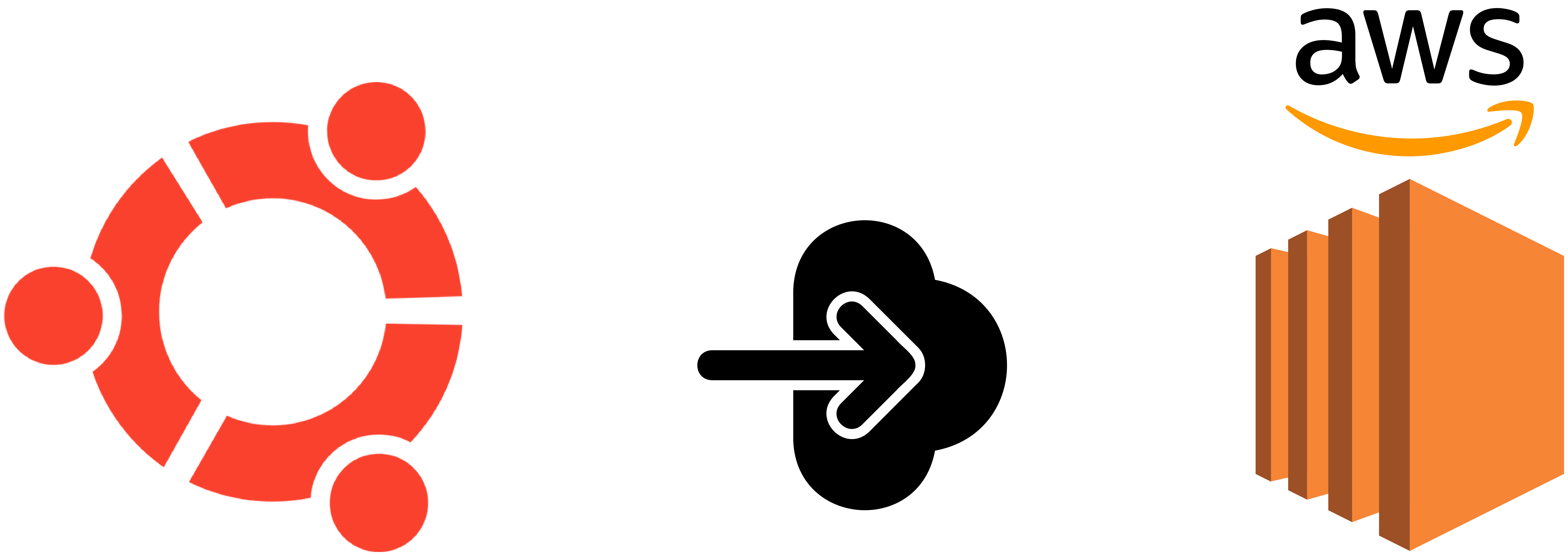
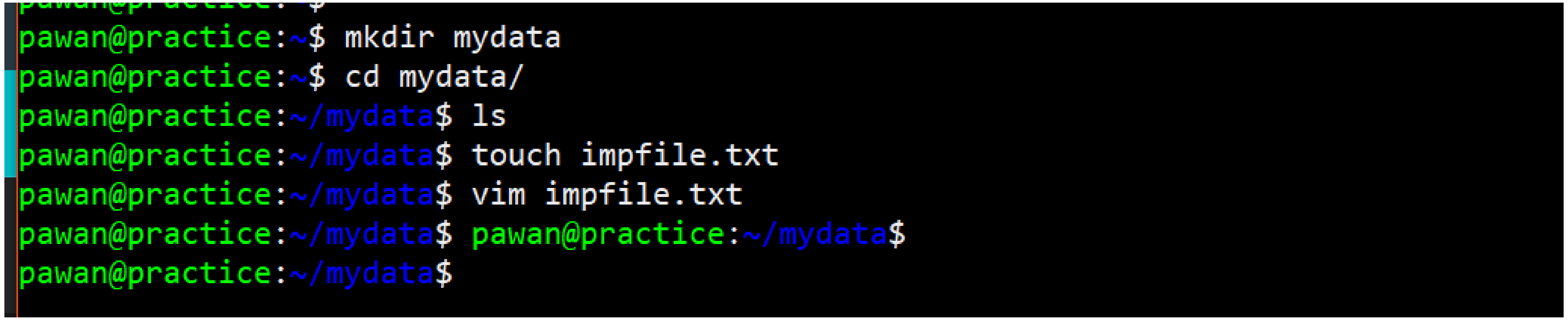


