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KernelBootParameters

About Kernel Boot Parameters

This document provides simple instructions for adding a kernel boot parameter to an Ubuntu system using **GRUB**

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When advised to try using a particular kernel boot parameter, it is usually a good idea to first add the parameter *temporarily* for testing. Once you have determined that adding the parameter has the desired effect, you can then add it *permanently*. Directions for both methods are below.

Kernel boot parameters are text strings which are interpreted by the system to change specific behaviors and enable or disable certain features. Kernel boot parameters:

- are case-sensitive
- are sometimes just a simple word ("splash" or "noapic")
- sometimes have an = sign with various possible values ("acpi_backlight=vendor")
- sometimes include punctuation ("i8042.noloop")

Always enter kernel boot parameters exactly as advised. Errors in spelling or formatting or invalid values will not result in any error message, they will simply have no effect.

Temporarily Add a Kernel Boot Parameter for Testing

- 1. Restart your system, or shut it down and then power it on again.
- 2. Press and hold down the SHIFT key *immediately* and keep it held down while the system starts to boot, in order to force the "GNU GRUB" menu to appear. The "GNU GRUB" menu will look something like this:

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```
Ubuntu, linux 2.6.27–9–generi
Ubuntu, linux 2.6.27–9–generi
Ubuntu, linux 2.6.27–9–generic
Ubuntu, linux 2.6.27–2–generic
Ubuntu, linux 2.6.27–2–generic (single–user mode)
Memory test (memtest86+)
```

- If the system hangs at the initial vendor logo screen when you hold down SHIFT, just release the SHIFT key briefly then hold it down again until the "GNU GRUB" menu appears.
- If the system boots up to the Ubuntu login screen without displaying the "GNU GRUB" menu, reboot again and try pressing the ESC key instead of holding down SHIFT... If the ESC key makes the "GNU GRUB" menu appear, then the system is using the older GRUB (not GRUB 2), so use the instructions for changing boot parameters in GRUB for earlier releases.
- 3. Once the "GNU GRUB" menu appears, release **SHIFT** and then press the **e** key to enter edit mode. The edit mode screen screen will look something like this:

```
recordfail=1
save_env recordfail
set quiet=1
insmod ext2
set root=(hd0,1)
search --no-floppy --fs-uuid --set 904bf39-9234
linux /boot/vmlinuz-2.6.31-9 root=UUID=904bf39-9234 ro quiet splash
initrd /boot/initrd.img-2.6.31-9_generic

Minimum Emacs-like screen editing is supported. TAB lists
completions. Press Ctrl-x to boot, Ctrl-c for a command-line
or ESC to return menu.
```

- 4. Use the down arrow key to move the cursor to the line beginning with the word "linux", then press the **END** key to move the cursor to the end of that line. Normally this will be just after the words "quiet splash".
- 5. Press **SPACE** to add a blank space (after "splash") then carefully type in the kernel boot parameter that you need to add. (If you need to add multiple parameters separate them with **SPACE** but do not add spaces before or after any = signs or punctuation in the parameters themselves).
- 6. Press Ctrl+X to boot the system using the parameters you've added.

Note: The parameter(s) you've added to the linux line are only temporary: They will affect this boot session, but once you restart the system they will no longer be in effect.

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Permanently Add a Kernel Boot Parameter

- 1. Log in to the system and start a terminal window (Applications->Accessories->Terminal).
- 2. In the terminal window at the \$ prompt, enter the command:

sudo gedit /etc/default/grub

- Enter your password when prompted by [sudo].
- If the file /etc/default/grub appears to be empty or does not exist, see the instructions for earlier releases above).
- 3. In the editor window, use the arrow keys to move the cursor to the line beginning with "GRUB_CMDLINE_LINUX_DEFAULT" then edit that line, adding your parameter(s) to the text *inside* the double-quotes after the words "quiet splash". (Be sure to add a SPACE after "splash" before adding your new parameter.) Click the Save button, then close the editor window.
- 4. In the terminal window at the \$ prompt, enter the command: Sudo update-grub
- 5. Restart the system.

Note: The parameter(s) you've added to the GRUB_CMDLINE_LINUX_DEFAULT line are persistent, and will be in effect for every subsequent boot session (unless you remove them by repeating the procedure above).

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