-r--r--. 1 root root  33K Mar 16 12:58 cpioinc2
-rw-r--r--. 1 root root 9.9M Mar 16 14:07 full
-rw-r--r--. 1 root root  50K Mar 16 14:10 incremental1
-rw-r--r--. 1 root root  50K Mar 16 14:12 incremental2
[root@triettm triettm]#
```

Restore:

```
restore: ./.local/share/telepathy/mission-control: File exists
restore: ./.local/share/tracker: File exists
restore: ./.local/share/tracker/data: File exists
restore: ./.local/share/webkitgtk: File exists
restore: ./.local/share/webkitgtk/databases: File exists
restore: ./.local/share/webkitgtk/databases/indexeddb: File exists
restore: ./.local/share/webkitgtk/databases/indexeddb/v1: File exists
restore: ./.local/share/webkitgtk/deviceidhashsalts: File exists
restore: ./.local/share/webkitgtk/deviceidhashsalts/1: File exists
restore: ./.local/share/webkitgtk/localstorage: File exists
restore: ./.mozilla: File exists
restore: ./.mozilla/extensions: File exists
restore: ./.mozilla/plugins: File exists
restore: ./Desktop: File exists
restore: ./Documents: File exists
restore: ./Downloads: File exists
restore: ./Music: File exists
restore: ./Pictures: File exists
restore: ./Public: File exists
restore: ./Templates: File exists
restore: ./Videos: File exists
restore: ./test1: File exists
restore: ./test1/test2: File exists
[root@triettm triettm]#
```

```
triettm@triettm:/backup                                    _  □  ✕

File   Edit   View   Search   Terminal   Help

restore: ./.local/share/icc: File exists
restore: ./.local/share/keyrings: File exists
restore: ./.local/share/nautilus: File exists
restore: ./.local/share/nautilus/scripts: File exists
restore: ./.local/share/sounds: File exists
restore: ./.local/share/telepathy: File exists
restore: ./.local/share/telepathy/mission-control: File exists
restore: ./.local/share/tracker: File exists
restore: ./.local/share/tracker/data: File exists
restore: ./.local/share/webkitgtk: File exists
restore: ./.local/share/webkitgtk/databases: File exists
restore: ./.local/share/webkitgtk/databases/indexeddb: File exists
restore: ./.local/share/webkitgtk/databases/indexeddb/v1: File exists
restore: ./.local/share/webkitgtk/deviceidhashsalts: File exists
restore: ./.local/share/webkitgtk/deviceidhashsalts/1: File exists
restore: ./.local/share/webkitgtk/localstorage: File exists
restore: ./.mozilla: File exists
restore: ./.mozilla/extensions: File exists
restore: ./.mozilla/plugins: File exists
[root@triettm backup]# ls
backup1.txt   Downloads    Pictures          Templates     triettm
Desktop       lost+found   Public            test1         Videos
Documents     Music        restoresymtable   test123.txt
[root@triettm backup]#
```

```
restore: ./.mozilla/plugins: File exists
[root@triettm backup]# ls
backup1.txt   Downloads    Pictures          Templates     triettm
Desktop       lost+found   Public            test1         Videos
Documents     Music        restoresymtable   test123.txt
[root@triettm backup]# restore -rf /root/backup/incremental1
[root@triettm backup]# ls
backup1.txt   Downloads    lost+found   Public            test1         Videos
Desktop       file1        Music        restoresymtable   test123.txt
Documents     file2        Pictures     Templates         triettm
[root@triettm backup]#
```

```
restore: ./.mozilla/extensions: File exists
restore: ./.mozilla/plugins: File exists
[root@triettm backup]# ls
backup1.txt   Downloads    Pictures          Templates      triettm
Desktop       lost+found   Public            test1          Videos
Documents     Music        restoresymtable   test123.txt
[root@triettm backup]# restore -rf /root/backup/incremental1
[root@triettm backup]# ls
backup1.txt   Downloads    lost+found   Public            test1          Videos
Desktop       file1        Music        restoresymtable   test123.txt
Documents     file2        Pictures     Templates         triettm
[root@triettm backup]# restore -rf /root/backup/incremental2
[root@triettm backup]# ls
backup1.txt   Downloads    lost+found   Pictures          Templates      triettm
Desktop       file1        Music        Public            test1          Videos
Documents     file2        newfile3     restoresymtable   test123.txt
[root@triettm backup]#
```