Backing Up Linux Data to AWS Cloud

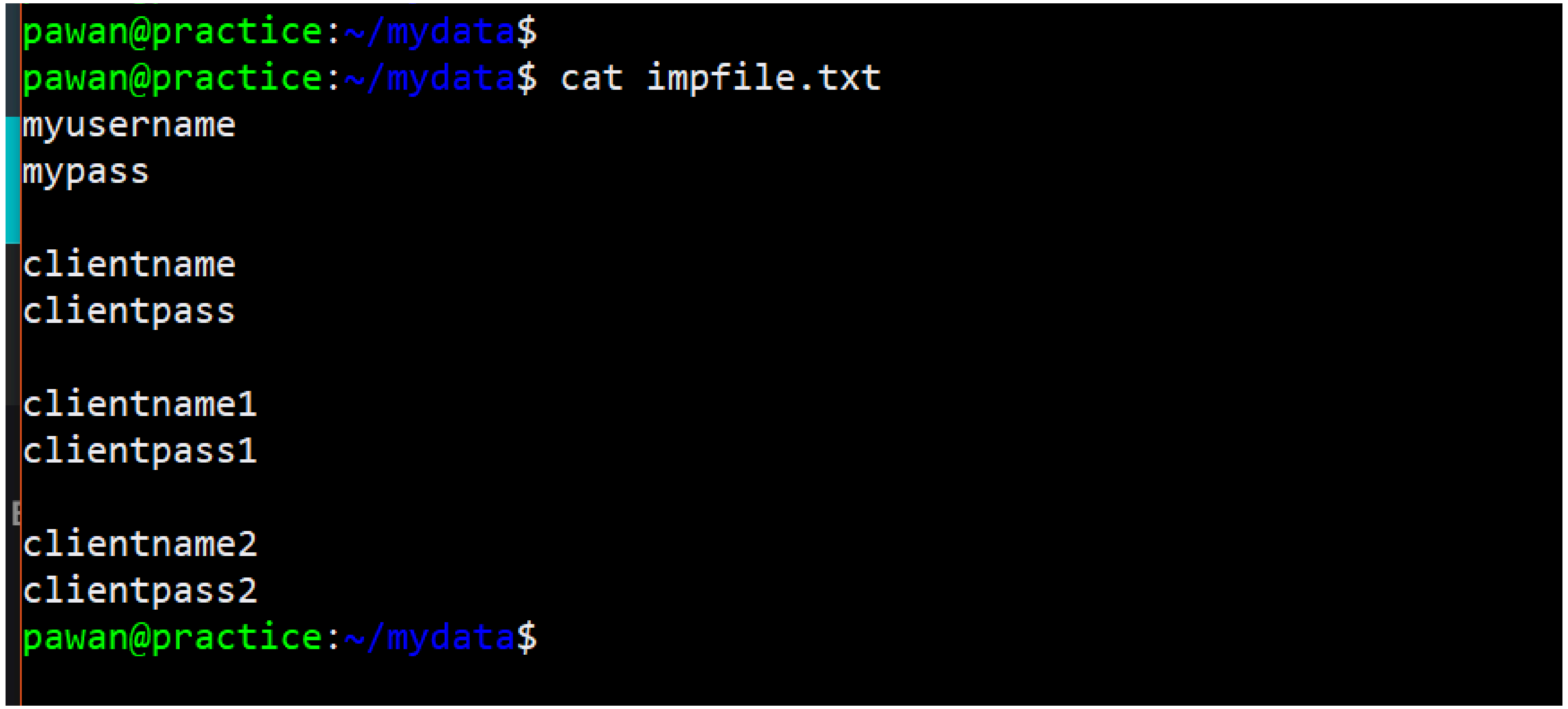
rsync

- Rsync is a fast and extraordinarily versatile file copying tool.
- It can copy locally, to/from another host over any remote shell, or to/from a remote rsync daemon.
- It offers a large number of options that control every aspect of its behavior and permit very flexible specification of the set of files to be copied.
- It is famous for its delta-transfer algorithm, which reduces the amount of data sent over the network by sending only the differences between the source files and the existing files in the destination.
- Rsync is widely used for backups and mirroring and as an improved copy command for everyday use.



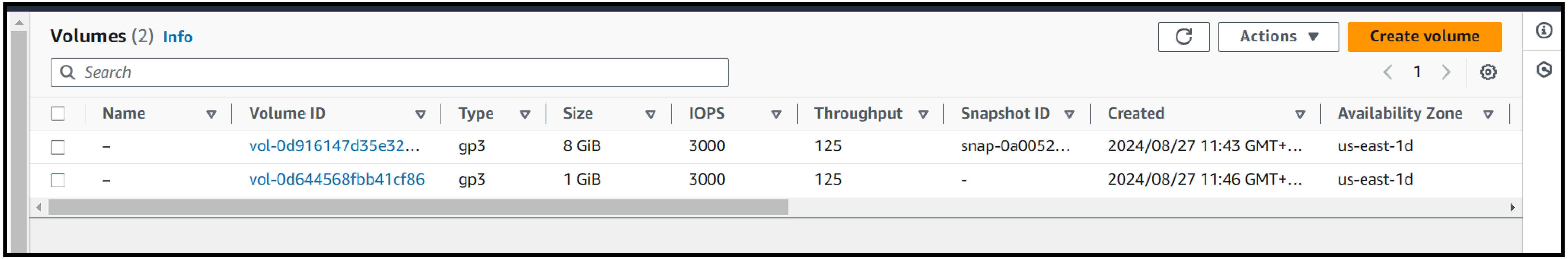
```
pawan@practice:~$
pawan@practice:~$ mkdir mydata
pawan@practice:~$ cd mydata/
pawan@practice:~/mydata$ ls
pawan@practice:~/mydata$ touch impfile.txt
pawan@practice:~/mydata$ vim impfile.txt
pawan@practice:~/mydata$ pawan@practice:~/mydata$
pawan@practice:~/mydata$
```

making the directory named ‘mydata’ and creating the files



```
pawan@practice:~/mydata$
pawan@practice:~/mydata$ cat impfile.txt
myusername
mypass

clientname
clientpass

clientname1
clientpass1

clientname2
clientpass2
pawan@practice:~/mydata$
```

