

# **Ubuntu**

## **Questions and Answers**



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# About this book

This book has been divided into categories where each question belongs to one or more categories. The categories are listed based on how many questions they have; the question appears in the most popular category, with a link included in the other categories the question belongs to. Everything is linked internally, so when browsing a category you can easily flip through the questions contained within it. Where possible links within questions and answers link to appropriate places within in the book. If a link doesn't link to within the book then it gets a special icon, like [this](#) .

# Command Line

[Skip to questions](#), Wiki by user [stefano-palazzo](#)

# What Questions Should Have This Tag?:

- How do I do *this* via command line?
  - Basic Command Line commands
  - Shell Specific commands
-

## **Basic Definitions:**

Command Line Interface is a way of interacting with the system and software by typing text commands into a terminal (or terminal emulator).

---

# Brief Introduction to the Subject:

“Under Linux there are GUIs (graphical user interfaces), where you can point and click and drag, and hopefully get work done without first reading lots of documentation. The traditional Unix environment is a CLI (command line interface), where you type commands to tell the computer what to do. That is faster and more powerful, but requires finding out what the commands are.”

from [man intro\(1\)](#) 

Some users prefer using the command line for some tasks because it saves them time and effort. They also benefit from being able to create *scripts* to automate common tasks, and they can use the command line to configure their operating system on a very low level to exactly fit their needs.

---

# Important Links for Learning More:

Questions using this tag might be related to [Bash](#) - the default command line shell in Ubuntu, [Shell-Scripting](#) and [Programming](#).

- The Ubuntu community documentation has a [General introduction to the Command Line](#).
  - There is also a longer, more in-depth [Command Line How-To](#).
-

# Questions

## [Q: How do I enable full-color support in Vim?](#)

**Tags:** [command-line](#) ([Next Q](#)), [vim](#) ([Next Q](#))

I have a lovely Vim colorscheme ([xoria256](#)) and it looks brilliant in GVim, but when I use normal vim in Terminal, the colorscheme is only partially supported — for example, the default semi-transparent aubergine background color is used. How do I make Terminal faithfully render my Vim colorscheme?

**Tags:** [command-line](#) ([Next Q](#)), [vim](#) ([Next Q](#))

**User:** [david-siegel](#)

---

[Answer](#)  by [marius-gedminas](#)

GNOME Terminal supports 256 colors, but doesn't advertise its support. You can override vim's autodetection by putting the following:

```
if $COLORTERM == 'gnome-terminal'
  set t_Co=256
endif
```

in your `~/.vimrc`.

**Note:** if you use GNU screen, it will happily eat those 256-color codes and convert them to basic 16 colors. A better fix is to change TERM to xterm-256color before launching screen/vim.

---

[Answer](#)  by [dave-jennings](#)

A more general solution is to install the term type “xterm-256color”. In 10.04 I think it's installed by default. Previously you needed to install “ncurses-term” to get it.

Then set the term type in `.bashrc` with something like the following:

```
if [ -n "$DISPLAY" -a "$TERM" == "xterm" ]; then
  export TERM=xterm-256color
fi
```

If you'd prefer to only have the 256 colour capability for certain programs (perhaps it confuses some others) use instead:

```
TERM=xterm-256color myprogram
```

and perhaps set that as an alias for the program.

Then check your terminal colour capabilities with:

```
$ tput colors
256
```

You still may need the vim setting above to have vim recognise it. Most applications will

recognise the 256 colours automatically (if they can use them).

Emacs also has colour themes that are much better with 256 colours. To check if it 256-colour capable run:

```
M-x list-colors-display
```

[256colors.pl](#) is Perl script that will display all the colours in your terminal.

[Answer](#) by [crncosta](#)

Just include the line below into your \$HOME/.bashrc (preferably in the last line of the file):

```
export TERM="xterm-256color"
```

And save it. After, restart your gnome-terminal. This change will be available not only in vim, but for all your terminal applications.

To check if it works, run this little [script](#):

[Skip code block](#)

```
#!/usr/bin/env python
# Copyright (C) 2006 by Johannes Zellner, <johannes@zellner.org>
# modified by mac@calmar.ws to fit my output needs
# modified by crncosta@carloscosta.org to fit my output needs

import sys
import os

def echo(msg):
    os.system('echo -n "' + str(msg) + '"')

def out(n):
    os.system("tput setab " + str(n) + "; echo -n " + ("\"% 4d\"% n"))
    os.system("tput setab 0")

# normal colors 1 - 16
os.system("tput setaf 16")
for n in range(8):
    out(n)
echo("\n")
for n in range(8, 16):
    out(n)

echo("\n")
echo("\n")

y=16
while y < 231:
    for z in range(0,6):
        out(y)
        y += 1

echo("\n")

echo("\n")

for n in range(232, 256):
    out(n)
    if n == 237 or n == 243 or n == 249:
        echo("\n")

echo("\n")
os.system("tput setaf 7")
os.system("tput setab 0")
```

Thereafter, you will see something like the following (depends on your gnome-terminal

theme):

```
calmar@tuxli:~$ terminalcolors.py
```

|   |   |    |    |    |    |    |    |
|---|---|----|----|----|----|----|----|
| 0 | 1 | 2  | 3  | 4  | 5  | 6  | 7  |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |

|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 1   | 11  | 21  | 31  | 41  | 51  | 61  | 71  |
| 22  | 23  | 24  | 25  | 26  | 27  | 28  | 29  |
| 28  | 29  | 30  | 31  | 32  | 33  | 34  | 35  |
| 35  | 36  | 37  | 38  | 39  | 40  | 41  | 42  |
| 42  | 43  | 44  | 45  | 46  | 47  | 48  | 49  |
| 50  | 51  | 52  | 53  | 54  | 55  | 56  | 57  |
| 58  | 59  | 60  | 61  | 62  | 63  | 64  | 65  |
| 66  | 67  | 68  | 69  | 70  | 71  | 72  | 73  |
| 74  | 75  | 76  | 77  | 78  | 79  | 80  | 81  |
| 82  | 83  | 84  | 85  | 86  | 87  | 88  | 89  |
| 90  | 91  | 92  | 93  | 94  | 95  | 96  | 97  |
| 98  | 99  | 100 | 101 | 102 | 103 | 104 | 105 |
| 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 |
| 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 |
| 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 |
| 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 |
| 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 |
| 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 |
| 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 |
| 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 |
| 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 |
| 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 |
| 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 |
| 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 |
| 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 |
| 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 |
| 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 |
| 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 |
| 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 |
| 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 |
| 250 | 251 | 252 | 253 | 254 | 255 |     |     |

```
calmar@tuxli:~$
```

---

**Tags:** [command-line](#) ([Next Q](#)), [vim](#) ([Next Q](#))

---

## **Q: How can I tell, from the command line, whether the machine requires a reboot?**



**Tags:** [command-line](#) ([Next Q](#)), [package-management](#) ([Next Q](#))

When you install certain updates (e.g. a new kernel) in Ubuntu Desktop, you get an indication that a reboot is required (in Lucid, the logout icon turns red).

How can I check, from the command line, whether an Ubuntu *server* requires a reboot?

I could grep for ‘System restart required’ in /etc/motd, but I’d like a solution that’s more elegant. Also, I want a solution that works in older releases, e.g. Hardy (8.04 LTS).

**Tags:** [command-line](#) ([Next Q](#)), [package-management](#) ([Next Q](#))

**User:** [marius-gedminas](#)

---

[Answer](#)  by [weboide](#)

You can simply check if the file `/var/run/reboot-required` exists or not.

For example, any of these would tell you “no such file” or “file not found” if you do not need to reboot, otherwise they will show information about the file:

```
file /var/run/reboot-required
stat /var/run/reboot-required
ls /var/run/reboot-required
```

In a bash script, you can use:

```
#!/bin/bash
if [ -f /var/run/reboot-required ]; then
    echo 'reboot required'
fi
```

[Answer](#)  by [kone4040](#)

Normally if the file

```
/var/run/reboot-required
```

exists you should reboot. You can see if this file is there by using this simple command in gnome-terminal.

```
ls /var/run/reboot-required
```

[Answer](#)  by [aquaherd](#)

In the package `debian-goodies` is a command named `checkrestart` which is quite useful. Its output can help you avoid a full reboot.

---

**Tags:** [command-line](#) ([Next Q](#)), [package-management](#) ([Next Q](#))

## Q: Coolest looking terminal IRC client

**Tags:** [command-line](#) ([Next Q](#)), [software-recommendation](#) ([Next Q](#))

I am looking for a IRC client for the terminal that has colors, user list and just generally looks awesome ;) Any recommendations? There are loads of IRC clients in the repositories and I don't want to download them all to find the best one.

**Tags:** [command-line](#) ([Next Q](#)), [software-recommendation](#) ([Next Q](#))

**User:** [alvin-row](#)

**Answer** by [tutuca](#)

IRSSI - The client of the future <http://www.irssi.org/>

```
sudo apt-get install irssi
```

Say no more

```
suhaib@suhailb: ~
[16:00] [ Garr255 ] [ oDiafanos ] [ zilla
[16:00] [ gartral ] [ Odysimus ] [ zimzimma
[16:00] [ gavinstark ] [ OerHeks ] [ ZinovaS
[16:00] [ gde33 ] [ ogra_ ] [ zivester_
[16:00] [ geekbri ] [ OkropNick ] [ zln
[16:00] [ genii-around ] [ oldgettingsomewh ] [ znusgy
[16:00] [ geoffb ] [ OllieN ] [ Zokol
[16:00] [ geoffw8_ ] [ oln ] [ zoktar
[16:00] [ georgeha1k ] [ Onixs ] [ zonum
[16:00] [ Geri_lgfx ] [ Onkeltem ] [ zorael
[16:00] [ gesker ] [ Ool ] [ ZsoL
[16:00] [ geudrik ] [ ooooooo
[16:00] [ GhostFreeman ] [ OpenSorce ] [ ZULUNOi
[16:00] [ ghoti ] [ openvoid ] [ zykes-
[16:00] [ gianlucadv ] [ openg
[16:00] [ gimpygoo ] [ OpenSrcCon ] [ zz_scottas
[16:00] [ githogori ] [ Optichip ] [ zzzgeoffb
[16:00] [ gkatsev ] [ or4n ] [ l_ocke
[16:00] [ glebihan ] [ oriondaz ] [ lAnthony|
[16:00] [ GLEG ] [ Orphis ] [ lMS|DjFlyBy
[16:00] [ gmdeux ] [ ouroz ] [ lloop
[16:00] -!- Irssi: #ubuntu: Total of 1734 nicks [3 ops, 0 halfops, 0 voices, 1731 normal]
[16:00] -!- Home page for #ubuntu: http://www.ubuntu.com
[16:00] -!- Channel #ubuntu created Sun Nov 26 01:42:41 2006
[16:00] -!- Irssi: Join to #ubuntu was synced in 2 secs
[16:00] < Akiva-Mobile>Bekks just seemse that it is not recomended
16:00 suhaib( i) 2:freenode/#ubuntu( CLcfjnt #ubuntu-unregged 5:10) Lag Act:
[#ubuntu]
```

**Answer** by [qbi](#)

I would prefer [weechat](#). Apart from having colors and looking awesome it is very customizable.

# Missing Image

A very small IRC client is [ii](#), but has no colors out of the box. It is good for using in shell scripts etc.

---

**Tags:** [command-line](#) ([Next Q](#)), [software-recommendation](#) ([Next Q](#))

---

## **Q: How can I restart x-server from the command line?**

**Tags:** [command-line](#) ([Next Q](#))

How can I restart x-server from the command line?

I'd really like to be able to restart my gui without having to do a full system reboot.

**Tags:** [command-line](#) ([Next Q](#))

**User:** [noah-goodrich](#)

---

[Answer](#) by [txwikinger](#)

Depending on what display manager, you can use one of the following commands:

- Default Ubuntu (with LightDM)

```
sudo restart lightdm
```

- Gnome (with GDM)

```
sudo restart gdm
```

- KDE (with KDM)

```
sudo restart kdm
```

- For MDM

```
sudo restart mdm
```

Note: From 12.10, Kubuntu also uses LightDM.

---

[Answer](#) by vwduder

**For 11.04 and earlier:**

```
sudo service gdm restart
```

**For 11.10 and later:**

```
sudo service lightdm restart
```

---

Tags: [command-line](#) ([Next Q](#))

---

## **Q: How do I determine the total size of a directory (folder) from the command line?**



Tags: [command-line](#) ([Next Q](#)), [filesystem](#) ([Next Q](#))

Is there a simple command to display the total aggregate size (disk usage) of all files in a directory (folder)?

I have tried these, and they don't do what I want:

- `ls -l`, which only displays the size of the individual files in a directory, nor
- `df -h`, which only displays the free and used space on my disks.

Tags: [command-line](#) ([Next Q](#)), [filesystem](#) ([Next Q](#))

User: [david-barry](#)

---

Answer by [marcel-stimberg](#)

The command `du` “summarizes disk usage of each FILE, recursively for directories,” e.g.,

```
du -hs /path/to/directory
```

- `-h` is to get the numbers “human readable”, e.g. get `140M` instead of `143260` (size in KBytes)
- `-s` is for summary (otherwise you'll get not only the size of the folder but also for everything *in* the folder separately)

---

Answer by [geekq](#)

Recently I found a great, ncurses based interactive tool, that quickly gives you an overview about directory sizes. Searched for that kind of tool for years.

- quickly drilldown through file hierarchy
- you can delete e.g. huge temporary files from inside the tool
- extremely fast

Think of it as [baobab](#) for the command line:

```
apt-get install ncdu
```

---

Tags: [command-line](#) ([Next Q](#)), [filesystem](#) ([Next Q](#))

---

## **Q: How to create a permanent “alias”?**



**Tags:** [command-line](#) ([Next Q](#))

If you create an alias for example:

```
alias cls="clear"
```

It exists until you kill terminal session. When you start a new terminal window the alias doesn't exist any more. How to create "permanent" alias, one that exists in every terminal session?

**Tags:** [command-line](#) ([Next Q](#))

**User:** [zango](#)

---

[Answer](#)  by [php-guru](#)

You can put such aliases in the `~/.bash_aliases` file.

That file is loaded by `~/.bashrc`. On Ubuntu 10.04, the following lines need to be uncommented to enable the use of `~/.bash_aliases`. On Ubuntu 11.04 and later, it's already enabled:

```
if [ -f ~/.bash_aliases ]; then
    . ~/.bash_aliases
fi
```

---

[Answer](#)  by [txwikinger](#)

Add your line into `~/.bashrc` or into `~/.profile` / `~/.bash_profile` for remote logins.

If you want the command being executed for all users, put it into `/etc/bash.bashrc`.

**Edit:** In the latest versions of Ubuntu, `~/.bashrc` automatically sources `~/.bash_aliases`, so permanent aliases are best put into this file instead.

---

**Tags:** [command-line](#) ([Next Q](#))

## [Q: Moving from bash to zsh](#)

**Tags:** [command-line](#) ([Next Q](#)), [bash](#) ([Next Q](#))

I'm considering moving from bash to zsh as I often come across posts praising zsh. I'm an experienced command line user and I'm assuming the basics are pretty much the same, so I'm looking for advice to get the benefits of moving, and any gotchas to be aware of.

Please just give one bit of advice per answer. I'm looking for bite-size chunks where I can come back and integrate extra bits of info into my shell usage at a steady pace rather than trying to learn it all in one go.

**Tags:** [command-line](#) ([Next Q](#)), [bash](#) ([Next Q](#))

**User:** [hamish-downer](#)

---

[Answer](#)  by [loevborg](#)

As you say, zsh is similar in many respects to bash. It has some features you won't find in bash, and it can be extended in powerful ways. Don't think of moving as a kind of revolution, but rather as a series of evolutionary steps that help you in your daily work. Here are some hints from my .zshrc. Although you say you prefer single pieces of advice, this post is a longish list. Still it is a good idea to go through the points one by one. Just add the interesting bits to your ~/.zshrc and reload with source ~/.zshrc. A final tip: learn the keystrokes of zsh's default ("Emacs") keyboard shortcuts: ^A ^E ^W Alt-F Alt-B Alt-P ^L ^R. You can replace Alt by two separate keystrokes: Alt-P is equivalent to ESC P.

---

This gives you more extensive tab completion.

```
autoload -U compinit  
compinit
```

Tab completion from both ends.

```
setopt completeinword
```

Tab completion should be case-insensitive.

```
zstyle ':completion:*' matcher-list 'm:{a-zA-Z}={A-Za-z}'
```

Better completion for killall.

```
zstyle ':completion:*:killall:' command 'ps -u $USER -o cmd'
```

Changes the definition of "word", e.g. with ^W.

```
autoload select-word-style  
select-word-style shell
```

Colors for ls.

```
if [[ -x "`whence -p dircolors`" ]]; then  
    eval `dircolors`  
    alias ls='ls -F --color=auto'  
else  
    alias ls='ls -F'  
fi
```

Shortcuts for ls.

```
alias ll='ls -l'  
alias la='ls -a'
```

One history for all open shells; store 10,000 entries. This makes this into a useful memory aid to find the commands you used last time for ./configure etc. Use Alt-P (find command that starts like this) and ^R (search in history) liberally.

```
HISTFILE=~/.zhistory  
HISTSIZE=SAVEHIST=10000  
setopt sharehistory  
setopt extendedhistory
```

Enables all sorts of extended globbing, such as ls \*.txt (find all text files), ls -d \*(D) (show all files including those starting with "."). To find out more, go to man zshexpn, section "FILENAME GENERATION".

```
# superglob  
setopt extendedglob
```

```
unsetopt casoglob
```

This is useful to remember command in your history without executing them.

```
setopt interactivecomments # pound sign in interactive prompt
```

Type “..” instead of “cd ..”, “/usr/include” instead of “cd /usr/include”.

```
setopt auto_cd
```

Nice prompt.

```
PS1='[%T] %n@%m:%~# '
```

Display CPU usage stats for commands taking more than 10 seconds

```
REPORTTIME=10
```

Some commands you use extensively in Ubuntu.

```
alias 'a=sudo aptitude'
alias 'ai=sudo aptitude install'
alias 'ar=sudo aptitude remove'
alias 'au=sudo aptitude update'
alias 'ag=sudo aptitude safe-upgrade'
alias 'as=apt-cache search'
alias 'aw=apt-cache show'
```

Lists packages sorted by their size - useful when deciding which packages are taking up you disk space.

```
function apt-list-packages {
    dpkg-query -W --showformat='${Installed-Size} ${Package} ${Status}\n' | grep -v deinstall | sort -n | awk '{print $1" "$2}'
```

[Answer](#)  by [qbi](#)

I would recommend the book [From bash to Z Shell](#). It has all the advice you need for switching your shell. It explains the differences of both shells and makes it easy for a new zsher.

**Tags:** [command-line](#) ([Next Q](#)), [bash](#) ([Next Q](#))

## [Q: How can I suspend/hibernate from command line?](#)

**Tags:** [command-line](#) ([Next Q](#))

How can I suspend or hibernate my laptop using command line, without installing additional software?

**Tags:** [command-line](#) ([Next Q](#))

**User:** [user1034](#)

[Answer](#)  by [txwikinger](#)

Traditionally ubuntu supported a fairly blunt method of suspend and hibernate. Neither

would integrate well with other apps and sometimes not even work on some machines. The new method doesn't require root and notifies all applications listening for power events.

## New Method

See the answer here on this page [from Adam Paetznick regarding the use of dbus](#). Ideally you would create a ~/bin/suspend shortcut/script that makes the use of this action easy.

For use over ssh, you should [modify policykit rules as outlined by Peter V. Mrch](#).

## Old Method

According to the [Ubuntu Forum](#) you can use the following commands:

```
pmi action suspend
```

and

```
pmi action hibernate
```

This requires that you install the powermanagement-interface package (not tested).

```
sudo apt-get install powermanagement-interface
```

I have also found the commands sudo pm-suspend and sudo pm-hibernate to work on my netbook.

---

[Answer](#) by [adam-paetznick](#)

The gnome-friendly way is to use dbus.

```
dbus-send --system --print-reply \
--dest="org.freedesktop.UPower" \
/org/freedesktop/UPower \
org.freedesktop.UPower.Suspend
```

There are two advantages to this command over pm-suspend.

1. It will lock your screen (upon resume) if you have that option selected in gnome.
2. It does not require root privilege, so it is easy to add it as a keyboard shortcut, for example.

Note: This is basically the same as qbi's answer, but updated to work for newer versions of Ubuntu.

---

[Answer](#) by [greg](#)

(English)

If you just want your computer to suspend in one hour because you want to go to bed

listening to your favorite radio station, just open terminal and type :

```
sudo bash -c "sleep 1h; pm-suspend"
```

and your computer will fall asleep in 1 hour, and when you awake, he will have kept your open images and all your stuff.

you can replace 1h by what you want (h for hours, m for minutes, s for seconds, d for days).

Good night!

(Francais)

Si vous voulez juste que votre ordinateur se mette en veille dans une heure parce que vous voulez vous endormir en écoutant votre radio préférée, ouvrez Terminal et tapez :

```
sudo bash -c "sleep 1h; pm-suspend"
```

et votre ordinateur se déconnectera dans une heure, et quand vous vous réveillerez, il aura conservé en mémoire vos applications ouvertes.

Vous pouvez remplacer 1h par ce que vous voulez (h pour les heures, m pour les minutes, s pour les secondes, d pour les jours).

Bonne nuit!

---

**Tags:** [command-line](#) ([Next Q](#))

---

## [Q: Change folder permissions and ownership](#)

**Tags:** [command-line](#) ([Next Q](#)), [permissions](#) ([Next Q](#))

I would like the user to have full rights on this folder (as well as all sub-directories and files in it):

```
~/blabla
```

currently owned by root.

I have found numerous posts (in this forum and elsewhere) on how to do this for files but I can't find a way to do it for whole folders.

**Tags:** [command-line](#) ([Next Q](#)), [permissions](#) ([Next Q](#))

**User:** [user2413](#)

---

[Answer](#)  by [ikke](#)

Use chown to change ownership and chmod to change rights.

As Pawe Karpiski said, use the -R option to apply the rights for all files inside of a directory too.

Note that both these commands just work for directories too. The -R option makes them

also change the permissions for all files and directories inside of the directory.

For example

```
sudo chown -R username:group directory
```

will change ownership (both user and group) of all files and directories inside of directory and directory itself.

```
sudo chown username:group directory
```

will only change the permission of the folder directory but will leave the files and folders inside the directory alone.

As enzotib mentioned, you need to use sudo to change the ownership from root to yourself.

*Edit:*

Note that if you use chown user: file (Note the left-out group), it will use the default group for that user.

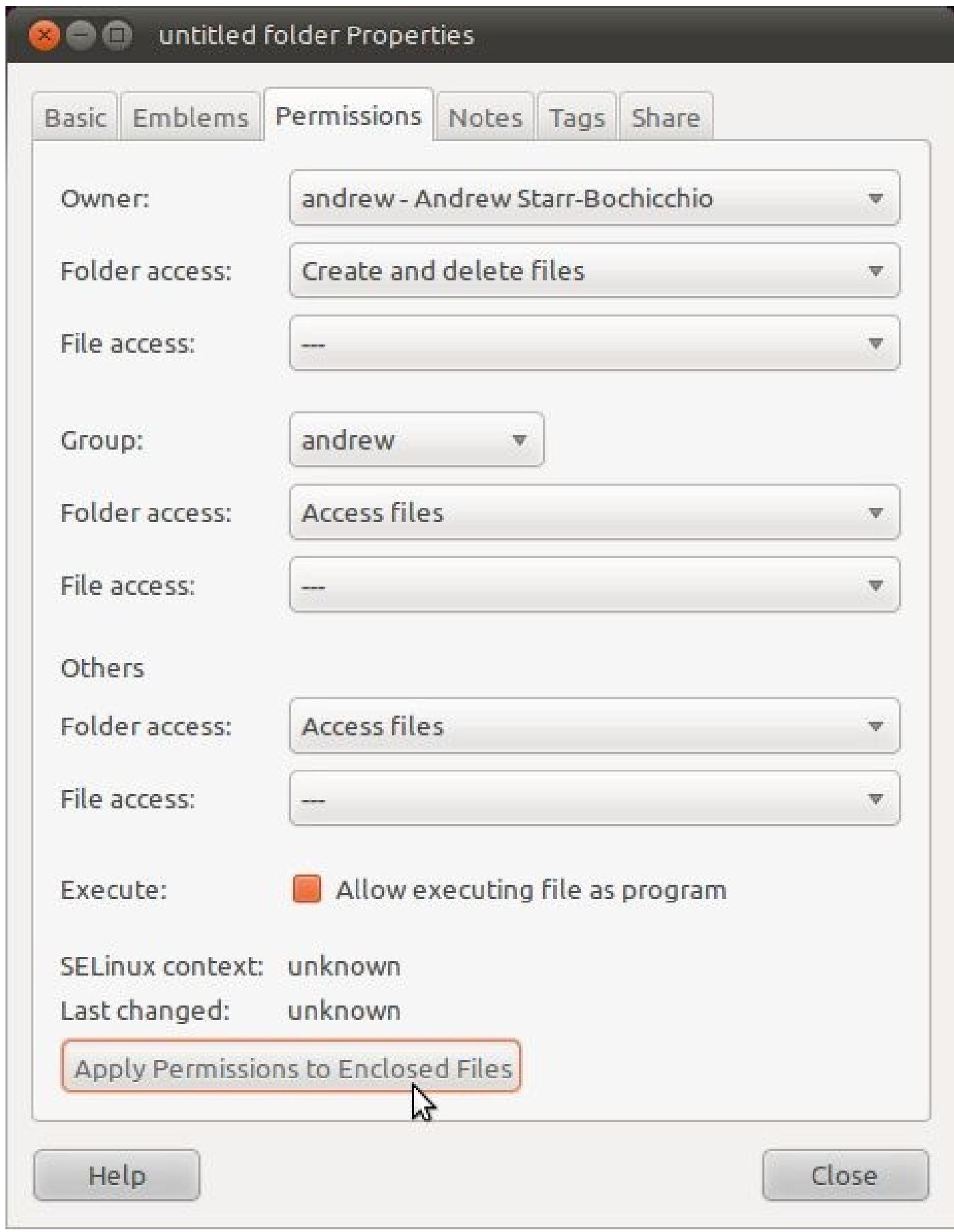
---

[Answer](#)  by [andrewsomething](#)

If you prefer, this can be done with a GUI as well. You will need to open Nautilus as root to do so. Press Alt+F2 to access the “Run Applications” dialog and enter gksu nautilus

Next, browse to and right click on the folder you would like to modify. Then, select “Properties” from the context menu. You can now select the user or group that you would like to be the “Owner” of the folder as well as the permissions you would like to grant them. Finally, press “Apply Permissions to Enclosed Files” to apply the changes recursively.

Though it seems this does not always work for some operations in a deep folder tree. If it does not work use the appropriate terminal command.



Answer  by [lucian-adrian-grijincu](#)

Make the current user own everything inside the folder (and the folder itself).

```
chown $USER -R ~/blabla
```

**Tags:** [command-line](#) [\(Next Q\)](#), [permissions](#) [\(Next Q\)](#)

---

## **Q: How can I add a new user as sudoer using the command line?**



**Tags:** [command-line](#) [\(Next Q\)](#), [sudo](#) [\(Next Q\)](#)

After I add a user using adduser, I can't see it via System->Administration->Users and Groups unless I logout and then login again. Is that normal?

Also, can I set a newly added user as a sudoer or do I have to change that only after adding it? How can I do that via the shell?

Finally, can I delete the original user that was created upon initial installation of Ubuntu, or is this user somehow 'special'?

**Tags:** [command-line](#) [\(Next Q\)](#), [sudo](#) [\(Next Q\)](#)

**User:** [david-b](#)

---

[Answer](#)  by [A'ndrA'k](#)

Just [add the user to the sudo group](#) :

```
sudo adduser <username> sudo
```

The change will take effect the next time the user logs in.

This works because /etc/sudoers is pre-configured to grant permissions to all members of this group (You should not have to make any changes to this):

```
# Allow members of group sudo to execute any command
%sudo    ALL=(ALL:ALL) ALL
```

As long as you have access to a user that is in the same groups as your "original" user, you can delete the old one.

---

Realistically, there are also other groups your new user should be a member of. If you set the Account type of a user to Administrator in Users Settings, it will be placed in at least all of these groups:

```
adm sudo lpadmin sambashare
```

Because your system configuration may vary, I suggest taking a look at the output of groups <username> to see what groups are normally in use.

---

[Answer](#)  by [mithun-p-](#)

Open the sudoers file: sudo visudo will open the /etc/sudoers file in [GNU nano](#) . If not, try export EDITOR="nano" and try sudo visudo again.

Add the below line to the end of file.

```
`<username> ALL=(ALL) ALL`    **Change the user name before you issue the commands**
```

Then perform WriteOut with **Ctrl + O**. The editor will ask you for the file name to write into. The default will be `/etc/sudoers.tmp`:

File Name to Write: `/etc/sudoers.tmp`

Change that to `/etc/sudoers`:

File Name to Write: `/etc/sudoers`

A prompt will be displayed:

File exists, OVERWRITE ?

Or

Save file under DIFFERENT NAME ?

In both cases, press **Y**. Quit the nano editor with **Ctrl + X**.

Done!

---

[Answer](#) by [leszek](#)

I did

```
sudo usermod -a -G sudo <username>
```

as recommended [here](#).

---

**Tags:** [command-line](#) (Next Q), [sudo](#) (Next Q)

---

## [Q: How to clean launch a GUI app via the Terminal \(so it doesn't wait for termination\)?](#)

**Tags:** [command-line](#) (Next Q)

Some GUI apps launch cleanly via the Terminal command line.

Some don't, and they cause the Terminal to wait for the app to terminate.  
...and even then, some don't "release" the command line.

The mysterious ampersand "&" suffix, seems to cause the terminal to put the process into the background... (but I'm not sure what happens there).

Is there a way to launch an app via the Terminal, so that there is no "hang on" effect? ... just like launching something via F2.

I'd like to have the command line available again, immediately (without something still in the background and writing out system message in the terminal).

**Tags:** [command-line](#) (Next Q)

User: [peter.o](#)

---

[Answer](#)  by [con-f-use](#)

Suppose gedit is the program you want to run detached (aka. “disown”, “disentangle”, “decouple”). There are different ways depending on what you want to do exactly:

# Program already running

## Disown:

disown -h is the way to go if you want to do that with an already running program (i.e. if you forgot to nohup it). You first have to stop it using **Ctrl+Z**. Then you can put it in the background using **bg [jobId]** (e.g. **bg 1**). You get a list of running jobs with their jobId using **jobs**. After that you can decouple it from terminal using **disown -h %[jobId]**.

Example terminal session:

```
confus@confusion:~$ gedit
^Z
[1]+  Stopped                  gedit
confus@confusion:~$ jobs
[1]+  Stopped                  gedit
confus@confusion:~$ bg 1
[1]+ gedit &
confus@confusion:~$ disown -h %1
confus@confusion:~$ exit
```

# Program not started yet

## nohup

nohup is not always present on all machines. If you know you want to decouple beforehand you would use:

```
nohup gedit &
```

Maybe you will want to redirect the shell output as well and your program a pseudo input source, so: nohup ./myprogram > foo.out 2> bar.err < /dev/null &. You would want to redirect the output to either not be annoyed by it or to use it later. The null-input can help to prevent hickups in ssh and such.

## Subshell:

You can achieve a similar effect by

```
confus@confusion:~$ (geany 2>&1 /dev/null &)
```

The brackets open a new subshell to run gedit in. The 2>&1 /dev/null redirects the shell output to nowhere (suppressing the output). And the & at the end puts the process in the background.

## Terminal multiplexing

Also terminal multiplexing using [screen](#) or [byobu](#). You basically run the program in a terminal of its own. I can really recommend byobu for other reasons too. Below is a list of byobu-shortcuts that might come in handy for your first steps:

Useful:

- F2 Create a new window
- F3 Move to the next window
- F4 Move to the previous window
- F6 Detach from the session and logout
- Shift-F6 Detach from the session, but do not logout
- F7 Enter scrollback/search mode
- Ctrl-F5 Reconnect any SSH/GPG sockets or agents

Less useful:

Shift-F2 Split the screen horizontally — Ctrl-F2 Split the screen vertically — Shift-F3 Move focus to the next split — Shift-F4 Move focus to the previous split — Shift-F5 Collapse all splits — F5 Refresh all status notifications — F8 Rename the current window

— F9 Launch the Byobu Configuration Menu — F12 GNU Screen’s Escape Key — Alt-Pageup Scroll back through this window’s history — Alt-Pagedown Scroll forward through this window’s history — Ctrl-a-! Toggle all of Byobu’s keybindings on or off —

## The ‘at’ deamon and others

at is a nice usefull little tool to run a command at a scheduled time. It can be ‘misused’ to detach a command from the shell:

```
echo './myprogram myoption1 myoption2' | at now
```

Also you can look into setsid and start-stop-daemon, but the other methods should suffice.

---

[Answer](#)  by roger-pate

The mysterious ampersand “&” suffix, seems to cause the terminal to put the process into the background... (but I’m not sure what happens there).

It does, and is often what you want. If you forget to use &, you can suspend the program with ctrl-z then place it in the background with the bg command and continue to use that shell.

The process’ stdin, stdout, and stderr are still connected to the terminal; you can redirect those from/to /dev/null or any other file (e.g. save an output log somewhere), as desired:

```
some-program </dev/null >/dev/null &
# &>file is bash for 1>file 2>&1
```

You can see the process in jobs, bring it back to the foreground (fg command), and send it signals (kill command).

Some graphical programs will detach from the terminal; if that’s the case, when you run the command “normally” you’ll notice it starts the graphical program *and* “exits”.

---

Here’s [a short script](#) , you can place it in [~/bin](#) , which I named runbg:

[Skip code block](#)

```
#!/bin/bash
[ $# -eq 0 ] && { ## is number of args
    echo "$(basename $0): missing command" >&2
    exit 1
}
prog=$(which "$1") # see below
[ -z "$prog" ] && {
    echo "$(basename $0): unknown command: $1" >&2
    exit 1
}
shift # remove $1, now $prog, from args
tty -s && exec </dev/null # if stdin is a terminal, redirect from null
tty -s <&1 && exec >/dev/null # if stdout is a terminal, redirect to null
tty -s <&2 && exec 2>&1 # stderr to stdout (which might not be null)
"$prog" "$@" & # $@ is all args
```

I look up the program (\$prog) before redirecting so errors in locating it can be reported. Run it as “runbg your-command args...”; you can still redirect stdout/err to a file if you

need to save output somewhere.

Except for the redirections and error handling, this is equivalent to [htorque's answer](#).

---

[Answer](#) by [florian-diesch](#)

Use nohup

nohup is a program that runs a given command with hangup signals ignored, so that the command can continue running in the background after its parent process terminates. See the [manpage](#)

For example:

```
nohup gedit something
```

---

**Tags:** [command-line](#) ([Next Q](#))

---

## [Q: How to send mail from the command line?](#)

**Tags:** [command-line](#) ([Next Q](#))

How to send mail from the command line?

**Tags:** [command-line](#) ([Next Q](#))

**User:** [olivier-lalonde](#)

---

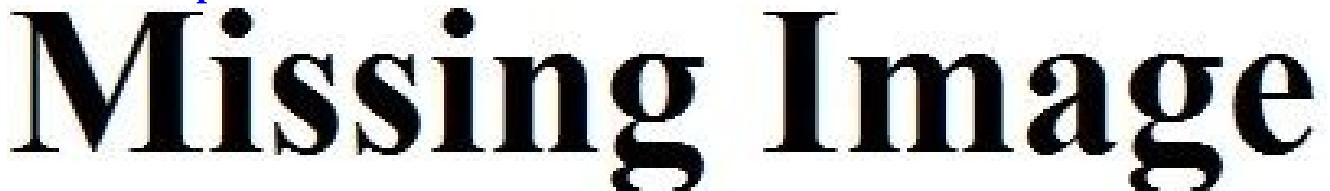
[Answer](#) by [crncosta](#)

Try to install [The Mutt E-mail Client](#). Other option is using emacs with [gnus](#). Others options available too... IMHO, you should use more details in your questions, or several different answers to your question you will receive :-)

---

[Answer](#) by [sid](#)

- Install [ssmtp](#)



: sudo apt-get install ssmtp

- **Edit the ssmtp config file :** gksu gedit /etc/ssmtp/ssmtp.conf
- **Enter this in the file:**

```
root=username@gmail.com
mailhub=smtp.gmail.com:465
rewriteDomain=gmail.com
AuthUser=username
AuthPass=password
```

```
FromLineOverride=YES  
UseTLS=YES
```

- Enter the email address of the person who will receive your email:

```
ssmtp recipient_name@gmail.com
```

- Now enter this:

```
To: recipient_name@gmail.com  
From: username@gmail.com  
Subject: Sent from a terminal!
```

Your content goes here. Lorem ipsum dolor sit amet, consectetur adipisicing.

- To send the email: Ctrl + D

---

You can also save the text mentioned in Point 5 into a text file and send it using:

```
ssmtp recipient_name@gmail.com < filename.txt
```

[Answer](#)  by [marco-ceppi](#)

Most of the time you shouldn't need to configure an SMTP server you can simply use mail from the commandline. (Or if you're on a server where sendmail is configured, etc)

```
marco@dagobah:~$ mail -v marco.ceppi.use@gmail.com  
Subject: Hello World!  
This is an email to myself.  
  
Hope all is well.  
. .  
Cc:
```

You terminate messages with a . on a single line. That's when mail will prompt you for cc: enter the information (or leave blank) and mail will then print out additional information on what it is attempting to do, as well as detailing the processing of connecting, transmitting, and receiving data from the mail server.

---

Tags: [command-line](#) ([Next Q](#))

## [Q: What to do when Ctrl-C won't kill running job?](#)

Tags: [command-line](#) ([Next Q](#)), [bash](#) ([Next Q](#))

Sometimes, processes ignore the SIGINT signal sent by ctrl-C in Bash. For instance, man and vi. Assuming you don't want to google or read the manual on how to exit the running process, is there any key sequence that will **always** work (without leaving the terminal)?

Tags: [command-line](#) ([Next Q](#)), [bash](#) ([Next Q](#))

User: [olivier-lalonde](#)

---

[Answer](#)  by [stefano-palazzo](#)

Send the SIGQUIT signal with ctrl+\.

```
.. $ sleep 10
^Q\Quit
```

This is equivalent to `kill -3 pid`. Programs run in user-space don't ignore `sigquit`.

There is also a set of *Magic SysRq* keyboard shortcuts. One of the more interesting ones is this: `Alt+SysRq+k`. It kills every process on the current virtual console. If one of your ttys is completely and utterly broken, this can be used to *go back*. On the tty running X.org, it can be used to kill X without mercy.

The `SysRq` key is, on most keyboards, the same as the Print Key. On my notebook, it can be invoked using the Fn key; I.e. `AltFnPrintk` in that order.

Here are some of the basic process management shortcuts:

- `Ctrl+Z`: pause a process (plus `bg` to resume in the background, `fg` to raise to foreground )
- `Ctrl+C`: politely ask the process to shut down now
- `Ctrl+\`: mercilessly kill the process that is currently in the foreground
- `Alt+SysRq+s`: Write data to disk (always do this before killing anything important)
- `Alt+SysRq+s, k`: mercilessly kill all current processes on a given virtual console
- `Alt+SysRq+s, b`: mercilessly reboot without unmounting,
- `Alt+SysRq+r, e, i, s, u, b`: Safely reboot even if the system is **utterly broken**,

Note: `Ctrl+Z`, in contrast to `Ctrl+C` and `Ctrl+\`, also works for `man`, `vi`, `less`, and the like.

When in doubt, the following procedure will almost always work:

[Skip code block](#)

```
~$ sleep 10
^Z
[5]+  Stopped                  sleep 10
~$ ps
 PID TTY      TIME CMD
 4804 pts/0    00:00:00 bash
 6207 pts/0    00:00:00 sleep
 6208 pts/0    00:00:00 ps
~$ kill -9 6207
[5]+  Killed                  sleep 10
~$
```

`^Z` of course indicates that `Ctrl+Z` has been pressed.

---

For a more in-depth look at Shells and Terminals, also see my answers on:

# Missing Image

- [What are shells](#) 

# Missing Image

- [Why is a Virtual Terminal virtual, and what/why/where is the real Terminal?](#)

---

A [mistake](#) in this answer kindly corrected by [Juliano](#).

---

**Tags:** [command-line](#) ([Next Q](#)), [bash](#) ([Next Q](#))

---

## [Q: Why is a virtual terminal “virtual”, and what/why/where is the “real” terminal?](#)

**Tags:** [command-line](#) ([Next Q](#))

I hope the question is self-explanatory.

My understanding is that gnome-terminal and konsole are **virtual** terminals, and they are basically serving the same purpose, i.e. a command line environment for various optional command interpreters. (I'm not even sure if that's the right way to look at it.)

I assume that the **real** terminal is where I am teleported to occasionally by mis-keying `Ctrl+Alt+F1,F2`, etc.

But “There be Dragons” in that black-screen hinterland, so I’m outta-there as quickly as I can press `Ctrl+Alt+F7` (I learnt that somewhere: “When all is black and dark: press the secret keys to return :)

- Is/are the “real” terminal(s) the one(s) that exist behind the `Ctrl+Alt+F1,F2`, etc. keys?
- And what is so “real” about them vs the “virtual” ones?
- And how do they differ? Is it as simple as “no GUI” vs “GUI”?

P.S. are “console” and “terminal” synonymous?

**Tags:** [command-line](#) ([Next Q](#))

**User:** [peter.o](#)

---

[Answer](#) by [stefano-palazzo](#)

basically serving the same purpose: ie. A command line environment for various optional command interpreters

This isn’t strictly true. Virtually Terminals are merely programs that send keystrokes and

recieve output (this is called Standard In, Standard Out[ and Standard Error]) to a process in the background. This is a basic *input processing output* system, and is at the heart of your operating system.

# Missing Image

A teletype (or teleprinter)

# Missing Image

Man working at a Computer Terminal

Let's see if I can explain it properly

In a Unixlike system such as Linux there is the concept of “*everything is a file*”. That means, for example, your DVD Drive is a file (/dev/sdb1), your keyboard is a file (/dev/input/keyboard) and so on.

Another set of those magical files are the TTYs, where TTY stands for Teletype. A Typewriter that sends keystrokes to a computer, which in turn sends letters back to the *Type Ball*. This would have represented a physical device, a remote typewriter, in the same way as /dev/lp0 may represent your printer.

# Missing Image

a terminal emulator, the VT100

The Teletype workstations would have been called “Consoles” or “Terminals”, a virtual terminal, as opposed to a real one, thus is any application or machinery that provides the same functionality as this workplace arrangement - which is accessing the computer by sending keystrokes to it and receiving output back from it, printing it to a piece of paper. You can imagine that a Modem works in a very similar way.

Terminal Emulators, such as the one pictured above, are cheap and simple computers that *emulate* the functionality of a teletype. When we say terminal emulator these days, we - in turn - usually mean a program that emulates the functionality of such a machine.

There are still Terminal based computer systems in use. They are in fact getting [ever more popular](#). In the past, the reason for Terminals was that a computer at every desk was completely ridiculous - where computers filled a room and were immensely expensive. Now, it saves money and makes administration easy.



a “thin client” the modern equivalent of the VT100

I hope that this is helpful. Please alert my if I’ve made a mistake.

---

Does that mean that Control-Alt-F1,F2,etc are also virtual terminals, and the only difference between them and “gnome-terminal” / “konsole” is that they don’t have a GUI?

Yes, basically. The difference between TTY1-7 and gnome-terminal is that the system provides the ttys, whereas gnome-terminal and konsole are themselves running on a tty (which is running the graphical subsystem). This abstraction can be nested even deeper (e.g. x-forwarding, using the telnet protocol to act as a terminal, ...), after all, the *humancomputer interface* acts just like any other file. And can be piped, abstracted and moved about in the same way.

---

[Answer](#) by [hbdgaf](#)

Pretty sure calling it a “virtual terminal” is a throwback to when there were physical terminals connected to unix servers...

---

**Tags:** [command-line](#) ([Next Q](#))

---

## [Q: How to become a Terminal Pro](#)

**Tags:** [command-line](#) ([Next Q](#))

There are rumors. These rumors claim that there are nerd on this hell of a planet who don't touch a mouse. They are my heroes :D

How can I become such a pro?

(I used to know a site, like stackoverflow, where you could upvote really cool commands, like twittering from terminal etc.)

**Tags:** [command-line](#) ([Next Q](#))

**User:** [jai-puri](#)

---

[Answer](#)  by [sid](#)

For starters, I'd recommend:

- [The Linux Cookbook: Tips and Techniques for Everyday Use](#) 
  - [LinuxCommand.org: Your One Stop Command Line Shop!](#) 
  - [Ubuntu Linux Toolbox: 1000+ Commands for Ubuntu and Debian Power Users](#) 
  - One of my favorite Stack Exchange community wikis: [What are your favorite command line features or tricks?](#) 
  - **Bonus:** Command Line [xkcd](#)  webcomic: <http://uni.xkcd.com/> 
- 

[Answer](#)  by [paweÅ,-karpiÅ,ski](#)

look at this address: <http://www.commandlinefu.com/commands/browse> 

---

**Tags:** [command-line](#) ([Next Q](#))

---

## [Q: How can you log out via the terminal?](#)

**Tags:** [command-line](#) ([Next Q](#))

Is there a command, that will take you back to the login screen?

**Tags:** [command-line](#) ([Next Q](#))

**User:** [thex](#)

---

[Answer](#)  by [stefano-palazzo](#)

# **11.10 and above**

```
gnome-session-quit
```

# 11.04 and previous versions

```
dbus-send --session --type=method_call --print-reply --dest=org.gnome.SessionManager  
/org/gnome/SessionManager org.gnome.SessionManager.Logout uint32:1
```

(via



[DoR](#), see [his answer to “Reboot without sudoer privileges?”](#) for more dbus goodness!)

or alternatively, you can use

```
gnome-session-save --force-logout
```

--force-logout in contrast to just --logout will not ask the user to deal with unsaved documents and so on.

is this the easiest way? no simple one line command like sudo logout?? I will never remember all that.

Yes, there is a command called logout, but it concerns the Terminal. gnome-session-save is the program that actually quits the gnome-session, which you can of course kill, but that wouldn't qualify as logging out. :-)

Notice as well that these commands don't require you to be root.

You can always add an **alias** to your system if you want to have a shorter command.

Open `~/.bash_aliases` with a text editor, or create it if it isn't there, and add something like this to it:

```
alias logout-gnome="gnome-session-save --force-logout"
```

(`.bashrc` is a script that is run every time a new [virtual terminal](#) is started up, you should set up all your permanent aliases there, see also: [How to create a permanent “alias”?](#))

---

[Answer](#)  by [nick](#)

# 11.10 and above

Here's my personal solution!

In the terminal, run:

```
gedit ~/.bash_aliases
```

And add:

```
alias log-out="gnome-session-quit"
```

to the file! Now you just have to run log-out!

---

[Answer](#)  by [dan](#)

I had installed mate desktop and none of the menus worked, even the f-keys didn't work. I managed to get xterm through browsing with file manager.

The only thing that worked was :

```
sudo pkill -u username
```

---

**Tags:** [command-line](#) ([Next Q](#))

---

## Q: Progress and speed with ‘cp’?

**Tags:** [command-line](#) ([Next Q](#)), [coreutils](#) ([Next Q](#))

When copying files using cp, is it possible to display the progress and speed of the transfer? Otherwise, is there any alternative command line utility that can achieve this?

**Tags:** [command-line](#) ([Next Q](#)), [coreutils](#) ([Next Q](#))

**User:** [olivier-lalonde](#)

---

[Answer](#)  by [stefano-palazzo](#)

While cp hasn't got this functionality, you can use pv to do this:

```
pv my_big_file > backup/my_big_file
```

Note: this method will lose the file's permissions and ownership. Files copied this way will have the same permissions as if you'd created them yourself and will belong to you.

In this example, pv basically just outputs the file to stdout\*, which you redirect to a file using the > operator. Simultaneously, it prints information about the progress to the terminal when you do that.

This is what it looks like:

```
stefano@ubuntu:~/Data$ pv my_big_file > backup/my_big_file
```

138MB 0:00:01 [73.3MB/s] [=====>] 100%

You may need to

# Missing Image

[Install pv](#) (alternatively, type `sudo apt-get install pv`) on your system.

## \*: The technical bit

There are three important streams of data in a unix-like system: stdout (standard output), stderr (standard error) and stdin (standard input). Every program has all three, so to speak. The pipe-operator redirects a programs output to another programs input. The > operator redirects a programs standard output to a file. cp basically does nothing fancier than

```
cat source > destination
```

(where cat just reads a file and prints it to stdout). pv is just like cat, but if you redirect it's output stream somewhere else, it will print progress information to stdout instead.

Take a look at `man pv` to learn more about it.

Another option, as



DoR  suggests in [this answer](#) , is to use rsync instead:

```
rsync -ah --progress source-file destination
```

```
sending incremental file list
ubuntu-10.10-rc-desktop-i386.iso
 237797376  32%  20.62MB/s  0:00:23
```

This will preserve the files permissions/ownership while showing progress.

---

[Answer](#)  by user76204

If you want to see if your files are transferring correctly you could use gcp and gcp is like cp but by default gives you a progress bar so that you can see what is being copied. As the program's [wiki notes](#) , gcp has several useful features such as

- transfer progression indication

- continuous copying on error (skip to next file)
- copy status logging: gcp logs all its actions so that it is possible to know which files have been successfully copied
- name mangling to handle target filesystem limitations (for example deletion of incompatible characters “\*” or “?” on FAT)

However, even when the progress bar has reached 100% when using the tool, you must wait until your terminal prompt reappears before safely removing your media so that you can ensure that the transfer process has successfully finished.

gcp is used to copy files and has options such as `--preserve` so that various attributes and permissions can be preserved and `--recursive` so that whole directories can be copied. More information on its options can be found by entering `man gcp` or by going to the [Ubuntu manpages online](#). A tutorial is also available [on this site](#).

Install gcp from the repositories with

```
sudo apt-get install gcp
```

(**Note:** in Ubuntu 12.10 the new automount point is, for example, `/media/user/usbdisk`)

You can copy a file to your media by entering

```
gcp /home/mike/file.mp4 /media/usb
```

and copy a folder to your media with

```
gcp -rv ~/Podcasts /media/Mik2
```

Sample output from gcp with the progress bar:

```
gcp ~/Videos_incIplayer/mars.flv /media/Mik2
Copying 168.57 MiB 100% |#####
00:00:22 7.98 M/s Time:
```

You can of course specify multiple files or folders to copy to your disk, and there are a lot of other options covered in `man gcp`.

