



Exercise 20.2: Modifying Filesystem Parameters with tune2fs

We are going to fiddle with some properties of a formatted **ext4** filesystem. This does not require unmounting the filesystem first.

In the below you can work with an image file you create as in:

```
$ dd if=/dev/zero of=imagefile bs=1M count=1024
$ mkfs.ext4 imagefile
```

or you can substitute `/dev/sdaX` (using whatever partition the filesystem you want to modify is mounted on) for `imagefile`.

1. Using **dumpe2fs**, obtain information about the filesystem whose properties you want to adjust.

Display:

- The maximum mount count setting (after which a filesystem check will be forced.)
- The Check interval (the amount of time after which a filesystem check is forced)
- The number of blocks reserved, and the total number of blocks

2. Change:

- The maximum mount count to 30.
- The Check interval to three weeks.
- The percentage of blocks reserved to 10 percent.

3. Using **dumpe2fs**, once again obtain information about the filesystem and compare with the original output.

✓ Solution 20.2

1.

```
$ dumpe2fs imagefile > dumpe2fs-output-initial
dumpe2fs 1.42.9 (28-Dec-2013)
$ grep -i -e "Mount count" -e "Check interval" -e "Block Count" dumpe2fs-output-initial
Block count:                262144
Reserved block count:       13107
Mount count:                 0
Maximum mount count:        -1
Check interval:              0 (<none>)
```
2.

```
$ tune2fs -c 30 imagefile
tune2fs 1.42.9 (28-Dec-2013)
Setting maximal mount count to 30
$ tune2fs -i 3w imagefile
tune2fs 1.42.9 (28-Dec-2013)
Setting interval between checks to 1814400 seconds
$ tune2fs -m 10 imagefile
tune2fs 1.42.9 (28-Dec-2013)
Setting reserved blocks percentage to 10% (26214 blocks)
```
3.

```
$ dumpe2fs imagefile > dumpe2fs-output-final
dumpe2fs 1.42.9 (28-Dec-2013)
$ grep -i -e "Mount count" -e "Check interval" -e "Block Count" dumpe2fs-output-final
```

```
4. Block count:          262144
   Reserved block count: 26214
   Mount count:          0
   Maximum mount count:   30
   Check interval:       1814400 (3 weeks)

$ diff dumpe2fs-output-initial dumpe2fs-output-final

14c14
< Reserved block count:    13107
---
> Reserved block count:    26214
29c29
< Last write time:        Wed Oct 26 14:26:19 2016
---
> Last write time:        Wed Oct 26 14:26:20 2016
31c31
< Maximum mount count:    -1
---
> Maximum mount count:    30
33c33,34
< Check interval:         0 (<none>)
---
> Check interval:         1814400 (3 weeks)
> Next check after:       Wed Nov 16 13:26:16 2016
```