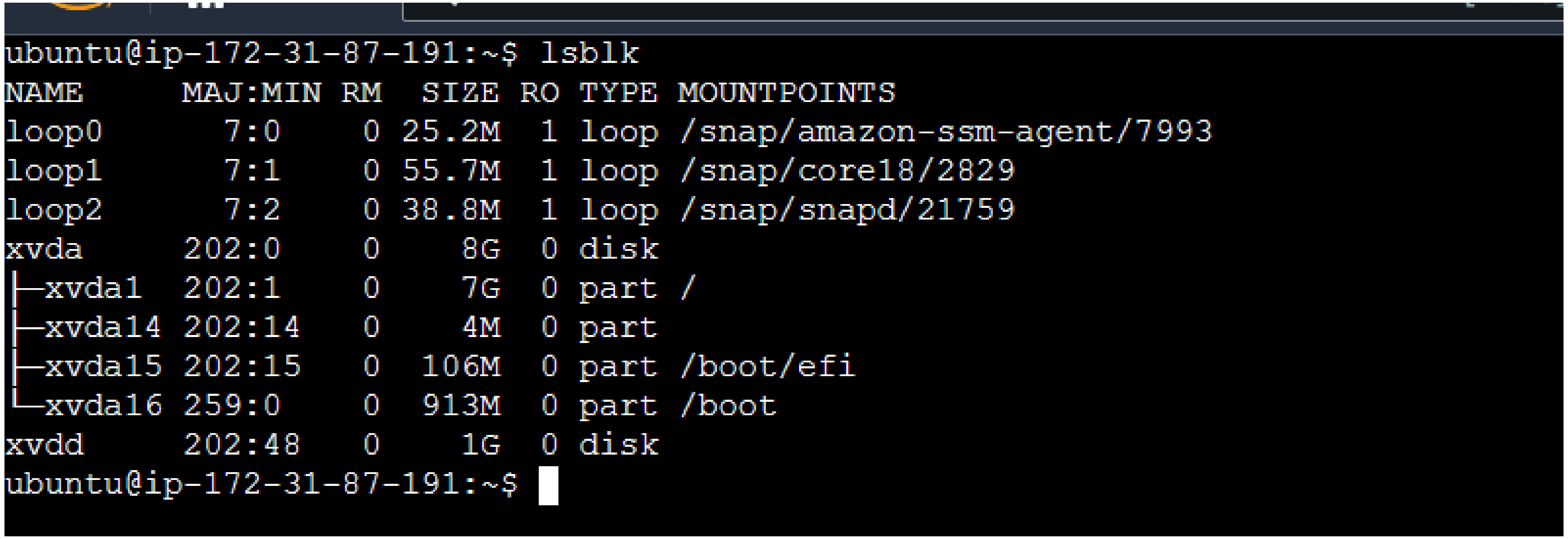
file data



Volumes (2) Info

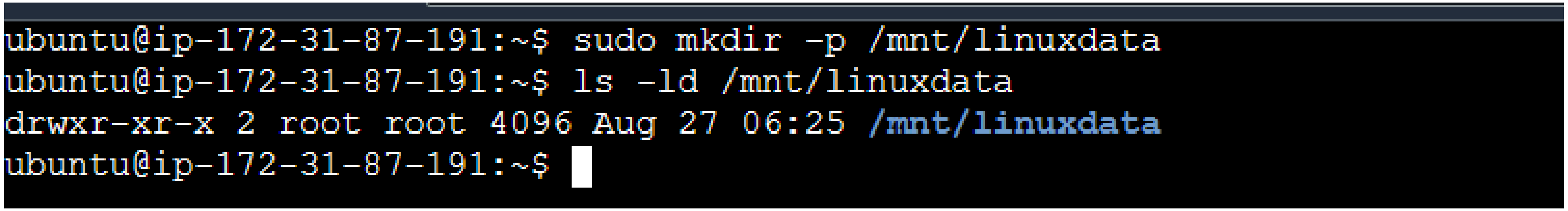
□	Name	Volume ID	Type	Size	IOPS	Throughput	Snapshot ID	Created	Availability Zone
□	–	vol-0d916147d35e32…	gp3	8 GiB	3000	125	snap-0a0052…	2024/08/27 11:43 GMT+…	us-east-1d
□	–	vol-0d644568fbb41cf86	gp3	1 GiB	3000	125	-	2024/08/27 11:46 GMT+…	us-east-1d