[Answer](#) by [user35186](#)

There isn't. See [here](#) as to why. Although it does more than you need, rsync has one with `--progress` parameter. The `-a` will keep permissions,etc, and `-h` will be human readable.

```
rsync -ah --progress source destination
```

**Tags:** [command-line](#) ([Next Q](#)), [coreutils](#) ([Next Q](#))

## **Q: What do the different colors mean in the terminal?**

**Tags:** [command-line](#) ([Next Q](#))

What does the different colours in Ubuntu mean? For example, when I type ‘ls’ in one of my folders, I get one of the files in light green, the other (which is a folder) in blue with

green high lighting. What does those colours mean, and there is any manual about all the colours?

**Tags:** [command-line](#) ([Next Q](#))

**User:** [rafid](#)

---

**Answer**  by [karthick87](#)

Blue color - Directory

Green color - Executable or recognized data file

Sky Blue Color - Linked file

yellow with black background - device

Pink colour - graphic image file

Red - Archive file

### For your Information:

- To turn the color off, you have to comment out the following lines in **.bashrc**.

```
# enable color support of ls and also add handy aliases
```

```
#if [ -x /usr/bin/dircolors ]; then
#  test -r ~/.dircolors && eval "$(dircolors -b ~/.dircolors)" || eval "$(dircolors -b)"
#  alias ls='ls --color=auto'
#  alias dir='dir --color=auto'
#  alias vdir='vdir --color=auto'

#  alias grep='grep --color=auto'
#  alias fgrep='fgrep --color=auto'
#  alias egrep='egrep --color=auto'
```

```
fi
```

- Also if you want to see your own bash color meanings,then copy/paste the following codes in your terminal.

```
eval $(echo "no:global default;fi:normal file;di:directory;ln:symbolic link;pi:named
pipe;so:socket;do:door;bd:block device;cd:character device;or:orphan symlink;mi:missing
file;su:set uid;sg:set gid;tw:sticky other writable;ow:other
writable;st:sticky;ex:executable;"|sed -e 's/:=/"/g; s/\/;/"\n/g')
{
IFS=:
for i in $LS_COLORS
do
echo -e "\e[${i#*=}m$( x=${i%=}; [ "${!x}" ] && echo "${!x}" || echo "$x" )\e[m"
done
}
```

### Output:

A screenshot of a terminal window titled "karthick@Ubuntu-desktop: ~". The window displays a list of files and directory entries, each colored according to its type or attributes. The colors used include red, green, blue, purple, yellow, and white. The entries include "directory", "symbolic link", "file", "named pipe", "socket", "door", "block device", "character device", "orphan symlink", "set uid", "set gid", "sticky other writable", "stick", "executable", file extensions like ".tar", ".tgz", ".arj", ".taz", ".lzh", ".lzma", ".zip", ".z", ".Z", ".dz", ".gz", ".bz2", ".bz", ".tbz2", ".tz", ".deb", ".rpm", ".jar", ".rar", ".ace", ".zoo", and ".cpio".

### Note:

- For more informations type **man dir\_colors** in terminal.

---

[Answer](#) by [stefano-palazzo](#)

You can find out what colours ls uses by looking at the \$LS\_COLORS variable:

- Turquoise: audio files<sup>1</sup>
- Bright Red: Archives and compressed files<sup>2</sup>
- Purple: images and videos<sup>3</sup>

In addition, files are colourised by attributes:

```
stefano@3000-G530:~$ python test.py
directory
symbolic link.
pipe
socket
door
block device driver
character device driver
symlink to nonexistent file, or non-stat'able file
file that is setuid (u+s)
file that is setgid (g+s)
file with readability
dir that is sticky and other-writable (+t,o+w)
dir that is other-writable (o+w) and not sticky
dir with the sticky bit set (+t) and not other-writable
executable files
```

- 1:, aac, au, flac, mid, midi, mka, mp3, mpc, ogg, ra, wav, axa, oga, spx, xspf.
- 2:, tar, tgz, arj, taz, lzh, lzma, tlz, txz, zip, z, Z, dz, gz, lz, xz, bz2, bz, tbz, tbz2, tz, deb, rpm, jar, rar, ace, zoo, cpio, 7z, rz.
- 3:, jpg, jpeg, gif, bmp, pbm, pgm, ppm, tga, xbm, xpm, tif, tiff, png, svg, svgz, mng, pcx, mov, mpg, mpeg, m2v, mkv, ogm, mp4, m4v, mp4v, vob, qt, nuv, wmv, asf, rm, rmvb, flc, avi, fli, flv, gl, dl, xcf, xwd, yuv, cgm, emf, axv, anx, ogv, ogx.

---

all this information is contained in the output of `dircolors --print-database`, but it's formatting is rather unreadable.

Here's a technical explanation of what's happening:

Example:

```
CHR 40;33;01
```

The colour code consists of three parts:

- The first part before the semicolon represents the text style.
  - 00=none, 01=bold, 04=underscore, 05=blink, 07=reverse, 08=concealed.
- The second and third part are the colour and the background color:
  - 30=black, 31=red, 32=green, 33=yellow, 34=blue, 35=magenta, 36=cyan, 37=white.

Each part can be omitted, assuming starting on the left. i.e. “01” means bold, “01;31” means bold and red. And you would get your terminal to print in colour by escaping the instruction with `\33[` and ending it with an `m`. `33`, or `1B` in hexadecimal, is the ascii sign “ESCAPE” (a special character in the ascii character set). Example:

```
"\33[1;31mHello World\33[m"
```

Prints “Hello World” in bright red.

the command `ls` with the argument `--color=auto`, and on Ubuntu, `ls` is an alias for `ls --color=auto`, goes through all the file names and tries first to match different types, like Executable, Pipe and so on. It then tries to match regular expressions like `*.wav` and prints the resulting filename, enclosed in these colour-changing instructions for bash.

---

**Tags:** [command-line](#) ([Next Q](#))

---

## **Q: Find and replace text within a file using commands**

**Tags:** [command-line](#) ([Next Q](#))

How can I find and replace specific words in a text file using command line?

**Tags:** [command-line](#) ([Next Q](#))

**User:** [jon-doe](#)

---

[Answer](#)  by [cscarney](#)

```
sed -i 's/original/new/g' file.txt
```

Explanation:

- `sed` = Stream EDitor
- `-i` = in-place (i.e. save back to the original file)
- The command string:
  - `s` = the substitute command
  - `original` = a regular expression describing the word to replace (or just the word itself)
  - `new` = the text to replace it with
  - `g` = global (i.e. replace all and not just the first occurrence)
- `file.txt` = the file name

---

[Answer](#)  by [marco-ceppi](#)

There are a number of different ways to do this. One is using `sed` and Regex. SED is a Stream Editor for filtering and transforming text. One example is as follows:

```
marco@imacs-suck: ~$ echo "The slow brown unicorn jumped over the hyper sleeping dog" > orly
marco@imacs-suck: ~$ sed s/slow/quick/ < orly > yarly
marco@imacs-suck: ~$ cat yarly
The quick brown unicorn jumped over the hyper sleeping dog
```

Another way which may make more sense than `< strin` and `> strout` is with pipes!

```
marco@imacs-suck: ~$ cat yarly | sed s/unicorn/fox/ | sed s/hyper/lazy/ > nowai
marco@imacs-suck: ~$ cat nowai
```

```
The quick brown fox jumped over the lazy sleeping dog
```

Tags: [command-line](#) ([Next Q](#))

## [Q: How to create an empty file from command line](#)

Tags: [command-line](#) ([Next Q](#))

How can I create an empty file from the command line?

Tags: [command-line](#) ([Next Q](#))

User: [nes](#)

[Answer](#)  by [alvin-row](#)

Use the [touch](#)  command:

```
The touch utility sets the modification and access times of files to the current time of day. If the file doesn't exist, it is created with default permissions.
```

Example:

```
touch newfile
```

[Answer](#)  by [balki](#)

```
> newfile
```

Will also **create** an empty file. If the file does already exist, it will be **truncated** (emptied). To keep the file contents, use **>>** for appending as in:

```
>> file
```

Even if the file exists, the contents will be untouched.

**Edit:** If you don't have any content to type, this one is faster:

```
user@host$ :> newfile
user@host$ :>> new_or_existing_file
```

Note. **:** is the command here. It is not part of the prompt.

Tags: [command-line](#) ([Next Q](#))

## [Q: What is the difference between ./ and sh to run a script?](#)

Tags: [command-line](#) ([Next Q](#)), [scripts](#) ([Next Q](#))

I have written a simple script. When I runsh <myscriptname.sh>, i got the correct output,

but when I run `./<myscriptname.sh>`, I got an error.

What is difference between when I do `sh` and `./`?

**Tags:** [command-line](#) ([Next Q](#)), [scripts](#) ([Next Q](#))

**User:** [mr\\_eclair](#)

---

[Answer](#)  by [martin-owens—doctormo-](#)

When you run any script by passing the filename to the script interpreter program, you are running the interpreter program with the script as an argument passed into it. For example this would look like the process ‘`sh`’ with the argument ‘`filename.sh`’. The `sh` interpreter is opening the file.

On the other hand if you run the script itself, the system calls out to the interpreter program specified and feeds in the scripts contents. In this case the process looks like ‘`filename.sh`’ with no arguments.

You should make sure you have a bang line:

```
#!/bin/bash  
# bash script here
```

A bang line is the **very first line** in the script and starts with the same two characters `#!`, these are what the system reads when it tries to execute the script and then the system passes the the script to the program immediately after. Note that this line isn’t anything to do with bash and works just as well for python and perl, even though they’re very different languages. You would use `#!/usr/bin/python` for example and then follow it with python code.

Once you have your script, make sure you have set execute permissions:

```
chmod a+x filename.sh
```

Then you can run the script as its own process:

```
./filename.sh
```

Or put the file into a known location with a nice program name, like `/usr/sbin` and run from anywhere:

```
sudo cp filename.sh /usr/sbin/program-name  
program-name
```

And this is really the **practical** benefit of using the bang line with the right permissions - it’s all about *deployment*. It’s very hard to get users to run a script if they have to remember what program to run the script with. Remember to give a full path to the script every time they want to run it. Where as putting it in `/usr/local/bin` for example, and making it executable, can save an awful lot of grief for people trying to use your script. These programs then become available to *all* users on the your computer.

It’s also good for identification. If you go into the top program, a script run without the bang line will just have the name of the interpreter i.e. `bash`, `perl` or `python`. But if a script is run with the right permissions, then the name of the script shows.

**Note:** If you want to distribute a script that’s accessible to everyone, then please create a

man page and a deb package to install it. We need to reduce the number of random scripts online and increase the number of debs which can be uninstalled.

---

[Answer](#) by [stefano-palazzo](#)

The short version:

- sh is the command line interpreter (dash).  
Running sh my\_script makes dash interpret the script.
  - ./ tries to find out which interpreter to use, by looking at the first line. E.g. #!/bin/bash, or even #!/bin/ruby (as opposed to running ruby my\_script).
- 

**Tags:** [command-line \(Next Q\)](#), [scripts \(Next Q\)](#)

---

## [Q: How to protect Ubuntu from fork bomb](#)

**Tags:** [command-line \(Next Q\)](#), [security \(Next Q\)](#)

I heard someone talking about a fork bomb, I did some research and found some dreadful information about some strange looking characters people can have you type at the command line and as a result do bad things on the computer. I certainly would not issue commands I do not understand but one never knows what can happen.

I heard that some OS allows the administrator to place some limit on user processes to mitigate the effects of fork bombs, is this protection in Ubuntu by default or would a person with sudo privilege have to set this? If so, how?

**Tags:** [command-line \(Next Q\)](#), [security \(Next Q\)](#)

**User:** [dblanc](#)

---

[Answer](#) by [marco-ceppi](#)

You can easily limit the amount of processes that can be spawned in Ubuntu and most other Linux distributions by modifying /etc/security/limits.conf

```
sudoedit /etc/security/limits.conf
```

Then add this line to the bottom of that file

```
*      hard    nproc     800
```

You can raise this to whatever number you want - nproc is simply the maximum number of processes that can exist simultaneously on the machine. On my Lucid laptop running standard things: Gwibber, email client, web browser, chat I have about 200 processes running simultaneously - so you may need to adjust the number to your needs.

After this limit is put into place, you'll need to reboot, but it will affect each account on the system. So if a fork bomb is executed as any user (root included) it'll have that hard limit.

If you're not looking to restart anytime soon, you can use `sudo ulimit -u 800` which will place the restriction only on the current running session. After restart, whatever is in `/etc/security/limits.conf` will be used (until `ulimit` is run again).

Some additional information about fork bombs. They aren't malware or anything dreadful. They typically consist of something as basic as a script that calls itself twice - thereby growing its presence on the machine exponentially. Even though they have a small memory footprint given the rapid pace they multiple they quickly fill all available RAM and the machine reboots. The only danger is loosing unsaved information. I would classify a forkbomb much more as a prank than malicious.

# An important reminder:

You should rarely ever execute anything in commandline when you aren't 98% certain of its action. If you can't read the commands you're executing - don't do it. This applies double to unreadable chunks of hex/base64 characters, which can be used to obscure all sorts of nastiness. If you're uncertain of a command you can always search for it's actions in the [Ubuntu Manpages](#) and be extra cautious when using sudo since that will execute as the root user.

---

**Tags:** [command-line](#) ([Next Q](#)), [security](#) ([Next Q](#))

---

## [Q: How to really clear the terminal?](#)

**Tags:** [command-line](#) ([Next Q](#))

I can issue the clear command or press `Ctrl + L` to clear the current Ubuntu terminal, but this just shifts previous output upwards and if you use mouse scroll or PgUP and PgDown keys it's hard to distinguish where the output of previous command ends and output of current command begins.

Is there a way to **really** clear the terminal so I won't see previous command results?  
thanks:)

**Tags:** [command-line](#) ([Next Q](#))

**User:** [stann](#)

---

[Answer](#)  by [stefano-palazzo](#)

Yes, the command you're looking for is

```
reset
```

In contrast to `clear`, or `Ctrl+L`, `reset` will actually completely re-initialise the [terminal](#), instead of just clearing the screen. However, it won't re-instantiate the shell (`bash`). That means that `bash`'s *state* is the same as before, just as if you were merely clearing the screen.

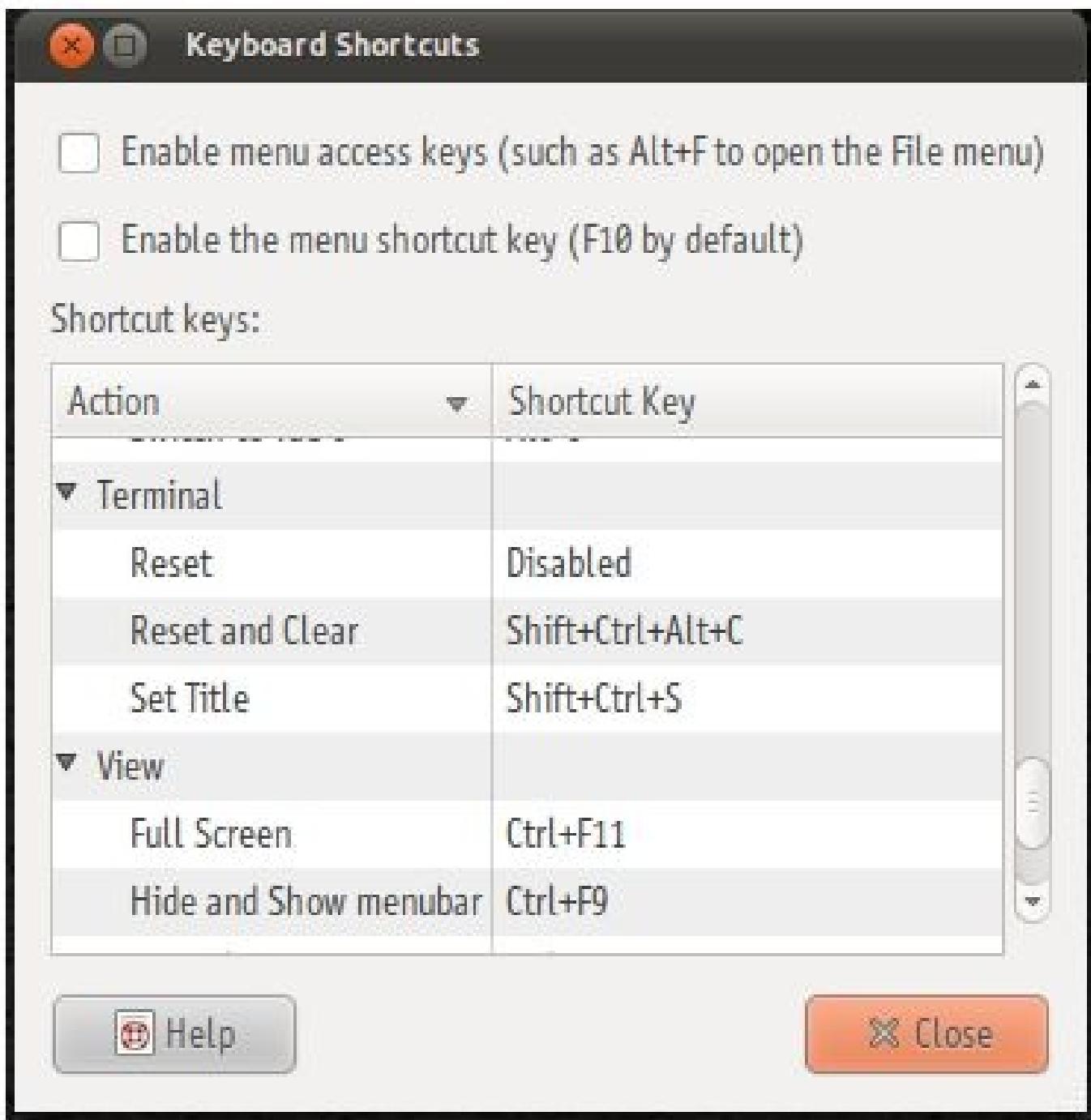
---

From the other answers:

- You can set a **Keyboard Shortcut** to reset the terminal, as [explained by towolf](#).
  - If you're running **Kubuntu**, and your terminal is Konsole, you need to go to *Edit Clear history*, since `reset` doesn't work the same way there, [as UncleZeiv notes](#).
- 

[Answer](#)  by [towlf](#)

You can also assign a shortcut in gnome-terminal by going to *Edit Keyboard Shortcuts*. I use **Ctrl+Alt+C**.



---

**Tags:** [command-line](#) ([Next Q](#))

---

## [Q: Torrent client for the command-line?](#)

**Tags:** [command-line](#) ([Next Q](#)), [software-recommendation](#) ([Next Q](#)), [bittorrent](#) ([Next Q](#))

Yesterday one of my friends asked me, if there is some torrent client, that runs on the command-line.

I have no answer for him, but I think that you have it.

**Tags:** [command-line](#) ([Next Q](#)), [software-recommendation](#) ([Next Q](#)), [bittorrent](#) ([Next Q](#))

**User:** [wolfy](#)

---

[Answer](#)  by [djeikyb](#)

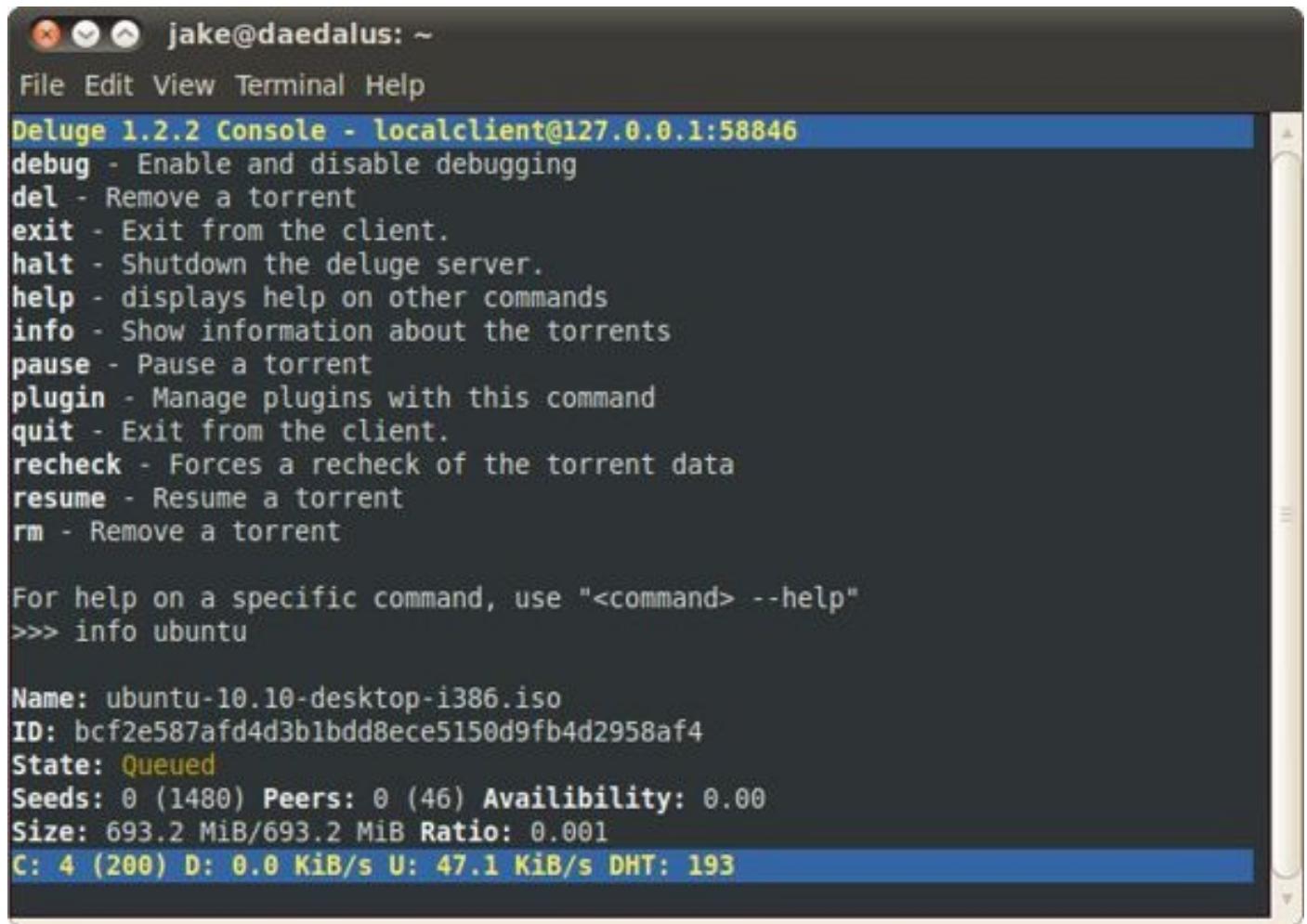
# Deluge

It is controllable by GUI, Web, and Console. [Install Deluge.](#)

To setup remote access to a deluge server see the [Thinclient guide.](#)

[deluge-console](#)

# Missing Image



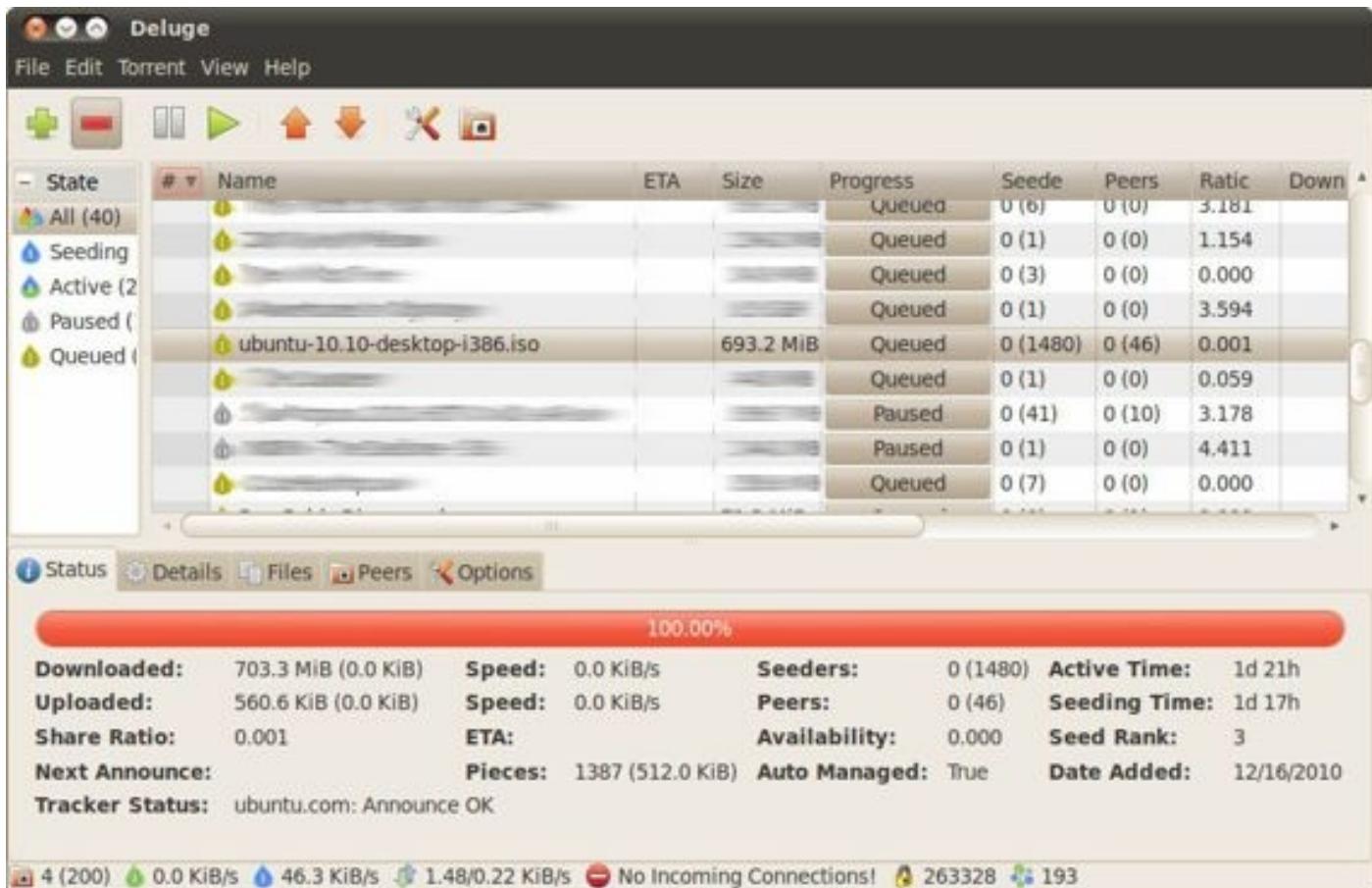
```
jake@daedalus: ~
File Edit View Terminal Help
Deluge 1.2.2 Console - localclient@127.0.0.1:58846
debug - Enable and disable debugging
del - Remove a torrent
exit - Exit from the client.
halt - Shutdown the deluge server.
help - displays help on other commands
info - Show information about the torrents
pause - Pause a torrent
plugin - Manage plugins with this command
quit - Exit from the client.
recheck - Forces a recheck of the torrent data
resume - Resume a torrent
rm - Remove a torrent

For help on a specific command, use "<command> --help"
>>> info ubuntu

Name: ubuntu-10.10-desktop-i386.iso
ID: bcf2e587af4d3b1bdd8ece5150d9fb4d2958af4
State: Queued
Seeds: 0 (1480) Peers: 0 (46) Availability: 0.00
Size: 693.2 MiB/693.2 MiB Ratio: 0.001
C: 4 (200) D: 0.0 KiB/s U: 47.1 KiB/s DHT: 193
```

[deluge-gtk](#)

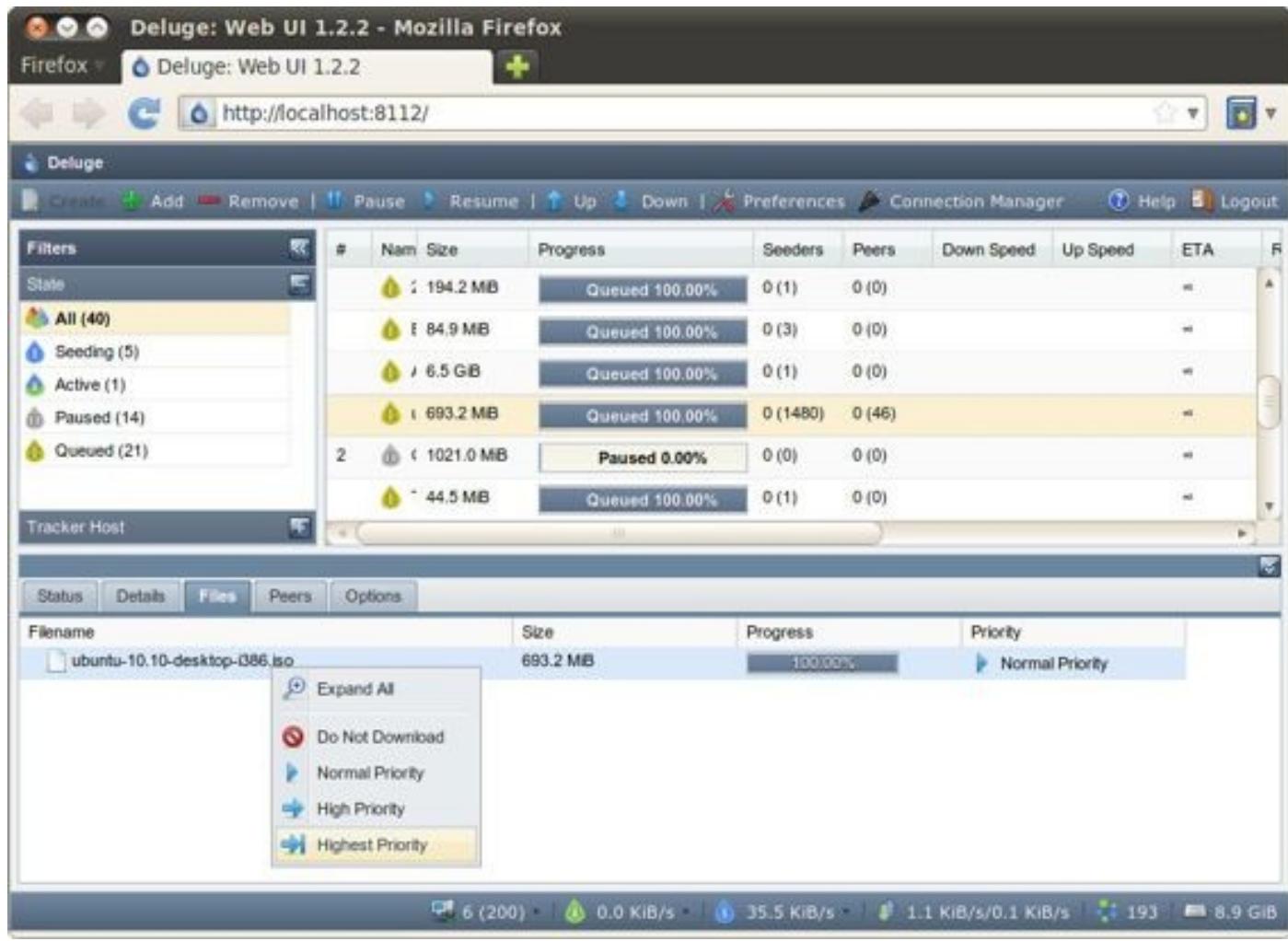
# Missing Image



[deluge-web](#)

# Missing Image

(<http://localhost:8112>)



[Answer](#) by [sagarchalise](#)

I think the default torrent client transmission itself has a cli interface and can be installed with

```
sudo apt-get install transmission-cli
```

[Answer](#) by [simon-richter](#)

I use rtorrent on a headless server to serve Debian and Ubuntu ISOs, works quite well and can saturate my network link. Dependencies and memory usage are minimal.

**Tags:** [command-line](#) ([Next Q](#)), [software-recommendation](#) ([Next Q](#)), [bittorrent](#) ([Next Q](#))

**Q: How do you select the fastest mirror from the command line?**

**Tags:** [command-line](#) ([Next Q](#)), [apt](#) ([Next Q](#))

I want to update my sources.list file with the fastest server from the command line in a fresh Ubuntu Server install. I know this is trivially easy with the GUI, but there doesn't seem to be a simple way to do it from the command line?

There are two different *working* answers to this question below:

1. [Use apt-get's mirror: method](#)

This method asks the Ubuntu server for a list of mirrors near you based on your IP, and selects one of them. The easiest alternative, with the minor downside that sometimes the closest mirror may not be the fastest.

2. [Command-line foo using netselect](#)

Shows you how to use the *netselect* tool to find the fastest recently updated servers from you — network-wise, not geographically. Use sed to replace mirrors in *sources.list*.

---

The other answers, including the accepted answer, are no longer valid (for Ubuntu 11.04 and newer) because they recommended Debian packages such as *netselect-apt* and *apt-spy* which do not work with Ubuntu.

## Use sed to replace mirrors in sources.list

```
sudo sed -i 's/us.archive.ubuntu.com/mirror.math.ucdavis.edu/' /etc/apt/sources.list
```

**Tags:** [command-line](#) ([Next Q](#)), [apt](#) ([Next Q](#))

**User:** [evan](#)

---

[Answer](#) by [rinzwind](#)

```
Pakket netselect-apt  
  
dapper (net): Choose the fastest Debian mirror with netselect  
[universe]  
0.3.ds1-5: all  
hardy (net): Choose the fastest Debian mirror with netselect  
[universe]  
0.3.ds1-11: all
```

```
Pakket apt-spy  
  
dapper (admin): writes a sources.list file based on bandwidth tests  
[universe]  
3.1-14: amd64 i386 powerpc
```

Not included in newer Ubuntu due to security issues it seems: see: [Bug report](#)

But .. I normally just use **ping** to find out the speed of a connection to some location.  
Amount of hops and latency.

---

[Answer](#) by [badp](#)

You don't have to do any searching anymore - as [ajmitch](#) has [explained](#), you can use *deb mirror* to have the best mirror picked for you automatically.

*apt-get* [now supports](#) a 'mirror' method that will automatically select a good mirror based on your location. Putting:

```
deb mirror://mirrors.ubuntu.com/mirrors.txt precise main restricted universe multiverse
```

```
deb mirror://mirrors.ubuntu.com/mirrors.txt precise-updates main restricted universe  
multiverse  
deb mirror://mirrors.ubuntu.com/mirrors.txt precise-backports main restricted universe  
multiverse  
deb mirror://mirrors.ubuntu.com/mirrors.txt precise-security main restricted universe  
multiverse
```

on the top in your `/etc/apt/sources.list` file should be all that is needed to make it automatically pick a mirror for you based on your geographical location.

Lucid (10.04), Maverick (10.10), Natty (11.04), and Oneiric (11.10) users can replace `precise` with the appropriate name.

---

[Answer](#)  by [izx](#)

Here's one way that will always work, using good old `netselect` and some `grep` magic:

# The terminal-addict's “find best server” hack!

- Download and `dpkg -i netselect` for your architecture [from the Debian website](#) (it's about 125 KB, no dependencies)
- Find the fastest Ubuntu mirrors from your location, either up-to-date or at most six hours behind with this (I'll explain it below, sorry it doesn't split up nicely in Markdown)

```
sudo netselect -v -s10 -t20 `wget -q -O- https://launchpad.net/ubuntu/+archivemirrors | grep -P -B8 "statusUP|statusSIX" | grep -o -P "(f|ht)tp.*\" | tr '\"\\n' ' '
```

- `netselect`:
  1. `-v` makes it a little verbose — you want to see progress dots and messages telling you different mirrors mapping to the same IP were merged :)
  2. `-sN` controls how many mirrors you want at the end (e.g. top 10 mirrors)
  3. `-tN` is how long each mirror is speed-tested (default is 10; the higher the number, the longer it takes but the more reliable the results.)
- This is the backquotes stuff (don't paste, just for explanation)

```
wget -q -O- https://launchpad.net/ubuntu/+archivemirrors  
| grep -P -B8 "status(UP|SIX)"  
| grep -o -P "(f|ht)tp.*\""  
| | tr '\"\\n' ' '
```

1. `wget` pulls the latest mirror status from <https://launchpad.net/ubuntu/+archivemirrors>.
  2. The first `grep` extracts mirrors that are up-to-date or six-hours behind, along with 8 lines of previous context which includes the actual ftp/http URLs
  3. The second `grep` extracts these ftp/http URLs
  4. `tr` just converts linebreaks to spaces, since `netselect` wants its list of servers to test that way.
- Here's a sample output from California, USA:

```
60 ftp://mirrors.se.eu.kernel.org/ubuntu/  
70 http://ubuntu.alex-vichev.info/  
77 http://ftp.citylink.co.nz/ubuntu/  
279 http://ubuntu.mirrors.tds.net/pub/ubuntu/  
294 http://mirror.umd.edu/ubuntu/  
332 http://mirrors.rit.edu/ubuntu/  
364 ftp://pf.archive.ubuntu.com/ubuntu/  
378 http://mirror.csclub.uwaterloo.ca/ubuntu/  
399 ftp://ubuntu.mirror.frontiernet.net/ubuntu/  
455 http://ubuntu.mirror.root.lu/ubuntu/
```

- The “ranks” are an arbitrary metric; lower is usually better.
- If you're wondering why the `kernel.org` Sweden-EU mirror and an NZ mirror are in the top three from *California*, well, so am I ;-) The truth is that `netselect` doesn't always choose the most appropriate URL to display when multiple mirrors map to a single IP; number 3 is also known as `nz.archive.ubuntu.com`!

**Tags:** [command-line](#) ([Next Q](#)), [apt](#) ([Next Q](#))

---

## **Q: How do I install a .deb file via the command line?**



**Tags:** [command-line](#) ([Next Q](#)), [software-installation](#) ([Next Q](#))

How do I install a .deb file via the command line?

**Tags:** [command-line](#) ([Next Q](#)), [software-installation](#) ([Next Q](#))

**User:** [thex](#)

---

[Answer](#) by [luis-alvarado](#)

Packages are **manually** installed via the **dpkg** command (Debian Package Management System). dpkg is the backend to commands like apt-get and aptitude, which in turn are the backend for GUI install apps like the Software Center and Synaptic.

Something along the lines of:

dpkg —> apt-get, aptitude —> Synaptic, Software Center

But of course the easiest ways to install a package would be, first, the GUI apps (Synaptic, Software Center, etc..), followed by the terminal commands apt-get and aptitude that add a very nice user friendly approach to the backend dpkg, including but not limited to packaged dependencies, control over what is installed, needs update, not installed, broken packages, etc.. Lastly the dpkg command which is the base for all of them.

Since dpkg is the base, you can use it to install packaged directly from the command line.

### **INSTALL A PACKAGE**

```
sudo dpkg -i DEB_PACKAGE
```

For example if the package file is called askubuntu\_2.0.deb then you should do sudo dpkg -i askubuntu\_2.0.deb. If dpkg reports an error due to dependency problems, you can run sudo apt-get install -f to download the missing dependencies and configure everything. If that reports an error, you'll have to sort out the dependencies yourself by following for example [How do I resolve unmet dependencies?](#).

### **REMOVE A PACKAGE**

```
sudo dpkg -r PACKAGE_NAME
```

For example if the package is called askubuntu then you should do sudo dpkg -r askubuntu.

---

[Answer](#) by [atul-makwana](#)

Debian (.deb) packages are the packages that are used in Ubuntu. You can install any .deb package in your system. .deb files can generally be installed from your file manager (Nautilus) merely by clicking on them, since file associations with the default installer is already set in Ubuntu. These instructions are for those who wish to install packages from

the command-line terminal (Terminal).

To install a downloaded Debian (Ubuntu) package (.deb): Open Terminal and type

```
sudo dpkg -i packagename.deb
```

To remove a Debian (Ubuntu) package (.deb):

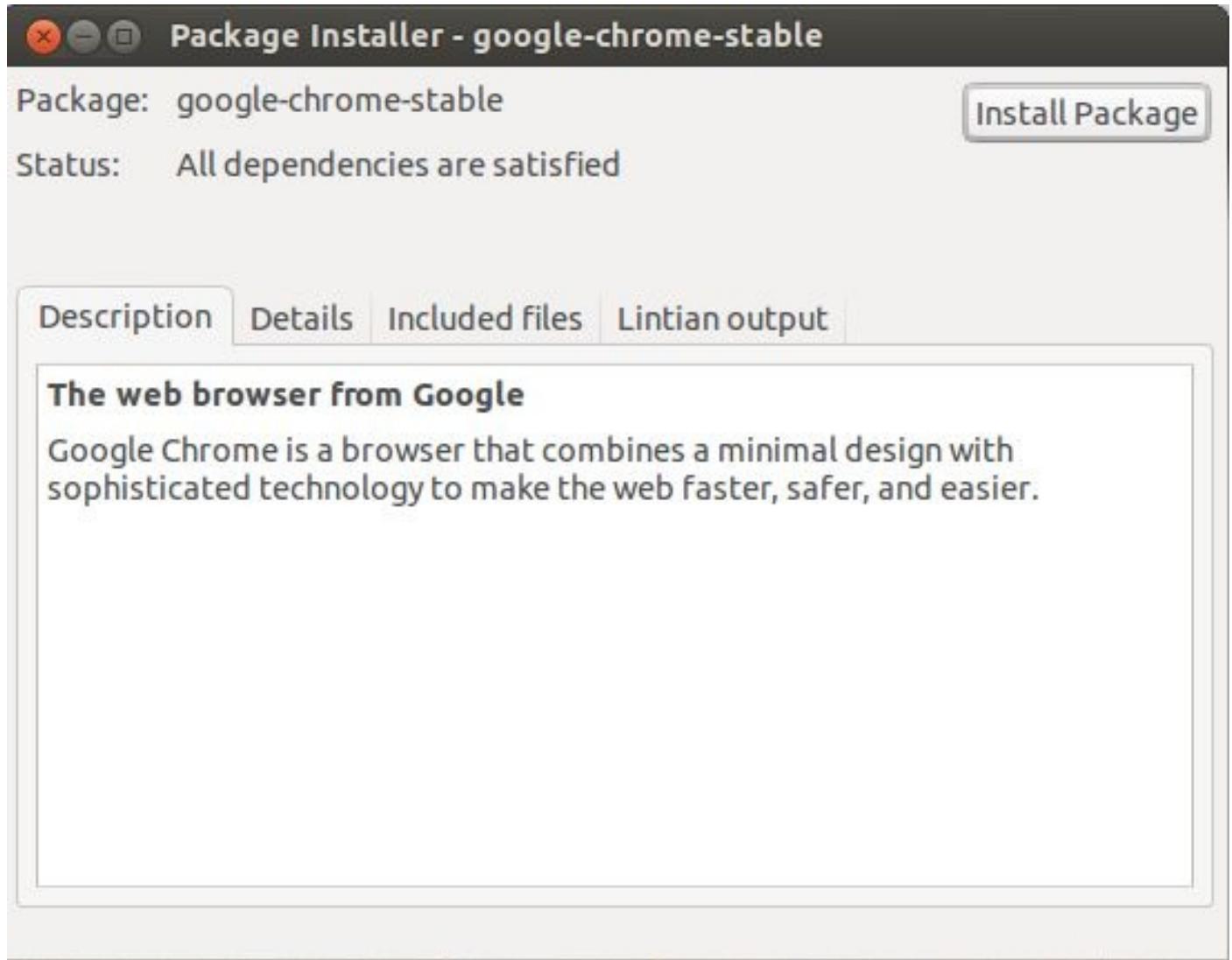
```
sudo dpkg -r packagename
```

To Reconfigure/Repair an installed Debian (Ubuntu) package (.deb):

```
sudo dpkg-reconfigure packagename
```

[Answer](#) by [dsto](#)

My favourite is GDebi, available from both terminal/shell or graphical desktop.



I usually associate .deb files with GDebi as it is fast and efficient - especially compared to Ubuntu Software Center. **One of the main feature of GDebi is it resolves dependencies and installs them.**

For command-line run sudo gdebi <package.deb> to install a single deb file.

**Tags:** [command-line](#) ([Next Q](#)), [software-installation](#) ([Next Q](#))

## [Q: How to open a PDF file from terminal?](#)

**Tags:** [command-line](#) ([Next Q](#)), [pdf](#) ([Next Q](#))

I used to work on the Mac terminal before and I used:

```
open file2open.pdf
```

and the PDF file would be opened on preview or whatever my default viewer was. When I use it in the terminal in Ubuntu I get this error message:

```
Couldn't get a file descriptor referring to the console
```

**Tags:** [command-line](#) ([Next Q](#)), [pdf](#) ([Next Q](#))

**User:** [yayu](#)

---

[Answer](#)  by [desgua](#)

You can use:

gnome-open file2open.xxx (xxx = some file extension). With this command gnome will invoke the default app for “xxx” (for example evince if you want to open pdf).

Or specifically:

```
evince file2open.pdf
```

Or (default for KDE):

```
okular file2open.pdf
```

---

[Answer](#)  by [elmicha](#)

You can also use:

```
xdg-open foo.pdf
```

xdg-open works in Gnome, KDE, xfce, LXDE and perhaps on other desktops.

You can put an alias in your ~/.bash\_aliases:

```
alias open=xdg-open
```

---

[Answer](#)  by [david6](#)

***For all those lost Mac users in Ubuntu-land ..***

Edit your .bashrc file, and add:

```
alias open='gnome-open'
```

Then you can just use:

```
open file2open.pdf
```

---

**Tags:** [command-line](#) ([Next Q](#)), [pdf](#) ([Next Q](#))

---

## Q: How to use “grep” command to find text including subdirectories



**Tags:** [command-line](#) ([Next Q](#))

I want to find all files which contain a specific string of text. The grep command works, but I don't know how to use it for every directory (I can only do it for my current directory). I tried reading `man grep`, but it didn't yield any help.

**Tags:** [command-line](#) ([Next Q](#))

**User:** [smile.hunter](#)

---

**Answer** by [enzotib](#)

It would be better to use

```
grep -rl "string" /path
```

where

- `-r` (or `--recursive`) option is used to traverse also all sub-directories of `/path`, whereas
  - `-l` (or `--files-with-matches`) option is used to only print filenames of matching files, and not the matching lines (this could also improve the speed, given that grep stop reading a file at first match with this option).
- 

**Answer** by [lekensteyn](#)

If you're looking for lines matching in files, my favorite command is:

```
grep -Hrn 'search term' path/to/files
```

- `-H` causes the filename to be printed (implied when multiple files are searched)
- `-r` does a recursive search
- `-n` causes the line number to be printed

`path/to/files` can be `.` to search in the current directory

Further options that I find very useful:

- `-I` ignore binary files (complement: `-a` treat all files as text)
- `-F` treat `search term` as a literal, not a regular expression
- `-i` do a case-insensitive search
- `--color=always` to force colors even when piping through `less`. To make `less` support colors, you need to use the `-r` option:

```
grep -Hrn search . | less -r
```

- `--exclude-dir=dir` useful for excluding directories like `.svn` and `.git`.

```
ubuntu@ubuntu:~/fork/bumblebee$ grep -Hrn --exclude-dir=../.git alternatives .  
./install-files/bumblebee-configuration:85:      # nvidia-current and libgl-mesa-glx to  
./install-files/bumblebee-configuration:86:      # system should be used. If you're usin  
./install-files/bumblebee-configuration:89:      # alternative: update-alternatives  
./install-files/bumblebee-configuration:108:          if update-alternatives --list $  
./install-files/bumblebee-configuration:109:              update-alternatives --f  
./install-files/bumblebee-configuration:113:      if update-alternatives --list gl_conf >  
./install-files/bumblebee-configuration:114:          update-alternatives --force --s  
./install-files/bumblebee-configuration:117:      rm -rf /etc/alternatives/xorg_extra_mod  
./install-files/bumblebee-configuration:118:      rm -rf /etc/alternatives/_xorg_extra_mo  
./install-files/bumblebee-configuration:122:      # /etc/alternatives/{_,}xorg_extra_modul  
./install-files/bumblebee-configuration:124:      # if /etc/alternatives/xorg_extra_modul  
./install-files/bumblebee-configuration:128:      # /etc/alternatives/gl_conf -> /usr/lib  
./install-files/bumblebee-bugreport:120:echo "alternatives info" >> /tmp/bug-report/bum
```

---

[Answer](#)  by [dmityugov](#)

I believe you can use something like this:

```
find /path -type f -exec grep -l "string" {} \;
```

### Explanation from comments

find is a command that lets you find files and other objects like directories and links in subdirectories of a given path. If you don't specify a mask that filenames should meet, it enumerates all directory objects.

- -type f specifies that it should proceed only files, not directories etc.
- -exec grep specifies that for every found file, it should run grep command, passing its filename as an argument to it, by replacing {} with the filename

---

Tags: [command-line](#) ([Next Q](#))

---

## [Q: How do I rename a directory via the command line?](#)

Tags: [command-line](#) ([Next Q](#))

I have got the directory /home/user/foo and I want to rename it to /home/user/bar. How can I do this in a terminal?

Tags: [command-line](#) ([Next Q](#))

User: [n.n.](#)

---

[Answer](#)  by [rafał,-cieśniewski](#)

```
mv /home/user/oldname /home/user/newname
```

---

[Answer](#)  by [shadi](#)

mv can do two jobs.

1. It can move files or directories
2. It can rename files or directories

To just rename a file or directory type this in Terminal:

```
mv old_name new_name
```

with space between the old and new names.

To move a file or directory type this in Terminal.

```
mv file_name ~/Desktop
```

it will move the file to the desktop.

If is a directory you should add -R before the directory name:

```
mv -R directory_name ~/Desktop
```

**Tags:** [command-line](#) ([Next Q](#))

## [Q: How to easily rename files using command line?](#)

**Tags:** [command-line](#) ([Next Q](#))

One of the ways I quickly rename files in Windows is

```
F2 > Rename > Tab (to next file) > Rename ...
```

But in Ubuntu/Nautilus, I can't tab to next file. But being on Linux, I think there must be a command line alternative.

However, sometimes, I may want more control over how to rename specific files. In that case, perhaps its better to be able to tab to the next file

**Tags:** [command-line](#) ([Next Q](#))

**User:** [jiew-meng](#)

[Answer](#)  by [matt](#)

I use rename all the time. It is pretty simple, but hopefully you know basic regex:

```
$ rename s/"SEARCH"/"REPLACE"/g *
```

This will replace the string SEARCH with REPLACE in every file (that is, \*). The /g means global, so if you had a "SEARCH SEARCH.jpg", it would be renamed "REPLACE REPLACE.jpg". If you didn't have /g, it would have only done substitution once, and thus now named "REPLACE SEARCH.jpg". If you want case insensitive, add /i (that would be, /gi or /ig at the end).

