

Your computer consists of a number of connected devices collectively known as computer hardware.

Black Lab Enterprise Linux normally configures your hardware automatically, but there may be occasions when you need to make changes to hardware settings yourself. This section provides information on tools which can be used to configure your hardware.

Restricted drivers

Why are some drivers restricted?

Restricted drivers are drivers for your hardware that are not freely available or open source.

Most of the devices (hardware) attached to your computer should function properly in Black Lab Enterprise Linux. These devices are likely to have unrestricted drivers, which means that the drivers can be modified by the Black Lab Enterprise Linux developers and problems with them can be fixed.

Some hardware does not have unrestricted drivers, usually because the hardware manufacturer has not released details of their hardware that would make it possible to create such a driver. These devices may have limited functionality or may not work at all.

Enabling restricted drivers

If a restricted driver is available for a certain device, it can be installed in order to allow your device to function properly, or to add new features. For example, installing a restricted driver for certain graphics cards may allow you to use more advanced visual effects.

Some computers may not have any devices that can use restricted drivers, either because all of the devices are fully supported by unrestricted drivers or because no restricted drivers are yet available for the device.

If any drivers are available for your hardware they will be installable from the Software and Updates application:

Go to → Settings → Additional Drivers

You will, if necessary, be prompted to enter the administration password.

You may be prompted to reboot to finish installation.

Disabling restricted drivers

If a restricted driver is causing problems, or you would just like to turn it off, follow the procedure below:

Go to → Settings → Additional Drivers

Find the driver that you would like to disable and press the Deactivate button.

You will be prompted to enter your password.

[Note]

You may need to restart your computer to finish disabling the driver.

Disks and partitions

Checking how much disk space is available

A simple way to check available disk space is to launch Thunar. There are several ways to do this:

Go to → Accessories → File Manager

Double-click on the File System or Home icon on your Desktop

Click the home folder on the side-pane

The status bar at the bottom of the window shows the free space for the current drive or disk. If you have more than one drive mounted or connected, you can click on them in the side pane and you will then see displayed the free space for that disk.

How can I free up disk space?

There are several simple ways of making more disk space available:

Empty your trash by right-clicking the Trash icon on the Desktop or the Launcher Panel and selecting Empty Trash.

Remove software packages that you no longer use. See Removing software for information on removing packages.

Delete files that you no longer need. You can install the GNOME Disk Usage Analyzer from Gnome Software to find which files are taking up the most space.

[Warning]

Be careful not to delete files that you still need!

Partitioning a Device

You can use Disks to partition storage devices. → Settings Manager → Disks to start the partition editor.

[Warning]

Be careful when altering disk partitions, as it is possible to lose your data if you delete or change the wrong partition.

[Warning]

Altering disk partitions can take some time. Do not assume that GParted has hung or crashed while it is working.

[Note]

If it is necessary to unmount the installed system to proceed with changes you wish to make, you will have to work from a liveUSB to do so.

Mounting and unmounting devices

When you connect a removable storage device to your computer, it must be mounted by the operating system so that you are able to access the files on the device.

To find out how to mount and unmount storage devices manually and/or automatically, see the Ubuntu community wiki page for the mount command.

When you copy files to a removable storage device, they are not always written to the device immediately. Instead, they are often stored in a queue so that they can all be transferred across to the device at the same time (for reasons of efficiency). Running the command sync can force pending data to be written to removable storage devices. If you disconnect the device before all of the files have been transferred, you could lose the files. To prevent this, you must always unmount a removable device before disconnecting it.

Laptops

Power management settings

You may wish to change the power management settings of your laptop in order to help extend its battery life and save energy.

Go to → Settings Manager → Power Manager

Change settings as appropriate

Changes are applied instantly

[Tip]

When your laptop is running on battery, one of the biggest drains on power is the display. Turning the brightness of the display down could improve battery life significantly; many laptops allow you to do this by pressing Fn+F7 (or other marked key) several times.