Creating a EBS volume of 1GB and attach it to the EC2 instance



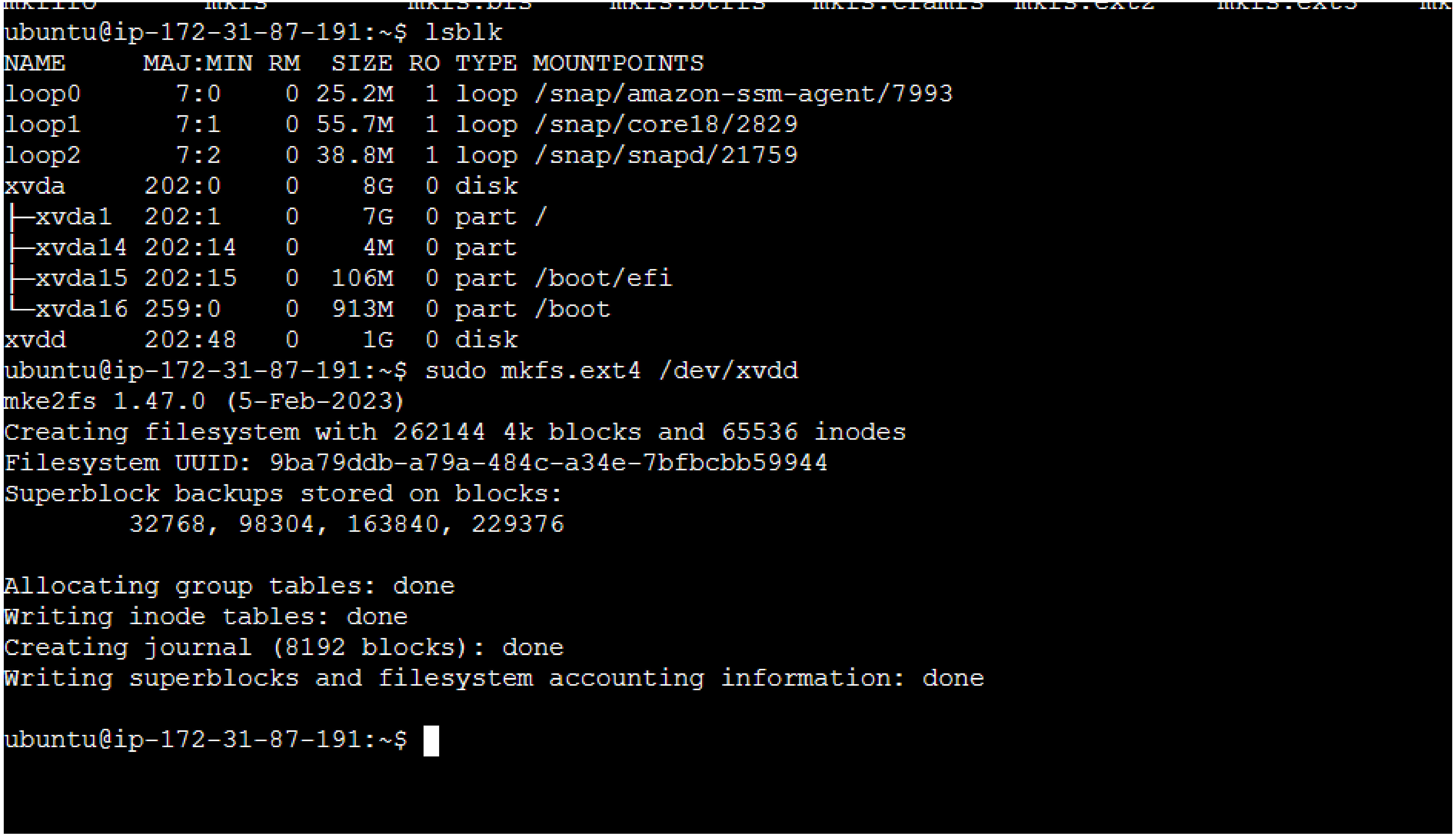
```
ubuntu@ip-172-31-87-191:~$ lsblk
NAME       MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0        7:0    0 25.2M  1 loop /snap/amazon-ssm-agent/7993
loop1        7:1    0 55.7M  1 loop /snap/core18/2829
loop2        7:2    0 38.8M  1 loop /snap/snapd/21759
xvda       202:0    0    8G  0 disk
├─xvda1   202:1    0    7G  0 part /
├─xvda14 202:14   0    4M  0 part
├─xvda15 202:15   0  106M  0 part /boot/efi
└─xvda16 259:0    0  913M  0 part /boot
xvdd       202:48   0    1G  0 disk
ubuntu@ip-172-31-87-191:~$
```

verifying the EBS volume i.e. attached to the instance



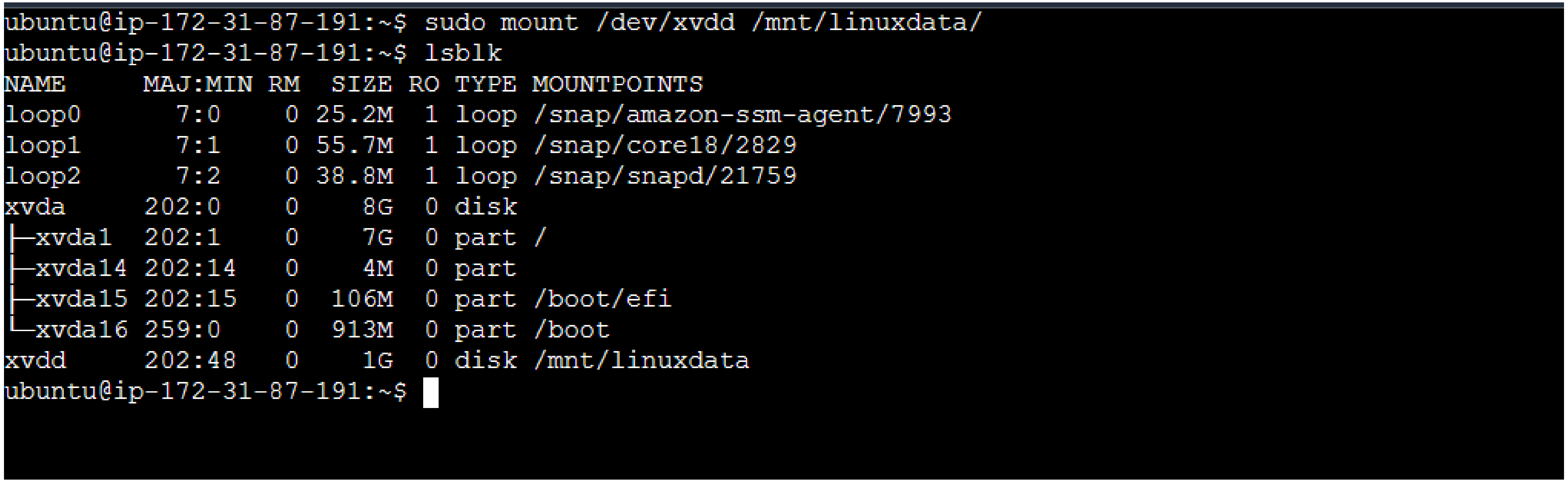
```
ubuntu@ip-172-31-87-191:~$ sudo mkdir -p /mnt/linuxdata
ubuntu@ip-172-31-87-191:~$ ls -ld /mnt/linuxdata
drwxr-xr-x 2 root root 4096 Aug 27 06:25 /mnt/linuxdata
ubuntu@ip-172-31-87-191:~$
```

