

HOWTO: Repair a broken Ext4 Superblock in Ubuntu

This has happened to me a few times, and it's not a nice problem to find yourself in. Your computer won't boot, all your filesystem checks tell you you've a bad superblock, but you can't seem to find how to fix it. Well, here goes



This guide is for ext4, though I'll explain how other filesystems can be cured along the way. The easiest way to carry all this out, seeing as your computer probably won't boot at this stage, is to download and burn a copy of [Parted Magic](#). Boot from that, and you'll access to a number of useful tools.

First, figure out what partition we're dealing with.

The above will list all the partitions on all the drives in your computer. To recover a lost

partition, you're going to need [Testdisk](#). Testdisk is included in Parted Magic, and there's a great guide on their site. For this though, we just need the partition number, such as /dev/sda3 or /dev/hdb1.

Now, make sure your superblock is the problem, by starting a filesystem check, replacing xxx with your partition name. Here, you can change ext4 to ext3, or ext2 to suit the filesystem.

```
1  sudo  fsck  .ext4 -  v  /dev/xxx
```

If your superblock is corrupt, the output will look like this

```
fsck  /dev/sda5

1  fsck  1.41.4 (27-Jan-2009)

2  e2fsck 1.41.4 (27-Jan-2009)

3  fsck  .ext4: Group descriptors  look  bad...
4  trying backup blocks...

5  fsck  .ext4: Bad magic number  in  super-block
   while  trying to  open  /dev/sda5

6  The superblock could not be  read  or does not
   describe a correct ext4

7

8  filesystem.  If the device is valid and it really
   contains an ext4

9  filesystem (and not swap or ufs or something
   else  ),  then  the superblock

10

11  is corrupt, and you might try running e2fsck with an
   alternate superblock:

e2fsck -b 8193 &lt;device>
```

Now lets find where your superblock backups are kept.

Down at the bottom of this output, should be a list of the backups

```
(
  1    Superblock backups stored on blocks:

      32768, 98304, 163840, 229376, 294912, 819200, 884736,
  2    1605632, 2654208
)
```

Your almost there. Finally, restore the superblock from the backup, again replacing the x's with your partition name, and block_number with the first backup superblock.

```
(
  1    sudo    e2fsck -b block_number    /dev/xxx
)
```

Now reboot, and your superblock should be fixed. If it's not, repeat the steps, but restore a different backup superblock