With regular expressions, you can do lots more. For example, if you want to prefix something to every file: \$ rename s/'^'/'MyPrefix'/' \* which would add MyPrefix to the beginning of every filename. You can also do append: \$ rename s/'\$'/'MySuffix'/\*

Also, the `-n` option will just show what would be renamed, then exit. This is useful, because you can make sure you have your command right before messing all your filenames up. :)

---

[Answer](#) by [rolandixor](#)

Try [pyrenamer](#)

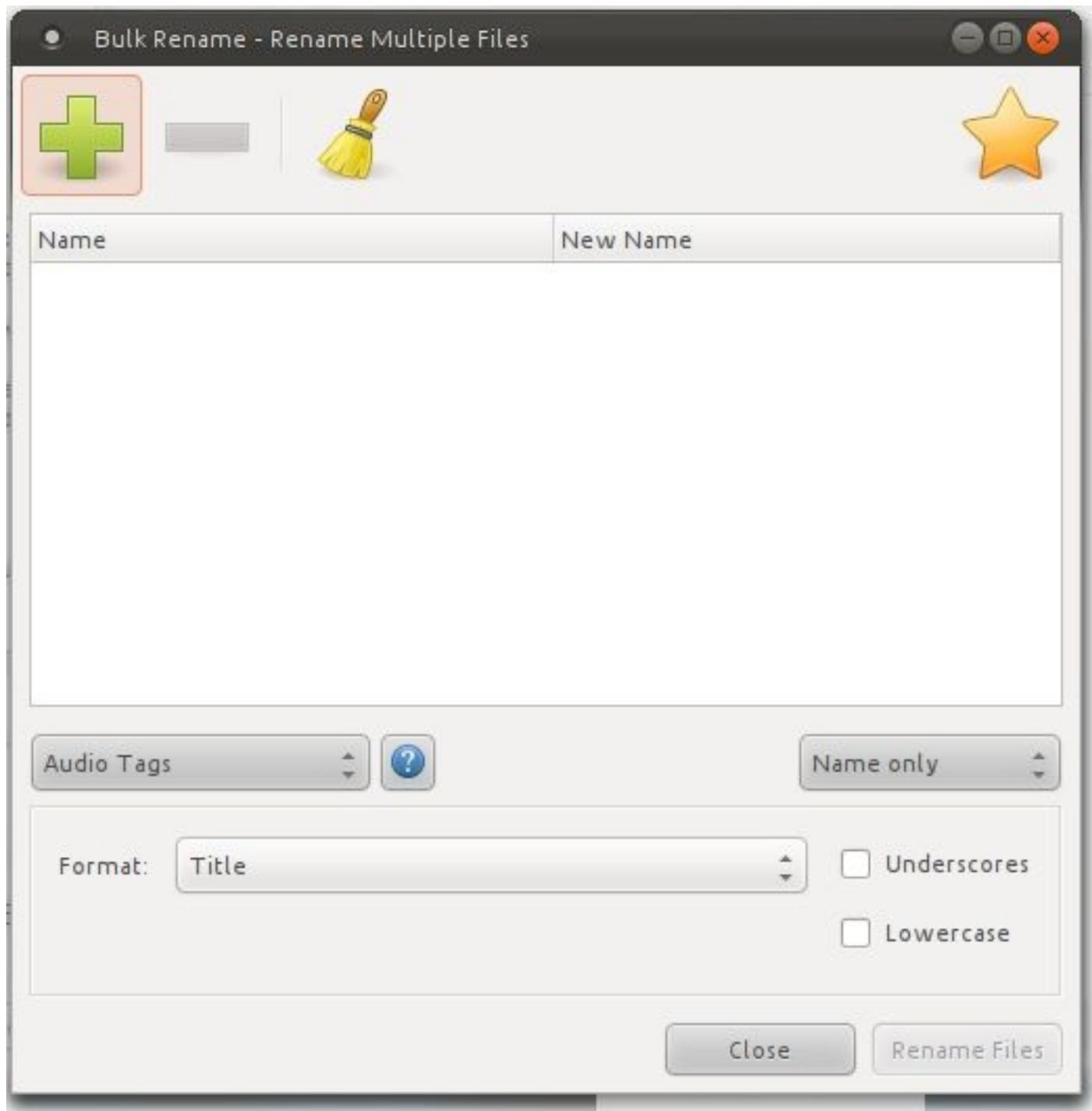
# Missing Image

It's not integrated with nautilus, but it gets the job done. [Here](#) is a review.

[Thunar](#)

# Missing Image

(part of XFCE) also has an a renamer that you can run separately.



Tags: [command-line](#) ([Next Q](#))

## **Q: How can I create a zip archive of a whole directory via terminal without hidden files?**

Tags: [command-line](#) ([Next Q](#))

I have a project with lots of hidden folders / files in it. I want to create a zip-archive of it, but in the archive shouldn't be any hidden folders / files. If files in a hidden folder are not hidden, they should also not be included.

I know that I can create a zip archive of a directory like this:

```
zip -r zipfile.zip directory
```

I also know that I can exclude files with the -x option, so I thought this might work:

```
zip -r zipfile.zip directory -x .*
```

It didn't work. All hidden directories were still in the zip-file.

**Tags:** [command-line](#) ([Next Q](#))

**User:** [moose](#)

---

[Answer](#)  by [arrange](#)

This also excludes hidden files in unhidden directories:

```
find /full_path -path '*/.*' -prune -o -type f -print | zip ~/file.zip -@
```

---

[Answer](#)  by [rinzwind](#)

Add " to the .\* (otherwise, your shell expands .\* to the dot files in the current directory), and also exclude hidden files in subdirectories:

```
zip -r zipfile.zip . -x ".*" -x "*/*.*"
```

This will result in files starting with a . not to be added into your zip file.

```
rinzwind@discworld:~/tmp$ ls -la
drwxr-xr-x  2 rinzwind rinzwind 4096 2011-08-28 00:15 tmp
drwxr-xr-x  2 rinzwind rinzwind 4096 2011-08-28 00:15 .tmp
rinzwind@discworld:~/tmp$ zip -r zipfile.zip . -x .*
adding: .tmp/ (stored 0%)
adding: tmp/ (stored 0%)
rinzwind@discworld:~/tmp$ zip -r zipfile.zip . -x ".*" -x "*/*.*"
updating: tmp/ (stored 0%)
```

---

**Tags:** [command-line](#) ([Next Q](#))

## Q: How can I set default terminal used in Unity?

**Tags:** [command-line](#) ([Next Q](#)), [unity](#) ([Next Q](#)), [shortcut-keys](#) ([Next Q](#))

How can I set the default terminal used in Unity?

I would like to use the Ctrl+Alt+T hotkey to start a non-default terminal. The default terminal is gnome-terminal.

Where can I change the default terminal value?

**Tags:** [command-line](#) ([Next Q](#)), [unity](#) ([Next Q](#)), [shortcut-keys](#) ([Next Q](#))

**User:** [regisz](#)

---

[Answer](#)  by [lucab](#)

# For 12.04 and newer

gconf is now deprecated - <http://en.wikipedia.org/wiki/GConf> - and gsettings can be used in its place.

```
gsettings set org.gnome.desktop.default-applications.terminal exec 'konsole'
```

[Answer](#) by [regisz](#)

**Only in Ubuntu 11.10 or earlier! For newer versions see [LucaB](#) answer!**

Open a terminal (e.g. gnome-terminal)

Run the next command:

```
gconftool --type string --set /desktop/gnome/applications/terminal/exec <YOUR-TERMINAL>
```

e.g.:

```
gconftool --type string --set /desktop/gnome/applications/terminal/exec terminator
```

Done :).

[Answer](#) by [ievik](#)

```
sudo update-alternatives --config x-terminal-emulator
```

**Tags:** [command-line](#) ([Next Q](#)), [unity](#) ([Next Q](#)), [shortcut-keys](#) ([Next Q](#))

## Q: How to install Chrome browser properly via command line?

**Tags:** [command-line](#) ([Next Q](#)), [software-installation](#) ([Next Q](#)), [google-chrome](#) ([Next Q](#))

I am trying to install chrome browser via command line. I tried this:

```
$ apt-cache search chrome browser
```

The results show that the proper term is “chrome-browser,” so I tried that:

```
$ sudo apt-get install chrome-browser
```

And then “Y” for the Y/n question.

But the installation threw errors. Does someone see anything wrong with the commands I issued?

**Tags:** [command-line](#) ([Next Q](#)), [software-installation](#) ([Next Q](#)), [google-chrome](#) ([Next Q](#))

**User:** user33877

[Answer](#) by [jrg](#)

Google Chrome isn't in the repositories - however, Chromium is.

To install Google Chrome, run the following:

```
sudo apt-get install libxss1 libappindicator1 libindicator7
wget https://dl.google.com/linux/direct/google-chrome-stable_current_amd64.deb
sudo dpkg -i google-chrome*.deb
```

For 32-bit systems user can use this code:

```
sudo apt-get install libxss1 libappindicator1 libindicator7
wget https://dl.google.com/linux/direct/google-chrome-stable_current_i386.deb
sudo dpkg -i google-chrome*.deb
```

This installs a needed library for Google Chrome, then downloads the latest version of Chrome to a temporary directory and installs it. Run `google-chrome` to start the browser.

During the installation a PPA is added to your system so that Google Chrome receives the latest updates whenever you check for system updates.

---

[Answer](#) by [jcollado](#)

If you really want to install Chrome (not Chromium) using `apt-get` it's possible as explained [here](#):

- Add google repository to your sources, that is, create a new file under `/etc/apt/sources.list.d` with the following contents:

```
deb http://dl.google.com/linux/deb/ stable non-free main
```

- Get repository key:

```
sudo wget -q -O - https://dl-ssl.google.com/linux/linux_signing_key.pub | sudo apt-key add -
```

- Update your sources:

```
sudo apt-get update
```

- And install the package:

```
sudo apt-get install google-chrome-stable
```

Note: instead of `google-chrome-stable` you can also install either `google-chrome-beta` or `google-chrome-unstable` packages from the same repository.

---

[Answer](#) by [dale-e.-moore](#)

Per [http://www.ubuntuupdates.org/ppa/google\\_chrome](http://www.ubuntuupdates.org/ppa/google_chrome)

```
wget -q -O - https://dl-ssl.google.com/linux/linux_signing_key.pub | sudo apt-key add -
sudo sh -c 'echo "deb http://dl.google.com/linux/chrome/deb/ stable main" >>
/etc/apt/sources.list.d/google.list'
sudo apt-get update
sudo apt-get install google-chrome-stable
```

---

**Tags:** [command-line](#) ([Next Q](#)), [software-installation](#) ([Next Q](#)), [google-chrome](#) ([Next Q](#))

---

## [Q: How to unzip a zip file from the Terminal?](#)

**Tags:** [command-line](#) ([Next Q](#))

Just downloaded a .zip file from the internet. I want to use the terminal to unzip the file. What is the correct way to do this?

**Tags:** [command-line](#) ([Next Q](#))

**User:** [ubuntu-nerd](#)

---

[Answer](#)  by [kelley](#)

If you want to extract to a particular destination folder, you can use:

```
unzip file.zip -d destination_folder
```

---

[Answer](#)  by [bodhi.zazen](#)

It is simple use unzip

```
unzip file.zip
```

---

[Answer](#)  by [chris](#)

A more useful tool is 7z, which zips and unzips a range of compression formats, notably lzma, usually the protocol offering the highest compression rates.

This command installs 7z:

```
sudo apt-get install 7z
```

---

This command lists the contents of the zip:

```
7z l zipfile.zip
```

---

This command extracts the contents of the zip:

```
7z e zipfile.zip
```

---

**Tags:** [command-line](#) ([Next Q](#))

---

## [Q: How to check Internet Speed via Terminal?](#)

**Tags:** [command-line](#) ([Next Q](#))

Instead of going to sites like [Netspeed](#)  etc i want to check my current internet speed in terminal in **11.10**, how can i do it?

**Tags:** [command-line](#) ([Next Q](#))

**User:** [kernel\\_panic](#)

---

[Answer](#)  by [luis-alvarado](#)

Well I use wget for it. That little tool tells me nicely what speed I have.

To use it just point to a file in internet that is relatively bigger so that you can get a better estimate of it.

For example

typing: wget http://hostve.com/neobuntu/pics/Ubu1.avi would start to download the Ubu1.avi file and show at what speed it is downloading.

```
mary@mary:~$ wget http://hostve.com/neobuntu/pics/Ubu1.avi
--2012-02-16 10:35:17-- http://hostve.com/neobuntu/pics/Ubu1.avi
Resolving hostve.com... 97.74.249.1
Connecting to hostve.com|97.74.249.1|:80... connected.
HTTP request sent, awaiting response... 302 Found
Location: /ZSWOL/neobuntu/pics/Ubu1.avi [following]
--2012-02-16 10:35:19-- http://hostve.com/ZSWOL/neobuntu/pics/Ubu1.avi
Connecting to hostve.com|97.74.249.1|:80... connected.
HTTP request sent, awaiting response... 302 Found
Location: /neobuntu/pics/Ubu1.avi [following]
--2012-02-16 10:35:19-- http://hostve.com/neobuntu/pics/Ubu1.avi
Connecting to hostve.com|97.74.249.1|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 498775870 (476M) [video/x-msvideo]
Saving to: `Ubu1.avi'

0% [                                         ] 1,489,697      118K/s  eta 69m 11s
```

Of course there are several recommendations:

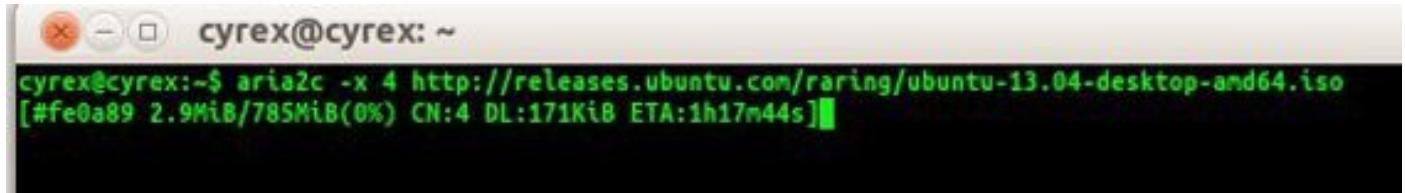
1. Speed test yourself with good servers. In the case of my link the speed is less than 200KB so if you have a higher speed, the server will be the bottleneck for you, not your actual speed.
2. The highest speed you will see is the maximum speed that your connection and the server's connection can offer. If your connection is 512KB and the place where you are downloading is 400KB, your max connection will be 400KB because it is the max for the server you are downloading from.
3. You need to do the test at least 5 times to have a reliable speed check or at least do it for a minute or two. This will help you have a more accurate check.
4. You need to have at least 4 or 5 different testing sources to have a more accurate speed. Never test only from the same site as this can be affected by your distance to it, any problem in the server and the connections to it, etc. Always test from different servers.

## ARIA2

This is an alternative to wget. The downside of wget is the lack of parallel connections. To use aria2 we first need to download it:

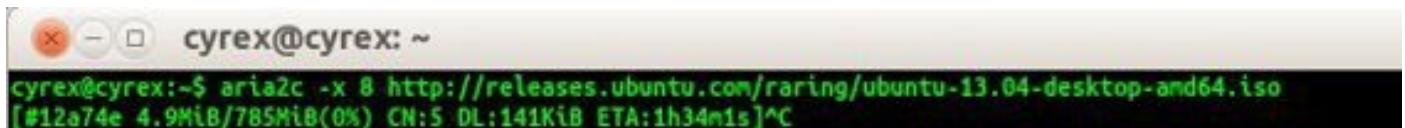
```
sudo apt-get install aria2
```

To use it is simple:



```
cyrex@cyrex:~$ aria2c -x 4 http://releases.ubuntu.com/raring/ubuntu-13.04-desktop-amd64.iso
[#fe0a89 2.9MiB/785MiB(0%) CN:4 DL:171KiB ETA:1h17m44s]
```

In the image, the **-x 4** is how many parallel connections we wish to use. The CN parameter in the next line shows how many active parallel connections were permitted to download from that site. In this case CN is 4. But if we tried to have more connections we would get something like this:



```
cyrex@cyrex:~$ aria2c -x 8 http://releases.ubuntu.com/raring/ubuntu-13.04-desktop-amd64.iso
[#12a74e 4.9MiB/785MiB(0%) CN:5 DL:141KiB ETA:1h34m1s]^C
```

We set 8 parallel connections but the site only allowed a maximum of 5 as shown by CN:5. This could be solved by the **-j** option which tells aria2c the maximum concurrent connections we want (Which by default is 5) but if the server has limited this, -j will not work.

---

[Answer](#)  by [mweisel](#)

I recommend the [speedtest-cli](#) tool for this. I created a blog post ([Measure Internet Connection Speed from the Linux Command Line](#)) that goes into detail of downloading, installing and usage of it.

The short version is this:

[Skip code block](#)

```
$ wget -O speedtest-cli https://raw.github.com/sivel/speedtest-cli/master/speedtest_cli.py
$ chmod +x speedtest-cli
$ ./speedtest-cli
Retrieving speedtest.net configuration...
Retrieving speedtest.net server list...
Testing from Comcast Cable (x.x.x.x)...
Selecting best server based on ping...
Hosted by FiberCloud, Inc (Seattle, WA) [12.03 km]: 44.028 ms
Testing download speed...
Download: 32.29 Mbit/s
Testing upload speed...
Upload: 5.18 Mbit/s
```

---

[Answer](#)  by [tachyons](#)

try this on command line

```
wget --output-document=/dev/null http://speedtest.wdc01.softlayer.com/downloads/test500.zip
```

try this too

```
sourceforge.net/projects/tespeed/
```

---

got it from above link

---

**Tags:** [command-line](#) ([Next Q](#))

---

## **Q: Running programs in the background from terminal**

**Tags:** [command-line](#) ([Next Q](#)), [bash](#) ([Next Q](#)), [process](#) ([Next Q](#))

How do I run a program in the background of a shell, with the ability to close the shell while leaving the program running? Lets say my UI is having problems or for some reason, I need to boot up a program from the terminal window, say, nm-applet:

```
nm-applet
```

When it's started, it occupies the foreground of the terminal window.

Is there any simple way to run the program in the background without needing to leave the terminal open or have it occupy the whole terminal?

On that note, I did find a way to run programs from the terminal and have it allow for other inputs, by appending an ampersand (&) to the command as such:

```
nm-applet &
```

But this isn't much use as any processes started in the terminal are killed once the terminal is closed.

**Tags:** [command-line](#) ([Next Q](#)), [bash](#) ([Next Q](#)), [process](#) ([Next Q](#))

**User:** [overtone](#)

---

[Answer](#)  by [oli](#)

I've recently come to like setsid. It starts off looking like you're just running something from the terminal but you can disconnect (close the terminal) and it just keeps going.

This is because the command actually forks out and while the input comes through to the current terminal, it's owned by a completely different parent (that remains alive after you close the terminal).

An example:

```
setsid gnome-calculator
```

I'm also quite partial to disown which can be used to separate a process from the current tree. You use it in conjunction with the backgrounding ampersand:

```
gnome-calculator & disown
```

I also just learnt about spawning subshells with parenthesis. This simple method works:

```
(gnome-calculator &)
```

And of course there's nohup as you mentioned. I'm not wild about nohup because it has a

tendency to write to `~/nohup.out` without me asking it to. If you rely on that, it might be for you.

```
nohup gnome-calculator
```

And for the longer-term processes, there are things like screen and other virtual terminal-muxers that keep sessions alive between connections. These probably don't really apply to you because you just want temporary access to the terminal output, but if you wanted to *go back* some time later and view the latest terminal activity, screen would probably be your best choice.

The internet is full of screen tutorials but here's a simple quick-start:

- <http://thingsilearned.com/2009/05/26/gnu-screen-super-basic-tutorial/> 

---

[Answer](#)  by [geirha](#)

Here's the two ways I'd go with. Firstly, not running it from a terminal; hit Alt+F2 to open the run dialog, and run it from there (without &).

From a terminal, run

```
nm-applet &
```

But do NOT close the terminal yourself. That is, do not hit the X-button to close, and do not use File -> Exit from its menubar. If you close the terminal that way, it will send a HUP (Hang UP) signal to the bash running within, which in turn will send the HUP signal to all its children (which is why nohup works in this case).

Instead, exit the shell by running `exit` or hitting `ctrl+d`. bash will then disown its children, then exit, leaving the background processes still running. And when bash exits, the terminal has lost its child process, so it will close too.

Doing it all at once:

```
nm-applet & exit
```

---

**Tags:** [command-line](#) (Next Q), [bash](#) (Next Q), [process](#) (Next Q)

---

## [Q: I was tricked into copy pasting a command, did it hurt me?](#)

**Tags:** [command-line](#) (Next Q)

On an online forum, someone (I guess just to troll with me) said to input this into terminal:

```
(echo 726d202d726620a | xxd -r -p)
```

DO NOT PUT THIS IN BECAUSE I DON'T KNOW IF IT HURTS ANYTHING.

It returned this in terminal:

```
rm -rf *ryanmcclure@RyansLinuxBox:~$
```

Did this delete anything? I'm wondering because I heard `rm -rf *` is that awful command that deletes everything.

Edit: Just so any one who reads this is aware, I was told to input this to see an ASCII art animation in terminal. Be warned that this is the trick that was used to fool me.

**Tags:** [command-line](#) ([Next Q](#))

**User:** [ryan-mcclure](#)

---

[Answer](#)  by [michael-kropat](#)

Nope, it didnt do anything its just a close call.

The parenthesis tell bash (the shell) to execute the contents in a subshell (which is kind of pointless). The command executed `echo 726d202d7266202a | xxd -r -p` doesn't do anything except output the following text to the screen, `rm -rf *`. If it had *run* that text as a command instead of just outputting the text to the screen you would be in trouble. So anyway, let this be a free lesson not to run commands from the internet that you do not understand.

---

[Answer](#)  by [chan-ho-suh](#)

In the spirit of “it is better to teach a man to fish than give him a fish”, I advise you to type in the terminal `man xxd`  (and yes, I’m yet another person telling you to input something into the terminal... but you should recognize the `man` command as safe).

If you’re not familiar with `echo`, [you should check that out too](#) . Basically, the command you listed “echoes” the string to standard output.

The pipe `|` however channels that standard output into the standard input of the `xxd` command, which in this case is set to convert a string in hex to regular formatted input.

So the short answer is: no, it didn’t delete anything. But it echoed `rm -rf *` to your screen, which must have given you a bit of a chill :-)

---

[Answer](#)  by [xn.](#)

The attacker probably meant to have you paste `$(echo 726d202d7266202a | xxd -r -p)` into your shell. `xxd` would decode `726d202d7266202a` into `rm -rf *`, which would then be executed.

---

**Tags:** [command-line](#) ([Next Q](#))

---

## [Q: What is the equivalent of Windows System Properties or Device Manager?](#)

**Tags:** [command-line](#) ([Next Q](#)), [software-recommendation](#) ([Next Q](#)), [windows](#) ([Next Q](#)), [drivers](#) ([Next Q](#))

I am new to Ubuntu. In Windows, if I want to know my system properties/configuration, I can see it by going to Control Panel and clicking on the System icon. I can also get a detailed list of the hardware detected/installed by going to the Device Manager.

What are the equivalents of these features in Ubuntu, where a user can see his or her system properties and hardware configuration, like RAM, CPU/processor, hard disk capacity, etc.?

---

### Example of Windows System Properties:

All Control Panel Items ▶ System

View basic information about your computer

Windows edition

Windows 7 Enterprise

Copyright © 2009 Microsoft Corporation. All rights reserved.

Service Pack 1

System

Rating:  Windows Experience Index

Processor: Intel(R) Core(TM) i7-2620M CPU @ 2.70GHz 2.70 GHz

Installed memory (RAM): 8.00 GB (7.89 GB usable)

System type: 64-bit Operating System

Pen and Touch: No Pen or Touch Input is available for this Display



**Tags:** [command-line \(Next Q\)](#), [software-recommendation \(Next Q\)](#), [windows \(Next Q\)](#), [drivers \(Next Q\)](#)

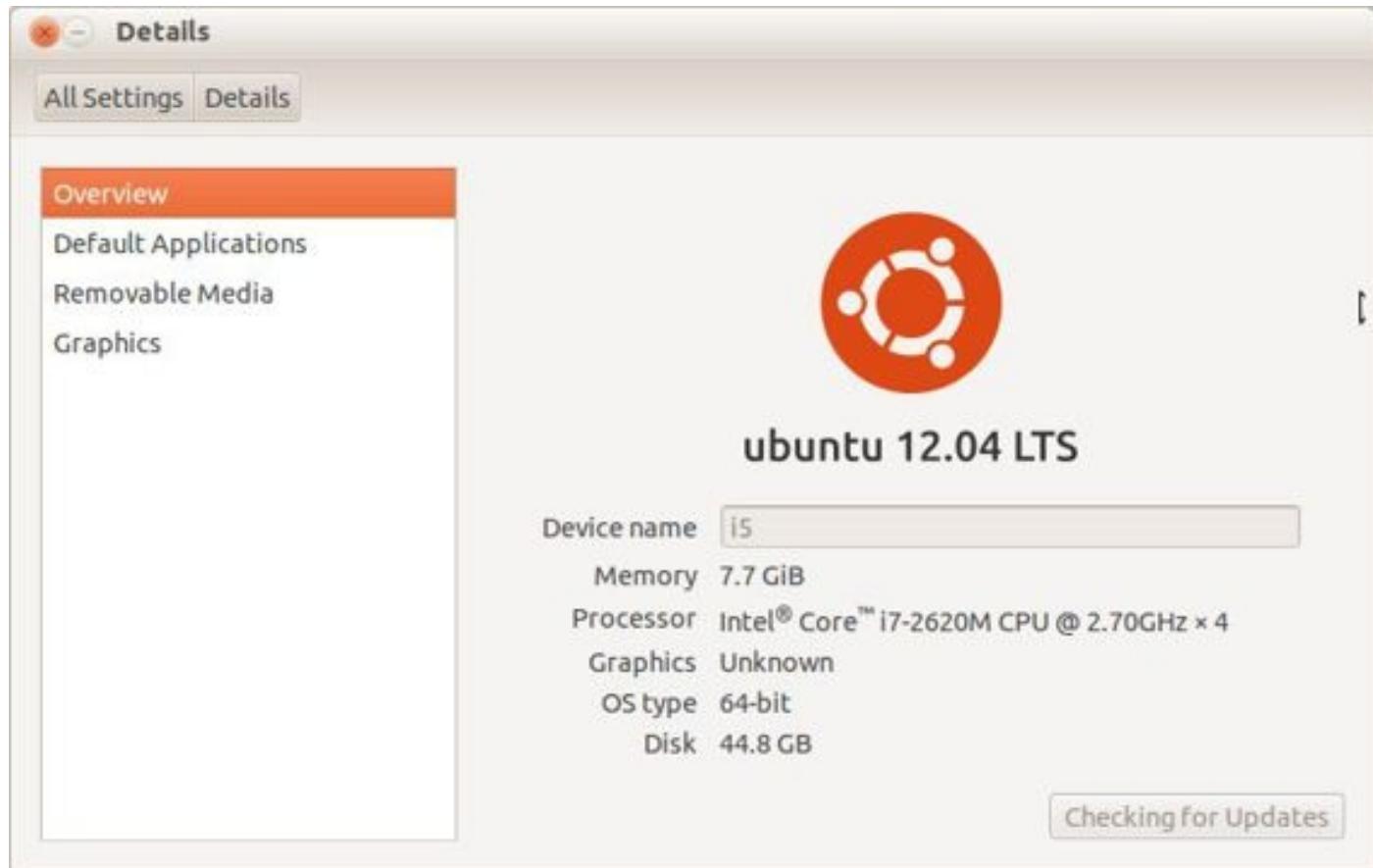
**User:** [newuser](#)

---

[Answer](#)  by [izx](#)

# For Basic Information

Go to Settings, and under System, click on Details for basic information:



# For Detailed Information (like Windows Device Manager)

- Search for “system” in Software Center, and install *System Profiler and Benchmark*:



- Then run it from the Launcher (type “system” if it isn’t there already), and you will see a detailed list of hardware that you can expand further by category:

| Summary - System Information   |  |  |
|--|--|--|
| Refresh  Copy to Clipboard  Generate Report  |  |  |
| Computer <ul style="list-style-type: none"> <li> Summary</li> <li> Operating System</li> <li> Kernel Modules</li> <li> Boots</li> <li> Languages</li> <li> Filesystems</li> <li> Display</li> <li> Environment Variables</li> <li> Users</li> </ul>                  | Computer <ul style="list-style-type: none"> <li>Processor 4x Intel(R) Core(TM) i7-2620M CPU @ 2.70GHz</li> <li>Memory 8062MB (1387MB used)</li> <li>Operating System Ubuntu 12.04 LTS</li> <li>User Name izx (izx)</li> <li>Date/Time Tue 05 Jun 2012 12:36:10 AM PDT</li> </ul>   |  |
| Devices <ul style="list-style-type: none"> <li> Processor</li> <li> Memory</li> <li> PCI Devices</li> <li> USB Devices</li> <li> Printers</li> <li> Battery</li> <li> Sensors</li> <li> Input Devices</li> <li> Storage</li> <li> DMI</li> <li> Resources</li> </ul> | Display <ul style="list-style-type: none"> <li>Resolution 1920x1080 pixels</li> <li>OpenGL Renderer Unknown</li> <li>X11 Vendor The X.Org Foundation</li> </ul>  |  |
| Network <ul style="list-style-type: none"> <li> Interfaces</li> <li> IP Connections</li> <li> Routing Table</li> <li> ARP Table</li> <li> DNS Servers</li> <li> Statistics</li> <li> Shared Directories</li> </ul>   | Multimedia <ul style="list-style-type: none"> <li>Audio Adapter HDA-Intel - HDA Intel PCH</li> <li>Audio Adapter ThinkPad EC - ThinkPad Console Audio Control</li> </ul>   |  |
|  | Input Devices <ul style="list-style-type: none"> <li>Lid Switch</li> <li>Sleep Button</li> <li>Power Button</li> <li>AT Translated Set 2 keyboard</li> <li>ThinkPad Extra Buttons</li> <li>Integrated Camera</li> <li>Video Bus</li> <li>HDA Intel PCH Mic</li> <li>HDA Intel PCH Headphone</li> <li>SynPS/2 Synaptics TouchPad</li> </ul> |  |
|  | Printers <ul style="list-style-type: none"> <li>No printers found</li> </ul>   |  |
|  | SCSI Disks <ul style="list-style-type: none"> <li>ATA INTEL SSDSA2M160</li> <li>ATA WDC WD5000BEVT-2</li> </ul>  |  |

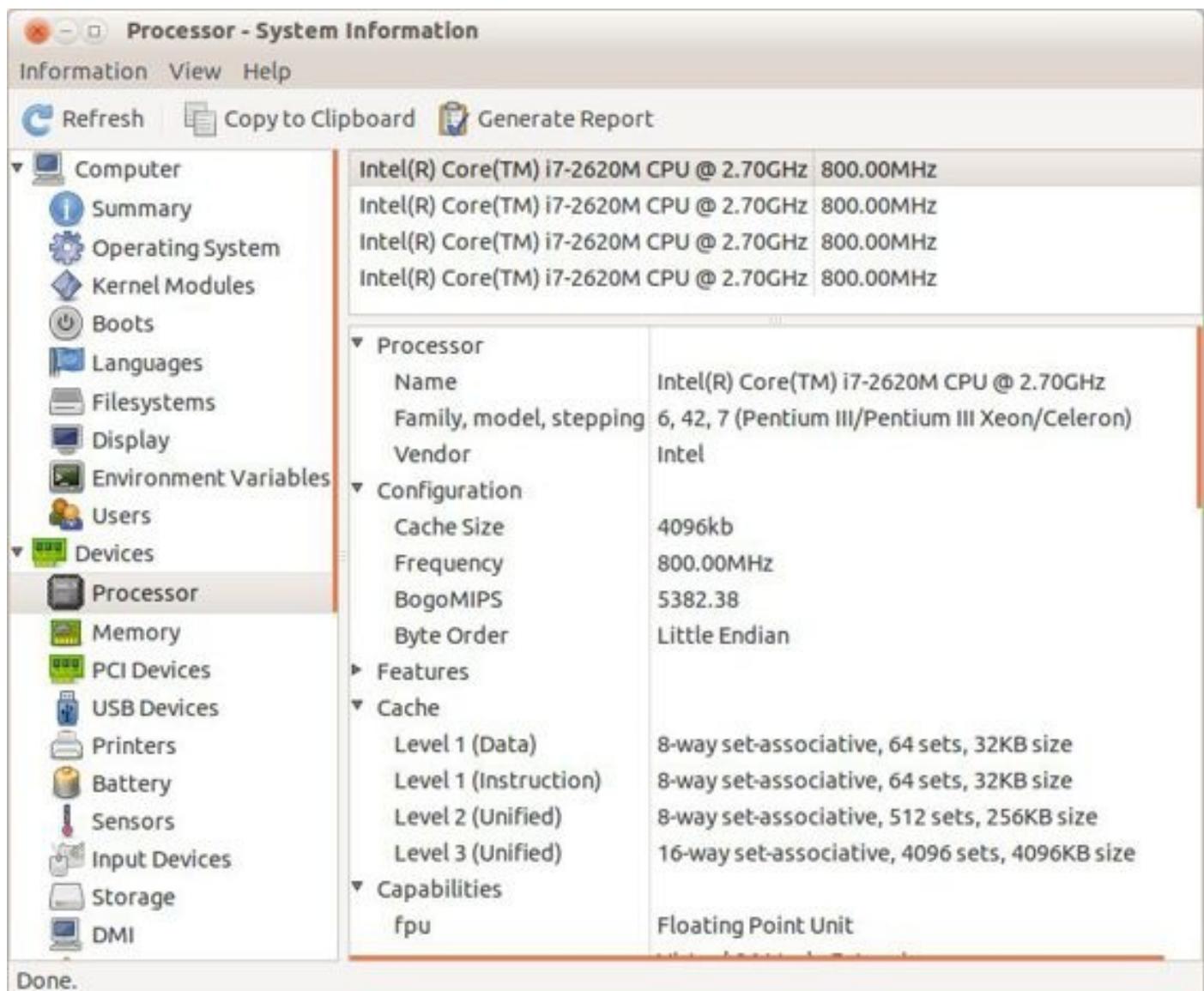
Done.

- This tool also allows you to run benchmarks to compare how your system performs relative to other common computers.
- Scroll down for examples of CPU and RAM information.

# Other system-specific tools and console (terminal) tools

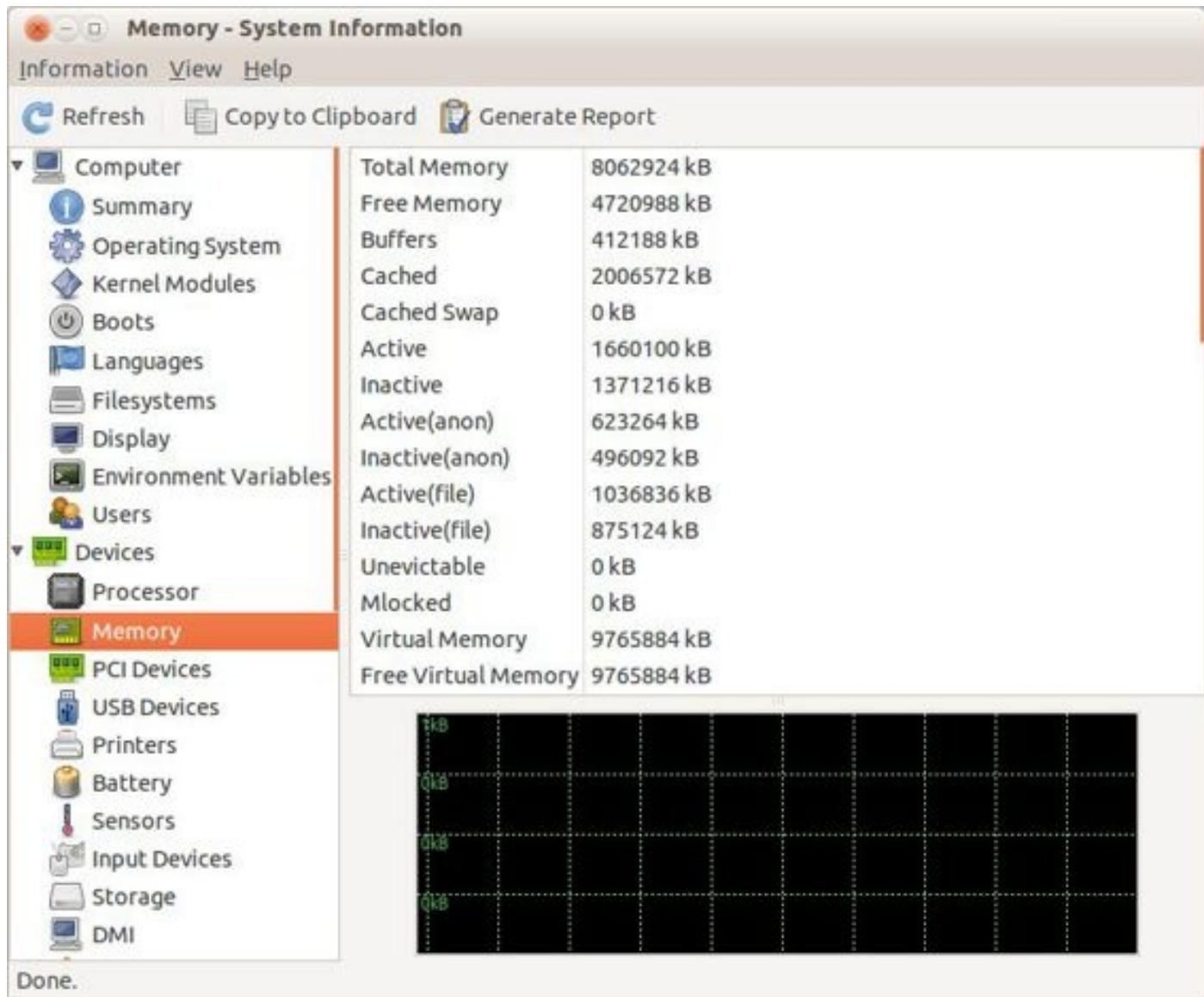
Please see Luis Alvarado's [excellent exhaustive answer with screenshots](#)  to this question, just above or below this one.

## Examples of CPU and RAM information as shown in System Profiler



The screenshot shows the 'Processor - System Information' window. The left sidebar lists categories: Computer, Devices, Processor, Memory, PCI Devices, USB Devices, Printers, Battery, Sensors, Input Devices, Storage, and DMI. 'Processor' is selected and highlighted. The main pane displays CPU information for an Intel(R) Core(TM) i7-2620M CPU @ 2.70GHz, including its frequency (800.00MHz), family (6, 42, 7), stepping (Pentium III/Pentium III Xeon/Celeron), vendor (Intel), cache size (4096kb), and byte order (Little Endian). It also lists features like 8-way set-associative cache at 32KB size for L1 Data and Instruction, 8-way set-associative cache at 512 sets, 256KB size for L2 Unified, and 16-way set-associative cache at 4096 sets, 4096KB size for L3 Unified. The 'Capabilities' section lists 'fpu'. At the bottom, a 'Done.' button is visible.

| Processor - System Information  |   |   |
|---|---|---|
| Information   | View  | Help  |
|  Refresh                 |  Copy to Clipboard |  Generate Report |
| <b>Computer</b>   |   |   |
|  Summary                 | Intel(R) Core(TM) i7-2620M CPU @ 2.70GHz 800.00MHz  |   |
|  Operating System        | Intel(R) Core(TM) i7-2620M CPU @ 2.70GHz 800.00MHz  |   |
|  Kernel Modules         | Intel(R) Core(TM) i7-2620M CPU @ 2.70GHz 800.00MHz  |   |
|  Boots                 | Intel(R) Core(TM) i7-2620M CPU @ 2.70GHz 800.00MHz  |   |
|  Languages             |   |   |
|  Filesystems           |   |   |
|  Display               |   |   |
|  Environment Variables |   |   |
|  Users                 |   |   |
| <b>Devices</b>  |   |   |
|  Processor             | <b>Processor</b>  |   |
|  Memory                | Name  | Intel(R) Core(TM) i7-2620M CPU @ 2.70GHz  |
|  PCI Devices           | Family, model, stepping   | 6, 42, 7 (Pentium III/Pentium III Xeon/Celeron)   |
|  USB Devices           | Vendor  | Intel   |
|  Printers              | <b>Configuration</b>  |   |
|  Battery               | Cache Size  | 4096kb  |
|  Sensors               | Frequency   | 800.00MHz   |
|  Input Devices         | BogoMIPS  | 5382.38   |
|  Storage               | Byte Order  | Little Endian   |
|  DMI                   | <b>Features</b>   |   |
| <b>Cache</b>  |   |   |
|   | Level 1 (Data)  | 8-way set-associative, 64 sets, 32KB size   |
|   | Level 1 (Instruction)   | 8-way set-associative, 64 sets, 32KB size   |
|   | Level 2 (Unified)   | 8-way set-associative, 512 sets, 256KB size   |
|   | Level 3 (Unified)   | 16-way set-associative, 4096 sets, 4096KB size  |
| <b>Capabilities</b>   |   |   |
|   | fpu   | Floating Point Unit   |



[Answer](#) by [ashu](#)

Open the terminal with **Ctrl+Alt+T** and type any of these:

For cpu info

```
cat /proc/cpuinfo
```

For memory info

```
cat /proc/meminfo
```

to see disk usage of various partitions

```
df -h
```

See ram usage

```
free -m
```

wireless network

```
iwconfig
```

Which ubuntu is running in your computer

```
lsb_release -a
```

Find your kernel info

```
uname -a
```

list all hardware

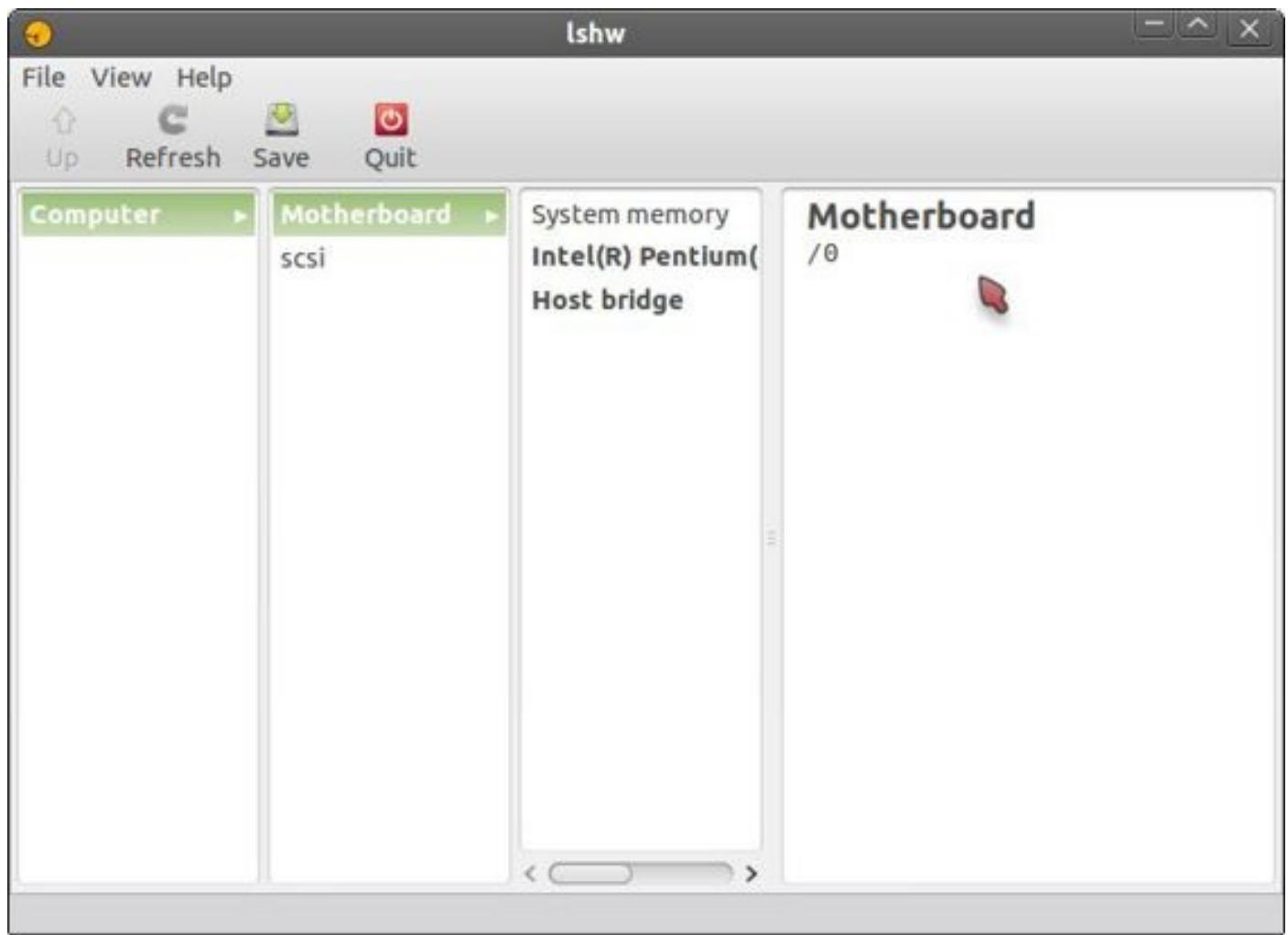
```
sudo lshw
```

All soundcards

```
aplay -l
```

Some graphical software for the same will be

# 1)Hardware lister

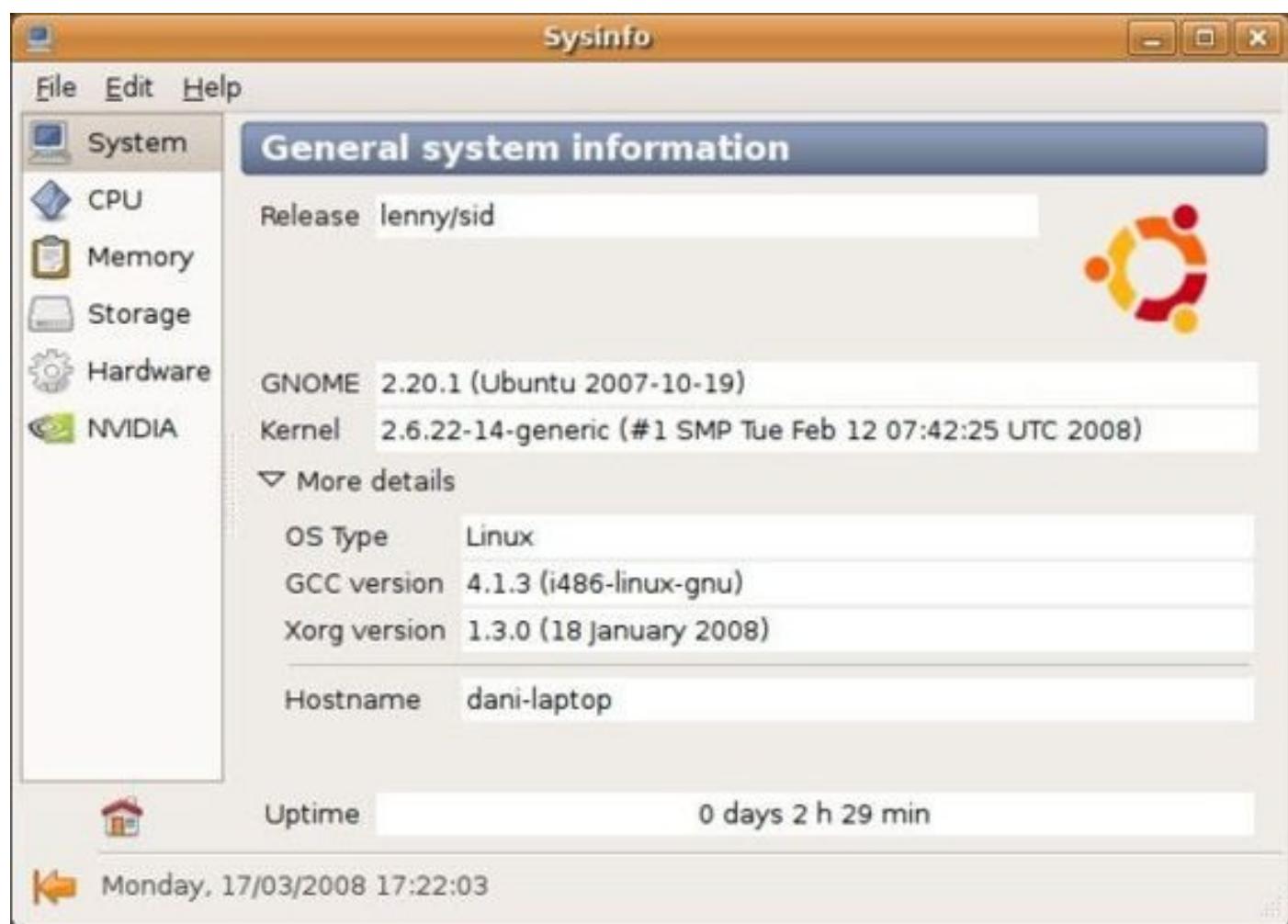


Whenever you want to run it type sudo lshw-gtk in the terminal

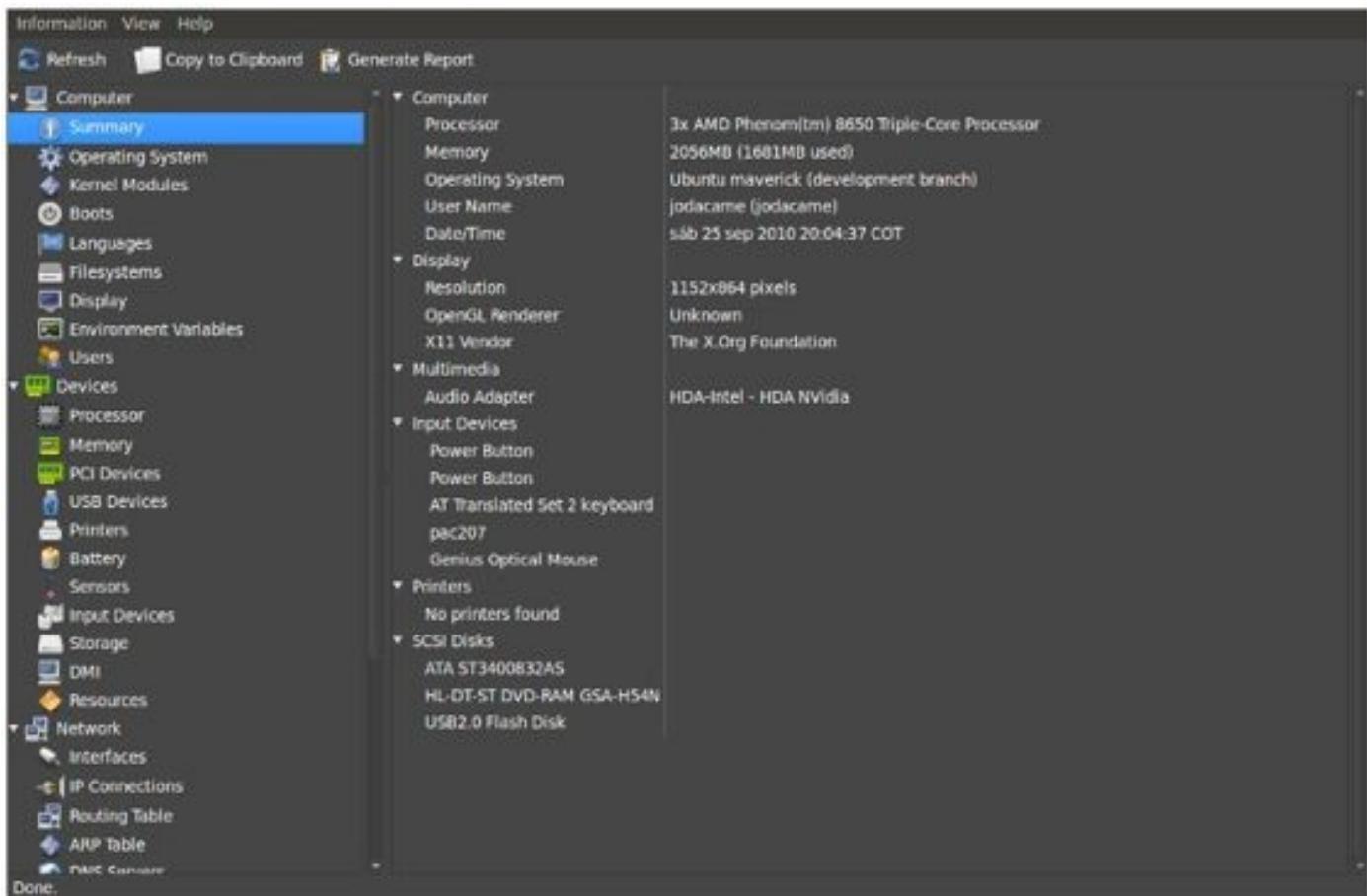
**Download it here**



## 2) Sysinfo



### 3) System Profiler and Benchmark



[Answer](#) by [luis-alvarado](#)

Without going into terminal commands (From my point of view, less friendly way of inviting a new user to Ubuntu.. until he/she feels the force) like:

`lshw` - Shows you information about all hardware

`lsusb` - Shows you information about all USB hardware

`lspci` - Shows information about all PCI compatible hardware

`cat /proc/cpuinfo` - Shows detailed information about your CPU

`dmidecode` - Shows you information about hardware

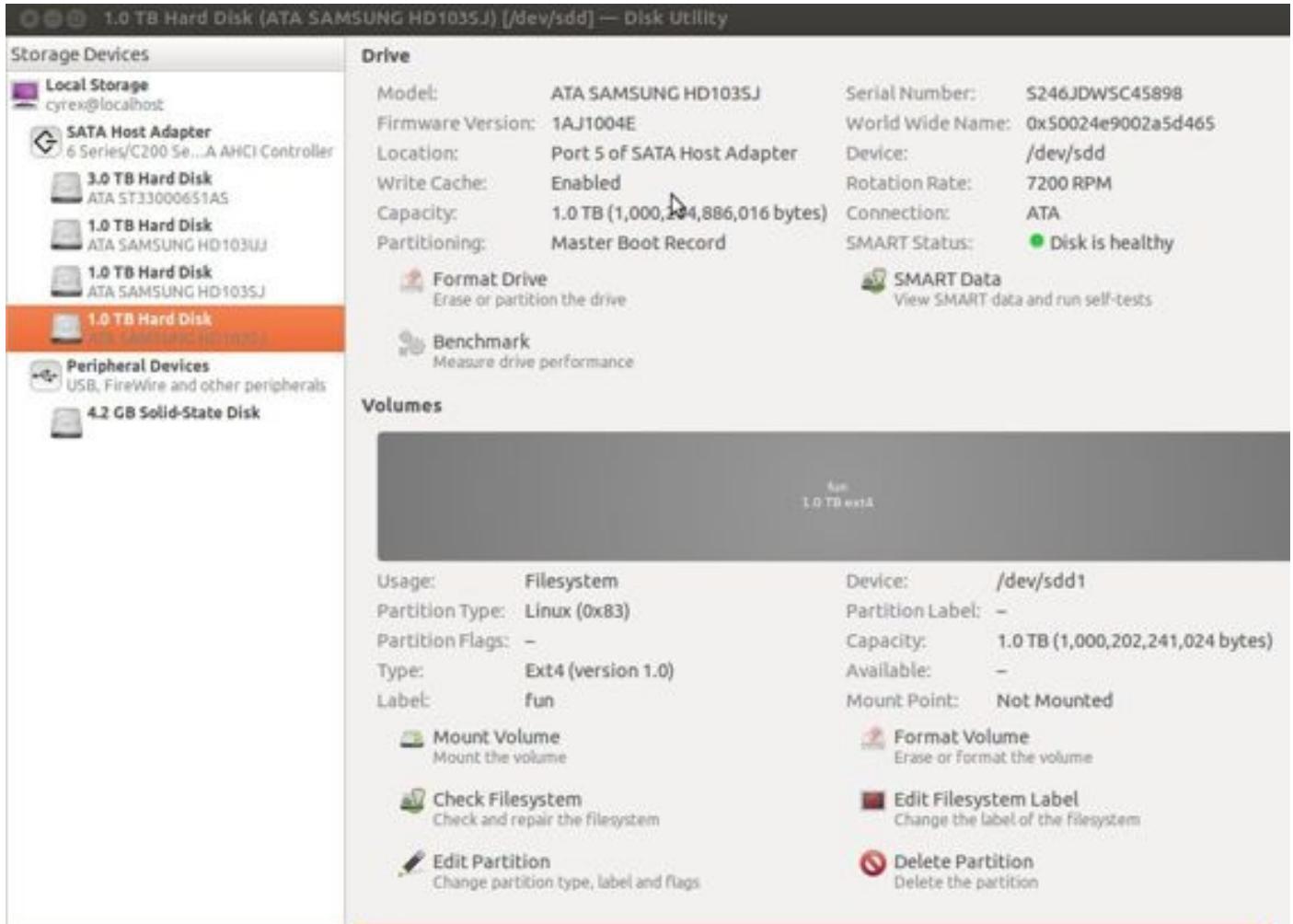
And others like `lm-sensors` or `hdparm` that can give information about HDD and

temperature readings.