creating the directory where we want to store our backup data



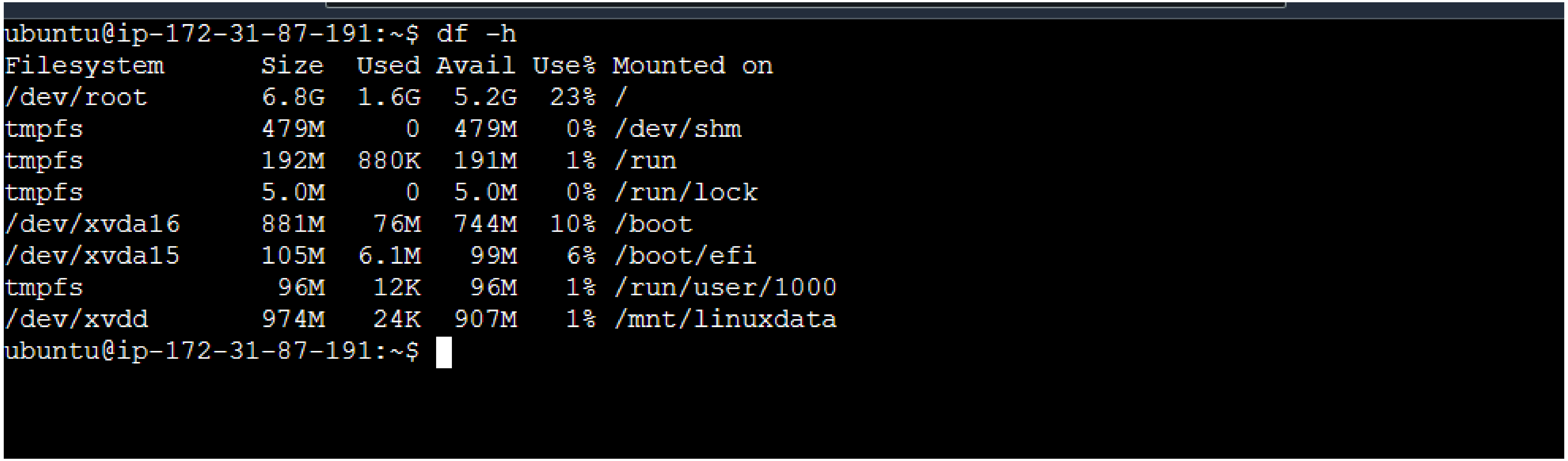
```
mkfifo       mkfs         mkfs.bfs     mkfs.btrfs   mkfs.cramfs  mkfs.ext2    mkfs.ext3    mk
ubuntu@ip-172-31-87-191:~$ lsblk
NAME     MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0      7:0    0 25.2M  1 loop /snap/amazon-ssm-agent/7993
loop1      7:1    0 55.7M  1 loop /snap/core18/2829
loop2      7:2    0 38.8M  1 loop /snap/snapd/21759
xvda     202:0    0    8G  0 disk
├─xvda1  202:1    0    7G  0 part /
├─xvda14 202:14   0    4M  0 part
├─xvda15 202:15   0  106M  0 part /boot/efi
└─xvda16 259:0    0  913M  0 part /boot
xvdd     202:48   0    1G  0 disk
ubuntu@ip-172-31-87-191:~$ sudo mkfs.ext4 /dev/xvdd
mke2fs 1.47.0 (5-Feb-2023)
Creating filesystem with 262144 4k blocks and 65536 inodes
Filesystem UUID: 9ba79ddb-a79a-484c-a34e-7bfbcbb59944
Superblock backups stored on blocks:
        32768, 98304, 163840, 229376

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

ubuntu@ip-172-31-87-191:~$
```

Create a Filesystem on the Device (if needed)

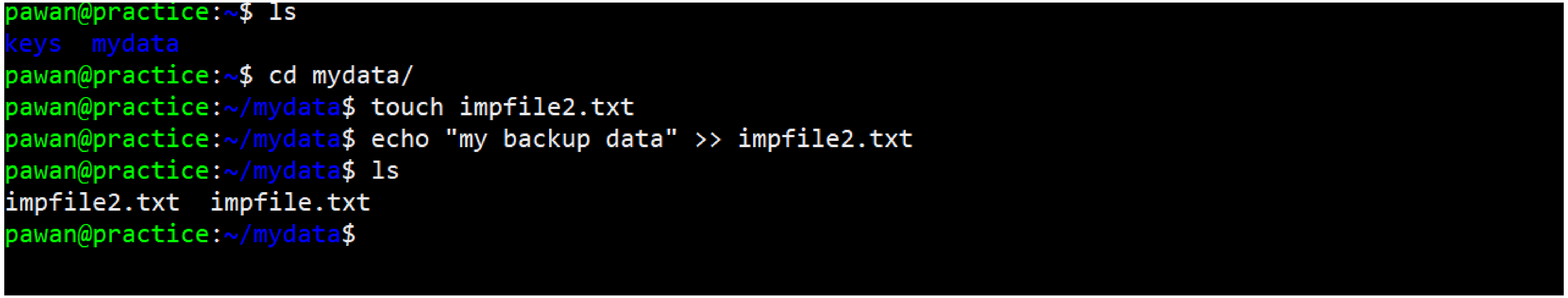


```
ubuntu@ip-172-31-87-191:~$ sudo mount /dev/xvdd /mnt/linuxdata/
ubuntu@ip-172-31-87-191:~$ lsblk
NAME     MAJ:MIN RM  SIZE RO TYPE MOUNTPOINTS
loop0      7:0    0 25.2M  1 loop /snap/amazon-ssm-agent/7993
loop1      7:1    0 55.7M  1 loop /snap/core18/2829
loop2      7:2    0 38.8M  1 loop /snap/snapd/21759
xvda     202:0    0    8G  0 disk
├─xvda1  202:1    0    7G  0 part /
├─xvda14 202:14   0    4M  0 part
├─xvda15 202:15   0  106M  0 part /boot/efi
└─xvda16 259:0    0  913M  0 part /boot
xvdd     202:48   0    1G  0 disk /mnt/linuxdata
ubuntu@ip-172-31-87-191:~$
```