Touchpads

Most laptop computers come with a touchpad, which is used to control the mouse pointer. There are many ways of changing the way that the touchpad behaves; the most basic touchpad settings can be configured in the following way:

Go to → Settings Manager → Mouse and Touchpad

From the Device: field pick list, select the touchpad.

Here you can change the touchpad settings to your liking. Changes should take effect immediately.

[Note]

Some touchpads may be detected as normal mouse devices, even though they are actually touchpads. In this case, the Touchpad device will not be available in the mouse preferences. See the Touchpads page in the Ubuntu community wiki for more information on touchpads.

Suspending and Hibernating

In order to save power, you can put your computer into one of a number of power-saving modes when you are not using it:

Suspending a computer is like putting the computer to sleep. The computer will still be turned on and all of your work will be left open, but it will use much less power. You can wake the computer by pressing a key or clicking the mouse.

Hibernating is turning the computer off completely while saving the current state of the computer (such as keeping all of your open documents). When you turn the computer back on after hibernating, all of your work should be restored as it was before hibernation. No power is used when the computer is hibernating.

Resuming is bringing the computer out of a power saving mode and back into normal operation. You can resume the computer from being suspended by pressing a keyboard button or by clicking the mouse. You can resume from hibernation by pressing the power button on your computer.

[Note]

Note that hibernate is disabled by default in Black Lab Enterprise Linux and does not appear as an option in any menus. For a command line workaround, see [Enabling hibernation](#).

You can manually put your computer into a power-saving mode by pressing → Log Out and then pressing the appropriate button.

[Note]

Some computers may have problems going into certain power-saving modes. The best way of checking if your computer can handle a power-saving mode is to try to switch to that mode and see if it behaves as you expected. Always make sure you save important documents before suspending or hibernating.

My computer doesn't suspend or hibernate correctly

Some computers are unable to suspend or hibernate correctly with Black Lab Enterprise Linux. If this is the case for your computer, you may notice some of the following symptoms:

The computer does not turn off after you click to hibernate it.

When you turn the computer on after hibernating it, your previously open programs are not restored.

The computer will not wake up after you have suspended it.

Certain programs or hardware devices stop working correctly after resuming from hibernation or waking-up from being suspended.

If you suffer from any of these problems, you should report a bug to our website. The problems will hopefully be fixed in a subsequent version of Black Lab Enterprise Linux. If your hardware does not work properly after suspending or hibernating your computer, restart your computer and it should return to normal. If a program does not work properly, try closing the program and then starting it again.

[Warning]

Make sure that you save all of your open documents before testing for suspend and hibernate problems.

Enabling hibernation

To enable and use hibernation with Black Lab Enterprise Linux, do the following:

Install the pm-utils package from Gnome Software.

From the command line, enter: `sudo pm-hibernate`.

Enter your password.

To resume from hibernation, press the power button.

I get strange patterns on the screen when I hibernate my computer

Your screen may show a black and white pattern just after you click to hibernate your computer. This is usually nothing to worry about and is just how the graphics cards of some computers respond to the initial stages of the hibernation process. If the computer displays the pattern for a prolonged period of time without turning itself off then you may have a problem with hibernation. See [My computer doesn't suspend or hibernate correctly](#) for more information.

Mice and keyboard

When you install Black Lab Enterprise Linux, you are given the option of selecting your keyboard type and language. During the installation, your pointing devices should be automatically detected and configured. If you want or need to change the settings of any of these devices after installation, you can do so by going to → Settings Manager → Mouse and Touchpad or → Settings Manager → Keyboard.

Options for mice and touchpads include:

Button orientation

Pointer speed and sensitivity

Double-click sensitivity

Cursor theme

Some of the options for configuring your keyboard include:

State of the Num Lock key on startup

Key repeat speed and delay

Cursor blinking speed

Application keyboard shortcuts

Keyboard layout and language

[Tip]

If you are using a mouse on a laptop that also has a touchpad, you can change the behavior of each of them individually by selecting the appropriate device from the Device: pick list on the Devices tab page