Seeing as you are new, I will mention easy to use GUI tools that can quickly help you find important information about your PC:

# DISK UTILITY

Shows information about all type of storage devices, including but not limited to HDD, SSD, Flash Drives, External (Connected) USB Drives, etc..

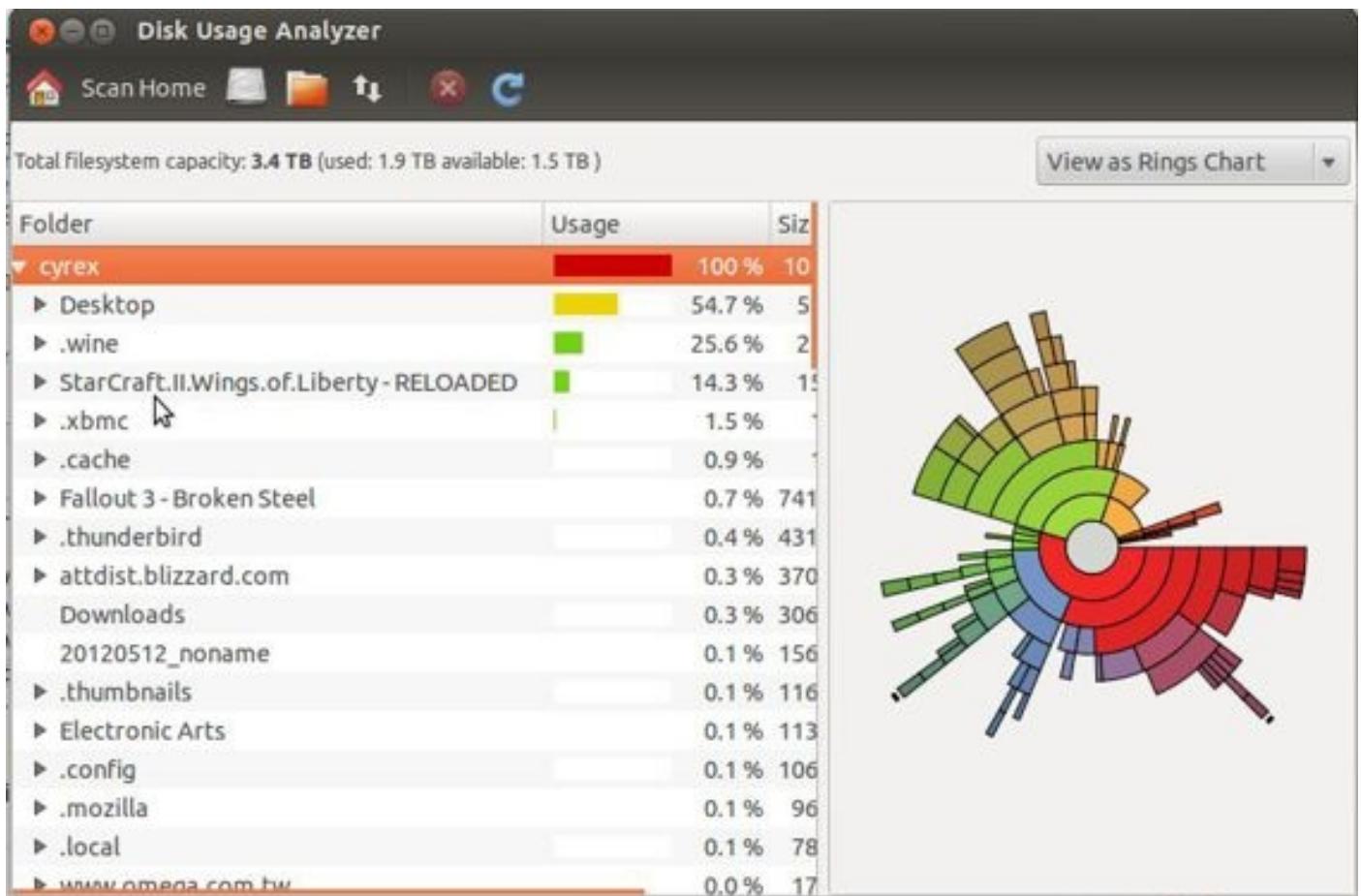


To use it just open DASH (By pressing the SUPER key) and type disk. You will then see the option “Disk Utility”.



# DISK USAGE ANALYZER

Very good program to analyze the (As the obvious name implies) disk usage. It can be very useful when doing a cleanup on old files and such.

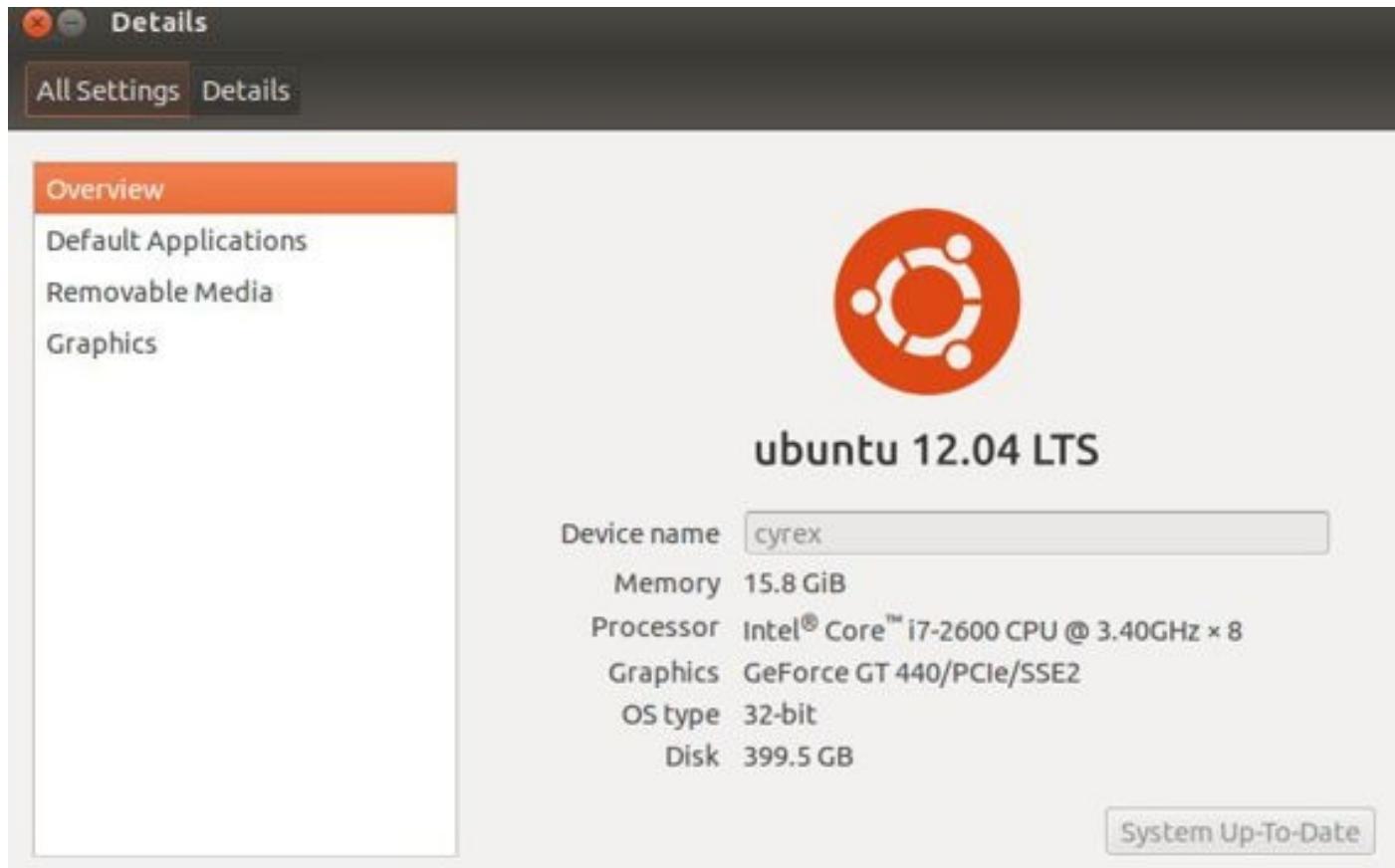


As with Disk Utility, type in dash `disk` and the second option will be the “Disk Usage Analyzer”

# Ubuntu Detail Information

Type in dash detail and you will see a cog icon with the name “Details”. It will show you basic information on your machine:





I should mention that if you are using an Nvidia card, you need to update Ubuntu 12.04 with the latest upgrades in order to see the Video card name.

# SYSINFO

Very nice program to see information about your computer.



The image shows the Ubuntu Software Center interface. At the top, there is a dark header bar with the title "Ubuntu Software Center" and three circular icons (Close, Minimize, Maximize). Below the header are three navigation buttons: "All Software" (with a grid icon), "Installed" (with a monitor icon), and "History" (with a clock icon). The main content area displays a card for the "Sysinfo" application. On the left is a thumbnail image of a computer monitor. To the right of the thumbnail, the word "Sysinfo" is written in large, bold, black letters. Below it, the text "Display detailed computer/system information" is shown. Underneath that, there is a rating section with five yellow stars and the text "(28 ratings)". A green checkmark icon followed by the text "Installed on 2012-06-05" indicates the status of the application. A descriptive paragraph below states: "sysinfo is a graphical tool that is able to display some hardware and software information about the computer it is run on." A bulleted list follows, detailing what the tool can recognize:

- System (Linux distribution release, versions of GNOME, kernel, gcc and Xorg and hostname);
- CPU (vendor identification, model name, frequency, level2 cache, bogomips, model numbers and flags);
- Memory (total system RAM, free memory, swap space total and free, cached, active, inactive memory);
- Storage (IDE interface, all IDE devices, SCSI devices);
- Hardware (motherboard, graphic card, sound card, network devices);
- NVIDIA graphic card: only with NVIDIA display driver installed.

[Developer Web Site](#)

It can be installed via the Software Center by looking for “Sysinfo” or “Hardware” or clicking [here](#)

# Missing Image

Sysinfo

System

CPU Memory Storage Hardware NVIDIA

## General system information

Release Ubuntu 12.04 (precise)



GNOME unknown (unknown)  
Kernel 3.2.0-25-generic-pae (#40-Ubuntu SMP Wed May 23 22:11:24 UTC 2012)

▼ More details

|              |                                 |
|--------------|---------------------------------|
| OS Type      | Linux                           |
| GCC version  | 4.6 (i686-linux-gnu)            |
| Xorg version | 1.11.3 (07 May 2012 11:39:37PM) |
| Hostname     | cyrex                           |

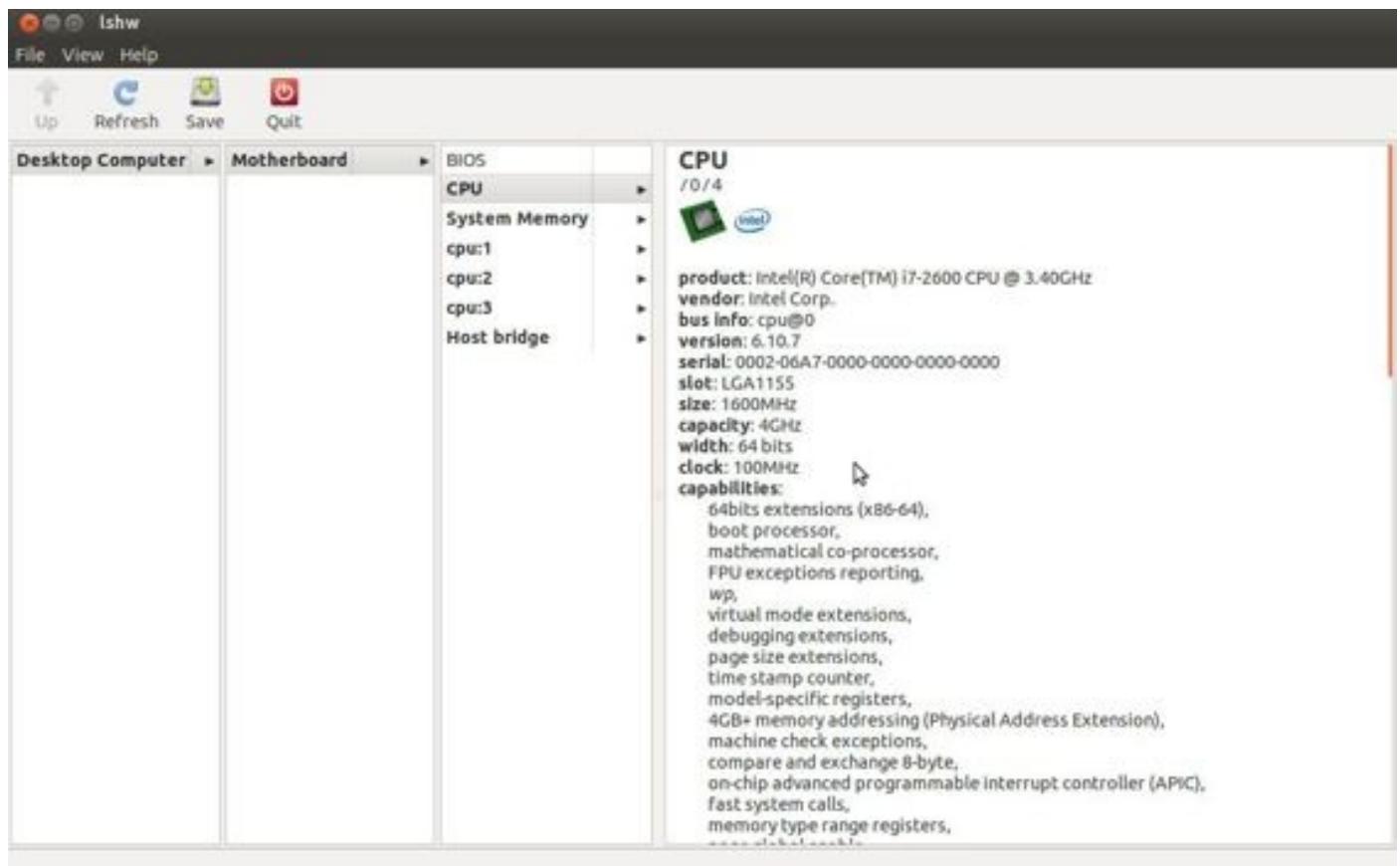
Uptime 0 days 7 h 27 min

Tuesday, 6/5/2012 12:48:10 AM

# HARDWARE LISTER

Very nice program based on LSHW to show you in a graphical way all the hardware. As the previous one I mentioned, it can also be installed from the Software Center by looking for “Hardware” or clicking [here](#) 

# Missing Image



Ubuntu Software Center

All Software    Installed    History

 **Hardware Lister**  
Provides information on hardware  
★★★★★ (61 ratings)

Installed on 2012-06-05

A small tool to provide detailed information on the hardware configuration of the machine. It can report exact memory configuration, firmware version, mainboard configuration, CPU version and speed, cache configuration, bus speed, etc. on DMI-capable x86 systems, on some PowerPC machines (PowerMac G4 is known to work) and AMD64.

This package provides lshw-gtk (the GTK+ version)

So as you can see there are MANY programs to check for hardware and hardware information in general. I suggest playing with Software Center to find even more but this should be enough to know most if not everything about your computer.

---

**Tags:** [command-line \(Next Q\)](#), [software-recommendation \(Next Q\)](#), [windows \(Next Q\)](#), [drivers \(Next Q\)](#)

---

## **Q: How can I get a list of all repositories and PPAs from the command line?**

**Tags:** [command-line \(Next Q\)](#), [ppa \(Next Q\)](#), [scripts \(Next Q\)](#)

I know how to [list all packages](#) installed on my system.

**But how could I get a list of all repositories and PPA's?**

I know I can look into /etc/apt/sources.list and /etc/apt/sources.list.d, but I'm looking for a way to **generate** a script that executes all apt-add-repository commands on a new system (that sorts out getting all keys).

Any ideas?

**Tags:** [command-line \(Next Q\)](#), [ppa \(Next Q\)](#), [scripts \(Next Q\)](#)

**User:** [stwissel](#)

---

[Answer](#)  by [stwissel](#)

Thanks for the pointers. With a little cleanup I got a script that lists the PPAs, but not any other repository:

```

#!/bin/sh
# listppa Script to get all the PPA installed on a system ready to share for reininstall
for APT in `find /etc/apt/ -name \*.list`; do
    grep -o "^deb http://ppa.launchpad.net/[a-z0-9\-\-]\+/[a-z0-9\-\-]\+" $APT | while read ENTRY ; do
        USER=`echo $ENTRY | cut -d/ -f4`
        PPA=`echo $ENTRY | cut -d/ -f5`
        echo sudo apt-add-repository ppa:$USER/$PPA
    done
done

```

When you call it with `listppa > installppa.sh` you get a script you can copy on a new machine to reinstall all PPA.

Next stop: do that for the other repositories:

[Skip code block](#)

```

#!/bin/sh
# Script to get all the PPA installed on a system
for APT in `find /etc/apt/ -name \*.list`; do
    grep -Po "(?<=deb\s).*(?=#\|$)" $APT | while read ENTRY ; do
        HOST=`echo $ENTRY | cut -d/ -f3`
        USER=`echo $ENTRY | cut -d/ -f4`
        PPA=`echo $ENTRY | cut -d/ -f5`
        #echo sudo apt-add-repository ppa:$USER/$PPA
        if [ "ppa.launchpad.net" = "$HOST" ]; then
            echo sudo apt-add-repository ppa:$USER/$PPA
        else
            echo sudo apt-add-repository \'${ENTRY}\'
        fi
    done
done

```

This should do the trick. I needed a [question on superuser](#) to figure out the correct regex.

[Answer](#) by [wojox](#)

You can show everything with:

```
grep ^ /etc/apt/sources.list /etc/apt/sources.list.d/*
```

**Tags:** [command-line](#) ([Next Q](#)), [ppa](#) ([Next Q](#)), [scripts](#) ([Next Q](#))

## [Q: How can I get octal file permissions from command line?](#)

**Tags:** [command-line](#) ([Next Q](#)), [permissions](#) ([Next Q](#)), [files](#) ([Next Q](#))

There is a **chmod** command to set file permissions, but can I get file permissions in octal mode (such as 755) from the command line?

**Tags:** [command-line](#) ([Next Q](#)), [permissions](#) ([Next Q](#)), [files](#) ([Next Q](#))

**User:** [anwar-shah](#)

[Answer](#) by [jokerdino](#)

You can try

```
stat -c "%a %n" *
```

Replace \* with the relevant directory or the exact filename that you want to examine.

From the [man page of stat](#) 

```
-c --format=FORMAT
      use the specified FORMAT instead of the default; output a newline after
      each use of FORMAT
%a   Access rights in octal
%n   File name
```

## Usage:

- With files:

```
$ stat -c "%a %n" ./Documents/Udev.html
664 ./Documents/Udev.html
```

- With folders:

```
$ stat -c "%a %n" ./Documents/
755 ./Documents/
```

[\(Reference\)](#) 

---

**Tags:** [command-line \(Next Q\)](#), [permissions \(Next Q\)](#), [files \(Next Q\)](#)

---

## [Q: How can I easily share the output of a command or a text file with others?](#)

**Tags:** [command-line \(Next Q\)](#)

I recently asked a question on Ask Ubuntu (or somewhere else), and a comment or answer asks me to paste the contents of some file or the output of a command to troubleshoot my problem.

How do I do that?

**Tags:** [command-line \(Next Q\)](#)

**User:** [izx](#)

---

[Answer](#)  by [izx](#)

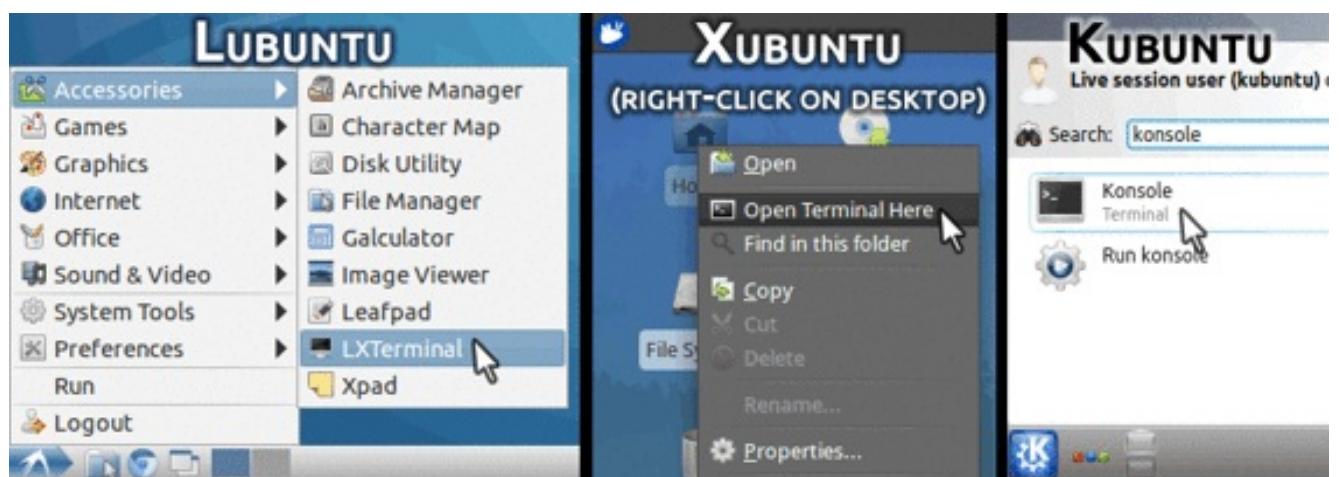
# How to easily share all or part of some text file (or the output of a command)

You'll paste the file or command output to Ubuntu's "pastebin" service, and then allow others to look at it by simply sharing a link, or use it yourself to further copy and paste a few lines into your question.

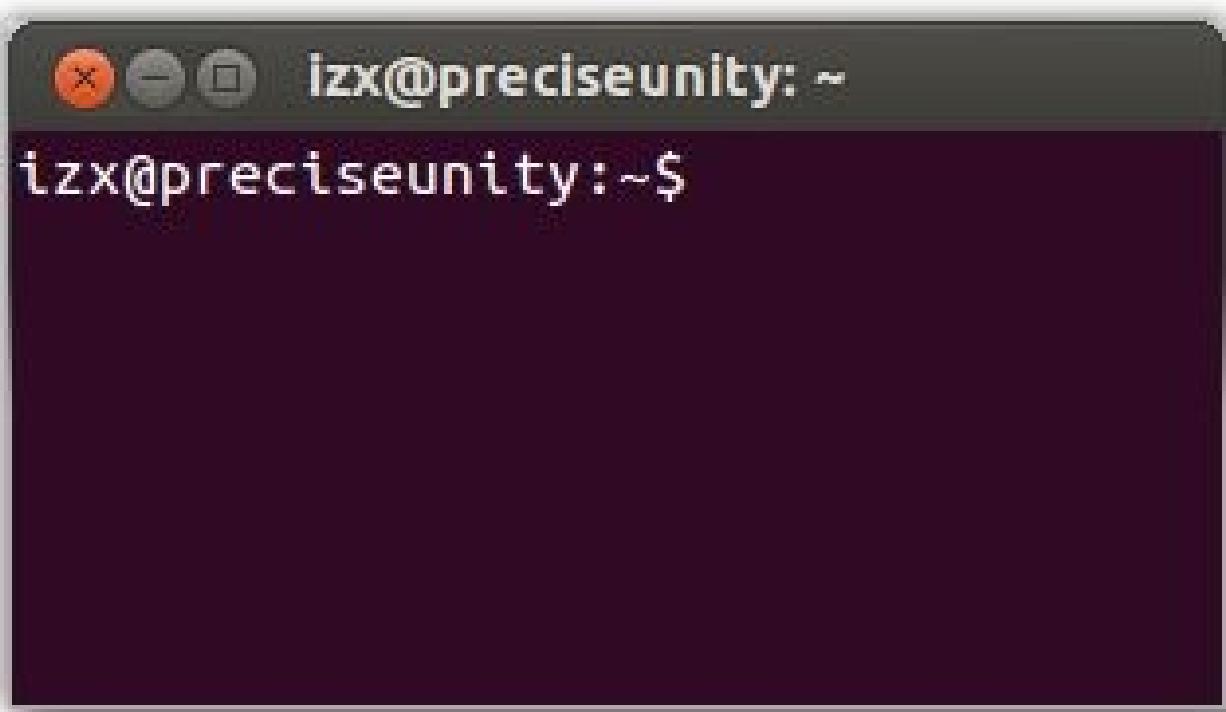
**Note:** If your problem involves the Software Center, Update Manager or apt-get not working, you may have to use the **Alternate Method** near the bottom of this answer.

## 1. Start the terminal

- The terminal allows you to interact with your system by typing commands, instead of using the mouse/cursor. It's not hard to use when you have instructions, and can make some tasks very easy to accomplish.
- Press the **Ctrl+Alt+T** keys together (at the same time) to start the terminal. This will work for everyone using regular Ubuntu, but if you're using...
  - *Lubuntu*: Click on the Start button, go to Accessories, and click on *LXTerminal*
  - *Xubuntu*: **Right-click** anywhere on the desktop, and click on *Open Terminal Here*
  - *Kubuntu*: Click on the Start button, type **konsole** in the Search box, and click on Konsole



- You will get a window with a solid background, showing your username and your computer name, like the below (size/colors may differ!):



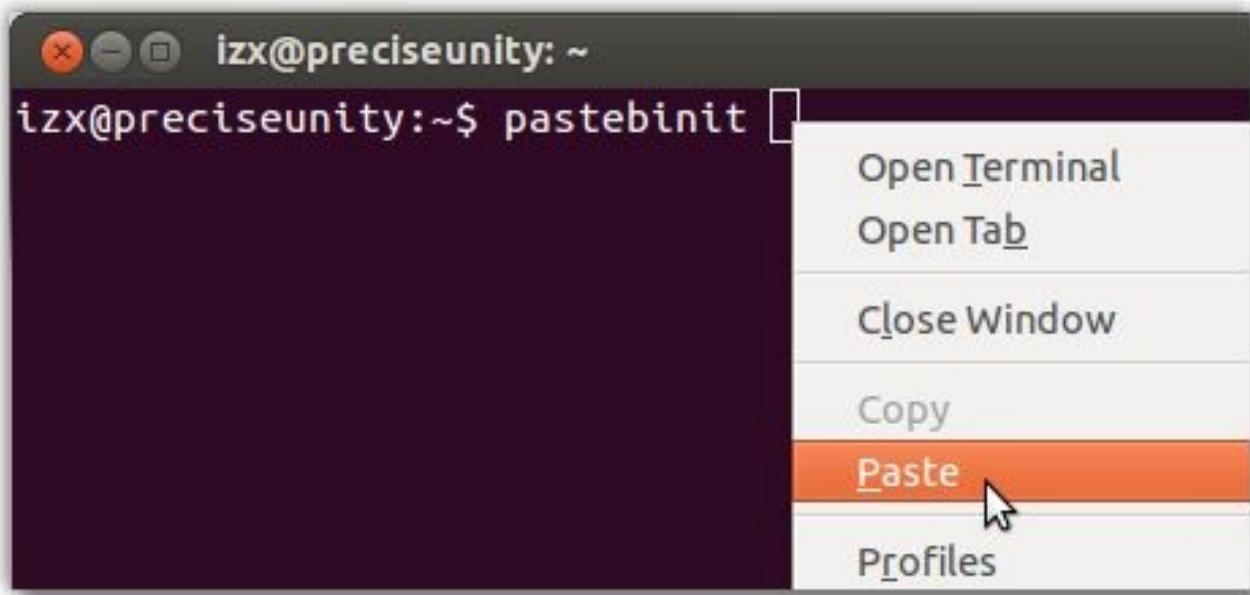
## 2. Install *pastebinit*, a small tool to paste text from the terminal

- In your terminal, type `sudo apt-get install pastebinit` and press Enter
- Enter your password and press Enter (what you type won't show, don't worry)
- When asked *Do you want to continue?*, type `Y` and press Enter, and wait for the prompt (`user@machine`) to return.

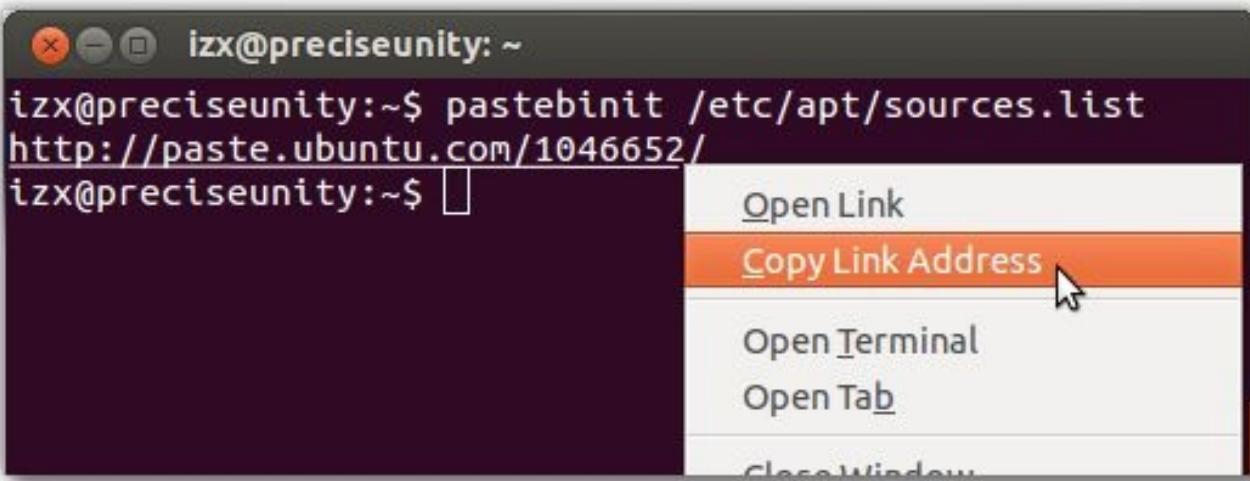
```
izx@preciseunity:~$ sudo apt-get install pastebinit
[sudo] password for izx: ← (password won't be shown!)
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following extra packages will be installed:
  python-configobj
The following NEW packages will be installed:
  pastebinit python-configobj
0 upgraded, 2 newly installed, 0 to remove and 78 not changed
Need to get 16.1 kB/250 kB of archives.
After this operation, 1,740 kB of additional disk space will be used.
Do you want to continue [Y/n]? Y← Type Y and press enter
```

### 3. Pastebin the file or command and paste its URL on AskUbuntu

- Go back to your browser, select the exact filename (or command) whose content you were asked to paste, and press **Ctrl+C** to copy it to the clipboard.
  - A filename may look something like `/etc/apt/sources.list`, while a command may simply be something like `dmesg` or `grep -i failed /var/log/auth.log`. The answer or comment will tell you explicitly if it's a file or a command.
- Now, **for a file**, type `pastebinit` in the terminal, follow with a space; then right-click on the cursor and click on *Paste* to paste the filename you copied.



- Press Enter, and after a few seconds you will see a link of the form `http://paste.ubuntu.com/` as shown below. Move your mouse over it, and it will be *underlined* — then right-click and click on *Copy Link Address* to copy it link to your clipboard:



- **But for a command**, copy and paste the command in the terminal **first**, and then

type

| pastebin after it, and press Enter (see screenshot below)

- The | symbol may be obtained by pressing Shift+\, which is usually below the *Backspace* key.
- Move your mouse over the link—it will be underlined—right-click and *Copy Link Address* as explained above.

```
izx@preciseunity:~$ grep -i root /var/log/auth.log | pastebin
http://paste.ubuntu.com/1046662/
izx@preciseunity:~$
```

Paste the command first!

## 4. Paste the link into your AskUbuntu question/comment

- Go back to your browser, and add a comment (or edit your question) with the Pastebin link - just press Ctrl+V to paste it. Save the edited question or add the comment, and that's it!

## 5. Optional: View your pastebin link, and only paste selected lines from it into your AskUbuntu

- You can also paste the link into your browser's address bar, or click on the link after you've added/edited it to AskUbuntu, to view it on pastebin. It will look similar to this:

Download as text

```
1 # deb cdrom:[Ubuntu 12.04 LTS _Precise Pangolin_ - Release amd64 (20120425)]/ dists/precise/
2 
3 # deb cdrom:[Ubuntu 12.04 LTS _Precise Pangolin_ - Release amd64 (20120425)]/ dists/precise/
4 # deb cdrom:[Ubuntu 12.04 LTS _Precise Pangolin_ - Release amd64 (20120425)]/ precise main r
5 
6 # See http://help.ubuntu.com/community/UpgradeNotes for how to upgrade to
7 # newer versions of the distribution.
8 deb http://nz.archive.ubuntu.com/ubuntu/ precise main restricted
9 deb-src http://nz.archive.ubuntu.com/ubuntu/ precise main restricted
10 
11 ## Major bug fix updates produced after the final release of the
12 ## distribution.
13 deb http://nz.archive.ubuntu.com/ubuntu/ precise-updates main restricted
14 deb-src http://nz.archive.ubuntu.com/ubuntu/ precise-updates main restricted
15 
16 ## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu
```

- Notice the **line numbers**. You can also copy and paste selected/requested lines from here directly into your AskUbuntu question.
- Please enclose the pasted lines with the <pre> and </pre> tags as shown below, so that it appears as separate lines in the question instead of being jumbled together:

I recently asked a question on AskUbuntu, and a comment or answer asks me to paste the contents of some file to troubleshoot my problem. How do I do that?

<pre>

Add this before

```
deb http://nz.archive.ubuntu.com/ubuntu/ precise-updates universe  
deb-src http://nz.archive.ubuntu.com/ubuntu/ precise-updates universe
```

Paste the lines  
you copied in between

</pre>

Add this after

# Alternate way to pastebin a file using an editor

This may be useful if you are having a problem with Software Center, Update Manager or apt-get and cannot install *pastebinit*; it only works for files, not commands.

- Select and copy the filename from AskUbuntu into your clipboard with Ctrl-C.
- Open a terminal as shown in Step 1 and type gedit, followed by a space, and then right-click to paste the filename as in Step 3 and press Enter
  - *Lubuntu* users type leafpad instead of gedit; *Kubuntu* users type kate
- The editor will open with the file:



The screenshot shows the Gedit text editor window with the title bar "sources.list (/etc/apt) - gedit". The menu bar includes "File", "Edit", "View", "Insert", "Search", "Format", "Tools", and "Help". The toolbar below the menu bar contains icons for "Open", "Save", "Print", "Undo", "Redo", and "Cut/Copy/Paste". The main text area displays the following content:

```
# deb cdrom:[Ubuntu 12.04 LTS _Precise Pangolin_ - Release  
amd64 (20120425)]/ dists/precise/main/binary-i386/  
  
# deb cdrom:[Ubuntu 12.04 LTS _Precise Pangolin_ - Release  
amd64 (20120425)]/ dists/precise/restricted/binary-i386/  
# deb cdrom:[Ubuntu 12.04 LTS _Precise Pangolin_ - Release  
amd64 (20120425)]/ precise main restricted  
  
# See http://help.ubuntu.com/community/UpgradeNotes for how  
to upgrade to
```

The status bar at the bottom shows "Plain Text" and "Tab Width: 8". The cursor position is "Ln 3, Col 24". There is also an "INS" indicator.

- Click anywhere inside the editor window, and press **Ctrl+A**. All the text should now be highlighted in another color:

The screenshot shows the gedit text editor with the file 'sources.list' open. The window title is 'sources.list (/etc/apt) - gedit'. The menu bar includes 'File', 'Edit', 'View', 'Search', 'Format', 'Tools', and 'Help'. The toolbar contains icons for Open, Save, Undo, Redo, and Cut/Copy/Paste. The main text area contains the following content:

```
# deb cdrom:[Ubuntu 12.04 LTS _Precise Pangolin_ - Release  
amd64 (20120425)]/ dists/precise/main/binary-i386/  
  
# deb cdrom:[Ubuntu 12.04 LTS _Precise Pangolin_ - Release  
amd64 (20120425)]/ dists/precise/restricted/binary-i386/  
# deb cdrom:[Ubuntu 12.04 LTS _Precise Pangolin_ - Release  
amd64 (20120425)]/ precise main restricted  
  
# See http://help.ubuntu.com/community/UpgradeNotes for how  
to upgrade to
```

The status bar at the bottom shows 'Plain Text' and 'Tab Width: 8'. A tooltip 'Copy the selection' is visible over the Copy icon in the toolbar.

- Now press **Ctrl+c** (or the Copy button, if you know where that is) to copy the entire file to the clipboard.
- Go to your browser, and open **paste.ubuntu.com**. Type your name/nickname in the Poster : box; then click in the Content : box and press **Ctrl+v** to paste the text you just copied from the editor in there:



- Click on the Paste button, and in a few seconds you'll see the text you pasted:

```
1 # deb cdrom:[Ubuntu 12.04 LTS _Precise Pangolin_ - Release amd64 (20120425)]/ dists/precise/main/binary-amd64/Packages
2
3 # deb cdrom:[Ubuntu 12.04 LTS _Precise Pangolin_ - Release amd64 (20120425)]/ dists/precise/main/binary-amd64/Packages
4 # deb cdrom:[Ubuntu 12.04 LTS _Precise Pangolin_ - Release amd64 (20120425)]/ precise/main/binary-amd64/Packages
5
6 # See http://help.ubuntu.com/community/UpgradeNotes for how to upgrade to
7 # never versions of the distribution.
8 deb http://nz.archive.ubuntu.com/ubuntu/ precise main restricted
9 deb-src http://nz.archive.ubuntu.com/ubuntu/ precise main restricted
```

- Select the address shown in the address bar (highlighted orange above), copy it with **Ctrl+C**, and then go back to AskUbuntu and paste it in as explained in Step 4.
- Alternately, select a few lines, copy them and then paste them in AskUbuntu as explained in Step 5.

---

Tags: [command-line](#) ([Next Q](#))

---

## **Q: Why did the command “:(){ :|:& };:” make my system lag so badly I had to reboot?**



Tags: [command-line](#) ([Next Q](#))

# DANGER!

Do not run this command to ‘test’ it unless you are prepared for a crash and/or force-rebooting your system.

I was in my Virtualbox running 12.04 trying to compile an app, and while waiting I happened to chance upon a forum where a comment said:

Try :(){ :|:& };:  
Fun, too, and doesn’t need root.

Without thinking, I ran it in my gnome-terminal. It made my 12.04(in Virtualbox) lag so badly, I had to shut it down.

My question is what does this command do?

```
:(){ :|:& };;
```

**Tags:** [command-line](#) ([Next Q](#))

**User:** [blade19899](#)

---

[Answer](#) by [supermatt](#)

This is called a [fork bomb](#).

`:()` means you are defining a function called :

`{:|:&}` means run the function `:` and send its output to the `:` function again and run that in the background.

The `;` is a command separator, like `&&`.

`:` runs the function the first time.

Essentially you are creating a function that calls itself twice every call and doesn’t have any way to terminate itself. It will keep doubling up until you run out of system resources.

Running in Virtualbox was quite sensible really otherwise you would have had to restart your pc.

---

[Answer](#) by [michaÅ,-Å;rajer](#)

This is so called [fork bomb](#) implemented in shell.

from wikipedia:

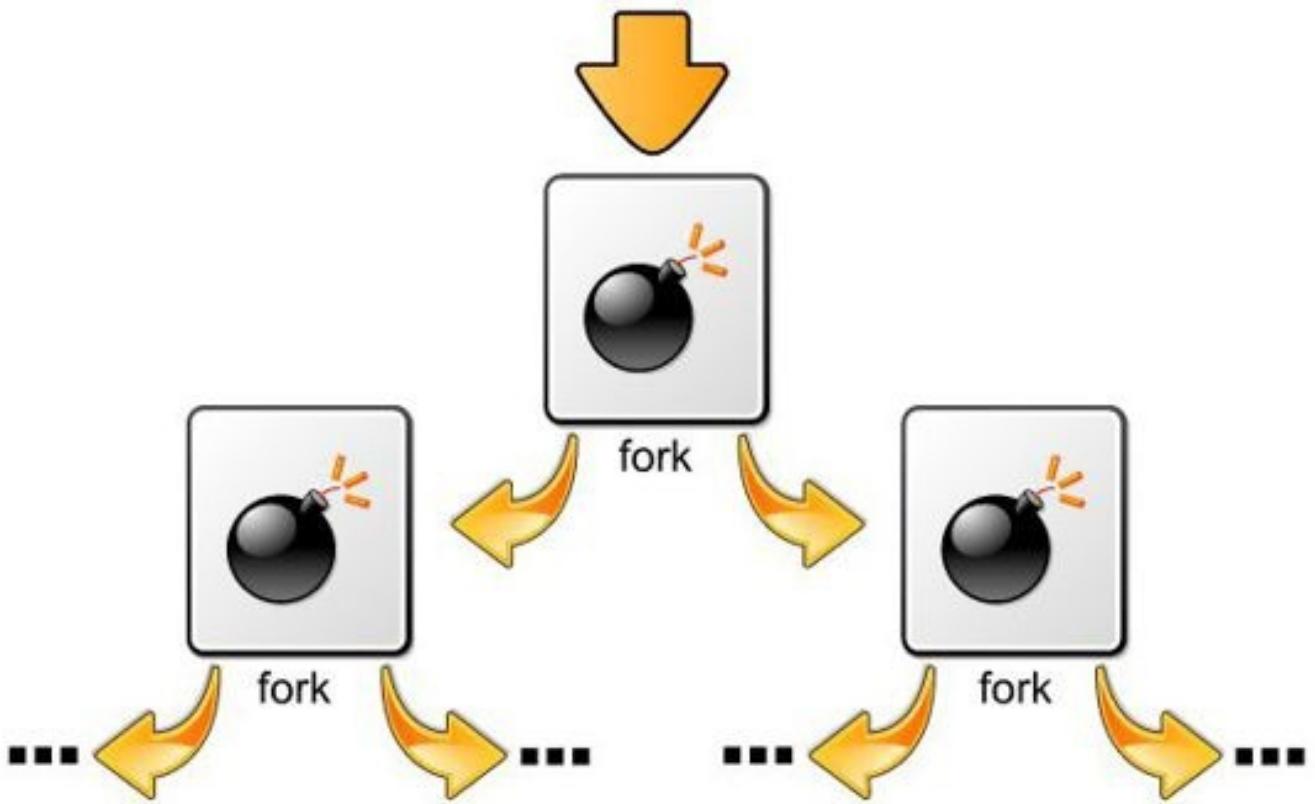
[Skip code block](#)

```
:(){ :|:& };:  
\_/\_||| |\_\-\ ... the function ':', initiating a chain-reaction: each ':' will start two more.  
| | ||| |\-\ Definition ends now, to be able to run ...  
| | ||| \-\ End of function-block  
| | |||\-\ disown the functions (make them a background process), so that the children of a parent  
| | ||| will not be killed when the parent gets auto-killed
```

```
| | | \- ... another copy of the '::'-function, which has to be loaded into memory.  
| | | So, ':::' simply loads two copies of the function, whenever '::' is called  
| | \- ... and pipe its output to ...  
| \- Load a copy of the function '::' into memory ...  
 \- Begin of function-definition  
 \- Define the function '::' without any parameters '()' as follows:
```

[Answer](#) by [capt.nemo](#)

That command is a well known version of the [fork bomb](#)



It causes your computer to run out of memory by forking a process infinitely. There exist some safeguards you can use against it as well:

Unix-type systems typically have a process-limit, controlled by a ulimit shell command or its successor, setrlimit. Linux kernels set and enforce the RLIMIT\_NPROC rlimit (“resource limit”) of a process. If a process tries to perform a fork and the user that owns that process already owns RLIMIT\_NPROC processes, then the fork fails. Additionally, on Linux or \*BSD, one can edit the pam\_limits config file /etc/security/limits.conf to the same effect. However, not all distributions of Linux have the pam\_limits module installed by default.

Tags: [command-line](#) ([Next Q](#))

**Q: How do I find the kernel version, Ubuntu release and disk partition information from the terminal?** [Answer](#)

Tags: [command-line](#) ([Next Q](#))

Which commands will give me information about following?

1. Kernel Version
2. Distribution version no.
3. All partition size of the HDD in Terminal

**Tags:** [command-line](#) ([Next Q](#))

**User:** [k.k-patel](#)

---

[Answer](#)  by [web-e](#)

- `uname -a` for all info regarding kernel version,  
`uname -r` for exact kernel version
- `lsb_release -a` for all information related to ubuntu version,  
`lsb_release -r` for exact version
- `sudo fdisk -l` for partition info with all details.