temporary mounting the directory to the /mnt/linuxdata and verifying it



```
ubuntu@ip-172-31-87-191:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
/dev/root       6.8G  1.6G  5.2G  23% /
tmpfs           479M     0  479M   0% /dev/shm
tmpfs           192M  880K  191M   1% /run
tmpfs           5.0M     0  5.0M   0% /run/lock
/dev/xvda16     881M   76M  744M  10% /boot
/dev/xvda15     105M  6.1M   99M   6% /boot/efi
tmpfs            96M   12K   96M   1% /run/user/1000
/dev/xvdd       974M   24K  907M   1% /mnt/linuxdata
ubuntu@ip-172-31-87-191:~$
```

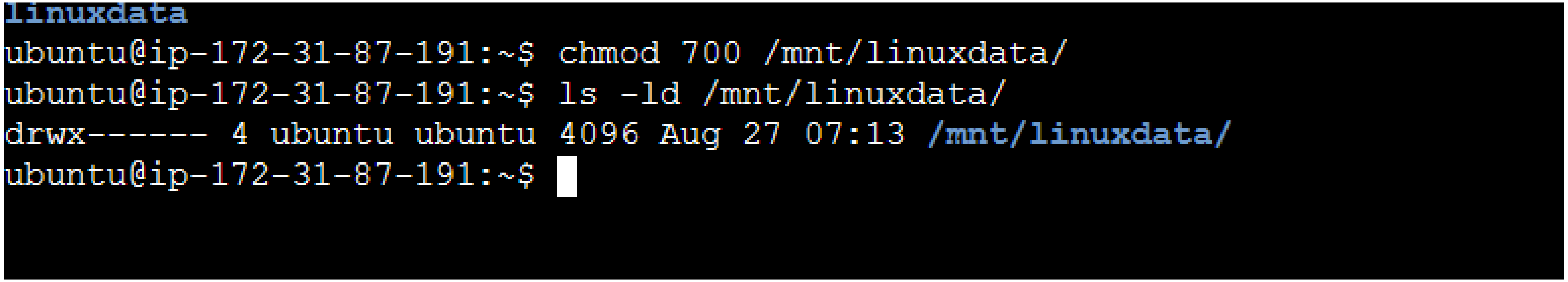


```
pawan@practice:~$ ls
keys  mydata
pawan@practice:~$ cd mydata/
pawan@practice:~/mydata$ touch impfile2.txt
pawan@practice:~/mydata$ echo "my backup data" >> impfile2.txt
pawan@practice:~/mydata$ ls
impfile2.txt  impfile.txt
pawan@practice:~/mydata$
```

creating the files in the mydata

sudo chown ubuntu:ubuntu /mnt/linuxdata

change ownership of /mnt/linuxdata to ubuntu i.e. EC2 instance

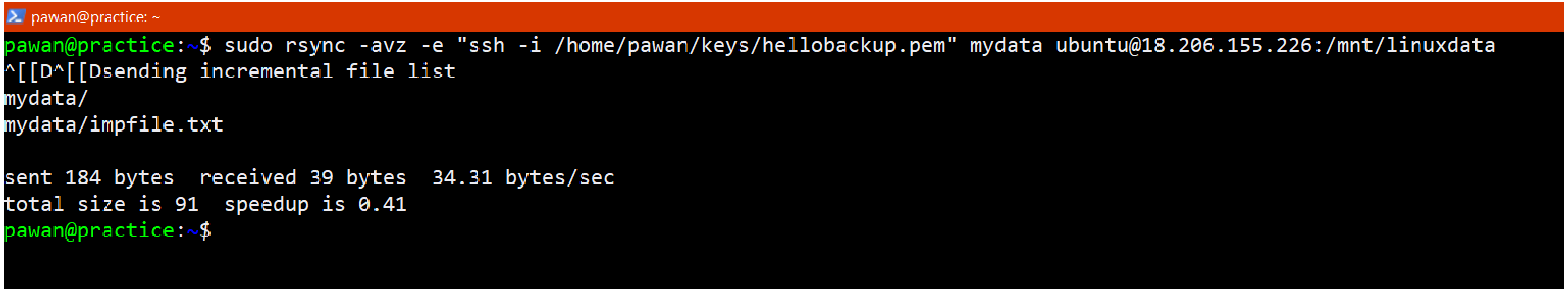


```
linuxdata
ubuntu@ip-172-31-87-191:~$ chmod 700 /mnt/linuxdata/
ubuntu@ip-172-31-87-191:~$ ls -ld /mnt/linuxdata/
drwx------ 4 ubuntu ubuntu 4096 Aug 27 07:13 /mnt/linuxdata/
ubuntu@ip-172-31-87-191:~$
```

