

ext3 notes

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Enabling ext3 support

If you want to enable ext3 file system support in your custom kernel, you have to choose the following options:

```
...
<*> Ext3 journalling file system support
[*]   JBD (ext3) debugging support
...
```

Please note that enabling debugging support implies performance degradation.

Creating a new ext3 filesystem

To create a new ext3 file system on a newly created partition, just type (as root):

```
#> mke2fs -j /dev/hdx
```

After the new file system is created you can tune the check intervals:

```
#> tune2fs -i 180 -c 30 /dev/hdx
```

These are the default values on a Debian system; a check is performed every 180 days or every 30 mounts.

Enabling file system checks while using a journalled file system is not strictly needed, but it's still a safe measure against hardware faults.

Last but at least, an appropriate entry must be added to `/etc/fstab`. You can specify different mount options for ext3 file systems.

Converting an existing ext2 file system

If you need to convert an existing ext2 file system to ext3, just type (as root):

```
#> tune2fs -j /dev/hdx
```

After the file system has been converted, you need to change the relative entry in `/etc/fstab`, replacing ext2 with ext3 and specifying the desired mount options.

Lilo options and the root file system

An ext3 capable kernel will auto detect an ext3 root file system at boot time. If this is unwanted, the following option might be used:

```
LIL0: linux rootfstype=ext2
```

Mount options for the root file system can be specified with the `rootflags` option (see `lilo` man page for details).

ext3 mount options

The following options are available for an ext3 file system:

- `mount -o data=journal`
data and meta data are journalled (better robustness);
- `mount -o data=writeback`
only meta data are journalled (better performances);
- `mount -o data=ordered`
only meta data are journalled but data are flushed to disk before transaction is committed (this is the default).

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