For more understandable information regarding partitions, please use commands given in other answers

---

[Answer](#)  by [jeremy-kerr](#)

# Kernel Version

```
cat /proc/version          # detail about for the kernel image version
```

# Distribution Version

```
lsb_release -a
```

# Partition Sizes

```
cat /proc/partitions      # for basic sizes
sudo fdisk -l /dev/<device>  # eg /dev/sda
```

Tags: [command-line](#) ([Next Q](#))

## Q: How do I delete my commands quickly?

Tags: [command-line](#) ([Next Q](#))

I use terminal for almost all tasks. Let's say I have entered a huge command like this:

```
sudo a-huge-command
```

What is the easiest way to delete the whole command with a single shortcut, rather than keep on hitting backspace key?

I'm a Ubuntu newbie looking to use Ubuntu in a professional way.

Tags: [command-line](#) ([Next Q](#))

User: [batman](#)

Answer  by [eric-carvalho](#)

Use **Ctrl+U** to cut text from cursor position to the beginning of the command line. Later, if you want, use **Ctrl+Y** to paste the cut text.

If you just want to discard the current command line and get a new clean prompt hit **Ctrl+C**.

For more reference please check the Ubuntu documentation for [Using The Terminal](#) 

Answer  by [devav2](#)

**ctrl + u** should help you.

Below are the rest of the options available. Grabbed from [here](#) 

UNIX understands several control-key commands, commands you enter by holding down the control key (ctrl) while striking a second key

**CTRL + S** - freezes the screen and stops any display on the screen from continuing (equivalent to a no-scroll key) (sometimes takes a moment to work)

**CTRL + Q** - un-freezes the screen and lets screen display continue

**CTRL + C** - interrupts a running program

**CTRL + \** - same as **CTRL - C** but stronger (used when terminal doesn't respond)

CTRL + Z - suspends a running program (use the fg command to continue the program, see \$

CTRL + H - deletes last character typed

CTRL + W - deletes last word typed

CTRL + U - deletes last line typed

CTRL + R - searches text from history

CTRL + D - ends text input for many UNIX programs, including mail and write.

Note:

When we delete using CTRL + W or CTRL + U, we are also performing a (edit) “cut” (yank in) operation (delete and store in buffer/clipboard). To paste (yank out) the string in buffer/clipboard, use CTRL + Y.

---

[Answer](#)  by [exeleration-g](#)

I'm usually using Alt+Backspace. If you are using bash, this will let you delete until the previous special character (/ , ; , etc.). If you are using zsh, it will remove the slashes and semicolons as well. It is a lot faster than just hitting Backspace.

In bash, this is different from Ctrl+w in the sense that Ctrl+w deletes the previous word whereas Alt+Backspace deletes until the previous special character is found. In zsh, both key combinations do the same thing

---

Tags: [command-line](#) ([Next Q](#))

---

## [Q: How do I restart /shutdown from a terminal?](#)

Tags: [command-line](#) ([Next Q](#))

How to shutdown the Ubuntu installed system and restart it by using terminal ?

Tags: [command-line](#) ([Next Q](#))

User: [agentcool](#)

---

[Answer](#)  by [saeed-zarinfam](#)

For shutdown:

```
sudo poweroff
```

---

For restart:

```
sudo reboot
```

---

[Answer](#)  by [agentcool](#)

Open your terminal with CTRL+ALT+T and do these following commands

To shutdown the system:

```
sudo shutdown -h now
```

To restart:

```
sudo reboot
```

& one more command for restart:

```
sudo shutdown -r now
```

Another way as one of the user mentioned.

For shutdown:

```
sudo halt
```

or:

```
sudo init 0
```

For restart:

```
sudo init 6
```

You can get more info on the shutdown command by using one of the following:

- shutdown --help
- man shutdown

---

**Tags:** [command-line](#) ([Next Q](#))

---

## [Q: What is the terminal command to take a screenshot?](#)

**Tags:** [command-line](#) ([Next Q](#))

What command(s) can I use in the terminal that's equivalent to the PrtSc (Print Screen) button?

I am running Ubuntu gnome.

**Tags:** [command-line](#) ([Next Q](#))

**User:** [devav2](#)

---

[Answer](#)  by user61928

You can use **import** tool available in the ImageMagick package (you need to install this if its already not available on your system).

Run the following command in a shell:

```
import screenshot.png
```

and select the window you want to capture or select a region by pressing the left

mouse button and dragging.

**import** is actually a very powerful command which can be used in many ways to capture the screen. For example, to capture the entire screen and after some delay and resizing it, use the following command:

```
import -window root -resize 400x300 -delay 200 screenshot.png
```

To see all the options available with import command, go to [ImageMagicks website](#).

[Source and more info.](#)

**Another way** to take a screenshot from the terminal is with **scrot**

To install **scrot** type:

```
sudo apt-get install scrot
```

To take a screenshot in Linux from the terminal with scrot type:

```
scrot MyScreenshot.png
```

Some more options with scrot are here:

```
scrot -b -d 5 '%Y:%m:%d:%H:%M:%S.png' -e 'mv $f ~/Desktop/'
```

In this example,

- **-b** specifies including the window borders
- **-d** specifies a delay of five seconds
- '**%Y:%m:%d:%H:%M:%S.png**' will save the screenshot with a name based on the current date and time and with the format specified, .png in this case
- **-e 'mv \$f ~/Desktop/'** tells scrot to save the screenshot to the Desktop

---

[Answer](#) by [devav2](#)

Found this option [here](#) and other options are also listed.

Open **terminal** by pressing **ctrl + Alt + T** and type

```
gnome-screenshot
```

use **gnome-screenshot -d xx** to delay the action.

To delay the screenshot action by 10s

```
gnome-screenshot -d 10
```

or

```
sleep 10; gnome-screenshot
```

---

**Tags:** [command-line](#) ([Next Q](#))

---

**Q: How to delete a non-empty directory in Terminal?**

**Tags:** [command-line](#) ([Next Q](#))

How do I delete the following directory?

I typed:

```
rmdir lampp
```

This error comes up:

```
rmdir: failed to remove `lampp': Directory not empty
```

Is there a command to delete all the files in the directory and delete the directory folder?

**Tags:** [command-line](#) ([Next Q](#))

**User:** [naveen](#)

---

[Answer](#)  by [shantanu-banerjee](#)

Using this may helpful:

```
rm -rf lampp
```

It deletes all files and folders contained in the lampp directory.

---

[Answer](#)  by [neon\\_overload](#)

```
rm -R lampp
```

However, you need to be careful with this command, as it makes it easy to accidentally delete a lot more than you intended.

It is a good idea to always double-check which directory you're in, and whether you typed the command correctly, before pressing Enter.

### Safer version

```
rm -R -i lampp
```

Adding `-i` makes it a little safer, because it will prompt you on every deletion. However, if you are deleting many files this is not going to be very practical. Still, you can try this first.

*Note about `-f` option:*

Many people suggest using `-f` (combining it into `-Rf` or `-rf`), claiming that it gets rid of annoying prompts. However, in normal cases I think it's best not to use it. When you use it, you won't be warned if your arguments supply a non-existing directory or file(s): `rm` will just silently fail to delete anything. It *can* be helpful in the specific case when you know you're going to delete a bunch of files that you do not have "write" permission for, and yet you do have write permission on the containing directory. Without `-f`, you'll be prompted for each such file removed. But even in this situation there are better ways than just to add the `-f` immediately. Firstly, start it without the `-f`: if there are problems with your arguments, then you'll notice. If you start getting too many prompts about files without write access, then `Ctrl+C` that and re-start it with the `-f`. Alternatively, run the command from a user (or the superuser using `sudo`) that *does* have write access to the file.

---

**Tags:** [command-line](#) ([Next Q](#))

---

## **Q: What does “sudo apt-get update” do?**



**Tags:** [command-line](#) ([Next Q](#)), [apt](#) ([Next Q](#)), [updates](#) ([Next Q](#))

I am wondering what sudo apt-get update does?

What does it update?

**Tags:** [command-line](#) ([Next Q](#)), [apt](#) ([Next Q](#)), [updates](#) ([Next Q](#))

**User:** [elysium](#)

---

**Answer** by [hexafraction](#)

In a nutshell, apt-get update doesn't actually install new versions of software.

- apt-get update downloads the package lists from the repositories and “updates” them to get information on the newest versions of packages and their dependencies. It will do this for all repositories and PPAs. From <http://linux.die.net/man/8/apt-get>

Used to re-synchronize the package index files from their sources. The indexes of available packages are fetched from the location(s) specified in /etc/apt/sources.list(5). An update should always be performed before an upgrade or dist-upgrade.

- apt-get upgrade will fetch new versions of packages existing on the machine if APT knows about these new versions by way of apt-get update.

From <http://linux.die.net/man/8/apt-get>

Used to install the newest versions of all packages currently installed on the system from the sources enumerated in /etc/apt/sources.list(5). Packages currently installed with new versions available are retrieved and upgraded; under no circumstances are currently installed packages removed, nor are packages that are not already installed retrieved and installed. **New versions of currently installed packages that cannot be upgraded without changing the install status of another package will be left at their current version.**

[Emphasis mine] An update must be performed first so that apt-get knows that new versions of packages are available.

- apt-get dist-upgrade will do the same job which is done by apt-get upgrade, plus it will also intelligently handle the dependencies, so it might remove obsolete packages or add new ones. See here: [What is “dist-upgrade” and why does it upgrade more than “upgrade”?](#)

From <http://linux.die.net/man/8/apt-get>

In addition to performing the function of upgrade, this option also intelligently handles changing dependencies with new versions of packages; apt-get has a “smart” conflict resolution system, and it will attempt to upgrade the most important packages at the expense of less important ones, if necessary. The /etc/apt/sources.list(5) file contains a list of locations from which to retrieve desired package files. See also apt\_preferences(5) for a mechanism for over-riding the general settings for individual packages.

You can combine commands with && as follows:

```
sudo apt-get update&&sudo apt-get install foo bar baz foo-dev foo-dbg
```

or to get newest versions possible as per version requirements of dependencies:

```
sudo apt-get update&&sudo apt-get dist-upgrade
```

You need sudo both times, but since sudo by default doesn’t prompt you within 5 or so minutes since the last sudo operation, you will be prompted for your password only once (or not at all).

---

[Answer](#)  by [alex](#)

A Google search can give you the definition for almost any terminal command, as can — help in the terminal. For example,

```
apt-get --help
```

The command essentially has three parts:

```
sudo
```

performs the following command with super-user (root) capabilities. Many actions that require modifying system files or installing applications require extra permissions to go through.

```
apt-get
```

is a command-line tool which Ubuntu uses to install, remove, and manage software packages

```
update
```

is an option for the apt-get program to use which updates the package lists from a server on the internet. The package lists provide the apt-get utility with important information about the software packages that you can install using apt-get. apt-get uses these lists to determine which software to install when given a command to install. For example

```
sudo apt-get install guake
```

would install the Guake terminal as it is currently listed in my computer’s local software lists. This may not, however, be the appropriate version, or if the program is new, it might not be available at all. Thus, when installing software with apt-get, you typically type

```
sudo apt-get update  
sudo apt-get install <package>
```

ensuring that apt-get knows to install the most recent version of the package.

Another useful source for information is the [help.ubuntu.com](http://help.ubuntu.com) site. For example, if you searched that site for apt-get you would find [AptGet/Howto](#) as one of the results.

---

**Tags:** [command-line](#) ([Next Q](#)), [apt](#) ([Next Q](#)), [updates](#) ([Next Q](#))

---

## **Q: Run same command again but as root**

**Tags:** [command-line](#) ([Next Q](#)), [sudo](#) ([Next Q](#))

Sometimes when I run a command I don't notice that I needed to run it as super user to have enough permission.

Is there a way to run the same command again but as a super user?

**Tags:** [command-line](#) ([Next Q](#)), [sudo](#) ([Next Q](#))

**User:** [trufa](#)

---

[Answer](#) by [trufa](#)

The simplest way is to run:

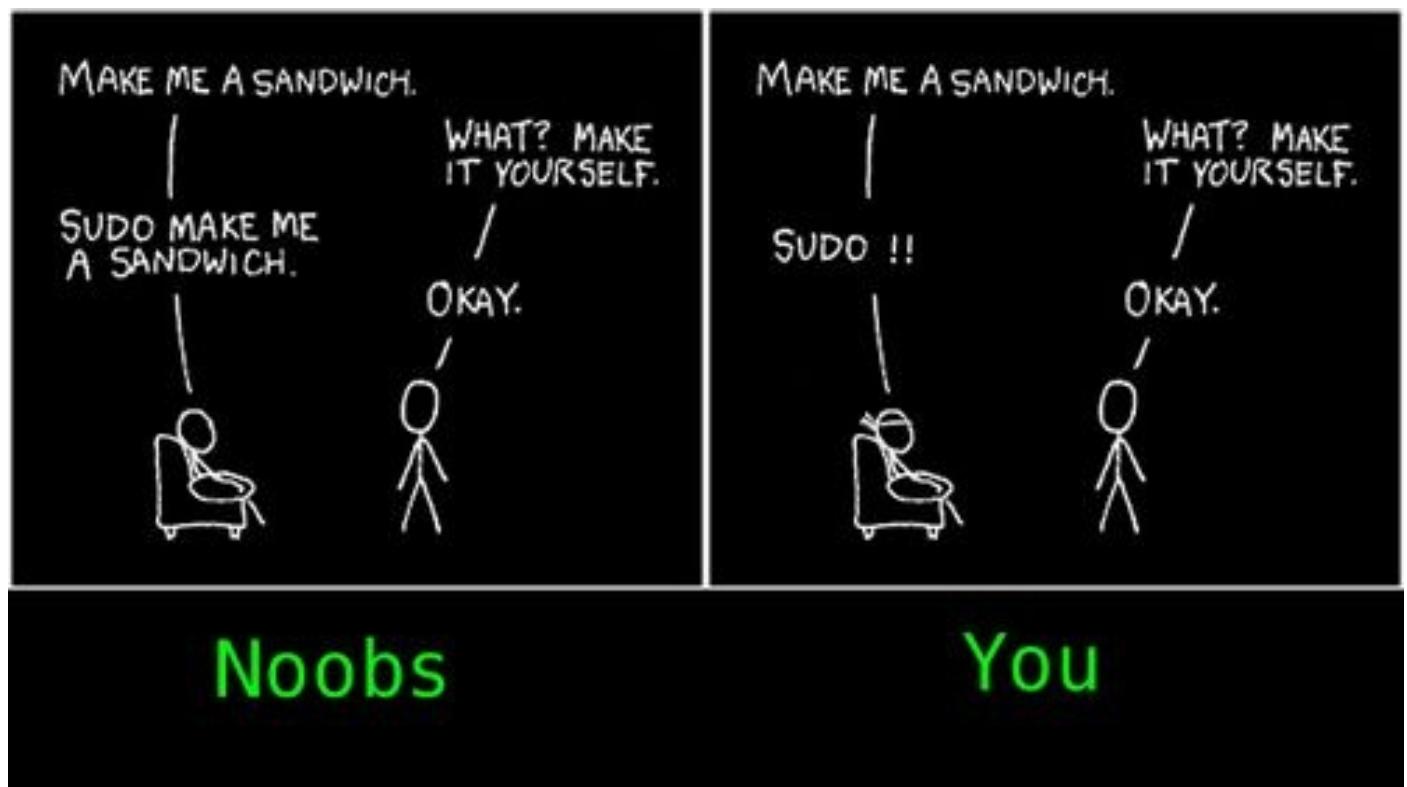
```
sudo !!
```

This will run the last command but as super user.

[Source](#).

---

[Answer](#) by [wim](#)



Answer: you enter sudo !! straight afterwards to repeat the previous command with

escalated privileges.

*edit:* Image found via [reddit](#), and it's a parody of the [original](#) xkcd comic by Randall Munroe.

---

[Answer](#) by [xylol](#)

You could try the up-arrow key to scroll through your old commands and rewrite/change them and add the sudo in front of them. (the home button above the arrow keys will set the position to the beginning.)

I dislike the sudo !! idea, because sometimes you add another command in between and don't remember anymore.

---

**Tags:** [command-line](#) ([Next Q](#)), [sudo](#) ([Next Q](#))

---

## **Q: Differences between /bin, /sbin, /usr/bin, /usr/sbin, /usr/local/bin, /usr/local/sbin**

**Tags:** [command-line](#) ([Next Q](#)), [filesystem](#) ([Next Q](#)), [scripts](#) ([Next Q](#))

I'm running an Ubuntu Server 13.04, but I see the same on a 12.04: I have six directories with command files. These are:

- /bin
- /sbin
- /usr/bin
- /usr/sbin
- /usr/local/bin
- /usr/local/sbin

What are the differences between these?

For example: if I'm writing my own scripts, where should I add these?

**Tags:** [command-line](#) ([Next Q](#)), [filesystem](#) ([Next Q](#)), [scripts](#) ([Next Q](#))

**User:** [camil-staps](#)

---

[Answer](#) by [gertydijk](#)

Please refer to the [Filesystem Hierarchy Standard \(FHS\) for Linux](#) for this.

/bin

For binaries usable before the /usr partition is mounted. This is used for trivial binaries used in the very early boot stage or ones that you need to have available in booting single-user mode. Think of binaries like cat, ls, etc.

/sbin

Same, but for scripts with superuser (root) privileges required.

/usr/bin

Same as first, but for general system-wide binaries.

/usr/sbin

Same as above, but for scripts with superuser (root) privileges required.

if I'm writing my own scripts, where should I add these?

Neither of the above. Please use /usr/local/bin or /usr/local/sbin for system-wide available scripts. The local path means it's not managed by the system packages (this is [an error](#) for Debian/Ubuntu packages).

For user-scoped scripts, use bin/ in your home directory.

The FHS says for /usr/local:

Tertiary hierarchy for local data, *specific to this host*. Typically has further subdirectories, e.g., bin/, lib/, share/.

---

**Tags:** [command-line](#) (Next Q), [filesystem](#) (Next Q), [scripts](#) (Next Q)

---

## **Q: How can I recursively delete all files of a specific extension in the current directory?**

**Tags:** [command-line](#) (Next Q), [files](#) (Next Q)

How do I safely delete all files with a specific extension (e.g. .bak) from current directory and all subfolders using one command-line? Simply, I'm afraid to use rm since I used it wrong once and now I need advice.

**Tags:** [command-line](#) (Next Q), [files](#) (Next Q)

**User:** [user216038](#)

---

**Answer**  by [radu-rÄfdeanu](#)

You don't even need to use rm in this case if you are afraid. Use find:

```
find . -name "*.bak" -type f -delete
```

But use it with precaution. Run first:

```
find . -name "*.bak" -type f
```

to see exactly which files you will remove.

See [man find](#)  and [man rm](#)  for more info and see also this related question on SE:

- [How do I remove all .pyc files from a project?](#)
- 

**Tags:** [command-line](#) (Next Q), [files](#) (Next Q)

---

## [Q: Any command line calculator for Ubuntu?](#)

**Tags:** [command-line](#) (Next Q), [software-recommendation](#) (Next Q)

I am looking for a Calculator which can do calculations in the terminal itself without any other extra prefixes and suffixes.

For example: If I typed something like 10000-9000 in the terminal, the answer should come out as 1000.

Once again I am saying, I just need a quick calculator in terminal, without any characters added. I know if I switch to Python, it can do that but I don't want it in such a way.

**Tags:** [command-line](#) (Next Q), [software-recommendation](#) (Next Q)

**User:** [agentcool](#)

---

[Answer](#) by [steeldriver](#)

You can do simple integer arithmetic natively in bash using the `((...))` syntax, e.g.

```
$ echo $(10000-9000)  
1000
```

There is also the bc calculator, which can accept arithmetic expressions on standard input

```
$ echo "10000-9000" | bc  
1000
```

The bc program can do floating point arithmetic as well

```
$ echo "scale = 3; 0.1-0.09" | bc  
.01
```

---

[Answer](#) by [radu-rÄfdeanu](#)

You can use [calc](#). Is not installed by default, but you can install it quickly using the following command:

```
sudo apt-get install apcalc
```

After you have installed, you can do any calculation do you wish:

[Skip code block](#)

```
$ calc 5+2  
7  
$ calc 5-2  
3  
$ calc 5*2  
10  
$ calc 5/2  
2.5  
$ calc 5^2  
25
```

```
$ calc 'sqrt(2)'  
1.4142135623730950488  
$ calc 'sin(2)'  
0.9092974268256816954  
$ calc 'cos(2)'  
-0.416146836547142387  
$ calc 'log(2)'  
~0.30102999566398119521  
$ calc 'sqrt(sin(cos(log(2))))^2'  
~0.81633199125847958126  
$ # and so on...
```

For more information , view its [man-page](#)

---

[Answer](#) by [thomas-w.](#)

Unfortunately, there's no “easier” way to do this. The interactive python interface on the command line is the best suited for what you need, because unlike apcalc\, python is *included* in Ubuntu. I am not sure if bc is included still, however, python is the hands-down favorite for this stuff.

You can just run the interactive python interface on the command line, and then do math that way. You can use that as your calculator.

To do that, you open the terminal, type python, then hit the Enter button.

Then, in the python prompt that shows up, you can type your math in. For example, `10000 - 9000`. The next line output is the result.

---

If you mean, though, something where you just load the terminal and can do this...

```
$ 10000 - 9000  
1000  
$
```

... then no there's no way to do this in *just* the terminal without anything else, because Bash doesn't handle numerical arguments like that.

---

**Tags:** [command-line](#) ([Next Q](#)), [software-recommendation](#) ([Next Q](#))

## [Q: What does `!!` mean in `sudo !!`?](#)

---

**Tags:** [command-line](#) ([Next Q](#)), [sudo](#) ([Next Q](#))

I am a user of Ubuntu with not much experience and I have been using sudo.

What does sudo !! do and how?

---

**Tags:** [command-line](#) ([Next Q](#)), [sudo](#) ([Next Q](#))

**User:** [ramhs](#)

---

[Answer](#) by [chronitis](#)

!! in bash is an alias for the previous command (see [Event Designators](#)). So it re-runs the previous command with sudo permissions.

---

## [Answer](#) by [mitch](#)

sudo bang bang is a very useful command when working in Command Line Interface.

Some Linux distros have you login as a user instead of an administrator.

So, to do something admin-wise, you have to proceed the command with sudo (Super-User DO), which tells the system you will do this, because I said so. The !! / bang-bang (! = bang) is basically a shortcut you can use to repeat the previous command.

So, typical scenario is that you try a command, and it kicks back a message saying you have to be an admin to do that. So, you can either type sudo to run that command as super-user/admin, or you can type sudo !! where !! tells the system to use the previous command that was attempted.[UfH](#)

There are many other bang-commands. For a list of them and explanations to what they are, check out [Linux Bang Commands](#), see also [Bash history and bang commands](#)

---

## [Answer](#) by [avinash-raj](#)

The bang bang (!! ) command is a shortcut to **repeat and run the previous command** you entered in your terminal. This command is very useful when you forget that you need admin rights to make a certain action, and lets you repeat it with super-user rights just by typing,

```
sudo !!
```

!! grabs the last run command.

# For example:

```
apt-get update
```

The output will be,

```
E: Could not open lock file /var/lib/apt/lists/lock - open (13: Permission denied)
E: Unable to lock directory /var/lib/apt/lists/
E: Could not open lock file /var/lib/dpkg/lock - open (13: Permission denied)
E: Unable to lock the administration directory (/var/lib/dpkg/), are you root?
```

After that, if we run sudo !! command, the output will be

```
Hit http://extras.ubuntu.com saucy/main amd64 Packages
Get:3 http://mirror.sov.uk.goscomb.net saucy-updates Release.gpg [933 B]
Hit http://ppa.launchpad.net saucy Release
Hit http://extras.ubuntu.com saucy/main i386 Packages
Hit http://mirror.sov.uk.goscomb.net saucy Release
99% [Waiting for headers] [Waiting for headers] [Waiting for headers]
```

Which means !! part grabs the previous run command apt-get update and the preceding sudo part makes the command to run with superuser rights.

And **how** the sudo !! runs the previous command with superuser privileges means, normally all the commands we entered on the terminal are stored in the command history. Run the history command on the terminal, it shows all the commands you entered. The !! part in the sudo !! grabs the last command stored in the command history and the whole sudo !! runs the last command with admin privileges.

Some other **bang commands** are explained in this [blog post](#).

---

**Tags:** [command-line](#) ([Next Q](#)), [sudo](#) ([Next Q](#))

---

## [Q: What is the difference between Terminal, Console, Shell, and Command Line?](#)

**Tags:** [command-line](#)

What is the difference between Terminal, Console, Shell, and Command Line?

**Tags:** [command-line](#)

**User:** [akiva](#)

---

[Answer](#)  by [gilles](#)

The short answer is that

- terminal = text input/output environment

- console = physical terminal
  - shell = command line interpreter
- 

Console and terminal are closely related. Originally, they meant a piece of equipment through which you could interact with a computer: in the early days of unix, that meant a [teleprinter](#) style device resembling a typewriter, sometimes called a teletypewriter, or tty in shorthand. The name terminal came from the electronic point of view, and the name console from the furniture point of view. Very early in unix history, electronic keyboards and displays became the norm for terminals.

In unix terminology, a **terminal** is a particular kind of [device file](#) which implements a number of additional commands ([ioctls](#)) beyond read and write. Some terminals are provided by the kernel on behalf of a hardware device, for example with the input coming from the keyboard and the output going to a text mode screen, or with the input and output transmitted over a serial line. Other terminals, sometimes called pseudo-terminals or pseudo-ttys, are provided (through a thin kernel layer) by programs called [terminal emulators](#). Some types of terminal emulators include:

- GUI applications running in the [X Window System](#): [Xterm](#), Gnome Terminal, Konsole, Terminator, etc.
- [Screen](#) and [tmux](#), which provides a layer of isolation between a program and another terminal
- [Ssh](#), which connects a terminal on one machine with programs on another machine
- [Expect](#), for scripting terminal interactions

The word *terminal* can also have a more traditional meaning of a device through which one interacts with a computer, typically with a keyboard and display. For example an X terminal is a kind of [thin client](#), a special-purpose computer whose only purpose is to drive a keyboard, display, mouse and occasionally other human interaction peripherals, with the actual applications running on another, more powerful computer.

A **console** is generally a terminal in the physical sense that is by some definition the primary terminal directly connected to a machine. The console appears to the operating system as a (kernel-implemented) terminals. On some systems, such as Linux and FreeBSD, the console appears as several terminals (ttys) (special key combinations switch between these terminals); just to confuse matters, the name given to each particular terminal can be console, virtual console, virtual terminal, and other variations.

See also [Why is a Virtual Terminal virtual, and what/why/where is the real Terminal?](#).

---

A **command line** is an interface where the user types a command (which is expressed as a sequence of characters typically a command name followed by some parameters) and presses the Return key to execute that command.

A **shell** is the primary interface that users see when they log in, whose primary purpose is to start other programs. (I don't know whether the original metaphor is that the shell is the home environment for the user, or that the shell is what other programs are running in.)

In unix circles, **shell** has specialized to mean a [command-line shell](#), centered around

entering the name of the application one wants to start, followed by the names of files or other objects that the application should act on, and pressing the Enter key. Other types of environments (with the notable recent exception of Gnome Shell) usually don't use the word shell; for example, window systems involve [window managers](#) and [desktop environments](#), not a shell.

There are many different unix shells. Ubuntu's default shell is [Bash](#) (like most other Linux distributions). Popular alternatives include [zsh](#) (which emphasizes power and customizability) and [fish](#) (which emphasizes simplicity).

Command-line shells include flow control constructs to combine commands. In addition to typing commands at an interactive prompt, users can write scripts. The most common shells have a common syntax based on the [Bourne shell](#). When discussing **shell programming**, the shell is almost always implied to be a Bourne-style shell. Some shells that are often used for scripting but lack advanced interactive features include [the Korn shell \(ksh\)](#) and many [ash](#) variants. Pretty much any Unix-like system has a Bourne-style shell installed as /bin/sh, usually ash, ksh or bash. On Ubuntu, /bin/sh is [Dash](#), an ash variant (chosen because it is faster and uses less memory than bash).

In unix system administration, a user's **shell** is the program that is invoked when they log in. Normal user accounts have a command-line shell, but users with restricted access may have a [restricted shell](#) or some other specific command (e.g. for file-transfer-only accounts).

---

The division of labor between the terminal and the shell is not completely obvious. Here are their main tasks.

- Input: the terminal converts keys into control sequences (e.g. `Left \e[D`). The shell converts control sequences into commands (e.g. `\e[D` backward-char).
- Line edition, input history and completion are provided by the shell.
  - The terminal may provide its own line edition, history and completion instead, and only send a line to the shell when it's ready to be executed. The only common terminal that operates in this way is `M-x shell` in Emacs.
- Output: the shell emits instructions such as display foo, switch the foreground color to green, move the cursor to the next line, etc. The terminal acts on these instructions.
- The prompt is purely a shell concept.
- The shell never sees the output of the commands it runs (unless redirected). Output history (scrollback) is purely a terminal concept.
- Inter-application copy-paste is provided by the terminal (usually with the mouse or key sequences such as `Ctrl+Shift+V` or `Shift+Insert`). The shell may have its own internal copy-paste mechanism as well (e.g. `Meta+W` and `Ctrl+Y`).
- [Job control](#) (launching programs in the background and managing them) is mostly performed by the shell. However, it's the terminal that handles key combinations like `Ctrl+C` to kill the foreground job and `Ctrl+Z` to suspend it.

A visual representation.

## Terminal



2260 Display  
Terminal/Admin-  
istrative area

Something you can sit down at, and work like a boss.

## Console



Some hardware that does a bunch of stuff.

Another example of a console, would be a video game console such as a Super Nintendo [where you can play Actraiser]

**shell**

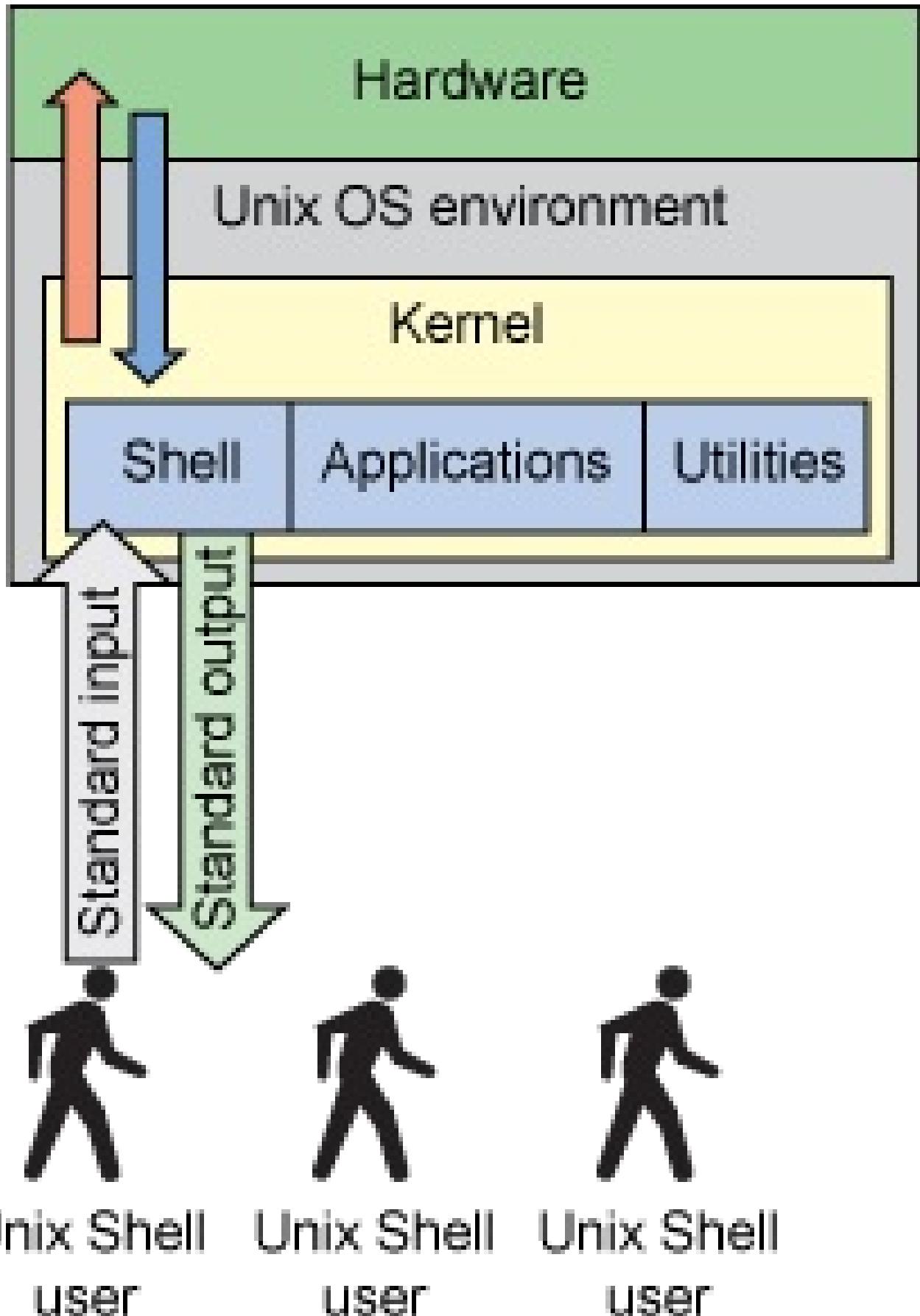


1:51 PM

# Terminal >

```
phablet@ubuntu-phablet:/usr/share/click/preinstalled/com.ubuntu.terminal/0.5.29$ cd  
phablet@ubuntu-phablet:~$ ls  
Documents Downloads Music NoobsLab.com Pictures Videos  
phablet@ubuntu-phablet:~$ ls -l  
total 24  
drwxr-xr-x 2 phablet phablet 4096 Nov 26 05:36 Documents  
drwxr-xr-x 2 phablet phablet 4096 Nov 26 05:36 Downloads  
drwxr-xr-x 2 phablet phablet 4096 Nov 26 13:23 Music  
drwxrwxr-x 2 phablet phablet 4096 Nov 26 13:46 NoobsLab.com  
drwxr-xr-x 2 phablet phablet 4096 Nov 26 12:47 Pictures  
drwxr-xr-x 2 phablet phablet 4096 Nov 26 13:23 Videos  
phablet@ubuntu-phablet:
```





Basically an application for running commands.

**Command Line [Interface]**



```
GRUB GRUB version 0.97 (637K lower / 1488576K upper memory)

[ Minimal BASH-like line editing is supported. For the first word, TAB lists possible command completions. Anywhere else TAB lists the possible completions of a device/filename. ESC at any time exits. ]

grub>
```

Possible commands are: background blacklist boot cat chainloader clear cpx color configfile debug displayapm displaymem embed find foreground fsetest geometry halt help hide insprobe initrd install ioprobe kernel lock makeactive map md5crypt module modulesunzip pager partnew parttype password pause read reboot root rsetnoverify savedefault serial setkey setup silent splashimage terminal terminfo testload testvbe unhide uppermem vbeprobe verbose

```
grub> █
```

Basically anything you input commands into.

---

[Answer](#) by [agentcool](#)

From the [Linux Information Project](#):

[Terminal](#): Technically , A terminal window, also referred to as a terminal emulator, is a text-only window in a graphical user interface (GUI) that emulates a console.

In Our words A GUI Application , from where we can access an user's console.

[Console](#): an instrument panel containing the controls for a computer

[Shell](#) :A shell is a program that provides the traditional, text-only user interface for Linux and other Unix-like operating systems

[Command-Line](#) : A command line is the space to the right of the command prompt on an all-text display mode on a computer monitor (usually a CRT or LCD panel) in which a user enters commands and data

---

**Tags:** [command-line](#)

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[Q: How do I enable full-color support in Vim?](#)

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[Q: How can I tell, from the command line, whether the machine requires a reboot?](#)

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[Q: Coolest looking terminal IRC client](#)

---

[Q: How can I restart x-server from the command line?](#)

---

[Q: How do I determine the total size of a directory \(folder\) from the command line?](#)

---

[Q: How to create a permanent “alias”?](#)

---

[Q: Moving from bash to zsh](#)

---

[Q: How can I suspend/hibernate from command line?](#)

---

[Q: Change folder permissions and ownership](#)

---

[Q: How can I add a new user as sudoer using the command line?](#)

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[Q: How to clean launch a GUI app via the Terminal \(so it doesn’t wait for termination\)?](#)

---

[Q: How to send mail from the command line?](#)

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[Q: What to do when Ctrl-C won’t kill running job?](#)

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[Q: Why is a virtual terminal “virtual”, and what/why/where is the “real” terminal?](#)

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[Q: How to become a Terminal Pro](#)

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[Q: How can you log out via the terminal?](#)

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[Q: Progress and speed with ‘cp’?](#)

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[Q: What do the different colors mean in the terminal?](#)

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[Q: Find and replace text within a file using commands](#)

---

[Q: How to create an empty file from command line](#)

---

[Q: What is the difference between ./ and sh to run a script?](#)

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[Q: How to protect Ubuntu from fork bomb](#)

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[Q: How to really clear the terminal?](#)

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[Q: Torrent client for the command-line?](#)

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[Q: How do you select the fastest mirror from the command line?](#)

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[Q: How do I install a .deb file via the command line?](#)

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[Q: How to open a PDF file from terminal?](#)

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[Q: How to use “grep” command to find text including subdirectories](#)

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[Q: How do I rename a directory via the command line?](#)

---

[Q: How to easily rename files using command line?](#)

---

[Q: How can I create a zip archive of a whole directory via terminal without hidden files?](#)

---

[Q: How can I set default terminal used in Unity?](#)

---

[Q: How to install Chrome browser properly via command line?](#)

---

[Q: How to unzip a zip file from the Terminal?](#)

---

[Q: How to check Internet Speed via Terminal?](#)

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[Q: Running programs in the background from terminal](#)

---

[Q: I was tricked into copy pasting a command, did it hurt me?](#)

---

[Q: What is the equivalent of Windows System Properties or Device Manager?](#)

---

[Q: How can I get a list of all repositories and PPAs from the command line?](#)

---

[Q: How can I get octal file permissions from command line?](#)

---

[Q: How can I easily share the output of a command or a text file with others?](#)

---

[Q: Why did the command “:\(\){ :|:& };” make my system lag so badly I had to reboot?](#)

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[Q: How do I find the kernel version, Ubuntu release and disk partition information from the terminal?](#)

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[Q: How do I delete my commands quickly?](#)

---

[Q: How do I restart /shutdown from a terminal?](#)

---

[Q: What is the terminal command to take a screenshot?](#)

---

[Q: How to delete a non-empty directory in Terminal?](#)

---

[Q: What does “sudo apt-get update” do?](#)

---

[Q: Run same command again but as root](#)

---

[Q: Differences between /bin, /sbin, /usr/bin, /usr/sbin, /usr/local/bin, /usr/local/sbin](#)

---

[Q: How can I recursively delete all files of a specific extension in the current directory?](#)

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[Q: Any command line calculator for Ubuntu?](#)

---

[Q: What does `!!` mean in `sudo !!`?](#)

---

[Q: What is the difference between Terminal, Console, Shell, and Command Line?](#)

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# Unity

[Skip to questions](#), Wiki by user [jorge-castro](#)



[Unity](#) is the default interface for Ubuntu on PCs and TVs. It is the result of design and development work lead by Canonical and the Ubuntu community. You can participate in Unity design and engineering and the parts of Unity are all published under open source licenses.

- [Homepage](#)
- [Wiki Page](#)
- [Launchpad Project](#) - Workspace for bug reports and source code.

Design and discussion happens on the [unity-design](#) mailing list (formerly called Ayatana). Discussion about implementation details and code happens on the [unity-dev](#) mailing list.

Based on the Compiz window manager, Unity has been Ubuntu's default interface since 11.04. An early version of Unity was also used as the interface of [Ubuntu 10.10 Netbook Edition](#). Since Ubuntu 11.10, a 2D version using the Metacity window manager is available as the fallback for computers not powerful enough to run Compiz.

This tag is for questions relating to Unity in general.

If you have a question about a specific part of Unity and aren't sure what it is called, please see [What's the right terminology for Unity's UI elements?](#)

---

# Questions

## **Q: Is it possible to make indicator-appmenu ignore a specific application?**

**Tags:** [unity](#) ([Next Q](#)), [indicator](#) ([Next Q](#))

The new indicator-appmenu in Maverick breaks the LyX menu: the application menu is not shown either in the application window nor in the applet. (See [Bug report](#).)

As a workaround while the bug is fixed, is there a way to make an exception for the applet, so that LyX would be ignored and the applet could still be used for everything else? Something akin to Maximus exceptions.

**Tags:** [unity](#) ([Next Q](#)), [indicator](#) ([Next Q](#))

**User:** [topyli](#)

---

[Answer](#)  by [htorque](#)

# Run an application

- To start an application (eg., gcalctool) with the menu within the application rather than in the panel, run the following in a terminal:

```
UBUNTU_MENUPROXY= gcalctool
```

To start the application with the menu enabled in the application **and** the panel, run:

```
APPMENU_DISPLAY_BOTH=1 gcalctool
```

- Instead of using the terminal, you can use the Alt + F2 shortcut to start a run dialog, in which you would enter:

```
env UBUNTU_MENUPROXY= gcalctool
```

or

```
env APPMENU_DISPLAY_BOTH=1 gcalctool
```

# Edit application launchers in Ubuntu 10.10

To make it easier to always launch your application with the same appmenu settings, you can edit application launchers in the menu, the gnome-panel, and on the desktop:

- Gnome-panel and desktop: simply right-click the launcher, select “Properties” and prepend env UBUNTU\_MENUPROXY= or env UBUNTU\_DISPLAY\_BOTH=1 to the value in the “Command” field:



- Menu: right-click the menu and select “Edit Menus”. In the new window, find the launcher you want to edit and click the “Properties” button on the right. Again, simply prepend the variables like above (don’t forget the ‘env’), click on “Close” two times and you should be done.

# Edit launchers in Compiz-based Unity in Ubuntu 11.04

- Dirty method: Change the launcher's .desktop file in the /usr/share/applications directory:

- For example, run

```
gksudo gedit /usr/share/applications/gcalctool.desktop
```

- Now edit the Exec=-line to contain either of the two variables from above, eg.:

```
Exec=env UBUNTU_MENU_PROXY= gcalctool
```

- Save the file, and launching gcalctool from Unity's launcher bar should run it with the menu within the application.

Disadvantages of this method: it will change the launcher for all users and will probably be reverted by system updates.

- Better method:

- If already added, unpin the launcher from the launcher bar.

- Copy the related .desktop file to your home directory:

```
cp /usr/share/applications/gcalctool.desktop ~/.local/share/applications
```

- Like in the method above, edit the Exec=-line to contain either of the two variables:

```
Exec=env UBUNTU_MENU_PROXY= gcalctool
```

- Make the file executable:

```
chmod +x ~/.local/share/applications/gcalctool.desktop
```

- Start Nautilus in that folder and double click the .desktop file (which should just read "Calculator" in the example):

```
nautilus ~/.local/share/applications
```

- Now you should see the launcher icon in the launcher bar - pin it via the quicklist and you are done.

---

**Note:** To make above work with KDE applications, replace UBUNTU\_MENU\_PROXY= with QT\_X11\_NO\_NATIVE\_MENU=1.

---

**Tags:** [unity](#) ([Next Q](#)), [indicator](#) ([Next Q](#))

---

**Q: Why is Ubuntu switching to Unity?** 

**Tags:** [unity](#) ([Next Q](#)), [gnome](#) ([Next Q](#))

I understand from [Jono Bacon's blog](#) that Ubuntu will be switching to Unity as the default desktop in the upcoming 11.04.

What's not clear is "Why?".

Could someone explain the benefits of Unity over GNOME 2.x or indeed GNOME 3.x so that people can be informed about this decision?

**Tags:** [unity](#) ([Next Q](#)), [gnome](#) ([Next Q](#))

**User:** [popey](#)

---

[Answer](#) by [8128](#)

[This Arstechnica article](#) based around an interview with Mark Shuttleworth (the founder of Ubuntu and Canonical) gives some reasons for going forward with Unity, as opposed to using the GNOME Shell.

The [GNOME Shell](#) is the major new component of [GNOME 3](#), that many people are incorrectly referring to as simply 'GNOME 3'. Remember that future Ubuntu versions will still be based on GNOME 3 - the underlying infrastructure, applications, etc will not change - they just won't use the GNOME Shell by default.

- Ubuntu would like to embrace different ideas to other parts of the GNOME family - specific examples mentioned are Mac OS X style [global menus](#), and heavier '[Zeitgeist](#)' integration.
- There are concerns about hardware support with the *Mutter* technology GNOME Shell uses. Whilst Unity has up to now also used Mutter, Unity has been ported to *Compiz*, which, through its inclusion in default Ubuntu for over three years, has proved itself to have excellent hardware support.
- Recent Ubuntu design work, such as [Application Indicators](#) and [NotifyOSD](#) are likely to be incompatible with GNOME Shell, and we want to keep these improvements, not move backwards!
- Other distributions may have different user bases and needs. Ubuntu has a lot of home users, whereas many other distributions have more commercial users in workplaces. Canonical employs a lot of professional design experts and they may feel they can do a better job than, or at least take a different approach to, the existing GNOME Shell.

---

[Answer](#) by [pableu](#)

[This article at Arstechnica](#) can maybe shed some light on this.

I also asked Shuttleworth why Canonical is building its own shell rather than customizing the GNOME Shell. He says that Canonical made an effort to participate in the GNOME Shell design process and found that Ubuntu's vision for the future of desktop interfaces was fundamentally different from that of the upstream GNOME Shell developers.

So basically, the Ubuntu Guys think that their vision of how a desktop interface should be is too different from vision that GNOME has with GNOME Shell. So they don't try to adapt GNOME Shell to suit their needs but instead they develop something entirely new, Unity.

---

**Tags:** [unity](#) ([Next Q](#)), [gnome](#) ([Next Q](#))

---

## **[Q: How can I configure Unity's launcher auto-hide behavior?](#)**

**Tags:** [unity](#) ([Next Q](#))

This has been an issue for me with Unity since its release.

I'd like to make the the launcher auto-hide. Especially on Netbooks, where screens are small, the launcher is quite wide, making it difficult to properly display some websites and other apps. How can I configure the auto-hide behavior?

**Tags:** [unity](#) ([Next Q](#))

**User:** [wilsonliam](#)

---

[Answer](#)  by [jorge-castro](#)

# 11.04 & 11.10

The Unity launcher has an auto-hide option that is enabled by default. Lee's [answer has the details](#). It has a few options:

- Never - The launcher will never hide.
- Autohide - The launcher will hide automatically based on time.
- Dodge Windows - The launcher will hide when a window would overlay it.
- Dodge Active Window - The launcher will hide only when an active window would overlay it.

This question has information on how to configure the different modes of Unity:

- [How can I configure Unity?](#) 
- 

[Answer](#)  by [lee-jarratt](#)

# 11.04 & 11.10

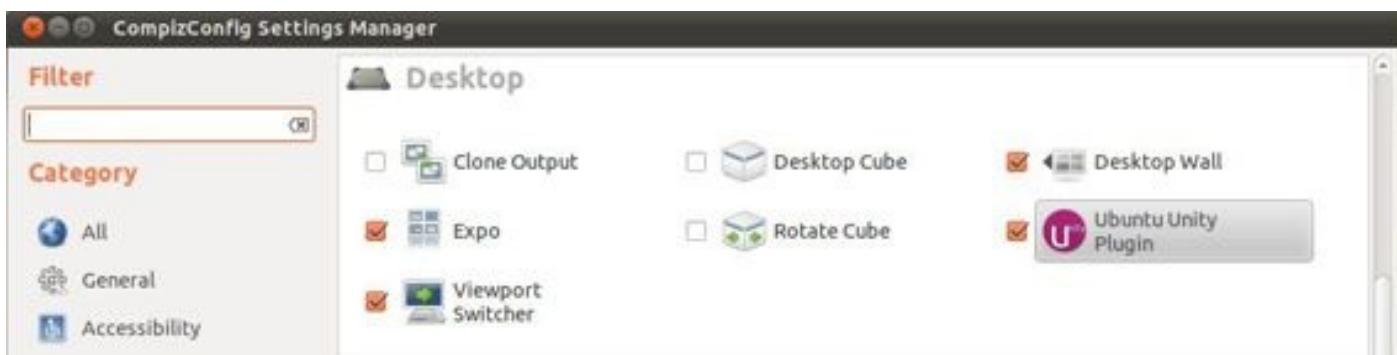
You can disable the autohide feature of the Unity launcher by following these simple steps:

**WARNING:** CCSM is an advanced tool and using it *may* break your Unity. To avoid this, follow the steps *exactly as mentioned here*

- Install the CompizConfig Settings Manager package via the Ubuntu Software Centre



- Once installed, open the settings manager and scroll down until you see the 'Ubuntu Unity Plugin' which is located in the Desktop category.



- Set 'Hide Launcher' to 'Never'.



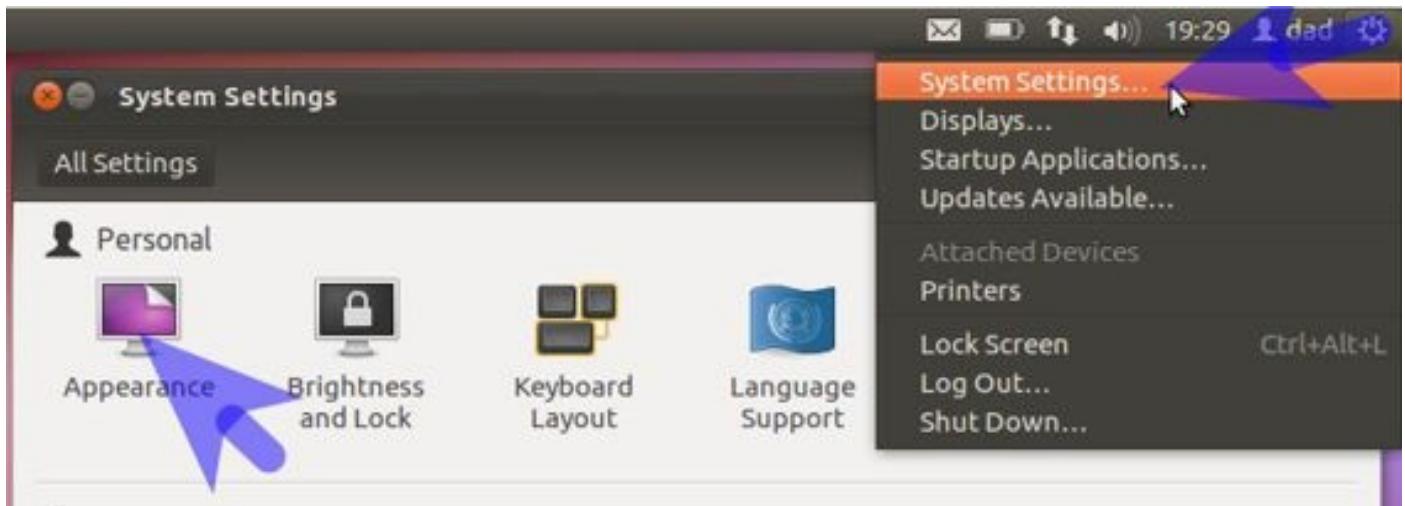
- The settings will have automatically applied and the launcher will now be locked in place.