changing permission

Installing the awscli on ubuntu

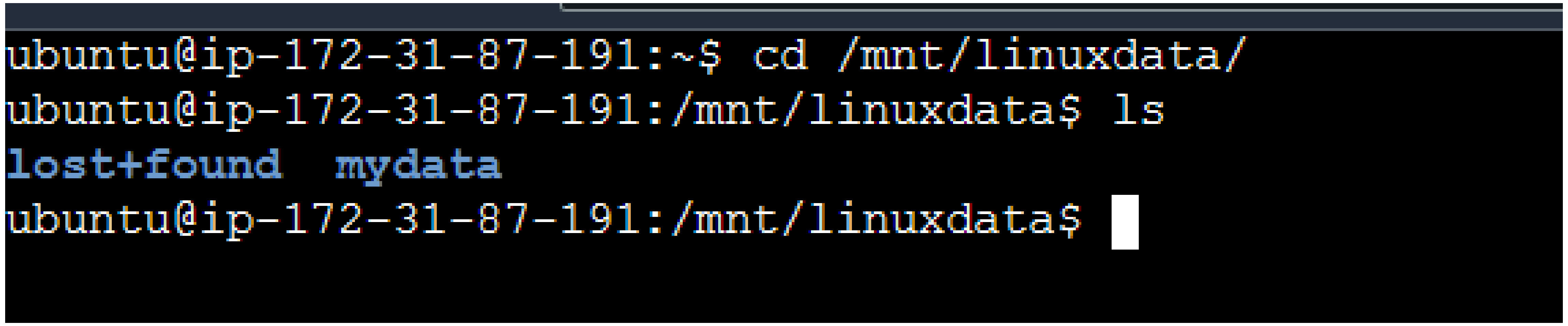
- curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o "awscliv2.zip"
- unzip awscliv2.zip
- sudo ./aws/install



```
pawan@practice:~$ sudo rsync -avz -e "ssh -i /home/pawan/keys/hellobackup.pem" mydata ubuntu@18.206.155.226:/mnt/linuxdata
^[[D^[[Dsending incremental file list
mydata/
mydata/impfile.txt

sent 184 bytes  received 39 bytes  34.31 bytes/sec
total size is 91  speedup is 0.41
pawan@practice:~$
```

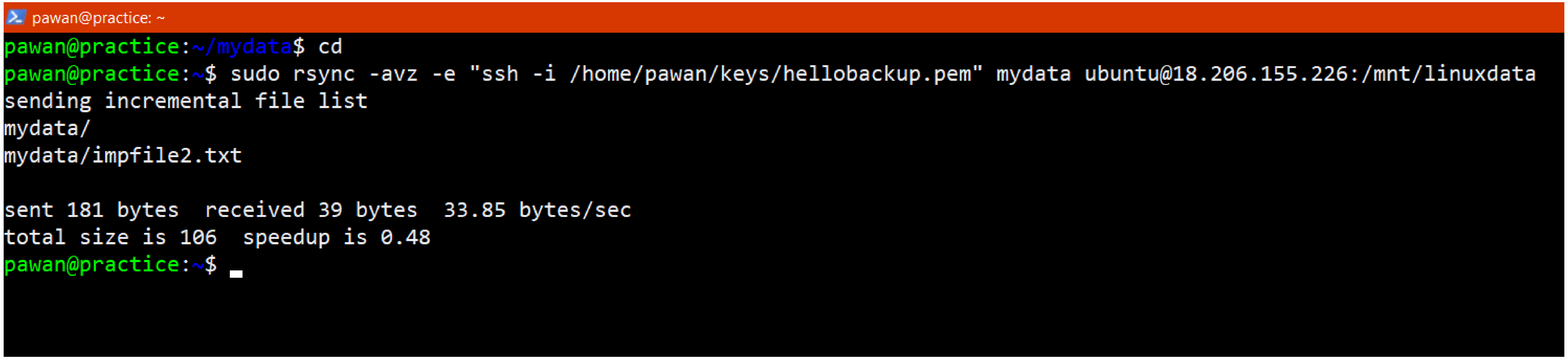
Backing up the data of Linux machine using the ‘rsync’

where, -e means specify the remote shell to use, -a archive, -v verbose, & -z means to compress



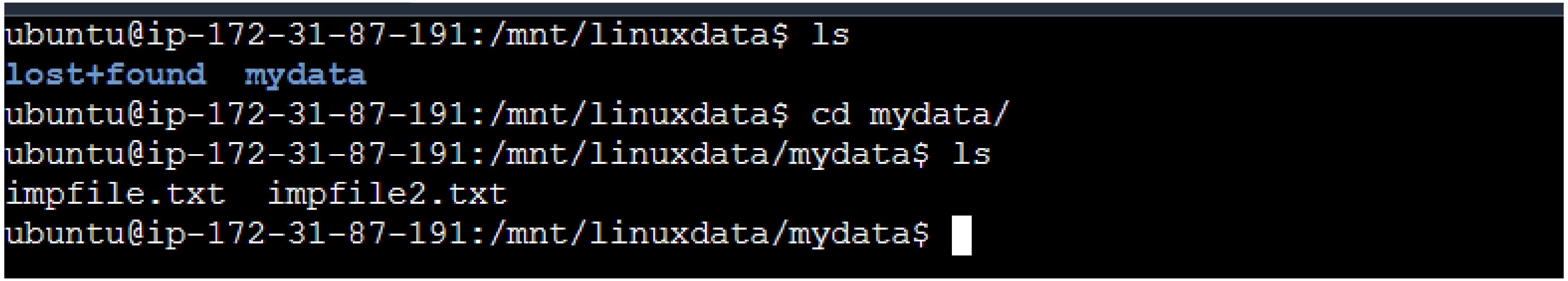
```
ubuntu@ip-172-31-87-191:~$ cd /mnt/linuxdata/
ubuntu@ip-172-31-87-191:/mnt/linuxdata$ ls
lost+found  mydata
ubuntu@ip-172-31-87-191:/mnt/linuxdata$
```

