

root@it4100-a1-sample: ~/mymounts

root@it4100-a1-sample: ~/... x

joe@yavin: ~/s17/it4100 x

joe@yavin: ~/Pictures x

```
root@it4100-a1-sample:~/mymounts# echo "Now to orphan some inodes"
```

Now to orphan some inodes

```
root@it4100-a1-sample:~/mymounts# mkdir d1/foo
```

```
root@it4100-a1-sample:~/mymounts# echo "Here is a file " > d1/foo/afile.txt
```

```
root@it4100-a1-sample:~/mymounts# echo "Here is another file " > d1/foo/another.txt
```

```
root@it4100-a1-sample:~/mymounts# █
```

root@it4100-a1-sample: ~/mymounts

root@it4100-a1-sample: ~/... x

joe@yavin: ~/s17/it4100 x

joe@yavin: ~/Pictures x

```
root@it4100-a1-sample:~/mymounts# ls -l d1/foo/
```

```
total 2
```

```
-rw-r--r-- 1 root root 16 Jan 23 13:37 afile.txt
```

```
-rw-r--r-- 1 root root 22 Jan 23 13:37 another.txt
```

```
root@it4100-a1-sample:~/mymounts#
```

root@it4100-a1-sample: ~/mymounts

root@it4100-a1-sample: ~/... x

joe@yavin: ~/s17/it4100 x

joe@yavin: ~/Pictures x

```
root@it4100-a1-sample:~/mymounts# sudo debugfs -b 1024 /dev/sda5 -w
```

root@it4100-a1-sample: ~/mymounts

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joe@yavin: ~/s17/it4100 x

joe@yavin: ~/Pictures x

```
root@it4100-a1-sample:~/mymounts# sudo debugfs -b 1024 /dev/sda5 -w
```

```
debugfs 1.42.13 (17-May-2015)
```

```
debugfs: clri foo
```

```
debugfs: q
```

```
root@it4100-a1-sample:~/mymounts# █
```

root@it4100-a1-sample: ~/mymounts

root@it4100-a1-sample: ~/...

joe@yavin: ~/s17/it4100

joe@yavin: ~/Pictures

```
root@it4100-a1-sample:~/mymounts# mount /dev/sda5 d1
```

```
root@it4100-a1-sample:~/mymounts# ls -l d1/
```

```
ls: cannot access 'd1/foo': Structure needs cleaning
```

```
total 1
```

```
d????????? ? ?      ?          ?      ? foo
```

```
drwx----- 2 root root 1024 Jan 23 13:36 lost+found
```

```
root@it4100-a1-sample:~/mymounts#
```

umount d1/

root@it4100-a1-sample:~/mymounts# !?fsck

fsck.ext4 /dev/sda5

e2fsck 1.42.13 (17-May-2015)

/dev/sda5 contains a file system with errors, check forced.

Pass 1: Checking inodes, blocks, and sizes

Pass 2: Checking directory structure

Entry 'foo' in / (2) has deleted/unused inode 65025. Clear<y>? no

Entry 'foo' in / (2) has an incorrect filetype (was 2, should be 0).

Fix<y>? yes

Pass 3: Checking directory connectivity

Pass 4: Checking reference counts

Inode 2 ref count is 4, should be 3. Fix<y>? yes

Unattached inode 65026

Connect to /lost+found<y>? yes

Inode 65026 ref count is 2, should be 1. Fix<y>? yes

Unattached inode 65027

Connect to /lost+found<y>? yes

Inode 65027 ref count is 2, should be 1. Fix<y>? yes

Pass 5: Checking group summary information

Block bitmap differences: -266241

Fix<y>? yes

Free blocks count wrong for group #32 (4095, counted=4096).

Fix<y>? yes

Free blocks count wrong (485342, counted=485343).

Fix<y>? yes

```
root@it4100-a1-sample: ~/mymounts
root@it4100-a1-sample: ~/... x  joe@yavin: ~/s17/it4100 x  joe@yavin: ~/Pictures x
Unattached inode 65027
Connect to /lost+found<y>? yes
Inode 65027 ref count is 2, should be 1. Fix<y>? yes
Pass 5: Checking group summary information
Block bitmap differences: -266241
Fix<y>? yes
Free blocks count wrong for group #32 (4095, counted=4096).
Fix<y>? yes
Free blocks count wrong (485342, counted=485343).
Fix<y>? yes
Inode bitmap differences: -65025
Fix<y>? yes
Free inodes count wrong for group #32 (2029, counted=2030).
Fix<y>? yes
Directories count wrong for group #32 (1, counted=0).
Fix<y>? yes
Free inodes count wrong (128002, counted=128003).
Fix<y>? yes

/dev/sda5: ***** FILE SYSTEM WAS MODIFIED *****

/dev/sda5: ***** WARNING: Filesystem still has errors *****

/dev/sda5: 13/128016 files (0.0% non-contiguous), 26657/512000 blocks
root@it4100-a1-sample:~/mymounts#
root@it4100-a1-sample:~/mymounts#
```

```
root@it4100-a1-sample: ~/mymounts
root@it4100-a1-sample: ~/... x   joe@yavin: ~/s17/it4100 x   joe@yavin: ~/Pictures x
root@it4100-a1-sample:~/mymounts# !?mount
umount d1/
umount: d1/: not mounted
root@it4100-a1-sample:~/mymounts# mount /dev/sda5 d1
root@it4100-a1-sample:~/mymounts# ls -l d1/
ls: cannot access 'd1/foo': Structure needs cleaning
total 1
?????????? ? ?      ?           ?      ?  foo
drwx----- 2 root root 1024 Jan 23 13:36 lost+found
root@it4100-a1-sample:~/mymounts# ls -l d1/foo
ls: cannot access 'd1/foo': Structure needs cleaning
root@it4100-a1-sample:~/mymounts# ls -l d1/lost+found/
total 2
-rw-r--r-- 1 root root 16 Jan 23 13:37 #65026
-rw-r--r-- 1 root root 22 Jan 23 13:37 #65027
root@it4100-a1-sample:~/mymounts#
```



root@it4100-a1-sample: ~/mymounts

root@it4100-a1-sample: ~/... x

joe@yavin: ~/s17/it4100 x

joe@yavin: ~/Pictures x

```
root@it4100-a1-sample:~/mymounts# cat d1/lost+found/#65026
```

Here is a file

```
root@it4100-a1-sample:~/mymounts# cat d1/lost+found/#65027
```

Here is another file

```
root@it4100-a1-sample:~/mymounts# █
```