---

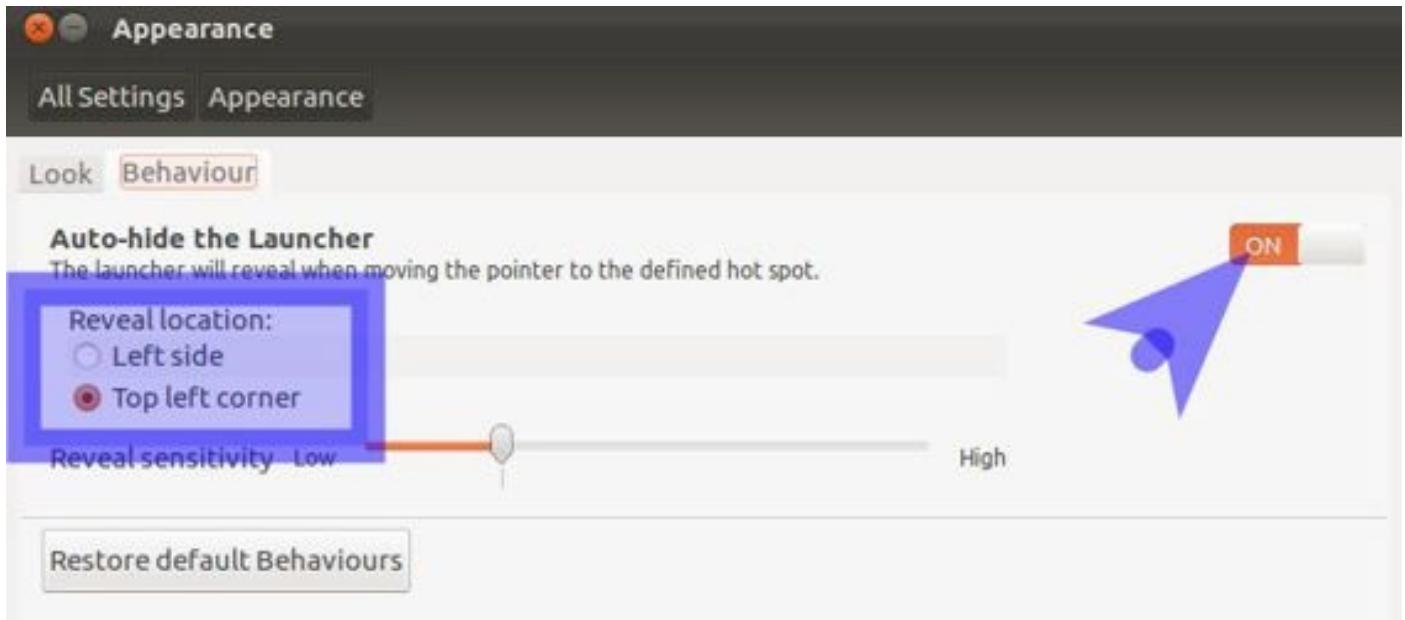
[Answer](#) by [fossfreedom](#)

# 12.04 and later - Unity

The Unity Launcher auto-hide option is now a *System Setting - Appearance* option: By default, auto-hide is switched off - in previous versions of Ubuntu these behaviour was reverse.



From the *Behaviour* tab you have the option to switch-on autohiding of the Launcher and using the slide-bar to control the responsiveness to the reveal of the launcher.



You can use the *Reveal Location* radio-buttons to indicate where you need to position your mouse to reveal the launcher.

The option to switch on autohiding and controlling the hotspot location (left edge/top left corner) is on the *Behaviour* tab.

Unlike previous versions of Ubuntu, the dodge windows option has been removed due to User testing that showed that this form of autohiding caused confusion.

# 12.04 & Unity-2D

The Unity-2D Launcher delay is now a *System Setting - Appearance* option:



From the *Behaviour* tab you have the option to switch-on autohiding of the Launcher and by clicking the *Low/High* buttons to control the responsiveness to the reveal of the launcher.



You can use the *Reveal Location* radio-buttons to indicate where you need to position your mouse to reveal the launcher.

By default the auto-hide nature is toggled *off* meaning the launcher is permanently visible.

---

Linked Question:

- [Shortcut to change Launcher 'Hide' setting](#)
- 

Tags: [unity](#) ([Next Q](#))

---

## Q: What's the right terminology for Unity's UI elements?

**Tags:** [unity](#) ([Next Q](#))

I've sent a few mails to the Ayatana mailing list regarding some UI suggestions for Unity, but I'm afraid I keep confusing the right terms for the UI element, so I would like to have some clarification.

Answer Index:

- [Ubuntu 12.10, 12.04 LTS and 11.10](#)
- [Ubuntu 11.04](#)

**Tags:** [unity](#) ([Next Q](#))

**User:** [bou](#)

---

[Answer](#) by [mgunes](#)

Is the bar at the top called “panel”?

Yes, the top bar is called the “unity-panel” or simply “panel”, the container for indicators and global menus.

Does the Ubuntu logo at the top left corner have a name?

It's called the “home button” though it's jokingly referred to as the [BFB by developers](#), for “Big Freaking Button”

Is the left sidebar called “dock”?

It's called the Launcher.

Are the coloured tiles with app icons on them called “launchers”?

“Launcher icons” or “Launcher items”.

Is the purple tile called “workspace switcher”?

Yes.

Are the fullscreen things that appear when you click the Ubuntu logo, the Places tile or the Apps tile, called “dash”? Do they all have the same name?

Right; “Dash” is the component name for [the overlay](#) that's used for Applications and Places. In non-technical contexts it seems to be used as the Applications Dash and the Places Dash

## Other Terms

- The menu is referred to as the [Application Menu](#), not global menu. This is to distinguish it from the other [global menu](#) project.

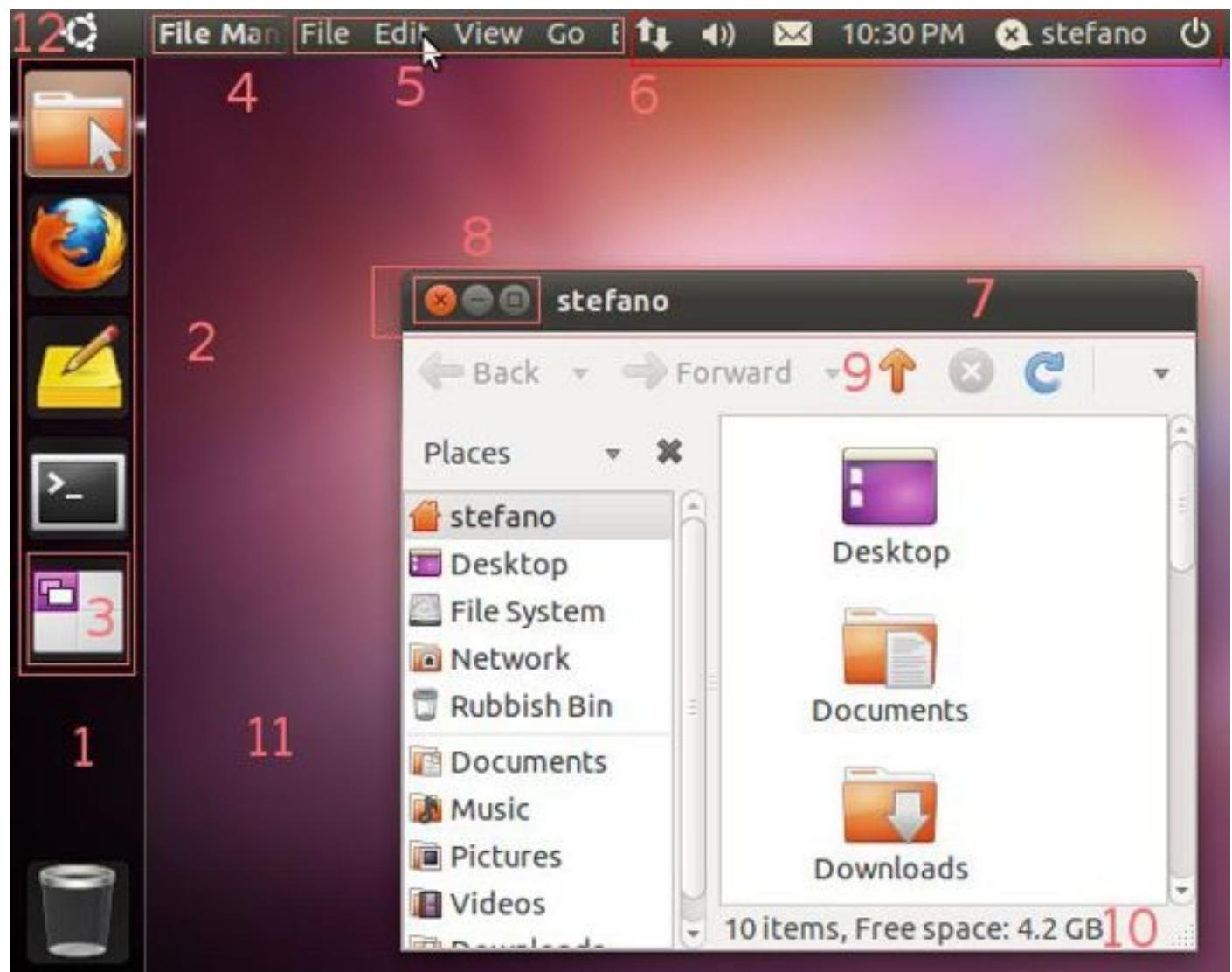
There seems to be no term decided upon for items kept on the launcher via the “Keep in launcher” function. The relevant dbusmenu functionality is named “pinning\_item” in the code; “sticky” doesn’t appear anywhere in the wiki and bug reports, and “Favorites” is used in the architecture document once and somewhat ambiguously to refer to what seems to be the “pinned” application items. So “Pinned” and “Favorites” seem both fine for now.

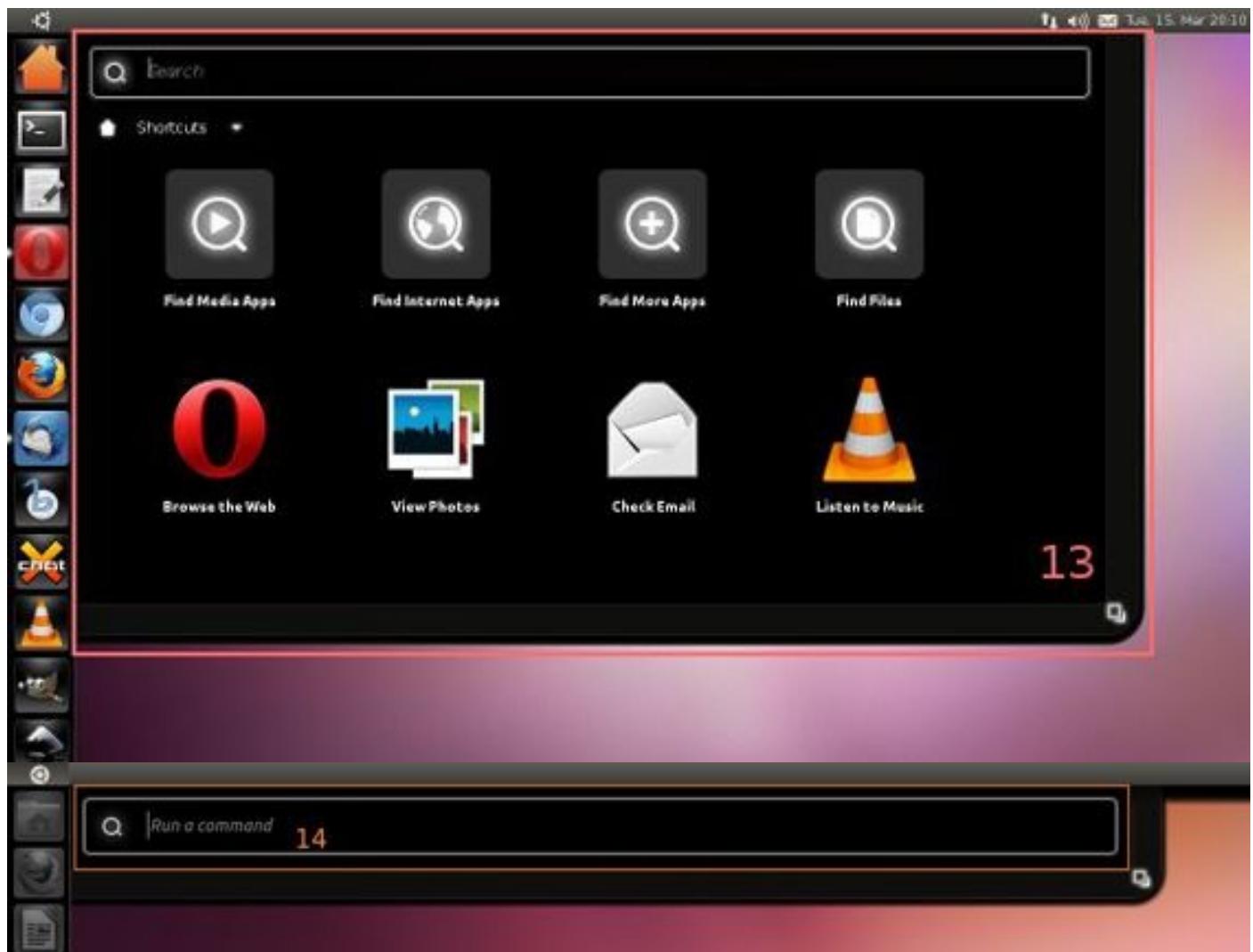
For further information, see the [Unity Architecture](#) document, and [/Unity/Lenses](#) on the wiki.

---

[Answer](#) by [stefano-palazzo](#)

# Ubuntu 11.04





1. Launcher
  2. Launcher Items
  3. Workspace Switcher

Menu Bar:

  4. Window Title
  5. Application Menus
  6. Status Menus (Indicators)

## Menu Bar:

4. Window Title
  5. Application Menus
  6. Status Menus (Indicator)
    1. Network Menu
    2. Sound Menu
    3. Messaging Menu
    4. Clock
    5. Me Menu
    6. Session Menu

And others

This region also contains the [Notification Area](#) , disabled by default.

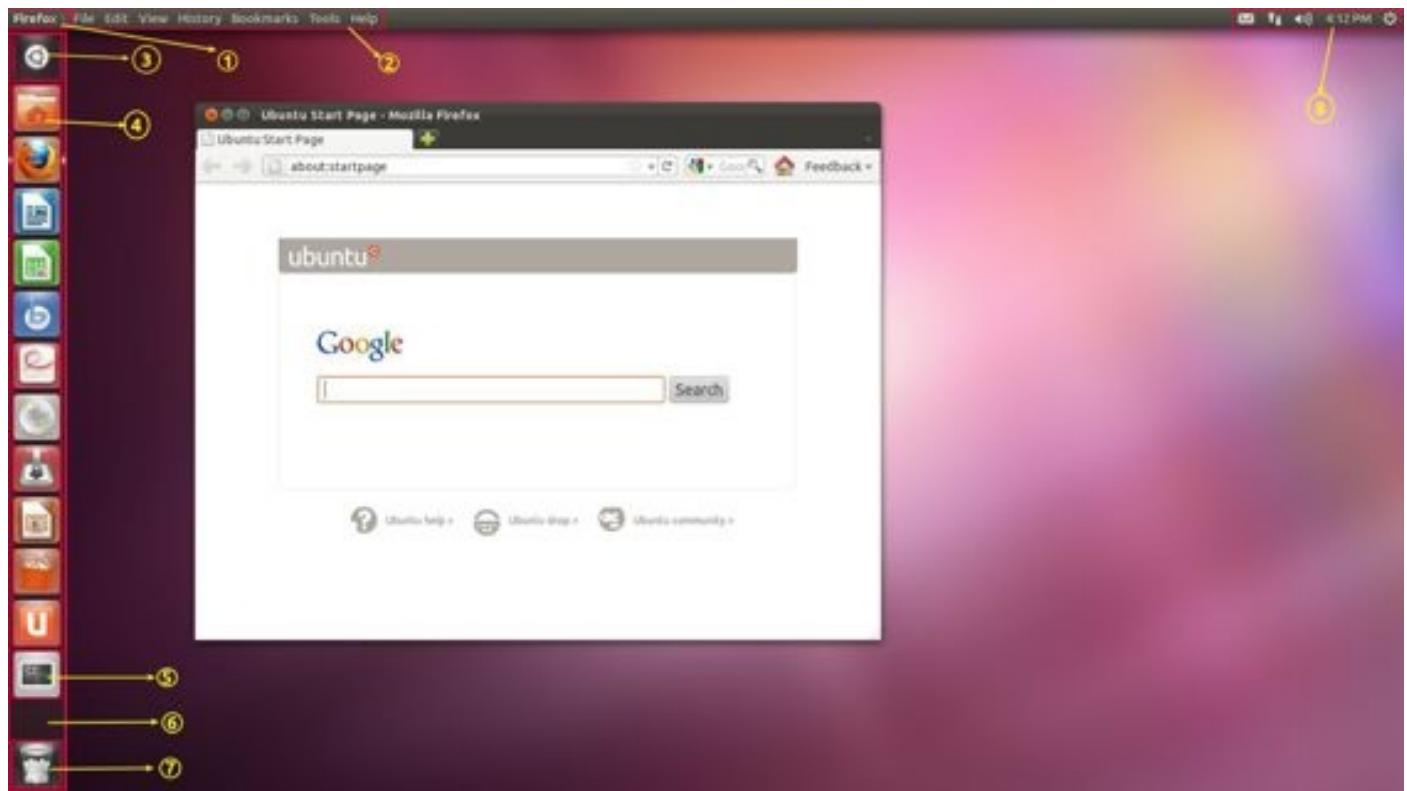
- ## 7. Window Decoration

## 8. Window Buttons

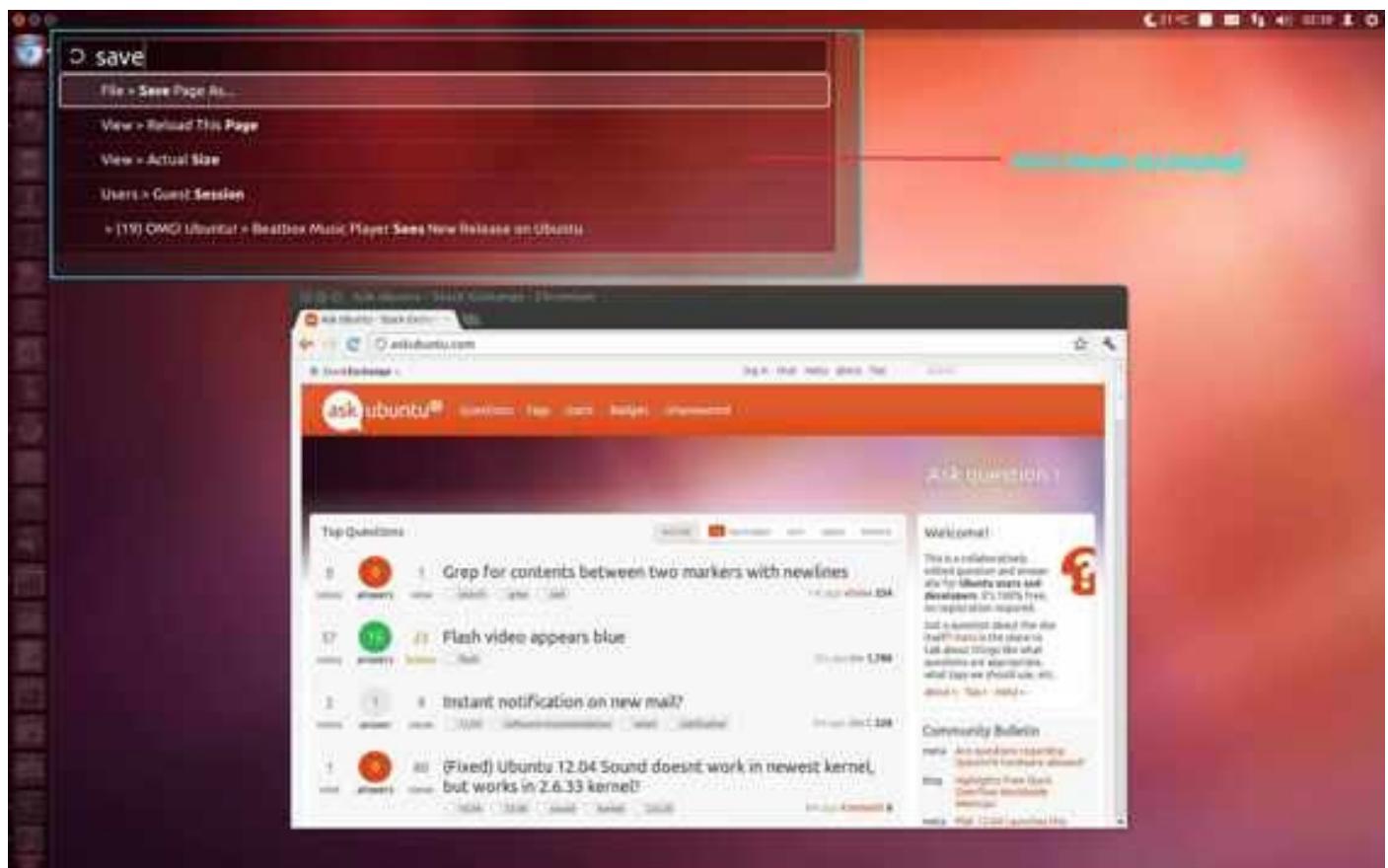
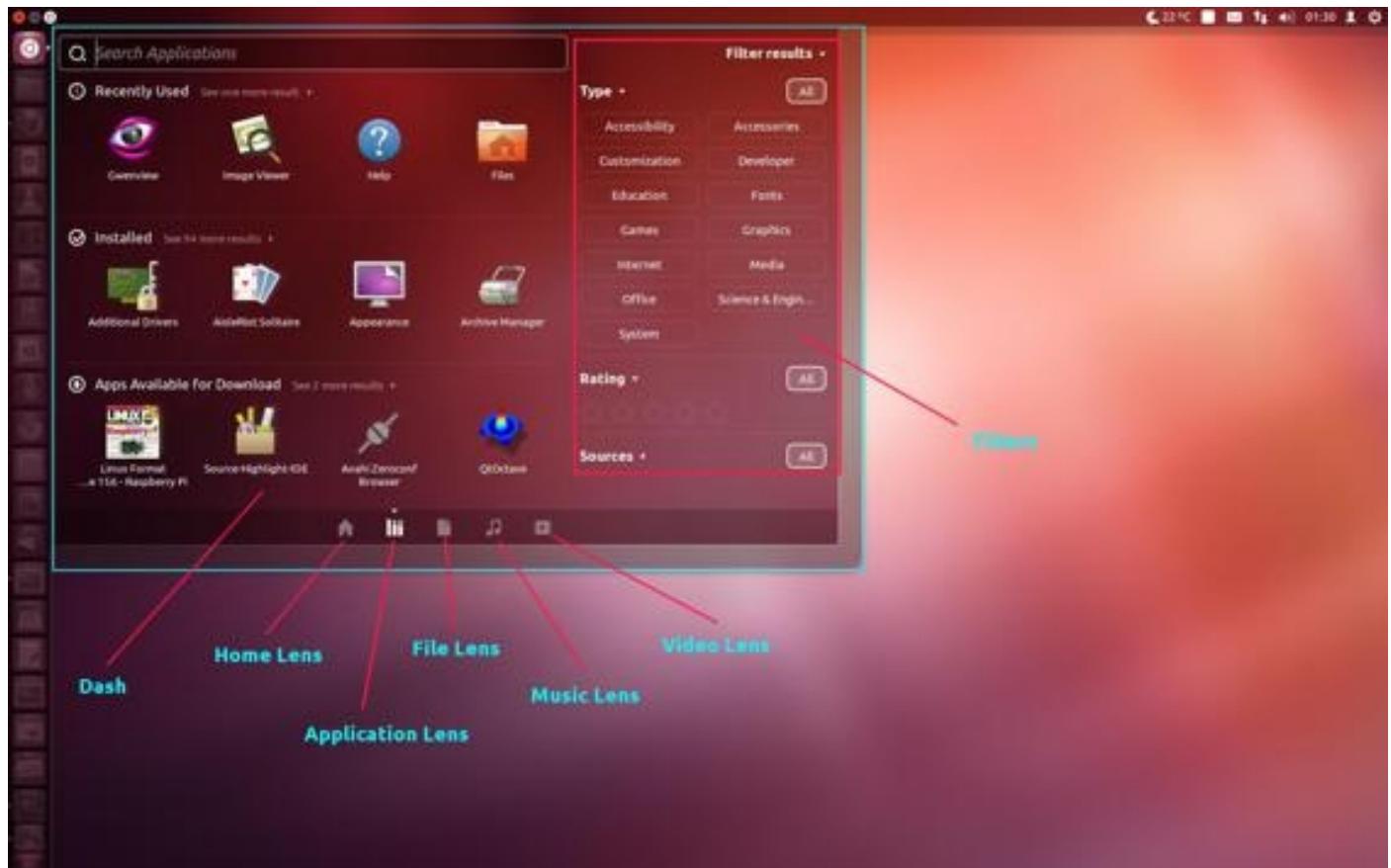
9. Toolbar
  10. Status Bar
  11. Desktop
  12. Ubuntu Button (Home Button or BFB, “Big Freakin’ Button”)
  13. Dash
  14. Run Command (Alt+F2)
- 

[Answer](#)  by [alaukik](#)

# Ubuntu from 11.10 up



1.
  - Windows Title
2.
  - Application Menu
3.
  - Dash icon
4.
  - Launcher icons
5.
  - Workspace switcher
6.
  - Launcher
7.
  - Trash
8.
  - Indicators



Tags: [unity](#) ([Next Q](#))

**Q: How do I enable or disable the global application**

## [menu?](#)

**Tags:** [unity](#) ([Next Q](#))

I'm fairly excited for Unity, as it looks like a promising new direction for Ubuntu. However, I do have a concern - will it be possible to use Unity without the global menu?

I have my window manager set to focus-follows-mouse/sloppy focus, and find the productivity gains to be immense. Sloppy focus is incompatible, however, with global menus, as it is possible for the focus to change while you move from window to menu.

Will Unity support an option to use window menus while still using Unity?

**Tags:** [unity](#) ([Next Q](#))

**User:** [michael-ekstrand](#)

---

[Answer](#)  by [njpatel](#)

## 11.04 - 13.10

Yes, the Desktop version of Unity will use the global menu by default.

- To disable the global menu remove the [indicator-appmenu](#) 

# Missing Image

---

package, then log out and back in.

Unity will continue to run without it and your menus will appear inside the application windows as normal. You can also tell the appmenu to [ignore specific applications](#) if you're having a problematic app.

The command line way to remove the package is:

```
sudo apt-get remove indicator-appmenu
```

**Removing the appmenu will break the HUD feature**

---

[Answer](#)  by [hÅ¥kon-a.-hjortland](#)

# 11.04 - 13.10 - How to disable the global menu (appmenu / application menu)

## For current user only, all applications

Add this to `~/.gnomerc` and log out of the desktop and in again:

```
STARTUP="env UBUNTU_MENUPROXY= $STARTUP"
```

## For current user only, only applications launched from the shell

Add this to `~/.bashrc` and restart the shell:

```
UBUNTU_MENUPROXY=
```

## For current user only, only for specific applications launched from the shell

Add lines like this to `~/.bashrc` and restart the shell:

```
alias gvim='UBUNTU_MENUPROXY= gvim'
```

Based on <http://askubuntu.com/a/132581/32651>.

## For current user only, only for specific application launchers

See <http://askubuntu.com/a/6802/32651>.

## For all users, all applications (fix it in /etc)

Create config file with fix (note that the parentheses are part of the command):

```
(umask 022; echo UBUNTU_MENUPROXY= | sudo tee /etc/X11/Xsession.d/81ubuntumenuproxy)
```

After this, log out of the desktop and in again.

To remove the fix:

```
sudo rm /etc/X11/Xsession.d/81ubuntumenuproxy
```

Based on <http://www.webupd8.org/2011/03/disable-appmenu-global-menu-in-ubuntu.html>.

# For all users, all applications (uninstall packages)

Ubuntu 11.04 and 11.10:

```
sudo apt-get remove appmenu-gtk indicator-applet-appmenu indicator-appmenu
```

Ubuntu 12.04:

```
sudo apt-get remove appmenu-gtk appmenu-gtk3 appmenu-qt indicator-appmenu
```

After this, log out of the desktop and in again.

To undo, just install the packages again: sudo apt-get install [...]

From <http://www.webupd8.org/2011/03/disable-appmenu-global-menu-in-ubuntu.html>.

## Notes 1

Just doing

```
sudo apt-get remove indicator-appmenu
```

will still give problems with [gvim](#) and [image viewers etc.](#) since UBUNTU\_MENU\_PROXY will still be set to 'libappmenu.so' by the appmenu-gtk and appmenu-gtk3 packages.

## Notes 2

The default value is UBUNTU\_MENU\_PROXY='libappmenu.so'. The UBUNTU\_MENU\_PROXY= statement clears the variable. Note that export [...] is not required when changing an already existing variable.

## See also

- Gvim might spit out this warning 25 seconds after being started:  
\*\* (gvim:20320): WARNING \*\*: Unable to create Ubuntu Menu Proxy:  
Timeout was reached  
To fix this, either disable global menu, at least for gvim, or fix [gvim](#).  
• Delayed in-window menu creation is a problem in [image viewers etc.](#), for example eog.  
To fix this, disable the global menu properly, at least for those applications.  
• Get both global menu and in-window menu:  
APPMENU\_DISPLAY\_BOTH=1  
See <http://askubuntu.com/a/6802/32651>.

## References

- <https://wiki.ubuntu.com/DesktopExperienceTeam/ApplicationMenu#Troubleshooting>
- 

[Answer](#)  by [dbarth](#)

For reference, here is how to disable the global menu on a per application basis:

<https://wiki.ubuntu.com/DesktopExperienceTeam/ApplicationMenu#Troubleshooting> 

To disable appmenu support on a per application basis, set the UBUNTU\_MENUPROXY variable to null, with:

```
env UBUNTU_MENUPROXY= eclipse
```

the env keyword is useful if you're trying to launch the application with the ALT-F2 shortcut.

---

**Tags:** [unity](#) ([Next Q](#))

---

## **Q: How can I edit/create new launcher items in Unity by hand?**

**Tags:** [unity](#) ([Next Q](#))

Will Unity allow making custom launcher icons from .desktop files or via menu editing system? (Right now the launcher doesn't give the option to "keep in launcher" on all programs.)

For some programs I use, I have to make custom launchers or .desktop files.

For instance, daily blender builds are generally just folders with an executable.

In basic Gnome or KDE, I can make a new menu entry with the menu editing system. Then, I can also add it to Docky either from the menu or by dragging a .desktop file to it. Unity launcher doesn't support drag and drop, so that's not a bug or anything, but when I open a .desktop file, it has unpredictable results. Most time it will not have "keep in launcher". Sometime it will have a pinnable item without the .desktop's icon, and if I pin the item to the launcher, it will not call upon the program again after closing it. I've also gotten it to just work with a .desktop file for celtx.

**Tags:** [unity](#) ([Next Q](#))

**User:** [ike](#)

---

[Answer](#)  by [duanedesign](#)

## **For 11.04 and earlier:**

Unity does support custom launchers from .desktop files. To create custom launcher from

a .desktop file you need to create a \*.desktop file for your program.

```
gedit ~/.local/share/applications/name.desktop
```

The .desktop file should look something like this:

```
[Desktop Entry]
Name=the name you want shown
Comment=
Exec=command to run
Icon=icon name
Terminal=false
Type=Application
StartupNotify=true
```

In your file manager open your home folder and navigate to: (You may need to press ctrl+h to show hidden files to see the .gconf directory.)

```
.gconf-> desktop-> unity-> launcher -> favourites
```

you'll see a bunch of folders starting with "app-". you need to create a folder for your program. Use the same name.desktop you used in /usr/share/applications. Go into 1 of the folders for something that is already on the dock & copy the xml file and paste that into your new folder. Open it with your text editor and change the name of the \*.desktop to your name.desktop.

Open gconf-editor (you can open gconf by running the command **gconf-editor** in the Terminal) & go to:

```
desktop-> unity-> launcher -> favorites
```

Double click the list on the right & add your name.desktop.

Log out & back in and you should see your launcher. (thank you kerry\_s on the Ubuntu Forums for helping with this answer)

Unity also has a feature called Lenses. By default, you have two in Unity: Applications and Files. In the future, you will be able to install and create a lot more. There is some info about that on the Ubuntu wiki: <https://wiki.ubuntu.com/Unity/Lenses>

---

[Answer](#)  by [david6](#)

### For Ubuntu 11.10 and later together with Unity (3D)

**NOTE:** This can replace the function of an existing icon, or (once created) can be searched for (from Dash icon) to add to current button-bar.

First make your **OWN** copy of any of the .desktop files you want to modify. It is **MUCH** safer, and then you can always delete and start over.

(list all files)

```
ls /usr/share/applications/*.desktop
```

Example: Mozilla Firefox, **firefox.desktop**

(do this once, or after deleting any failed attempt)

```
cp /usr/share/applications/firefox.desktop
```

```
~/.local/share/applications
```

Then carefully change any wording, or add additional options.

(edit the file)

```
gedit ~/.local/share/applications/firefox.desktop &
```

Note: The ampersand ‘&’ releases the command line immediately.

My own ‘**firefox.desktop**‘ file: (heavily customized)

[Skip code block](#)

```
[Desktop Entry]
Version=1.0
Name=Firefox Web Browser
Name[fr]=Navigateur Web Firefox
Name[it]=Firefox Browser Web
Comment=Browse the World Wide Web
Comment[de]=Im Internet surfen
Comment[fr]=Naviguer sur le Web
Comment[it]=Esplora il web
GenericName=Web Browser
GenericName[fr]=Navigateur Web
GenericName[it]=Browser web
Exec=firefox %u
Terminal=false
X-MultipleArgs=false
Type=Application
Icon=firefox
Categories=GNOME;GTK;Network;WebBrowser;
MimeType=text/html;text/xml;application/xhtml+xml;application/xml;application/vnd.mozilla.xul+xml;app-scheme-handler/http;x-scheme-handler/https;x-scheme-handler/ftp;x-scheme-handler/chrome;video/webm;
StartupWMClass=Firefox
StartupNotify=true

#X-Ayatana-Desktop-Shortcuts>NewWindow;
#X-Ayatana-Desktop-Shortcuts>NewWindow;Private;Safe;ProfileManager

[NewWindow Shortcut Group]
Name=Open a New Window
Name[de]=Ein neues Fenster öffnen
Name[fr]=Ouvrir une nouvelle fenêtre
Name[it]=Apri una nuova finestra
Exec=firefox -new-window about:blank
TargetEnvironment=Unity

[Private Shortcut Group]
Name=Private Mode
Exec=firefox -private-toggle
TargetEnvironment=Unity

[Safe Shortcut Group]
Name=Safe Mode
Exec=firefox -safe-mode
TargetEnvironment=Unity

[ProfileManager Shortcut Group]
Name=Profile Manager
Exec=firefox -ProfileManager
TargetEnvironment=Unity
```



**For experts:** Attached 1 are several of my own favorites, for your education or use. The LibreOffice icon can replace ALL the other ones, and ALL add several right-click options. Enjoy.

Documents

Downloads

Music

Pictures



Videos

Home Folder

Keep in launcher

Quit



Compose New Message

Contacts

Address Book



Profile Manager

Thunderbird Mail

✓ Keep in launcher

Quit



---

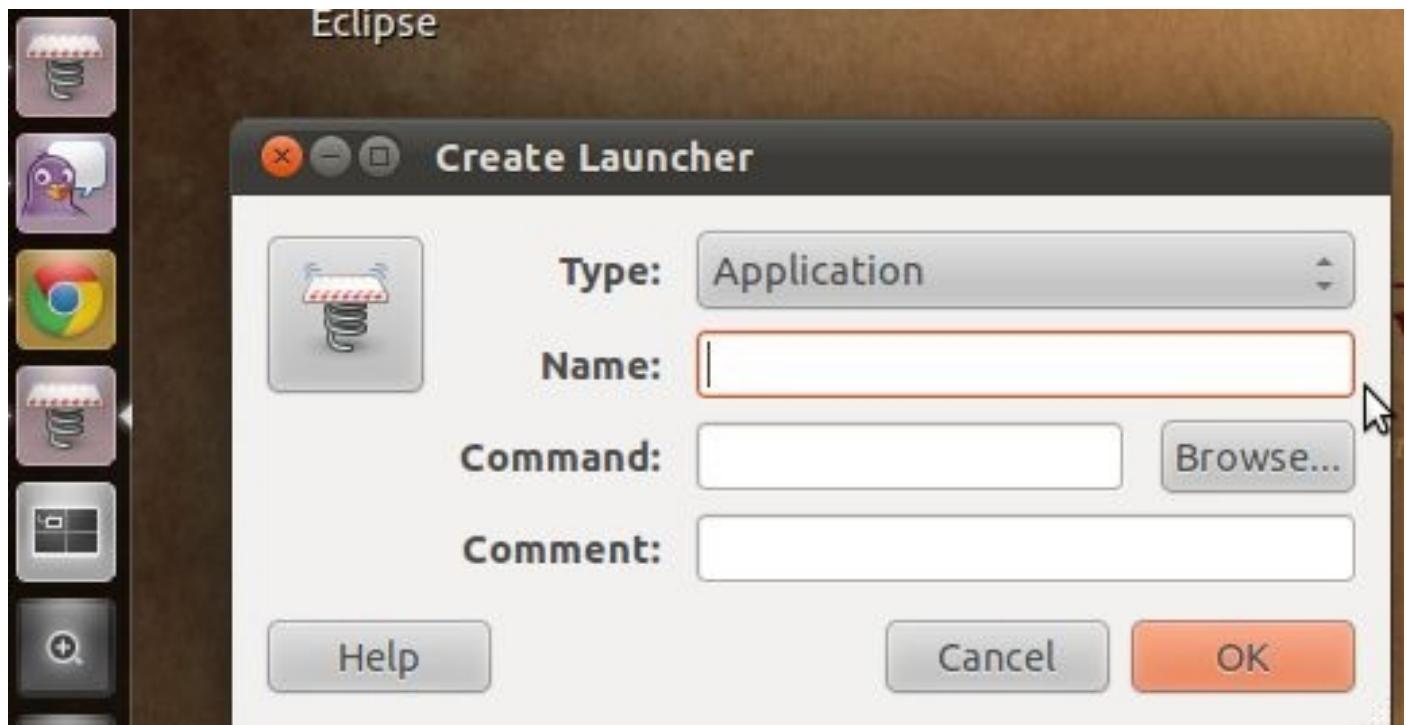
[Answer](#) by [bazon](#)

## For 11.04 and earlier:

This is a method without editing config files and without root privileges.

### First create the Launcher on the Desktop (only temporary)

- right click your desktop
- select Create Launcher...
- create the custom Launcher as you want to.



Now you got the launcher on the Desktop. **If you are satisfied with it, get it in the Launcher Panel:**

- Open your Home Folder. Press `Ctrl + H` to show hidden files if necessary.
- Browse to `.local/share/applications`
- Drag and drop your Launcher from Desktop to that folder.
- Now drag and drop your launcher from `.local/share/applications` to the Launcher Bar on the left on your Screen.
- You can now delete your custom Launcher on the Desktop if it's still there.

That's it.

---

**Tags:** [unity](#) ([Next Q](#))

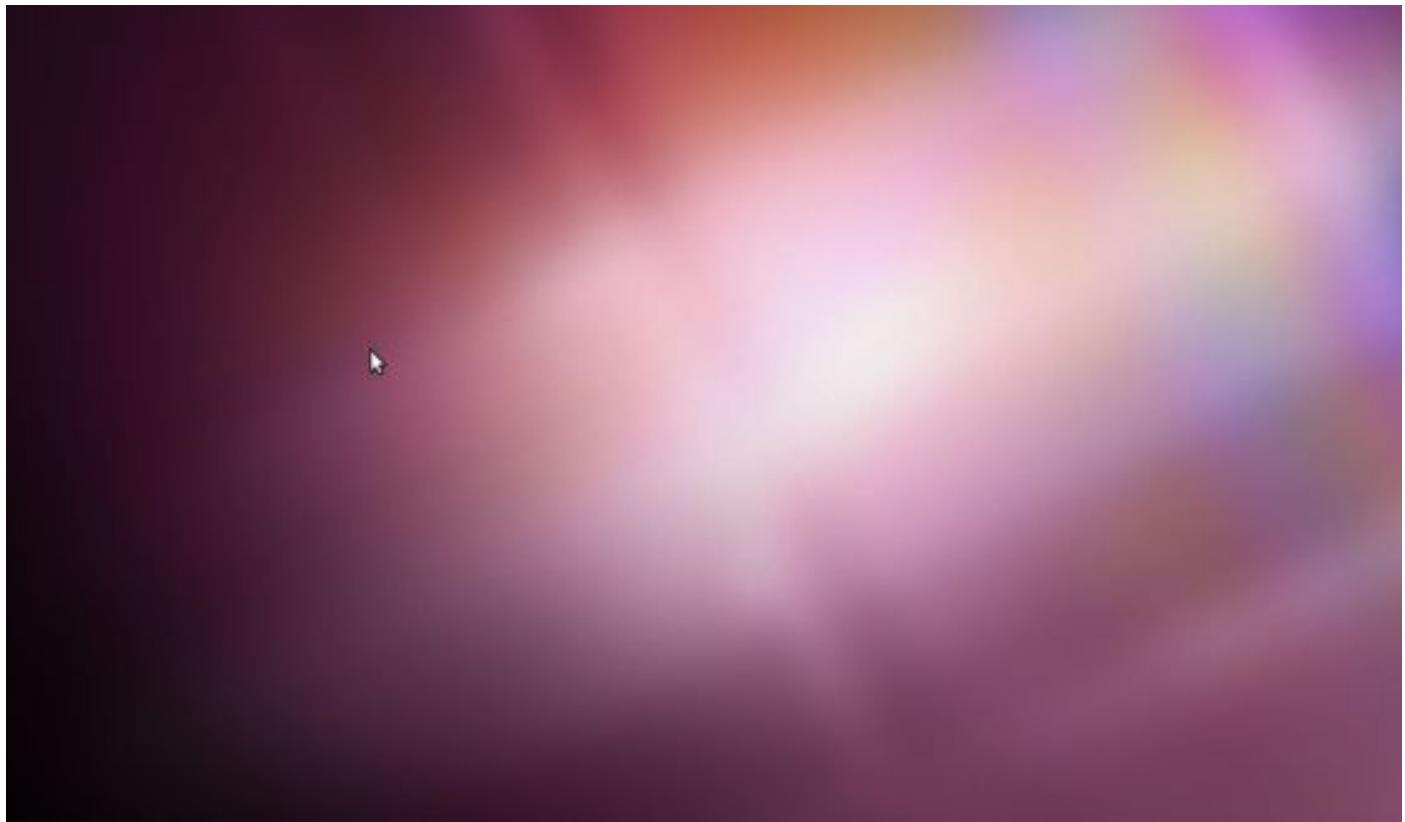
---

**Q: Unity doesn't load, no Launcher, no Dash appears** 

**Tags:** [unity](#) ([Next Q](#))

When I login, nothing happens.

I am presented with my desktop wallpaper.



No Dash, no Launcher, nothing.

**Tags:** [unity](#) ([Next Q](#))

**User:** [jrg](#)

---

[Answer](#) by [oli](#)

You just need to turn the Unity plugin back on. The problem is this is a pain in the bottom because you've now got no graphical method to do this. So:

1. Press **Ctrl+Alt+F1** and log in.
2. Install the jibby you'll need to configure the settings by running this:

```
sudo apt-get install compizconfig-settings-manager
```

3. Then run it by doing this:

```
export DISPLAY=:0  
ccsm
```

The first part tells the terminal which display you want it to load on (otherwise it won't have a clue).

4. Press **Ctrl+Alt+F7** (or **ctrl+Alt+F8** sometimes) to get back to the graphical display where there should be a CompizConfig Settings Manager screen sitting there.
  5. Find the Unity plugin. Enable it.
  6. Everything should spring into life but if it doesn't, you might have to restart. You can do that by going back to TTY1 and running **sudo reboot**.
-

[Answer](#) by [xyzzyman](#)

## For 12.10 and below:

Press `Ctrl+Alt+T` for a terminal and run `ccsm`, then re-enable your ‘Unity’ plugin.

You also may then need to run a `unity --reset`.

---

[Answer](#) by [brandon-bertelsen](#)

## In 13.04:

unity --replace is deprecated. Instead, use the following:

```
dconf reset -f /org/compiz/  
unity --reset-icons &disown
```

Reboot if it doesn't work right away.

---

Tags: [unity](#) ([Next Q](#))

---

## [Q: How do I reset my Unity configuration?](#)

Tags: [unity](#) ([Next Q](#))

I've been messing around with Unity and broke something, how do I "start over"?

Tags: [unity](#) ([Next Q](#))

User: [jorge-castro](#)

---

[Answer](#)  by [kees-cook](#)

The following command does not work on newer distributions (as the reply is ERROR: the reset option is now deprecated).

## For 12.04 and older

The simplest way is to hit “open a Terminal” or hit Alt-F2 and run the command:

```
unity --reset
```

[Answer](#) by [mahesh](#)

# For 12.10 - 13.04

I, along with jokerdino and amithkk have created a python script that cleanly resets Unity for Quantal and above.

~~It is hosted on github at <https://github.com/phanimahesh/unity-revamp>~~

The script is now bundled with [Unity Tweak Tool](#). You can install it using

```
sudo add-apt-repository ppa:freya-dev/unity-tweak-tool-daily  
sudo apt-get update  
sudo apt-get install unity-tweak-tool
```

# For 13.10 & 14.04

```
sudo apt-get install unity-tweak-tool
```

To reset Unity, do

```
unity-tweak-tool --reset-unity
```

Note - if this does not resolve your Unity issues then the following Q&A may apply to you:

- [How do I reset GNOME to the defaults?](#)
- 

## What happens behind the scenes?

Simple. We chase each individual setting that Unity uses, and reset them to their default values, and then reload unity to apply changes. Ah yes, we also kill Unity and compiz before we start, since it is known to get tricky if we change settings under compiz's nose.

---

## Why is this better compared to using dconf-editor or dconf reset ?

- Didier Roche (didrocks), the author of unity python wrapper says `dconf reset` does not work in all cases.
  - The consensus among Unity developers is that the settings be modified using Gsettings instead of dconf directly.
- 

## What exactly is dconf ?

A little history

- The configuration settings were managed by gconf earlier.
  - Gnome provides Gsettings as a replacement for gconf.
  - Gsettings is a high level api that manipulates the settings stored in a backend.
  - Unity stores its settings in the backend dconf since it can be loaded much faster than gconf.
- 

[Answer](#)  by [alex-launi](#)

[As Kees said](#), running `unity --reset` will reset all of the launcher *options*, but it won't

remove your custom favorites. To also remove any launchers you've added to the launcher, run

```
unity --reset-icons
```

Or manually by:

```
gsettings reset com.canonical.Unity.Launcher favorites
```

I would recommend running the gsettings command before unity --reset, so that you won't have to restart unity for the gsettings key reset to take effect.

---

**Tags:** [unity](#) ([Next Q](#))

---

## [Q: What are Unity's keyboard and mouse shortcuts?](#)

**Tags:** [unity](#) ([Next Q](#)), [shortcut-keys](#) ([Next Q](#))

In Unity, are there any pre-defined shortcuts, e.g. to open the dash or unhide the launcher?

**Tags:** [unity](#) ([Next Q](#)), [shortcut-keys](#) ([Next Q](#))

**User:** [htorque](#)

---

[Answer](#)  by [jorge-castro](#)

This page will document the keyboard shortcuts and mouse tricks for Unity. Please feel free to add more!

Read this first to get familiar with the UI elements of Unity and to find the right keys on your keyboard:

1. [Unity Terminology](#)
2. [What are the meta, super, and hyper keys?](#)

# Keyboard Shortcuts

Holding down the Super key will get you a keyboard overlay that documents most of these (12.04 and earlier).

## Launcher

- Hold Super - Invoke the Launcher (Pre-12.04).
- Hold Super, then press 1 or 2 or 3 and so on until 0 to open or focus an application. The number corresponds to the location of the icon on the launcher from top to bottom.
  - Adding Shift will open a new instance of the application if it's already open.
  - Holding the key is also useful when you want to get to the Launcher but do not want to invoke the Dash.
- Super-T - Open the rubbish bin/trash can.
- Alt-F1 - Put keyboard focus on the Launcher, use arrow keys to navigate, Enter launches an application, Right arrow exposes the quicklists if an application has them.
- Ctrl-Alt-T - Launch a terminal window.

## Dash

- Tap Alt - Opens [the HUD](#) 
- Hold Alt - Reveals application menu
- Tap Super - Opens the Dash. The open signal is sent when you let go of the key, not when you push it down, so if it feels slow just let go of the key earlier.
- Over an item, you can hit the Secondary key (commonly to the left of the right Ctrl) to see a preview of the item, as you can do with a secondary click over it.

### Ubuntu 11.10

- Tab Move to the next lens (When the dash is open)
- Shift-Tab Move to the previous lens (when the dash is open)

### Ubuntu 12.04 and 12.10 and 13.10

- Ctrl-Tab Move to the next lens (When the dash is open)
- Ctrl-Shift-Tab Move to the previous lens (when the dash is open)
- Alt-F2 - Invoke the Dash in a “special mode” to run a command. Typing in a Folder Name will find that folder in Nautilus, you can also use ~ as a shortcut in the field.
- The Dash opens with focus on the search box to find applications and files. Using the arrow keys will navigate the results, use Enter to launch. Hitting Enter twice in rapid

succession after a search term will automatically launch the first match in a search, even if it's still ongoing. (Basically a dash version of "I'm feeling lucky").

- Super-A - Open Applications lens
- Super-F - Open Files & Folders lens
- Super-M (11.10+ only) - Open the music lens
- Super-v (12.04 and earlier) - Open the video lens

## Panel

- F10 (11.10 and earlier) / Alt-F10 (12.04 and earlier) - Open the first menu on the panel, use the arrows keys to "scrub" across the menus. (There is no shortcut for the session menu, so hitting F10 and left arrow is a quick way to get there)
- Press Esc to close the menus without choosing anything.