verifying the backup directory



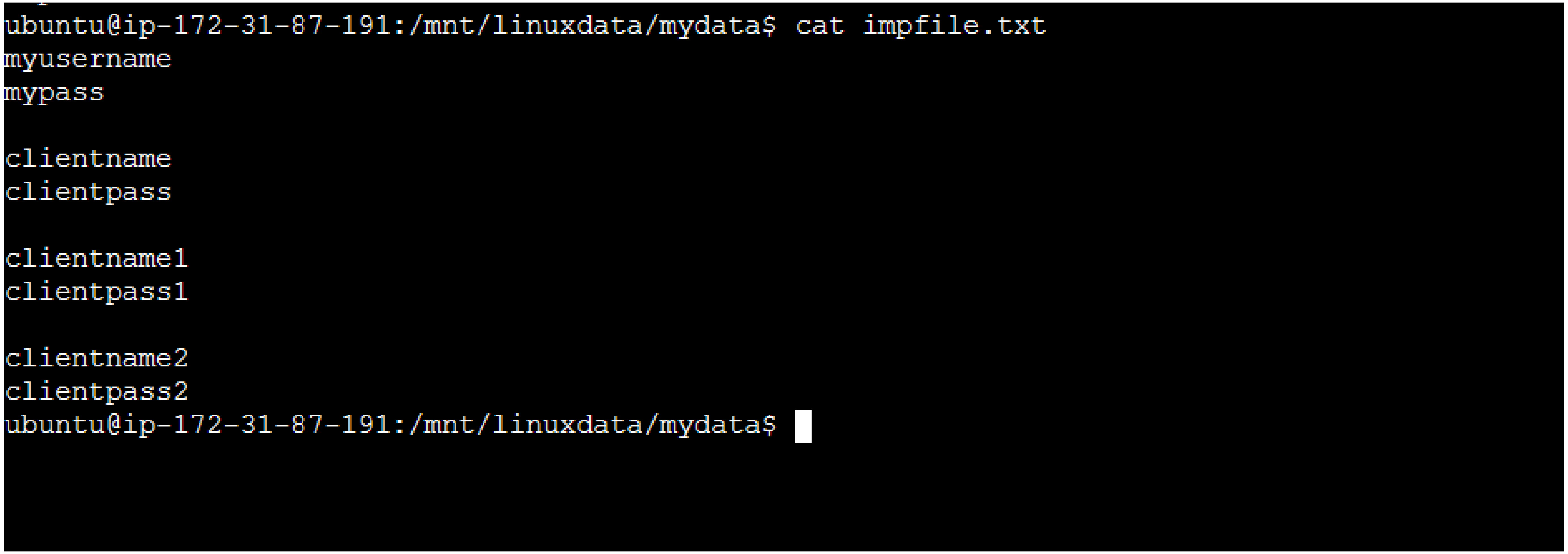
```
pawan@practice:~/mydata$ cd
pawan@practice:~$ sudo rsync -avz -e "ssh -i /home/pawan/keys/hellobackup.pem" mydata ubuntu@18.206.155.226:/mnt/linuxdata
sending incremental file list
mydata/
mydata/impfile2.txt

sent 181 bytes  received 39 bytes  33.85 bytes/sec
total size is 106  speedup is 0.48
pawan@practice:~$ 
```

creating another file with impfile2.txt and taking the backup of that file to the AWS EC2

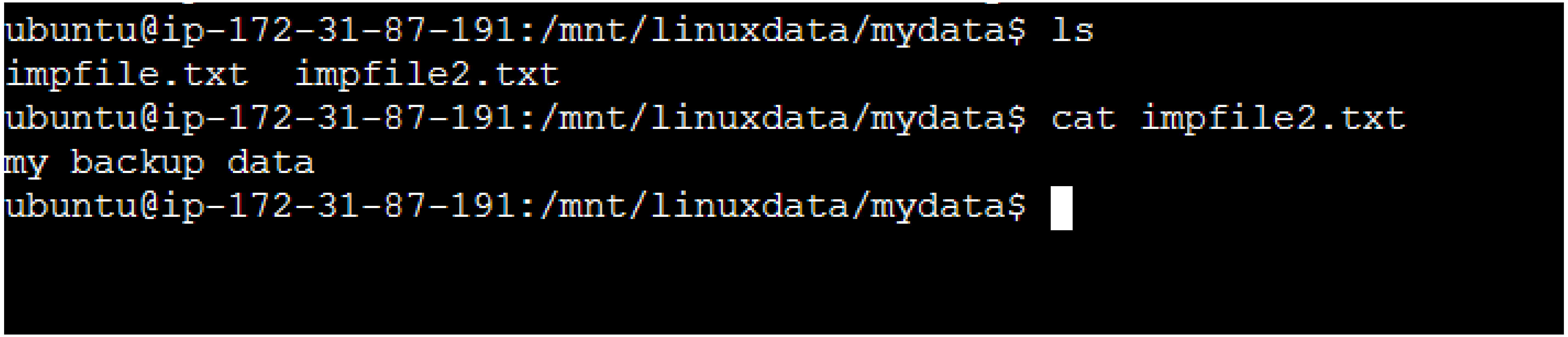


```
ubuntu@ip-172-31-87-191:/mnt/linuxdata$ ls
lost+found  mydata
ubuntu@ip-172-31-87-191:/mnt/linuxdata$ cd mydata/
ubuntu@ip-172-31-87-191:/mnt/linuxdata/mydata$ ls
impfile.txt  impfile2.txt
ubuntu@ip-172-31-87-191:/mnt/linuxdata/mydata$ 
```

checking the mydata directory in the /mnt/linuxdata



```
ubuntu@ip-172-31-87-191:/mnt/linuxdata/mydata$ cat impfile.txt
myusername
mypass

clientname
clientpass

clientname1
clientpass1

clientname2
clientpass2
ubuntu@ip-172-31-87-191:/mnt/linuxdata/mydata$ 
```



```
ubuntu@ip-172-31-87-191:/mnt/linuxdata/mydata$ ls
impfile.txt  impfile2.txt
ubuntu@ip-172-31-87-191:/mnt/linuxdata/mydata$ cat impfile2.txt
my backup data
ubuntu@ip-172-31-87-191:/mnt/linuxdata/mydata$ 
```

THANK

YOU