## Window Management

- Ctrl-Super-D - Show desktop; hitting it again restores the windows.
- Super-W - Spread mode, zoom out on all windows in all workspaces, in 12.04 and 12.10 it zooms out on the windows in the current workspace.
- Super-D (11.10 and earlier) - Minimize all windows; hitting it again restores them.
- Alt-Space - Opens the window's accessibility menu.
- Alt-Tab - Switch to other applications, you can hold Alt down and then hit tab to switch to the next application.
- Alt-` - Switch between an application's windows. Hitting this combo when you're already focused on an application will automatically switch only between the windows for that application. The ` key on US layouts, but Unity will use whichever key is above your Tab key. ([More info](#)) ([Video](#))
- Ctrl-Super- - Maximize the current window
- Ctrl-Super- - Restore/Minimize the current window (seems to be buggy at the moment)
- Ctrl-Super- - Maximize current window to the left
- Ctrl-Super- - Maximize current window to the right

## Window Placement

If you cycle through the same key Unity will cycle through different placement widths, so experiment by hitting the numkey multiple times, for example Ctrl-Alt-numpad 5 5 5:

- Ctrl-Alt-Numpad 7 - Place window in top left corner of screen.
- Ctrl-Alt-Numpad 8 - Place window in top half of screen.
- Ctrl-Alt-Numpad 9 - Place window in top right corner of screen.
- Ctrl-Alt-Numpad 5 - Center/Maximize the window in the middle of the screen. In 12.04 this toggles between maximize and restore state
- Ctrl-Alt-Numpad 1 - Place window in the bottom left corner of the screen.

- Ctrl-Alt-Numpad 2 - Place window in the bottom half of the screen.
- Ctrl-Alt-Numpad 3 - Place window in the bottom right corner of the screen.
- Ctrl-Alt-Numpad 0 - Minimize the current window (Ubuntu 12.04.1).

## Workspace Management

- Super-S - Expo mode (for everything), zooms out on all the workspaces and lets you manage windows.
- Shift-Alt- - Expo mode for all windows in the current workspace only.
- Ctrl-Alt- // / - (11.10+) - Change to a new workspace.
- Ctrl-Alt-Shift- // / - Place window to a new workspace.
- Ctrl-Alt-L - Lock the screen.

## Screenshots

- PrtScn - Take a screenshot of the current workspace
- Alt-PrtScn - Take a screenshot of the current window
- Shift-PrtScn - Take a screenshot of a region traced by the mouse (shows crosshairs)

## System

- Ctrl-Alt-Del - Logout

# Mouse Tricks

## Launcher

- Clicking and holding an icon and then dragging it around will allow you to reorder it on the launcher. You can also drag it off to the right of the launcher to move it around. Note that you need to make an explicit movement to the right to move the icon off the launcher before you can move it around.
- Dragging and Dropping an icon into the trash can will remove it from the Launcher. The program itself will remain installed and accessible through the dash.
- Scrolling the mouse wheel while over the Launcher scrolls the icons if you have too many and need to move around quickly.

## Window Management

- Maximizing - Dragging a window to the top panel, or double-clicking a window's titlebar, or Alt-F10 (11.10 and earlier), will maximize it.
- Restore - There are two ways to restore, or unmaximize, the topmost maximized window of the current monitor for this workspace (not using the window controls)
  - Double clicking on the top panel (but not in the application's menu)
  - Dragging the top panel down.
- Middle click on Maximize - Maximize Window Vertically.
- Right click on Maximize - Maximize Window Horizontally
- Focus the topmost maximized window of the current monitor for this workspace: Left click on the top panel (but not in the application's menu)
- Tiling - Dragging a Window to the left/right border will auto tile it to that side of the screen.
- Middle click on an application's launcher icon - Open a new instance of the application in a new window. If the application isn't running it will just open it normally.
- Middle click on the top panel or window title bar (but not the menu) - send the current window behind all other windows.
- Alt-Left drag inside a window - move the window
- Alt-Middle drag inside a window close to its border - resize the window
- Alt-Right click inside a window - window accessibility menu

---

[Answer](#)  by [octavian-damiean](#)

I've made a Unity tricks overlay for the 11.04 default wallpaper.



Click on the image for a full screen version.

If you find a mistake just tell me. Here is the [JPEG source](#)  version.

Enjoy!

Answer  by yann-dA-nendal

[There is a feature in development for 12.04](#) so that when you long-press the Super key, a detailed overlay of possible shortcuts will appear.

Also notice the numbers appearing besides the application icons in the launcher dock on the left. Super + Number is a short cut to that specific app, to save you from Alt + Tab madness when rapidly switching between three or more apps (such as while programming).



**Tags:** [unity](#) ([Next Q](#)), [shortcut-keys](#) ([Next Q](#))

## Q: How do I build Unity from source?

**Tags:** [unity](#) ([Next Q](#))

I'd like to know how I would build Unity from source code in the current development release. Please cover the following topics:

- Which packages are needed to compile Unity?
- Where would I get the current source code?
- What are the steps to actually configure and compile Unity?
- Is it possible to safely run the latest version alongside the version from the repositories?

**Tags:** [unity](#) ([Next Q](#))

**User:** [htorque](#)

[Answer](#)  by [stefano-candori](#)

# Building Unity from Source

In this guide you will build a separated version of Unity trunk (locally installed to your home directory), so you don't need to worry about corrupting the version from the Ubuntu repositories and you also won't need to get root permissions throughout the whole process (except for installing the build dependencies).

## 0. Installing build dependencies

You'll need to run this once to install all necessary build dependencies:

```
sudo apt-get install bzr cmake compiz-dev gnome-common libbamf3-dev libboost-dev \
libboost-serialization-dev libgconf2-dev libgdu-dev libglewmx1.6-dev \
libgnome-desktop-3-dev libibus-1.0-dev libindicator3-dev libjson-glib-dev \
libnotify-dev libnux-2.0-dev libpci-dev libsigc++-2.0-dev libunity-dev \
libunity-misc-dev libutouch-geis-dev libxf86vm-dev libzeitgeist-dev xsltproc
```

If you have source code repositories (aka deb-src) enabled, you can instead use:

```
sudo apt-get build-dep unity
```

## 1. Preparing the environment

Replace SOURCE and PREFIX with the directories you'd like the source and build files to go. In this example I put both in my home directory:

[Skip code block](#)

```
export SOURCE=$HOME/source/unity
export PREFIX=$HOME/build/unity

export PKG_CONFIG_PATH="$PREFIX/lib/pkgconfig:$PKG_CONFIG_PATH"
export LD_LIBRARY_PATH="$PREFIX/lib:$LD_LIBRARY_PATH"
export LD_RUN_PATH="$PREFIX/lib:$LD_RUN_PATH"
export XDG_DATA_DIRS="$PREFIX/share:$XDG_DATA_DIRS"

mkdir -p "$PREFIX"
mkdir -p "$SOURCE"
cd "$SOURCE"
```

## 2. Building Nux

You will probably need to grab the latest version of Nux to get Unity trunk to compile:

```
bzr branch lp:nux
cd nux
./autogen.sh --disable-examples --disable-gputests --disable-tests --prefix="$PREFIX"
make -j4
make install
cd ..
```

**Tip:** Most modern desktops and laptops have several cores. You can greatly speed up the compilation by taking advantage of this. The make command has build-in support for this which you can activate using the `-jN` switch where  $N$  is the number of jobs to run in parallel. A good rule of thumb is to run 2 times the number of cores on your processor. Thus, on a normal dual core computer you should run `make -j4` to minimize the compilation time.

## 3. Building Unity

Now grab the latest Unity code and build it:

```
bzr branch lp:unity
cd unity
mkdir build
cd build
cmake .. -DCMAKE_BUILD_TYPE=Debug -DCOMPILATION_PLUGIN_INSTALL_TYPE=local -DGSETTINGS_LOCALINSTALL=ON -
DCMAKE_INSTALL_PREFIX="$PREFIX"
make -j4
make install
```

That's it, log out and back in again and you should be running the latest Unity.

Alternatively, you can run

```
setsid $PREFIX/bin/unity
```

## 4. Updating

Make sure to prepare the environment like described in step 1, then simply enter both top-level directories nux and unity, run bzr pull, rebuild, and reinstall.

I suggest removing and recreating the build directory in the unity directory, to make sure no old files are messing with your build.

## 5. Removing Unity

Remove the three directories \$SOURCE, \$PREFIX and ~/.compiz-1.

---

Useful Link:

- <http://unity.ubuntu.com/getinvolved/development/unity/> 

---

Tags: [unity](#) ([Next Q](#))

---

## [Q: How can I keep recent files from appearing in Unity?](#)

Tags: [unity](#) ([Next Q](#)), [unity-dash](#) ([Next Q](#))

I sometimes browse erotic media files but I would like to avoid having them appear in files & folders / recent. How can I do that?

The old “making .recently-used.xbel a folder” trick from 10.10 and older doesn’t work any more.

Plus I’d prefer to turn off tracking only temporarily.

I also prefer not to use a separate user for this, as switching users sometimes isn’t fast enough.

Tags: [unity](#) ([Next Q](#)), [unity-dash](#) ([Next Q](#))

User: [mr.pig](#)

---

[Answer](#)  by [manish-sinha](#)

# Method 1: Using Activity Log Manager

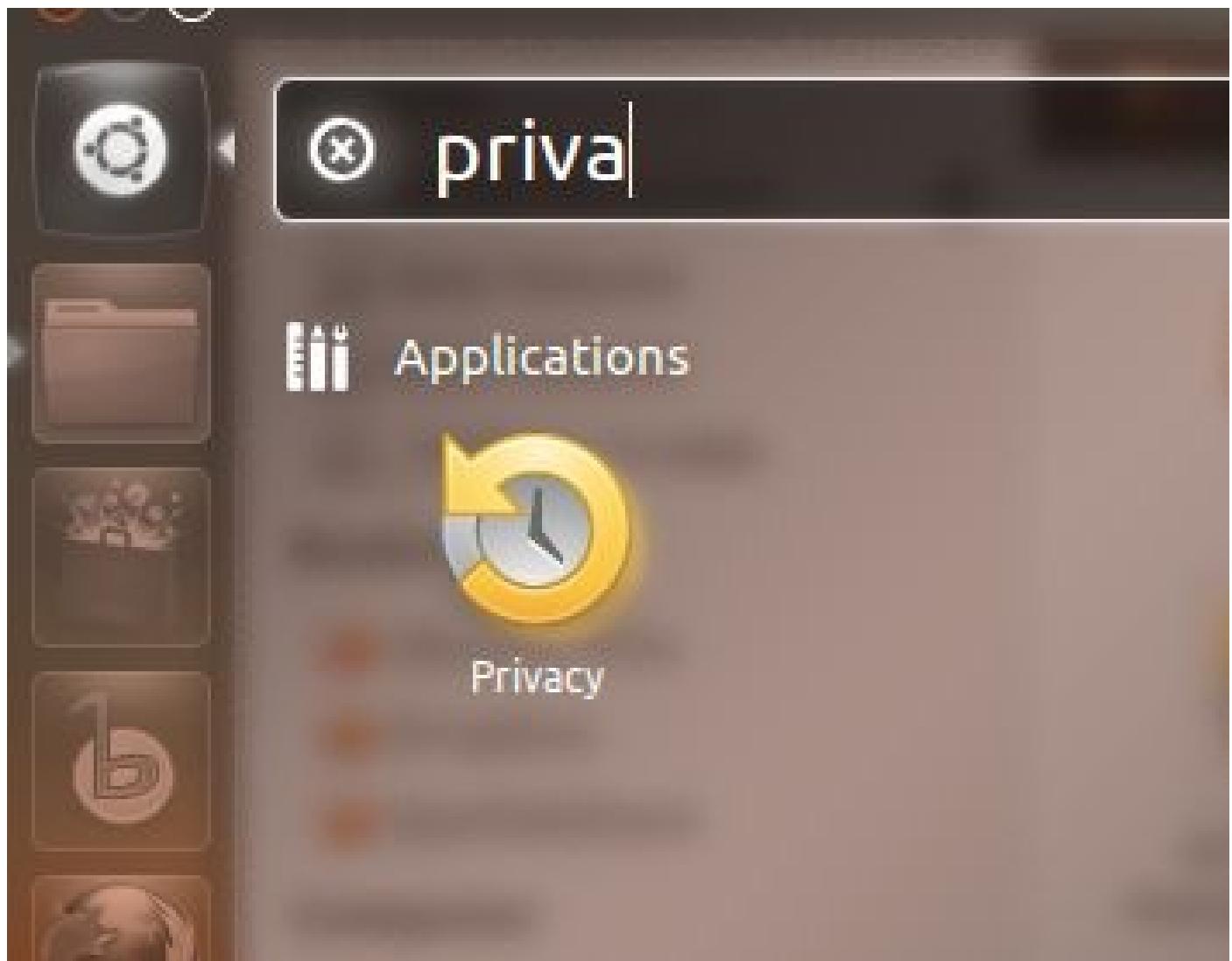
## Ubuntu Precise 12.04

In Ubuntu Precise Activity Log Manager 0.9 is included by default. It can be accessed from System Settings or just by looking for Privacy.





Or you can simply type **Privacy** in Dash



Now you can start blacklisting applications. Screenshots

## Privacy

All Settings

History

Files

Applications

Forget files activity:

custom

From: Sunday, 08 January 2012

To: Sunday, 08 January 2012

Delete

Record Activity

ON

## Privacy

### All Settings

History

Files

Applications

#### Don't record activity for following type of files:

- Instant Messaging       Website  
 Audio       Video  
 Presentation       E-mail

- Text  
 Image  
 Spreadsheet

#### Don't record activity in the following folders:

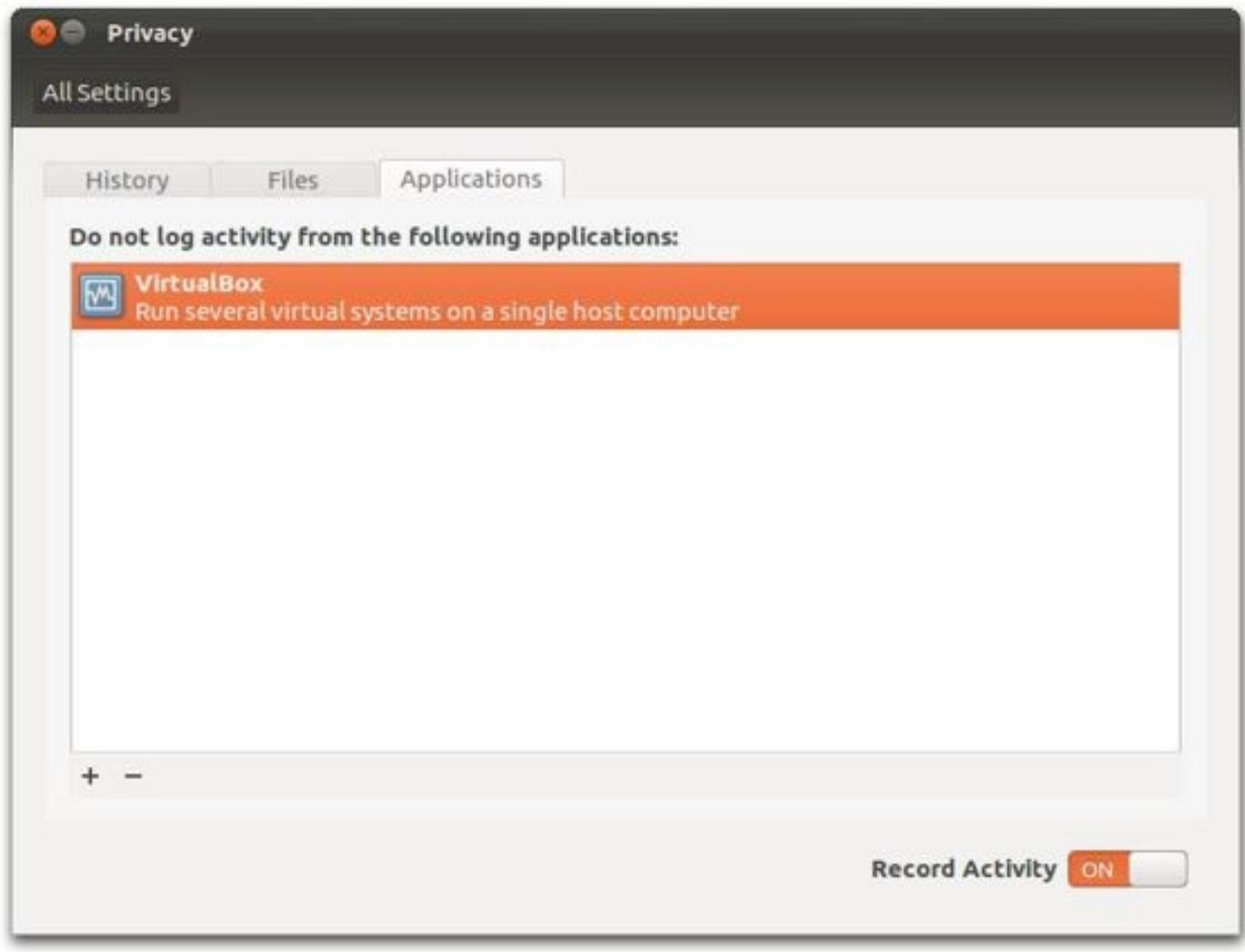
/home/manish/localinstall

/home/manish/Dropbox

+ -

Record Activity

ON



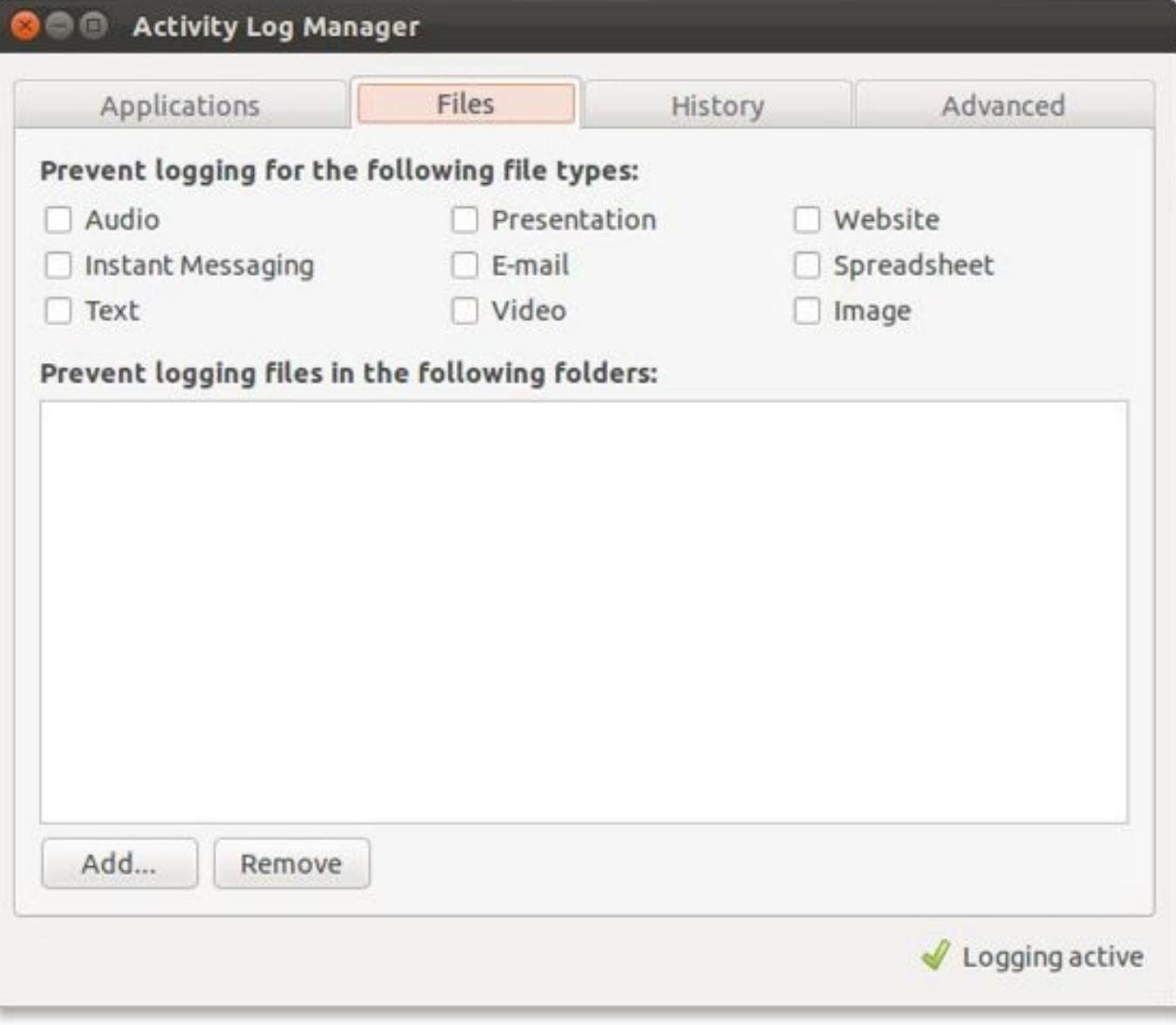
---

## Activity Log Manager in Oneiric and first release

You can install Activity Log Manager from the [Stable PPA](#).

For more details about Activity Log Manager you should check out the [article on OMG! Ubuntu!](#) and [article on Webupd8](#)

A new version of Activity Log Manager is in development which looks better and is simpler to use. A screenshot of the unreleased Activity Log Manager

Activity Log Manager

Applications      **Files**      History      Advanced

**Prevent logging for the following file types:**

Audio       Presentation       Website  
 Instant Messaging       E-mail       Spreadsheet  
 Text       Video       Image

**Prevent logging files in the following folders:**

**Add...**      **Remove**

 Logging active

# Method 2: Using Gnome Activity Journal

You can do it, provided that there is some pattern in the files. For example you have kept all your explicit content in folder /home/mrpig/erotica/ folder.

Then open [Activity Journal](#) which is a GUI frontend to Zeitgeist which acts as a Dashboard showing your recent activities. On top right Zeitgeist Icon, click it and Preferences. Check “Blacklist Manager” plugin

Then goto “BlackList Manager” tab. Click on New button, and then edit the new entry which comes as file:///home/mrpig/erotica/\*

---

## Linked Question:

1. [Hidden files are shown in Dash](#)
- 

[Answer](#) by [alin-andrei](#)

There is a way to do it, but it will clear all the other recent files as well.

All you have to do is run the following commands:

```
rm ~/.local/share/zeitgeist/activity.sqlite
zeitgeist-daemon --replace
```

Edit zeitgeist/activity.sqlite no longer exists on my system:

```
rm ~/.local/share/zeitgeist
zeitgeist-daemon --replace
```

It takes a moment, but it repopulates as the daemon starts.

**Update:** [Activity Log Manager](#) has been released. This is a GUI tool that allows you to tweak the Zeitgeist history: you can delete part of the Zeitgeist history, blacklist some applications or prevent logging certain types of files as well as blacklist folders.

Install it using the commands below:

```
sudo add-apt-repository ppa:zeitgeist/ppa
sudo apt-get update
sudo apt-get upgrade
zeitgeist-daemon --replace
sudo apt-get install activity-log-manager
```

I've recorded a video demoing Activity Log Manager here:

<http://www.youtube.com/watch?v=-eQn7ZyfSlw>

---

**Tags:** [unity](#) ([Next Q](#)), [unity-dash](#) ([Next Q](#))

---

**Q: What can replace system monitoring in the top Gnome Panel in Unity?**

**Tags:** [unity](#) ([Next Q](#)), [indicator](#) ([Next Q](#))

I'm used to have System monitoring in the top Gnome Panel: CPU, Temperature, Net, Fan-Speed. (see screenshot below)



In Unity, the Top Panel is locked for window name and global menu, so I can't add panel applets. So my question is:

**Is there a way to replace this kind of system monitoring (always visible, taking not much space) in Unity?**

**Tags:** [unity](#) ([Next Q](#)), [indicator](#) ([Next Q](#))

**User:** [tobi](#)

---

[Answer](#) by [zarej](#)

Exactly like old gnome indicator: <http://www.webupd8.org/2011/05/network-memory-and-cpu-usage-indicator.html#more>

Note from the link: **Once installed, launch System Load Indicator from Dash.** Unlike the old gnome applets, this is how to add those indicators to the panel.

---

[Answer](#) by [leo](#)

I found the following question and answer that solved the problem for me. It contains a list of replacements for the old applets called application indicators. Unfortunately not all of them are available for natty yet, but at least I got a very basic system load monitor (indicator-sysmonitor) and a weather indicator (indicator-weather) working.



Click the button to install:

# Missing Image

- [What Application Indicators are available?](#)

---

[Answer](#) by [krumpelstiltskin](#)

Here is a quick and dirty system monitor that I hacked together out of python:



It uses the “System Monitor Indicator” ([here](#)) to call the script that I wrote. To use it:

1. install indicator-sysmonitor. To do that, run the following command:

```
sudo apt-add-repository ppa:alexeftimie/ppa && sudo apt-get update && sudo apt-get install indicator-sysmonitor
```

2. copy the script below into a file called sysmonitor
  3. make the script executable (`chmod +x path-to-file`)
  4. click on the indicator and choose “Preferences”.



5. choose “use this command” and give it the path to the sysmonitor file.

here's the code:

## Skip code block

```
#!/usr/bin/python
```

```
import re
import sys
import time
import psutil
```

#Functions:



```
def diskstats_parse(dev=None):
    """
    I found this on stackoverflow.
    (http://stackoverflow.com/questions/3329165/python-library-for-monitoring-proc-diskstats)
    """
    file_path = '/proc/diskstats'
    result = {}

    # ref: http://lxr.osuosl.org/source/Documentation/iostats.txt
    columns_disk = ['m', 'mm', 'dev', 'reads', 'rd_mrg', 'rd_sectors',
                    'ms_reading', 'writes', 'wr_mrg', 'wr_sectors',
                    'ms_writing', 'cur_ios', 'ms_doing_io', 'ms_weighted']

    columns_partition = ['m', 'mm', 'dev', 'reads', 'rd_sectors', 'writes', 'wr_sectors']

    lines = open(file_path, 'r').readlines()
    for line in lines:
        if line == '': continue
        split = line.split()
        if len(split) != len(columns_disk) and len(split) != len(columns_partition):
            # No match
            continue

        data = dict(zip(columns_disk, split))
        if dev != None and dev != data['dev']:
            continue
        for key in data:
            if key != 'dev':
                data[key] = int(data[key])
        result[data['dev']] = data

    return result
```

```
(indiff, outdiff) = sampleNet()
outstr = ""
outstr += "cpu: "+str(int(psutil.cpu_percent()))+"%\t"
outstr += "net: "+str(indiff/1000)+"|"+str(outdiff/1000)+" K/s\t"

(diskin, diskout) = sampleDisk()
outstr += "disk: "
if(diskin):
    outstr += "+"
else:
    outstr += "o"
outstr += "|"
if(diskout):
    outstr += "+"
else:
    outstr += "o"

print outstr
```

EDIT: if you want memory usage (as report by “top”) add the lines

```
memperc = int(100*float(psutil.used_phymem()) / float(psutil.TOTAL_PHYMEM))
outstr += "mem: "+str(memperc)+"%\t"
```

If you have version 2.0 of psutil then you can get the memory usage as reported by the GNOME System Monitor with the following line:

```
memperc = int(100*float(psutil.used_phymem())-psutil.cached_phymem())/float(psutil.TOTAL_PHYMEM))
```

If you have little space, and you prefer to have units for the net speed (b, k, M) you may use this as well

### Skip code block

```
def withUnit(v):
    if v<1024:
        return "%03d" % v+"b";
    if v<1024**2:
        s= ("%f" % (float(v)/1024))[3];
        if s[-1]=='.':
            s=s[:-1]
        return s +"k";

    return ("%f" % (float(v)/(1024**2)))[3] +"M";

(indiff, outdiff) = sampleNet()
outstr = ""
outstr += "c"+ "%02d" % int(psutil.cpu_percent())+" "
outstr += "m"+ "%02d" % int((100*float(psutil.used_phymem())/float(psutil.TOTAL_PHYMEM)))+" "
outstr += "d"+withUnit(indiff)+" u"+withUnit(outdiff)
```

---

**Tags:** [unity](#) ([Next Q](#)), [indicator](#) ([Next Q](#))

---

## **Q: How do I access and enable more icons to be in the system tray?**

**Tags:** [unity](#) ([Next Q](#)), [indicator](#) ([Next Q](#)), [notification-area](#) ([Next Q](#))

So I'm messing around with Natty a little, and I noticed that all the apps that would normally use the system tray (or "notification area"?) aren't displaying there. Is that a bug, or is that the way it's going to be? I heard something about Ubuntu getting rid of that feature entirely. Is there a way to add it back? I mean, I didn't really like it, either, especially when there were apps that used it unnecessarily, but I can't use CryptKeeper at all now, or easycrypt, and I don't know whether Dropbox has synced without opening Nautilus.

**Tags:** [unity](#) ([Next Q](#)), [indicator](#) ([Next Q](#)), [notification-area](#) ([Next Q](#))

**User:** [jon](#)

---

[Answer](#)  by [alaukik](#)

In versions of Ubuntu prior to 13.04 you have to whitelist the applications if you want to allow them to access the system tray.

Firstly install dconf-tools from the software center ( or by [clicking here](#)  ) Then Press Alt+F2 and enter dconf-editor and run it.



Now navigate to Desktop -> Unity -> Panel.

The screenshot shows the Unity Configuration Editor window. On the left is a tree view with nodes: a11y, apps, com, desktop (expanded), gnome, gstreamer, unity (expanded), devices, launcher, panel (selected), org, and system. In the main pane, there is a table with one row. The row has three columns: 'Name' (containing 'systray-whitelist'), 'Value' (containing '[JavaEmbeddedFrame', 'Mumble', 'Wine', 'Skype', 'hp-systray', 'scp-dbus-service']'), and a 'Set to Default' button. A tooltip for the 'panel' node in the tree view provides schema information: Schema: com.canonical.Unity.Panel, Summary: List of client names, resource classes or wm classes to allow in the Panel's systray implementation, and Description: "" (empty) will not allow any tray icons, "all" will allow all tray icons, otherwise there will be an attempt to match each icon to a value here.

Now change the value of systray-whitelist to

"all"

Note that setting this to "all" will likely lead to other bugs, as the old notification area is unmaintained, instead consider adding applications you need individually instead of just enabling everything. You can reset it to the defaults by checking out this question:

- [How do I set the panel whitelist back to the default?](#)

Do note that the system tray is entirely removed in 13.04 and newer and that older applications that still have not been ported need to be updated:

- [Why aren't certain indicators showing in Unity?](#)

---

Answer by [scouser73](#)

In Terminal, copy and paste this command

```
gsettings set com.canonical.Unity.Panel systray-whitelist "['all']"
```

The tip comes from this website;

<http://www.webupd8.org/2011/04/how-to-re-enable-notification-area.html> 

---

**Tags:** [unity](#) ([Next Q](#)), [indicator](#) ([Next Q](#)), [notification-area](#) ([Next Q](#))

---

## **Q: How do I put a web application on the Launcher?**

**Tags:** [unity](#) ([Next Q](#)), [google-chrome](#) ([Next Q](#)), [chromium](#) ([Next Q](#))

Sometimes I see pictures of screenshots with people with web applications and nice icons on their launcher, how can I set this up?

**Tags:** [unity](#) ([Next Q](#)), [google-chrome](#) ([Next Q](#)), [chromium](#) ([Next Q](#))

**User:** [jorge-castro](#)

---

[Answer](#)  by [jorge-castro](#)

Ubuntu has this feature built in, see:

- [How do I use Ubuntu's web application integration?](#) 

You can also use the more traditional webapp integration approach:

Since these can be time consuming if you use a bunch of webapps I created a “Web Applications” folder that I keep these in because I need a place to hold the icon as well. I sync this folder with Ubuntu One so that on reinstalls or new computers I have my applications all ready to go with the high resolution icons.

In [chromium-browser](#) 

# Missing Image

or Google Chrome you can do this by going to the website you want to make into an application. Clicking on the Wrench icon and select, tools -> Create Application Shortcuts:

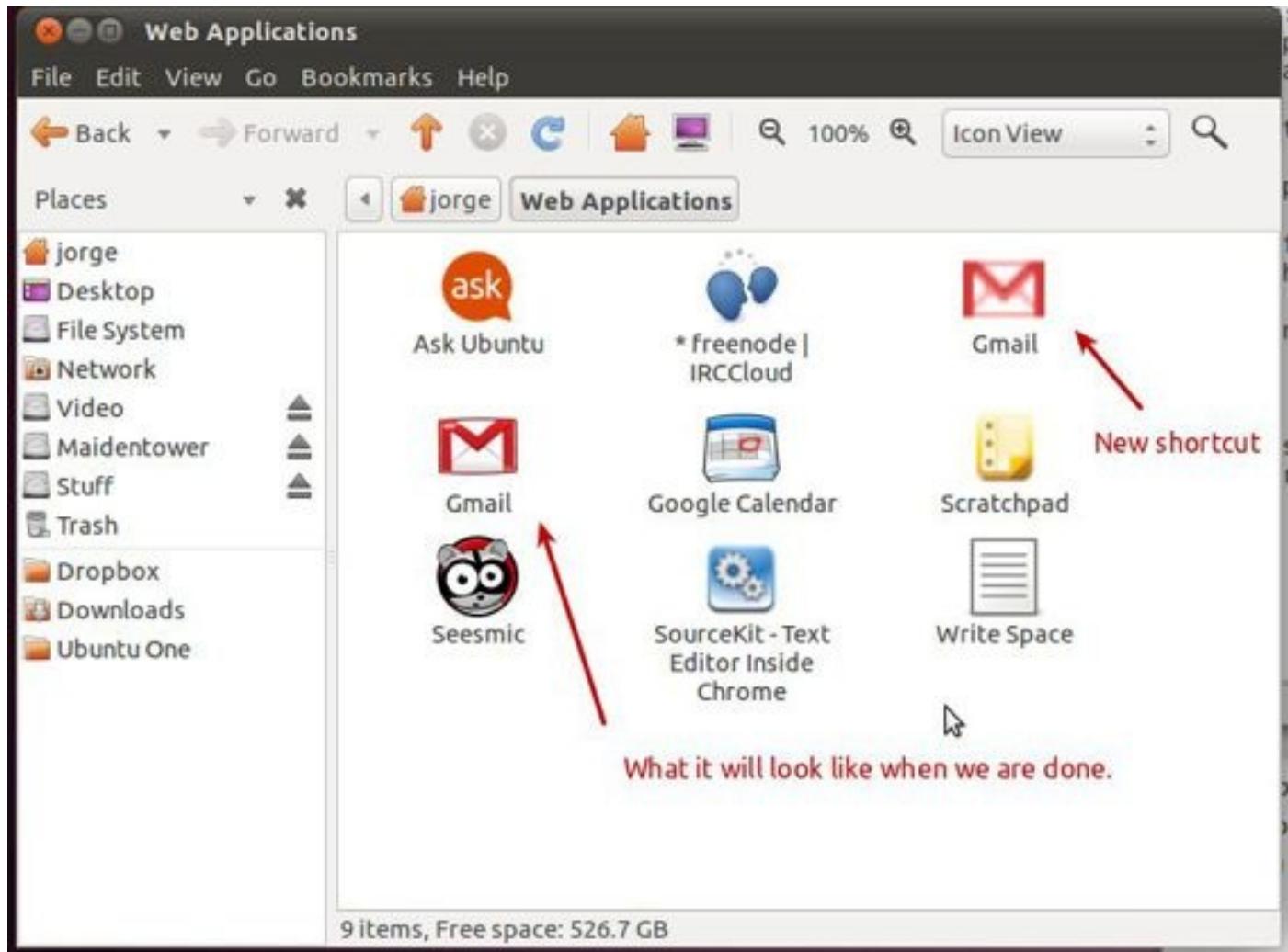


Then select Desktop to create a shortcut on your desktop:

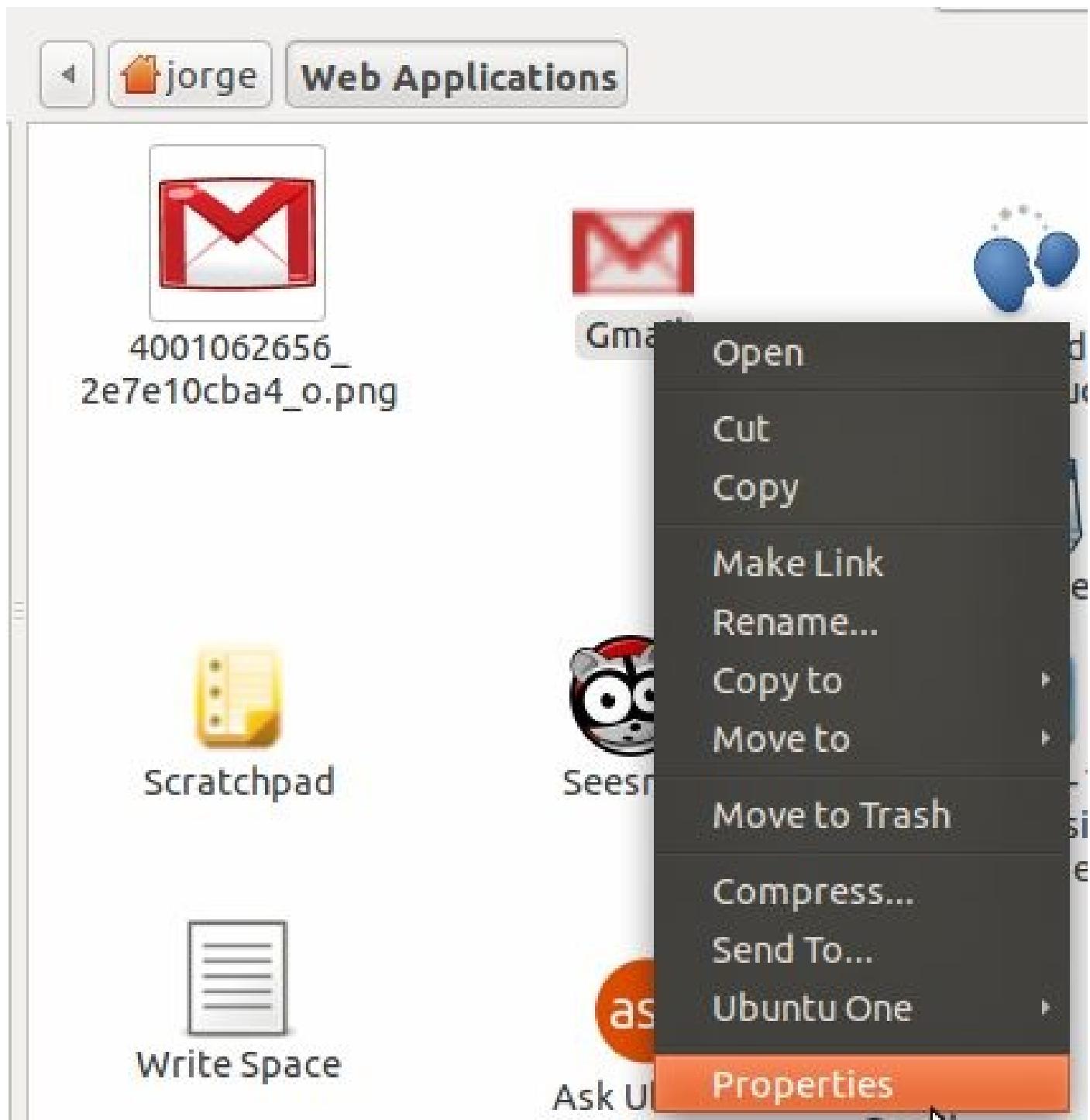


You can also select “Applications Menu” in the create application shortcut, this will put it in the Dash for you, which is handy so you can use the search feature to launch the shortcut, however most web site’s favicons don’t scale very well so they look ugly. So instead I do this to pretty up the application:

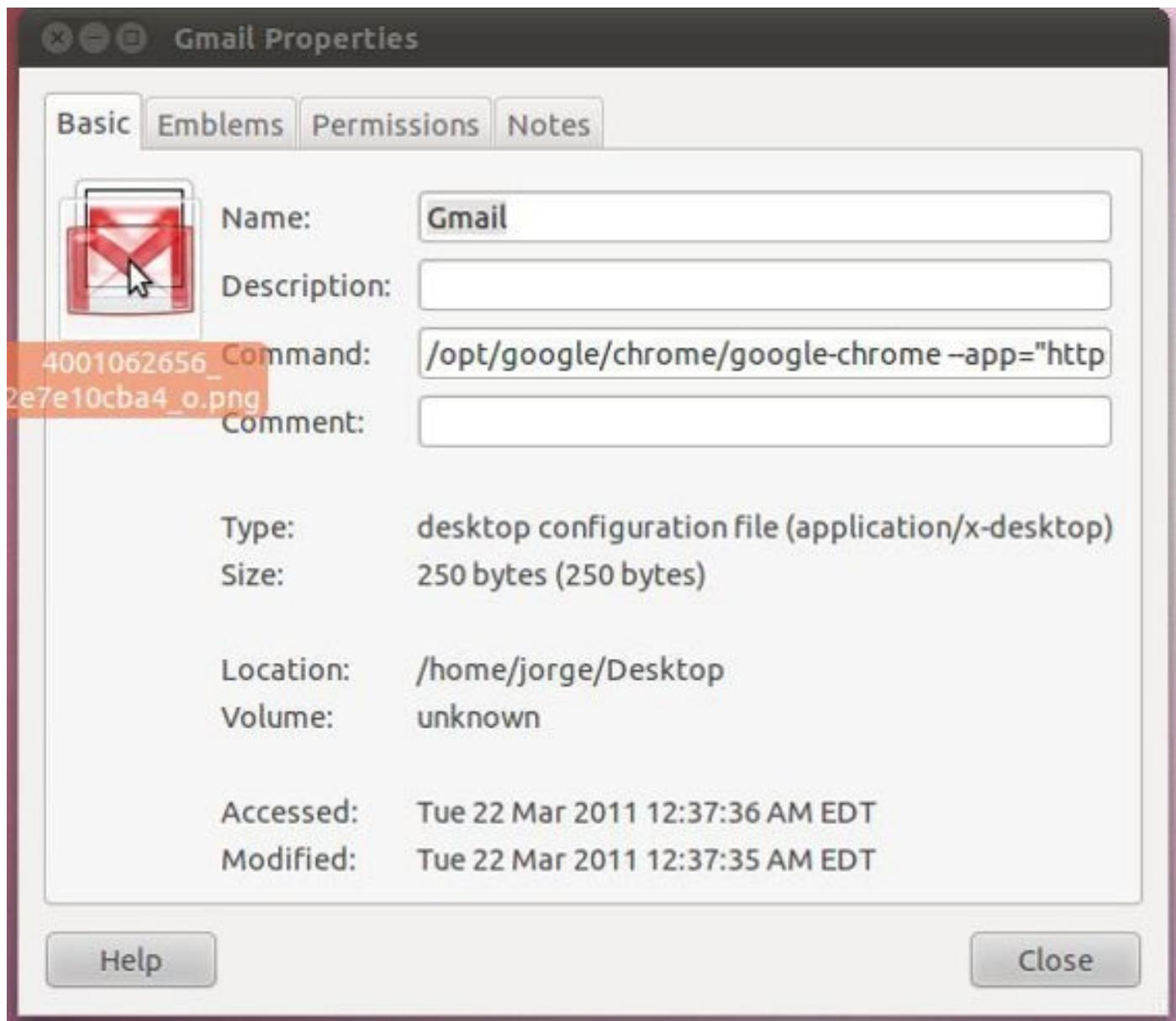
Then move it to this “Web Applications” folder or wherever you want to keep it:



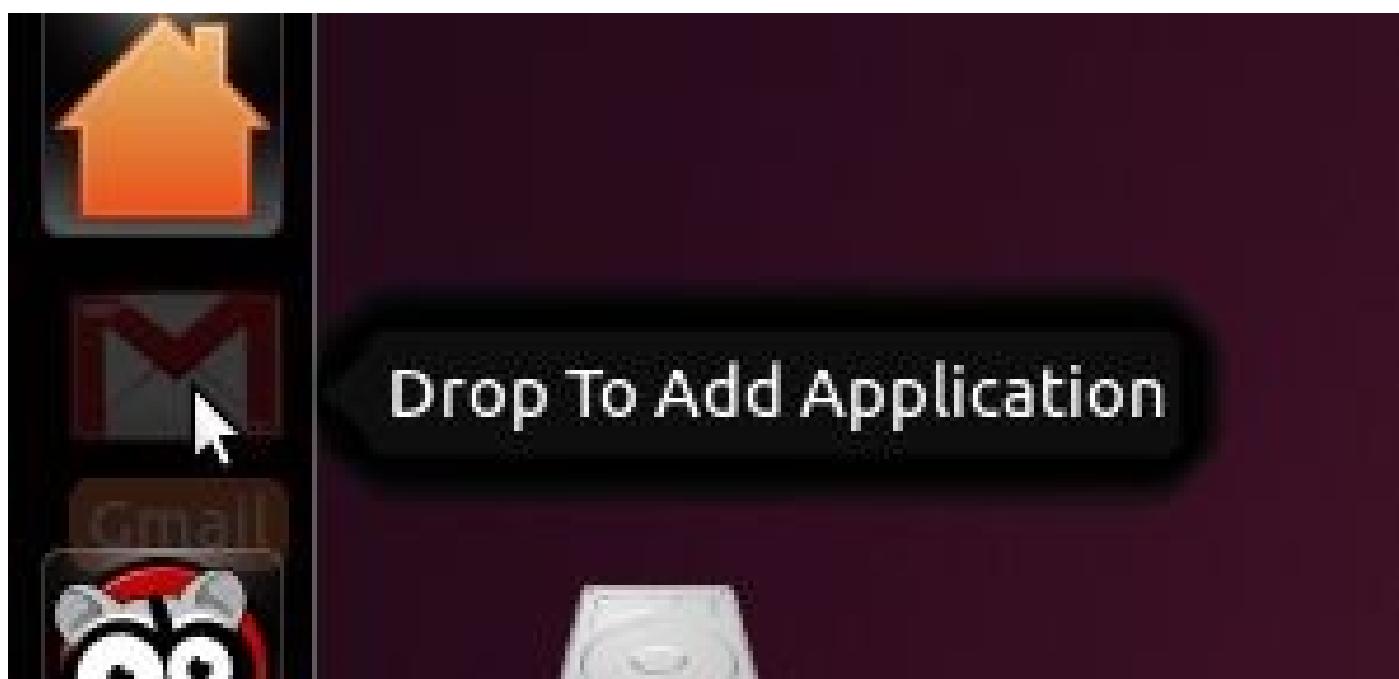
Download a snazzy version of the icon that is good looking. I recommend the [Fluid group on Flickr](#). Download the icon to the folder, and then right click on the shortcut and select properties:



Drag and drop the nicer icon onto the shortcut's icon box, replacing the low resolution icon with the new one:



Drag and drop the new slick icon right onto the Launcher for the final effect:



And the final effect:



---

**Tags:** [unity](#) ([Next Q](#)), [google-chrome](#) ([Next Q](#)), [chromium](#) ([Next Q](#))

---

## **Q: How do I install the Ask Ubuntu Unity Lens, and how do I use it?**



**Tags:** [unity](#) ([Next Q](#))

I heard about the [Ask Ubuntu Unity Lens](#) over in the [chat](#), and I was wondering how to install it. What are the step-by-step instructions to get it installed, activated and once that's done, how do I use it?

**Tags:** [unity](#) ([Next Q](#))

**User:** [jrg](#)

---

[Answer](#) by [nik90](#)

The Ask Ubuntu Lens is a way to search askubuntu.com via your desktop in Unity. You can search for anything on the site. Questions, tags, users, and badges all show up in the search results and then it will take you here.

Depending on your Ubuntu version:

**For 12.10 and above**

# Missing Image

---

In 12.10 and above, the Ask Ubuntu Lens is now just a scope of the Help lens, to summon it with a keyboard shortcut use Super-H.

## For 12.04 or 11.10:

You can install the **Ask Ubuntu Unity Lens** via the Software Centre by clicking below:

**Missing Image**

You will *need* to **log out and log back in** for the lens to show up and work correctly.

## For 11.04:

You can install the Ask Ubuntu Unity Lens via a PPA

```
sudo add-apt-repository ppa:askubuntu-tools/ppa  
sudo apt-get update  
sudo apt-get install unity-place-askubuntu
```

Just open up a terminal window and enter the above commands. Then, you *need to log out and log back* (or run `unity --replace`) in for the lens to show up and work correctly.

You can click on the Ask Ubuntu icon on your launcher (for 11.04), or inside your dash in 12.04 and 11.10. To get a fully expanded lens or you can hit the Super-U keyboard shortcut to summon the lens, then ask your question:

# 12.04 & 11.10 version:



**11:04 version:**

# Missing Image

You can also right click on the icon and get a quicklist of different sub searches if you only want to search for a specific thing:

# Missing Image

You can find more info [here](#).

- Report [bugs](#)

---

[Answer](#) by [stefano-palazzo](#)

## For 11.04

There are a few special searches you can do. Search for au to quickly get a link to Ask Ubuntu (this also works in the global dash). Others are chat, for the Ask Ubuntu Chat, me (for your recent activity page), meta, and help (which will get you to this question).

You can also use the Lens to search any other stackexchange site via @-modifiers. An example search would be:

```
@wordpress file permissions
```

or

```
@so +pygtk about dialog
```

Where @so is short for stack overflow. This is (at the time of writing) the complete list of available sites:

[Skip code block](#)

|                |              |              |                |
|----------------|--------------|--------------|----------------|
| @stackoverflow | @serverfault | @superuser   | @webapps       |
| @gaming        | @webmasters  | @cooking     | @gamedev       |
| @photo         | @stats       | @math        | @diy           |
| @gis           | @tex         | @askubuntu   | @money         |
| @english       | @stackapps   | @ux          | @unix          |
| @wordpress     | @cstheory    | @apple       | @rpg           |
| @bicycles      | @programmers | @electronics | @android       |
| @onstartups    | @boardgames  | @physics     | @homebrew      |
| @security      | @writers     | @audio       | @graphicdesign |
| @dba           | @scifi       | @guitars     | @codereview    |
| @codegolf      | @quant       | @pm          | @skeptics      |

Note that the lens will auto-update this list every time you re-boot, so, after your favourite beta site has been launched, it should appear soon.

## For 11.10

Now that we have scopes, you can just click “Filter Results” and select another Stack Exchange network site.



---

**Tags:** [unity](#) ([Next Q](#))

---

## Q: How do I restart Unity

**Tags:** [unity](#) ([Next Q](#))

I know about unity --reset command. But how can I simply restart Unity without resetting its profile?

**Tags:** [unity](#) ([Next Q](#))

**User:** [yuriy-voziy](#)

---

[Answer](#)  by [oli](#)

I don't use Unity but given what I know of its mechanics, this should work:

unity

You'll want to stick that in a run box (Alt+F2) rather than a terminal or it'll break when you exit the terminal.

If you want to run it from a terminal use:

```
setsid unity
```

---

**Tags:** [unity](#) ([Next Q](#))

---

## [\*\*Q: Can I move the Unity launcher?\*\*](#)

**Tags:** [unity](#) ([Next Q](#))

I cant get used to the new Unity system. Id like to move the left Unity panel to the bottom of screen (like Windows 7 more similar is better).

But I can't find a way. Is it possible?

**Tags:** [unity](#) ([Next Q](#))

**User:** [benjamin](#)

---

[Answer](#)  by [fossfreedom](#)

# 11.10

There is now an **unofficial Compiz Plugin** that allows you to move the Unity 3D (not Unity 2D) launcher from the left to the bottom.



[Credit to WebUpd8](#).

In summary:

1. You can now peruse the source-code. Contact the maintainer with suggested fixes! Remember this is unofficial and can & probably will have many bugs still to be ironed out.
2. Install the PPA - ppa:paullo612/unityshell-rotated
3. The packages to install are unityshell-rotated libnux-1.0-0
4. A new plugin *Ubuntu Unity Plugin Rotated* will be made available in CCSM
5. There is a likelihood of freezes on installation. If this occurs use CTRL+ALT+F1 to start a TTY, login and restart lightdm with sudo service lightdm restart. Rerun ccsm to enable the new plugin
6. This plugin replaces the official Unity Plugin. You will obviously not receive further bugfixes from the Ubuntu development team - you will be reliant on the PPA maintainer to supply bug-fixes

**warning please see this [Q&A as to potential stability issues](#) using CCSM**

---

Linked Questions:

1. [What are PPAs and how do I use them?](#)
  2. [Source code](#) 
- 

[Answer](#)  by [mestrelion](#)

## 12.04 and newer

As of 12.04 you can **not** move the launcher, and theres **no** official support for that.

**This is by design**, and so far, there are no Canonical plans to change that. Heres a quote from [Mark](#) on [the bug report](#) for Ubuntu 11.04:

I think the report actually meant that the launcher should be movable to other edges of the screen. Im afraid that wont work with our broader design goals, so we wont implement that. We want the launcher always close to the Ubuntu button.

I interpret that as a stand that a consistent design must be experienced as a Unity (pun intended), or it won't work at all.

While I personally disagree with Marks/Canonicals decision *not* to provide a way to move the launcher (*please read my final note on this*), I do understand the design choice: it truly makes sense for it to be on the side and not at the bottom. Most users today have a widescreen monitor, and virtually all monitors for sale, specially for end-user consumer market, are widescreen too. That means the vast majority of users have lots of extra horizontal space (mostly underused), while vertical space is premium.

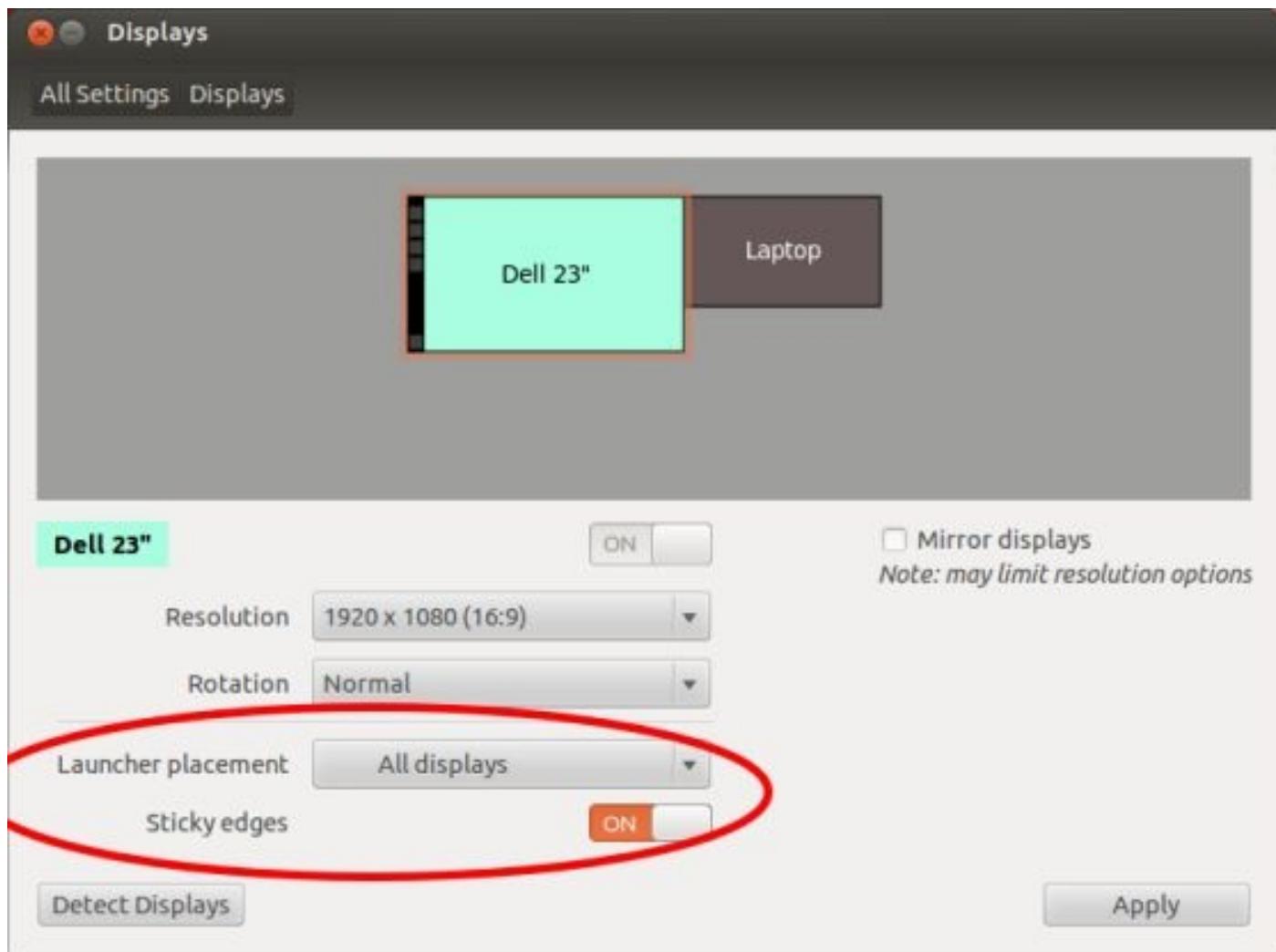
Most apps and websites do not use your whole screen width (check the large vertical background bars in both sides of screen of Ask Ubuntu, for example). But they *do* use the full vertical length (actually, they scroll 3, 5, 10 times your screen height). Meaning lots and lots of scrolling. And then you subtract title bar, menu bar, favorites bar, tabs bar, etc., all of them sucking up your precious vertical space. So adding the launcher on top/bottom would make things even worse, while theres plenty of extra, idle horizontal space.

There is an ongoing, strong movement in app development, specially browsers, towards reducing the number of bars and merging them together. Think about how Firefox changed in this regard in the last few years. So it makes sense for an OS to do the same.

True, Windows panel is a well-crafted one but the design choice of Unity to put it at side and not the bottom is a wise one, once you get used to it. And its worth doing so. Your mouse wheel will say thanks ;)

That said, some important notes:

- I am just expressing Marks/Canonicals statements and point of view. While I do understand the design choice, and I do agree with a side launcher, I certainly do *not* agree with the decision of not being able to move it. But *Im just a messenger. Dont shoot the messenger.*
- There are unofficial, third-party packages that allow you to move the launcher. [This other answer](#) covers that in great depth.
- You *can*, at least, have *some* control over the launcher in a multi-monitor setup:



(image edited from [Ubuntu Vibes](#))

[Answer](#) by [radu-r&fdeanu](#)

You can't move the launcher from where it is. [Here](#) is a comment from [Mark Shuttleworth](#):

I think the report actually meant that the launcher should be movable to other edges of the screen. I'm afraid that won't work with our broader design goals, so we won't implement that. We want the launcher always close to the Ubuntu button.

As an alternative, you can use [Cairo-Dock](#)

# Missing Image

:

Cairo-Dock is a pretty, fast and customizable desktop interface. You can see it as a good alternative/addition to Unity, Gnome-Shell, Xfce-panel, KDE-panel, etc After 6 months of hard work, a new version of Cairo-Dock is available (Source: <http://www.glx-dock.org/>).

Other alternatives that offers you a launcher at the bottom of the screen: [Cinnamon](#), [LXDE](#) , and so on.

This is a screenshot of my Cinnamon desktop (as you can see the launcher is at the bottom):



As you can see, *Linux is full about choices!*

---

**Tags:** [unity](#) ([Next Q](#))

---

## **Q: How can I reduce or increase the number of workspaces in Unity?**

**Tags:** [unity](#) ([Next Q](#))

I was reading about [how to get multiple workspaces in the mutter version of Unity](#) , however since Compiz is replacing Mutter how do I go about adding and removing workspaces in Compiz version of Unity?

**Tags:** [unity](#) ([Next Q](#))

**User:** [marco-ceppi](#)

---

**Answer**  by [fossfreedom](#)

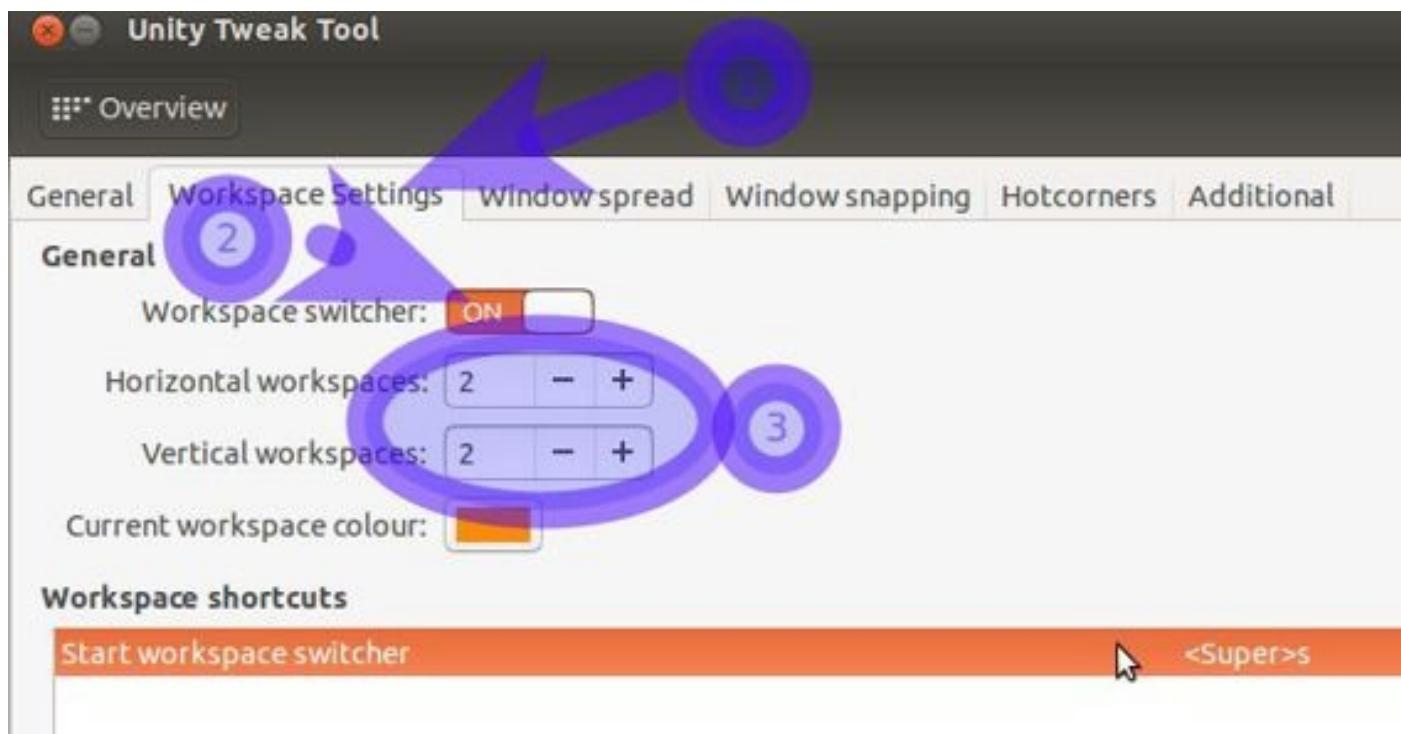
# 13.04 and later

Workspaces are by default disabled on a new install of Ubuntu v13.04.

You can toggle workspaces on/off as well as defining the number of workspaces through [unity-tweak-tool](#)

# Missing Image

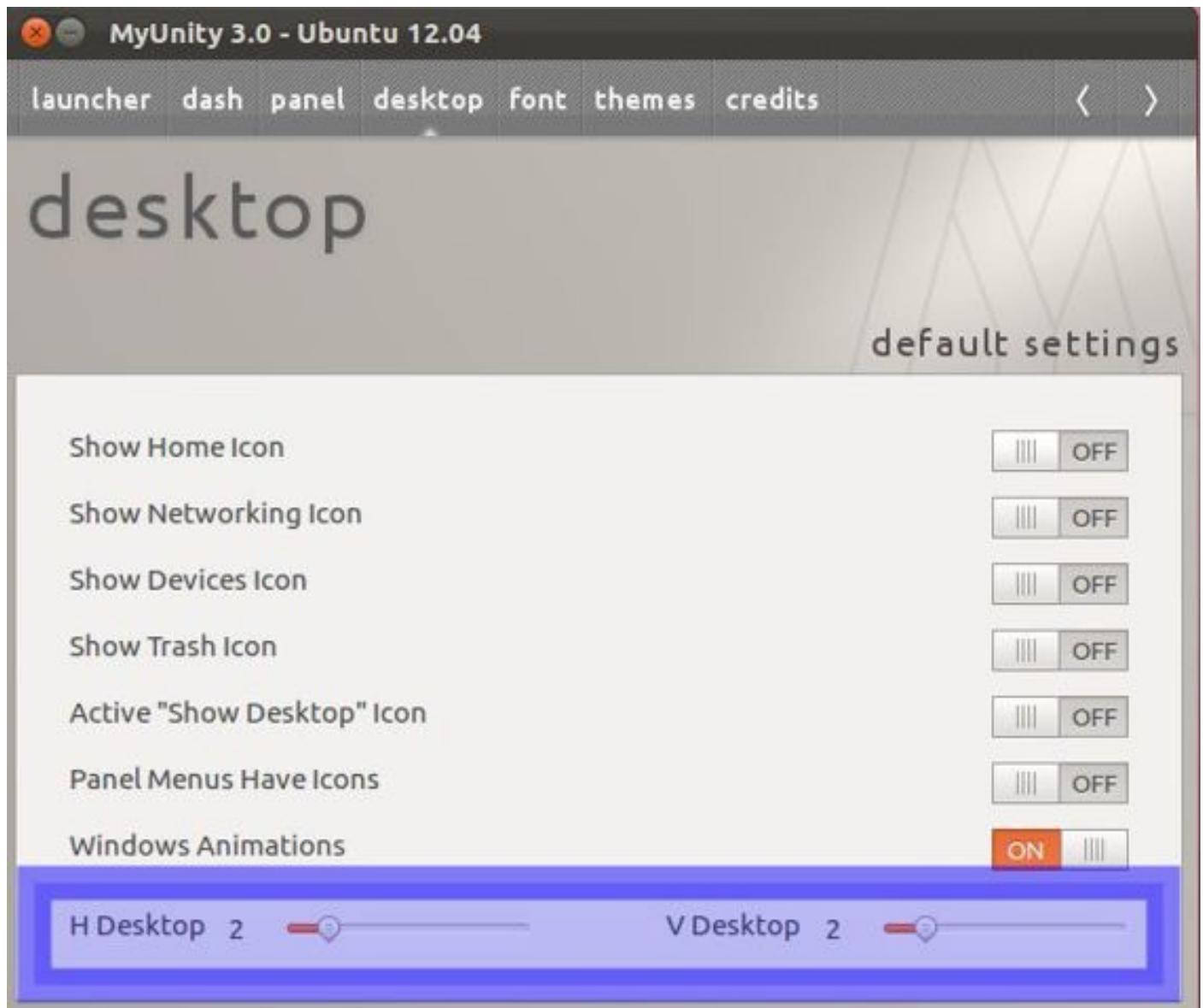




12.04 

# Missing Image

The number of workspaces can be safely set without using CCSM through *MyUnity*



Move the slide-bars to change the number of horizontal & vertical workspaces  
for example 4x1



[Answer](#) by [ajmitch](#)

# 11.10 and below

## Using CCSM

This works on **Ubuntu 12.04 LTS** as well, but it is easier and safer to [use MyUnity instead](#).

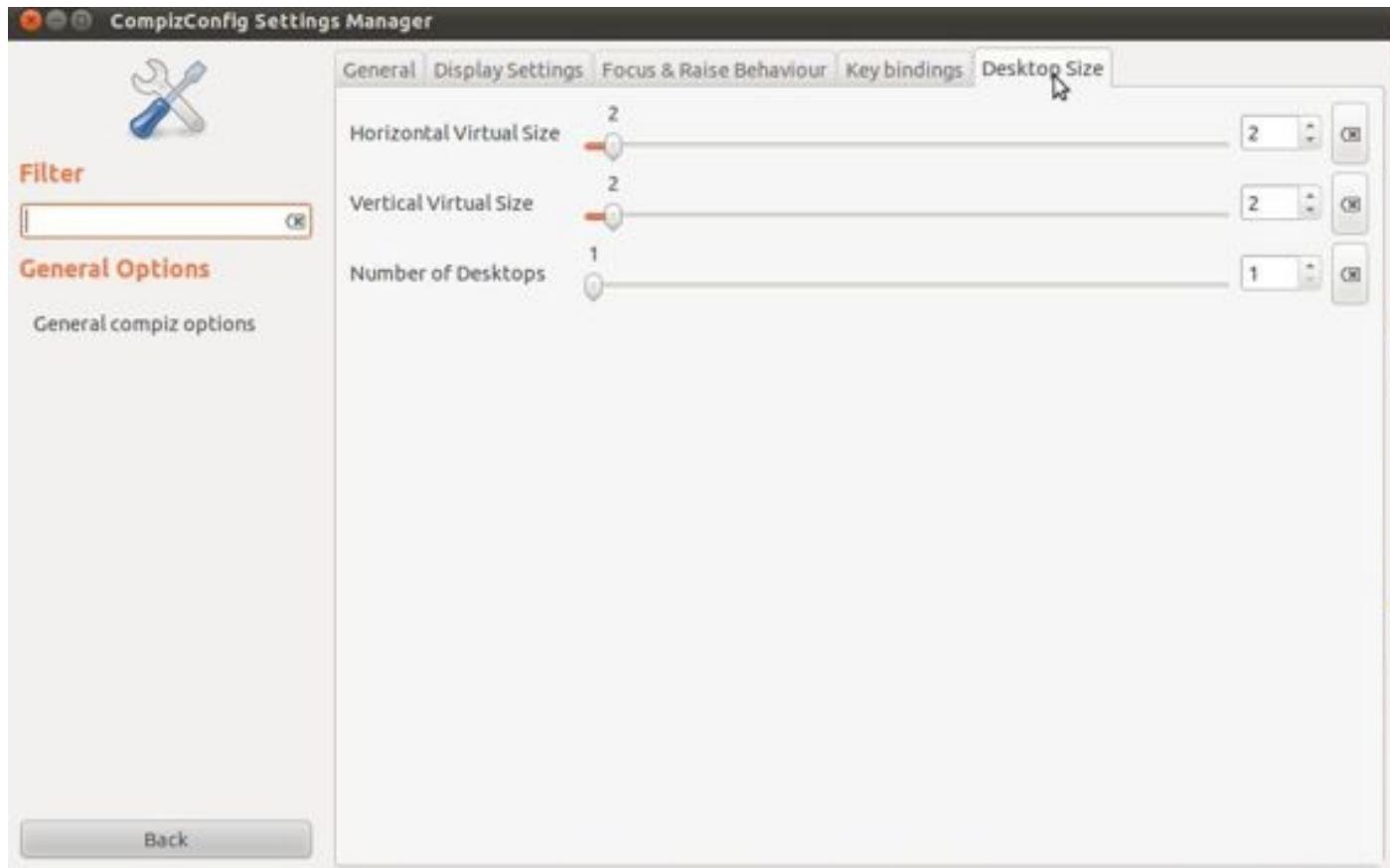
**Warning:** ccsm can lead to unwanted effects that may be hard to overcome and may leave you without a desktop (see also [this question](#) for more background information).

The options for the number of workspaces can be found in compizconfig-settings-manager

# Missing Image

under General Options. Do not set horizontal workspaces below 2 or the workspace switcher button won't work.





# Using MyUnity

[MyUnity](#) can be used also in 11.10 and below, with additional steps.

In a terminal, use `sudo add-apt-repository ppa:myunity/ppa && sudo apt-get update && sudo apt-get install myunity` to install MyUnity. Then, use the steps described above to 12.04.

---

[Answer](#) by [fossfreedom](#)

## 12.10

MyUnity has been removed from the quantal repositories pending a rewrite. It may make a reappearance at a later date.

Until then, the number of workspaces can be changed using one of four methods:

- via the command-line
- using Ubuntu-Tweak
- using compiz-settings-manager (Not Recommended - use the CCSM answer if you wish to risk this route).
- dconf-editor

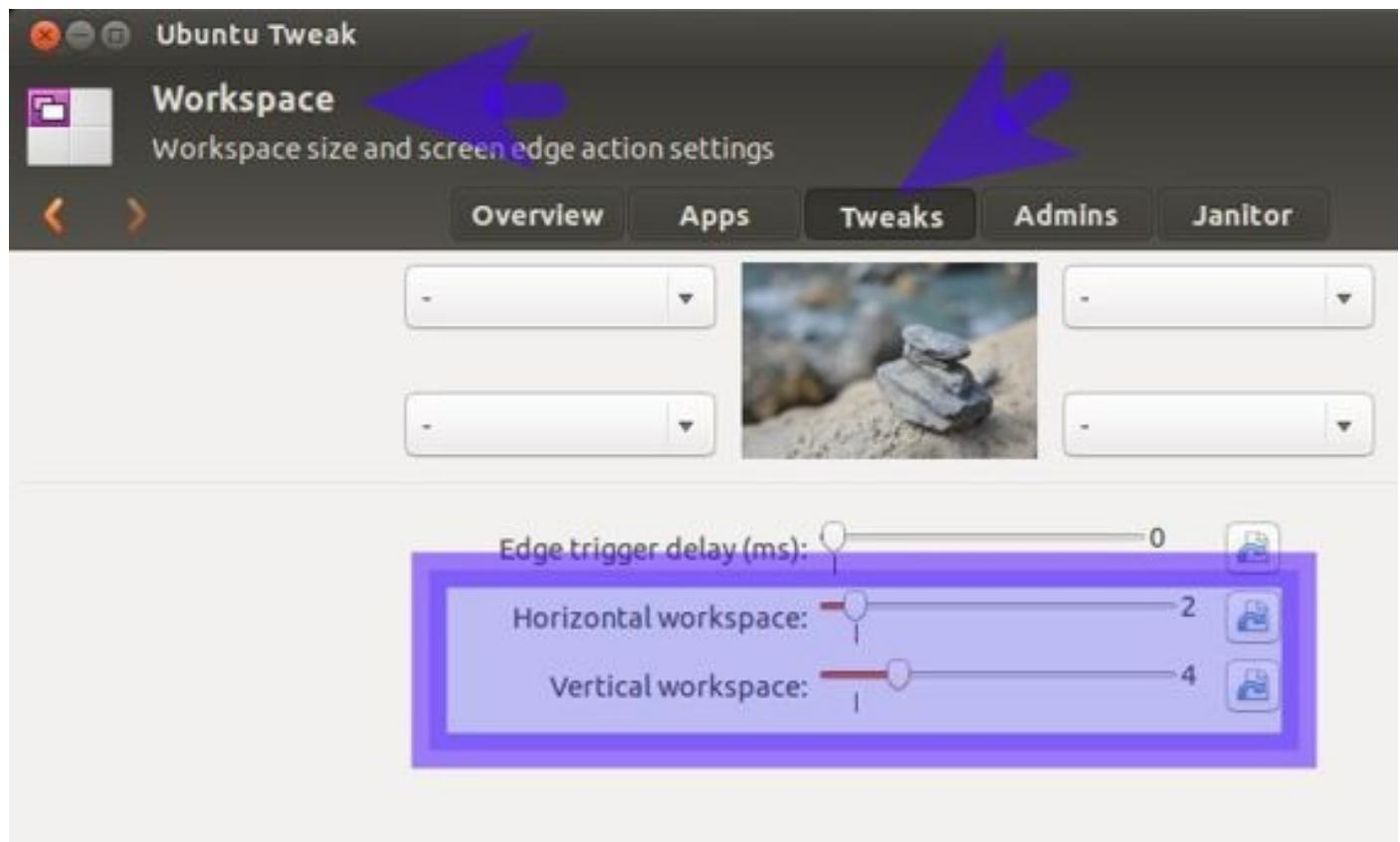
# method 1

If you love the terminal you can achieve the above via:

```
gsettings set org.compiz.core:/org/compiz/profiles/unity/plugins/core/ hsize [x]
gsettings set org.compiz.core:/org/compiz/profiles/unity/plugins/core/ vsize [y]
```

where [x] and [y] are numeric values

## method 2



- [How do I install Ubuntu-Tweak?](#)

## method 3

[dconf-tools](#) 

# Missing Image

**IMPORTANT NOTE: you must have used method one or two previously for dconf-editor to show the keys to change.**

The reason for this is because dconf-editor does not show relocatable schema keys by default unless they have been previously changed.

First install dconf-tools.

Then press ALT+F2 and type dconf-editor



Press Enter or click on the icon shown.

This then opens the application:

**dconf Editor**

▼ org  
▶ a11y  
▼ compiz  
gwd  
integrated  
▼ profiles  
▼ unity  
▼ plugins  
core  
unityshell  
wall  
▶ freedesktop  
▶ gnome  
◀ quirkbar

| Name  | Value |
|-------|-------|
| hsize | 2     |
| vsize | 3     |

Schema: No schema  
Summary:  
Description:  
Type:  
Default:

Navigate down the tree to org - compiz - profiles - unity - plugins - core and change the values shown.

---

Tags: [unity](#) ([Next Q](#))

---

## [Q: Can I use the Unity launcher icon to minimize applications/windows?](#)

Tags: [unity](#) ([Next Q](#))

I don't know if this is a feature or a bug, but clicking on an active application's launcher icon doesn't minimize it. It is terribly inconvenient for folks using a persistent Unity bar to click minimize button every time. Is there any way to add minimize functionality to the launchers?

Tags: [unity](#) ([Next Q](#))

User: [eternal-owl](#)

---

[Answer](#) by [tobi](#)

**For 14.04:**

See [this answer](#).

**For 13.10 and below:**

Because [Mark Shuttlewoth decided it, at least for now?](#):

no, clicking on the icon will not minimise the app. We have a minimise button for that, it's prominent.

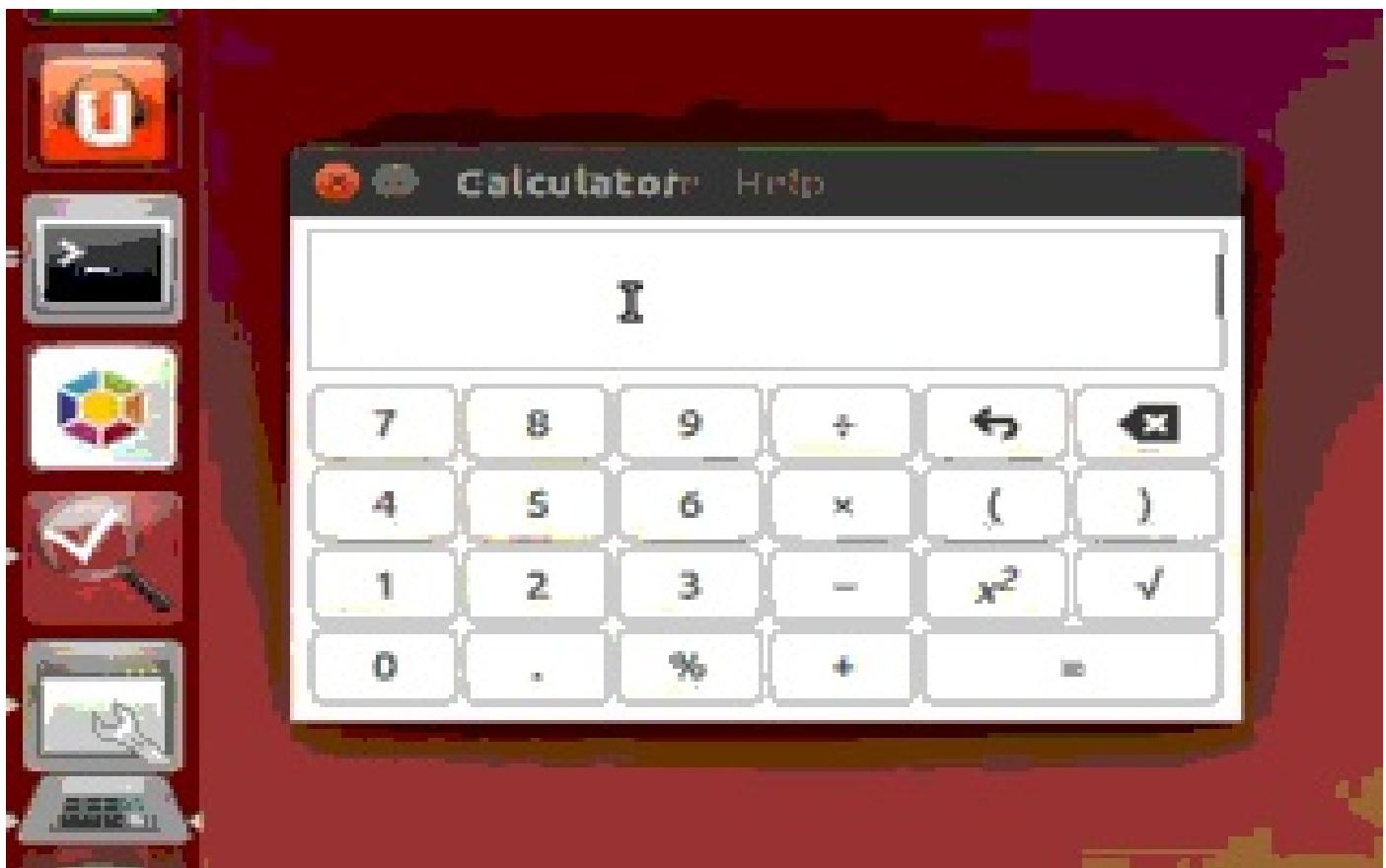
But at least, that bug has now the status [opinion](#) which means the developers won't fix it for now, but wait for community discussion.

So if you would like minimize on click, too, make a clear statement at [launchpad](#).

---

[Answer](#) by [fossfreedom](#)

## For 14.04:



An unsupported capability was added to Unity for Trusty. Unsupported means that Canonical do not guarantee this capability moving forwards towards Unity 8.

However, from a LTS point-of-view this gives those users at least 5 years with just this capability. This is not directly available through the standard GUI.

For a safe way, reach for a terminal and copy & paste the following:

```
gsettings set org.compiz.unityshell:/org/compiz/profiles/unity/plugins/unityshell/ launcher-minimize-window true
```

To undo this change:

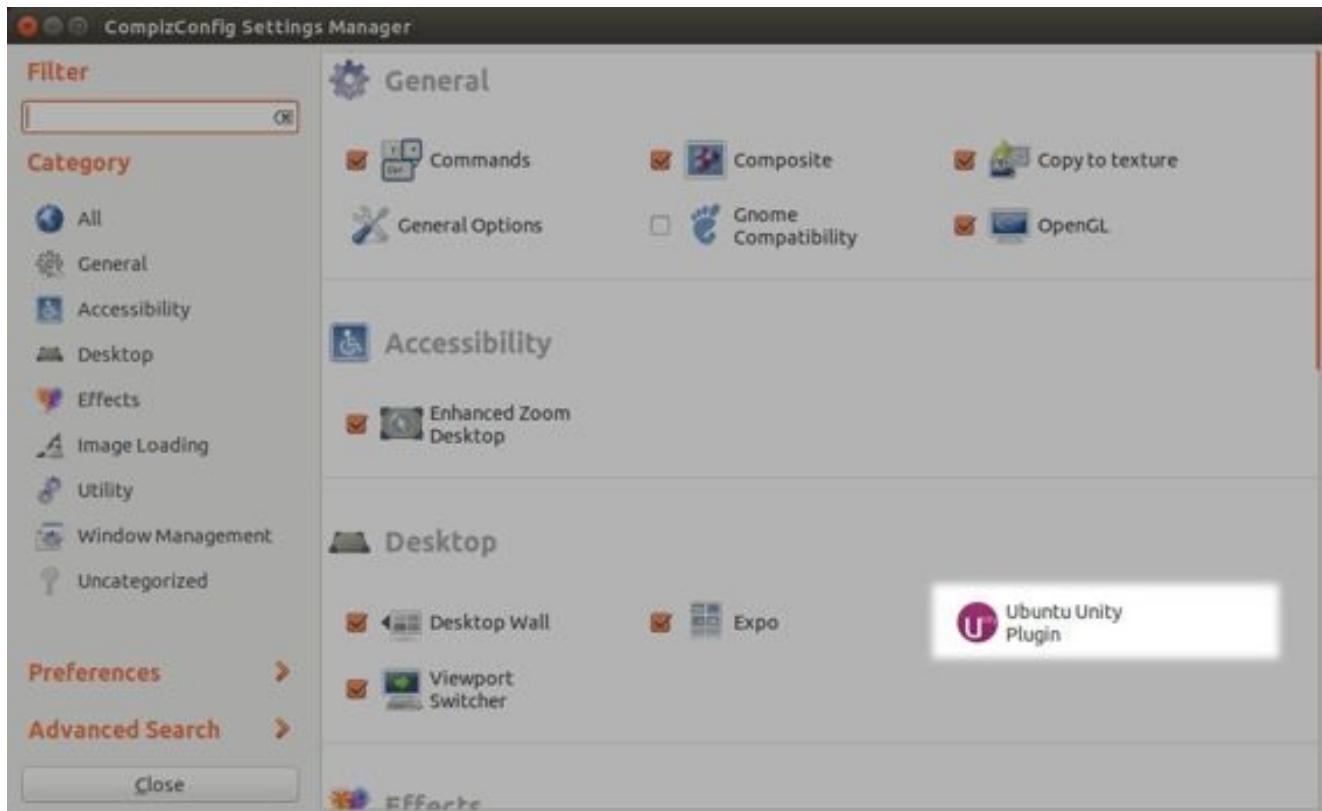
```
gsettings set org.compiz.unityshell:/org/compiz/profiles/unity/plugins/unityshell/ launcher-minimize-window false
```

For an [unsafe method](#), you can use [compizconfig-settings-manager](#)

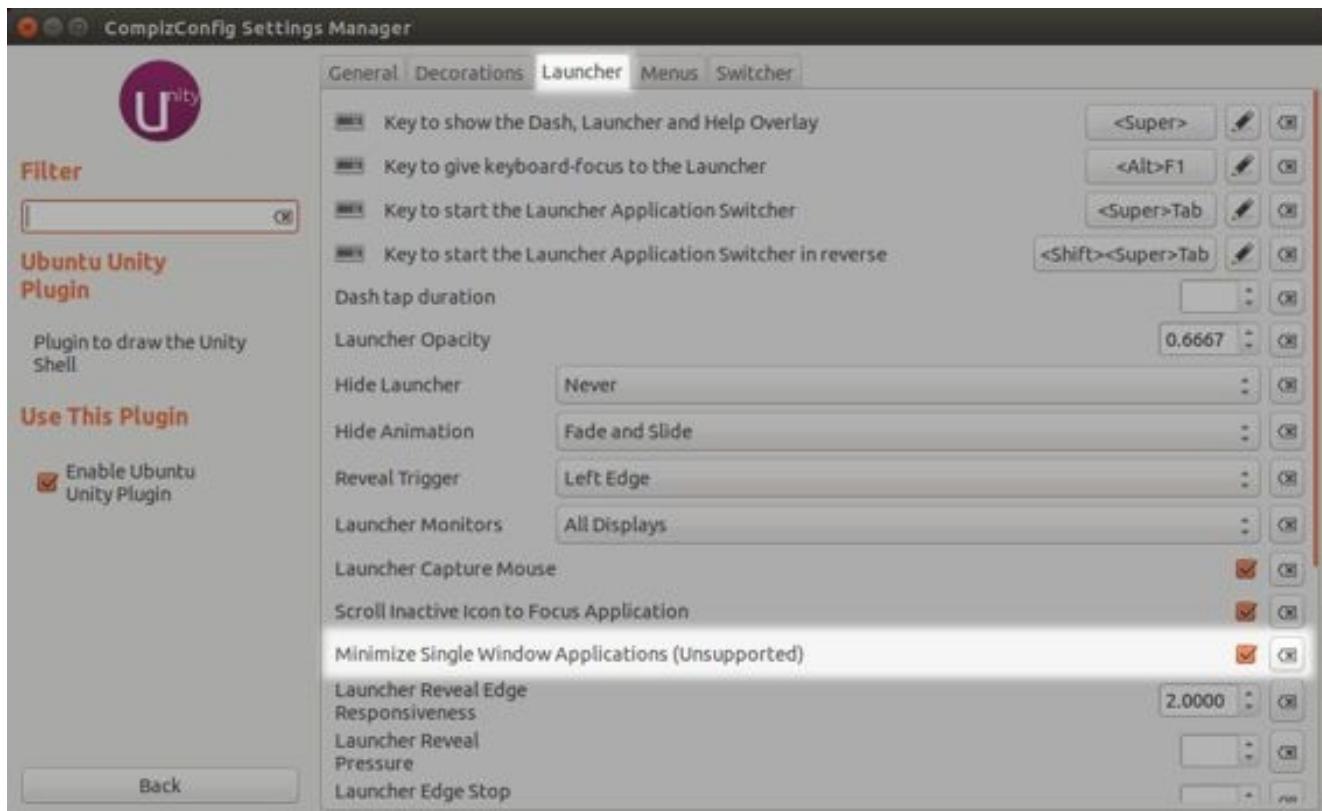
# Missing Image

:

1. Launch the application and click on *Ubuntu Unity Plugin*:



2. Switch to the *Launcher* tab and put the checkmark beside *Minimize Single Window Applications (Unsupported)* to enable this feature.



Answer by [cas](#)

### For 13.10 and below

There is quite a heated debate about this missing feature on launchpad:

<https://bugs.launchpad.net/ayatana-design/+bug/733349>

In response to the expose mode for multiple windows, this can be easily adapted for with a second click to minimize all windows as there is currently no further function for that extra click in launcher.

If you want to minimize all the application's windows, I do not think there is an easy way currently so this functionality would help in that instance too.

---

**Tags:** [unity](#) ([Next Q](#))

---

## **Q: Is there an easy way to rearrange or move the icons in the Unity launcher?**

---

**Tags:** [unity](#) ([Next Q](#))

It looks like the only time that you can choose where an icon goes on the unity launcher, is when you add it. Is there a way to rearrange the order of an icon after it has been added?

**Tags:** [unity](#) ([Next Q](#))

**User:** [janniet](#)

---

[Answer](#)  by [novatillasku](#)

Click and hold the application's launcher icon, and then drag it up or down.



Aplicaciones Lugares Sistema



## Administrador de archivos

[Answer](#) by [basharat-sialvi](#)

**How to rearrange icons in Unity Launcher?**

Just drag the icon out of the Launcher.



And then just drop it back in the Launcher anywhere you want.



---

[Answer](#)  by [don-kirkby](#)

In Ubuntu 11.10, dragging to the right didn't work for me. When I click an icon and hold the mouse button down for one second without moving the mouse, the icon drops down a few pixels. After that, I can drag it up or down the list to change its position.

---

**Tags:** [unity](#) ([Next Q](#))

---

## **Q: How do I make a Theme from scratch for Unity?**

**Tags:** [unity](#) ([Next Q](#)), [themes](#) ([Next Q](#))

I'd like to make a theme from scratch for Unity.

What knowledge and information/skills are needed? Are there any tools or templates out there for something like this already? I don't have any Python experience so tools biased towards beginners are preferable.

**Tags:** [unity](#) ([Next Q](#)), [themes](#) ([Next Q](#))

**User:** [achu](#)

---

[Answer](#)  by [rinzwind](#)

# 10.04 to 11.04

To avoid problems with a theme I create I start with another theme and then copy it over to a new name and use theme [Equinox Evolution Midnight](#) to create a new theme that I name **Rinzwind**. This avoids errors, crashes and notices about things not being present for this theme.

- create a new theme based of another theme

Themes are stored in /usr/share/themes/:

The screenshot shows a terminal window with the following command history:

```
rinzwind@discworld:/usr/share/themes/Rinzwind$ ls
AgingGorilla      Equinox Evolution          Industrial
Ambiance           Equinox Evolution Dawn      Inverted
Atlanta            Equinox Evolution Dawn Squared Metabox
Bright             Equinox Evolution Dusk      Mist
Clearlooks         Equinox Evolution Light     New Wave
ClearlooksClassic  Equinox Evolution Midnight  New Wave Dark Menus
Crux               Equinox Evolution Rounded   Radiance
Default            Equinox Evolution Squared   Raleigh
Dust               Esco                      Redmond
Dust Sand          HighContrastInverse       Simple
Emacs              HighContrastLargePrintInverse ThinIce
rinzwind@discworld:/usr/share/themes$ sudo mkdir Rinzwind
rinzwind@discworld:/usr/share/themes$ cd Rinzwind
rinzwind@discworld:/usr/share/themes/Rinzwind$ sudo cp -R /usr/share/themes/Equinox\ Evolution\ Midnight/* .
rinzwind@discworld:/usr/share/themes/Rinzwind$ ls
ChangeLog  gtk-2.0  index.theme  metacity-1  README
rinzwind@discworld:/usr/share/themes/Rinzwind$
```

Steps taken in this image:

- Open terminal and `cd /usr/share/themes/`
- `sudo mkdir Rinzwind`
- `cd Rinzwind`
- `sudo cp -R /usr/share/themes/Equinox\ Evolution\ Midnight/* .`

Inside the new directory is a file named `index.theme` that needs to be changed to the new theme name. So after entering `sudo gedit index.theme` change all the old theme names to the new one:

The screenshot shows a text editor window with the title bar "index.theme (/usr/share/themes/Rinzwind) - gedit". The menu bar includes File, Edit, View, Search, Tools, Documents, and Help. Below the menu is a toolbar with icons for New, Open, Save, Print, Undo, and Redo. The main area contains the following text:

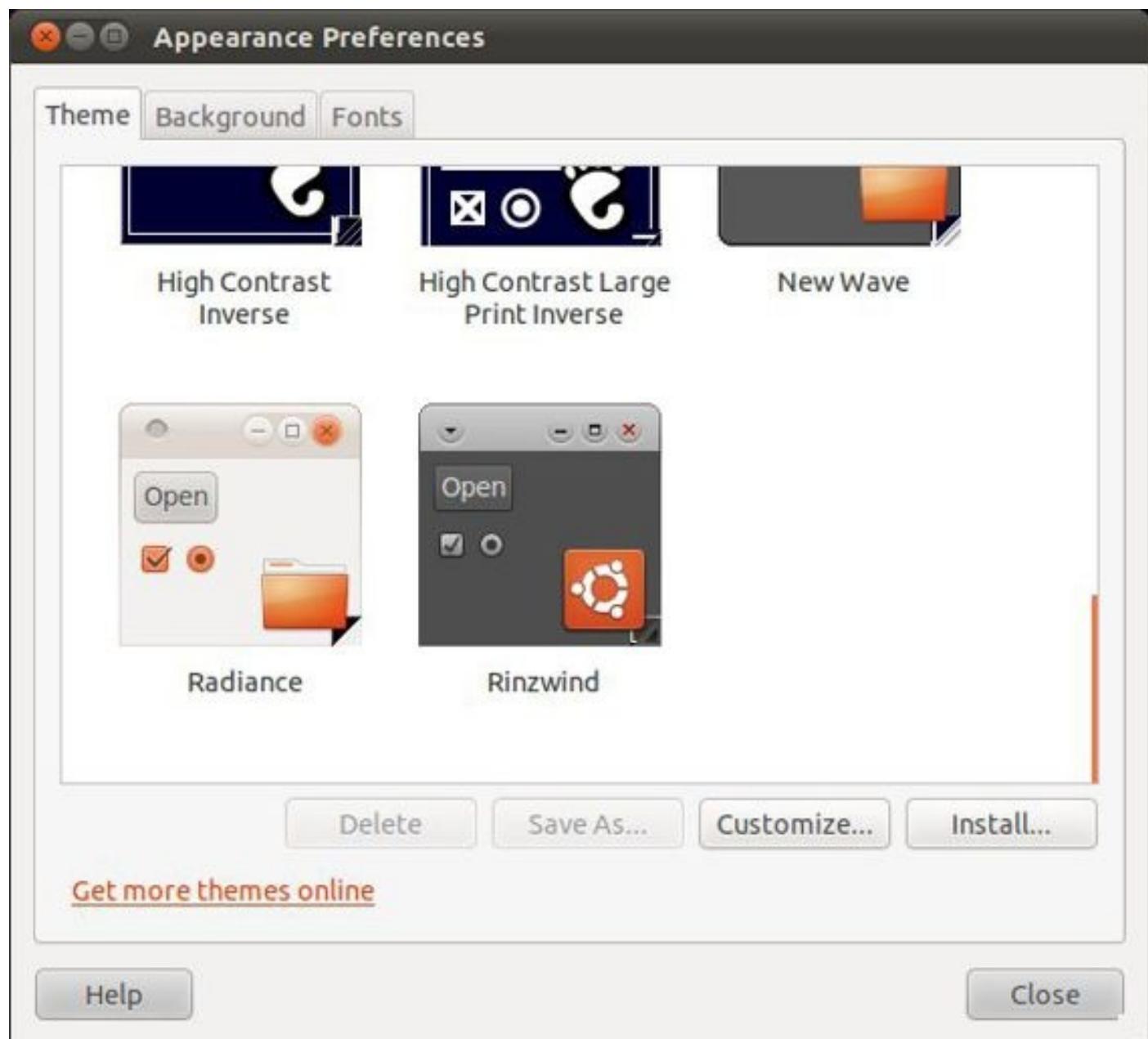
```
[Desktop Entry]
Type=X-GNOME-Metatheme
Name=Rinzwind
Comment=Gtk 2.0 Rinzwind theme
Encoding=UTF-8

[X-GNOME-Metatheme]
GtkTheme=Rinzwind
MetacityTheme=Rinzwind
IconTheme=Faenza-Darkest
CursorTheme=DMZ-White
ButtonLayout=close,minimize,maximize:menu

.desktop
```

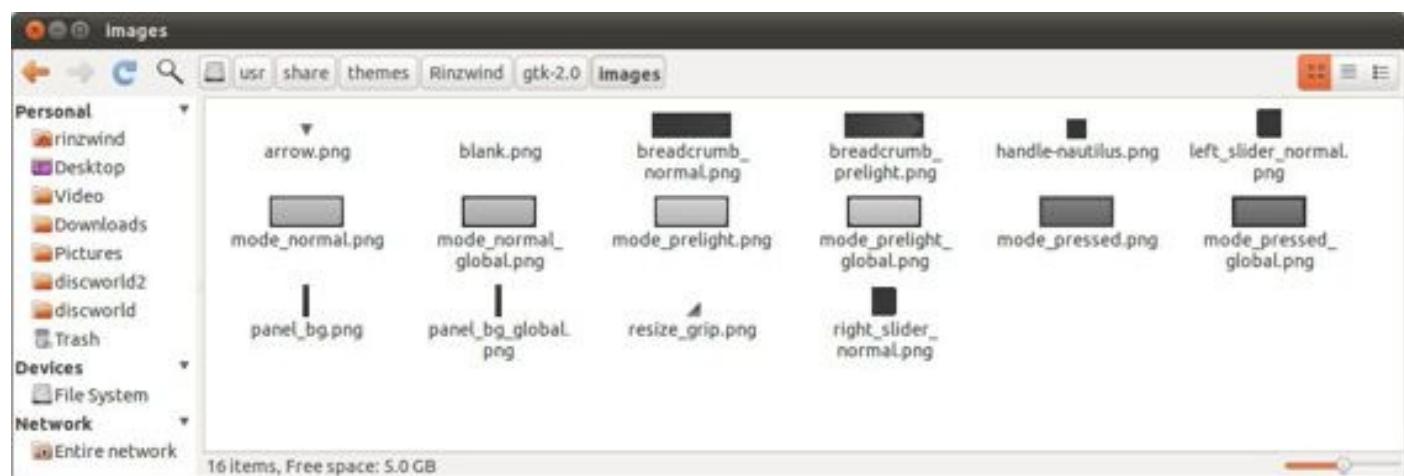
String, search and replace Equinox Evolution Midnight -> Rinzwind  
IconTheme and CursorTheme I will keep for now but editing these 2 is almost the same as for this theme.

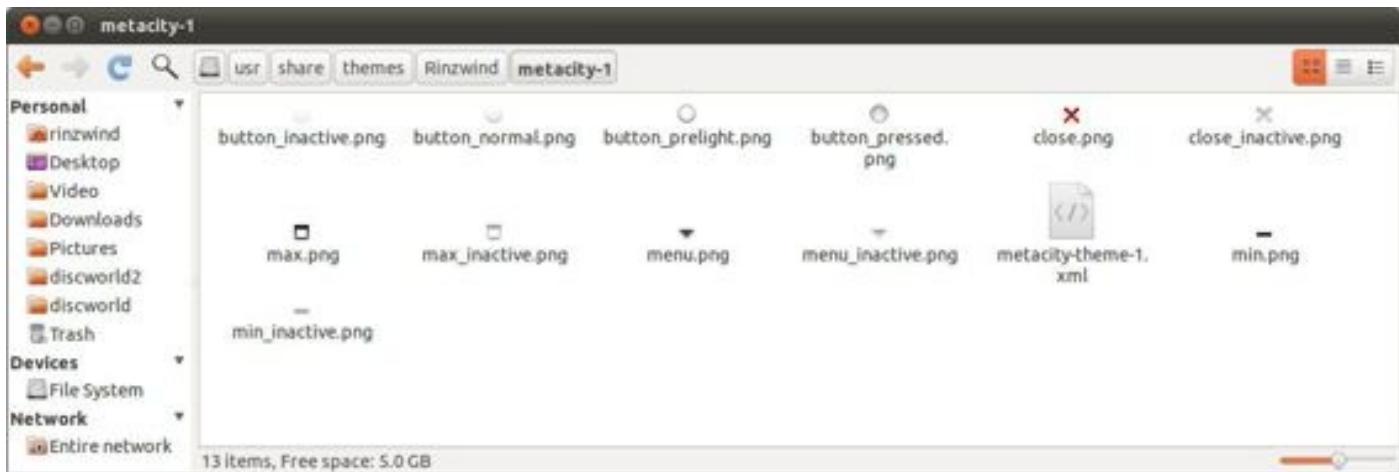
And now we have a new name for an old theme:



- Creating a new theme

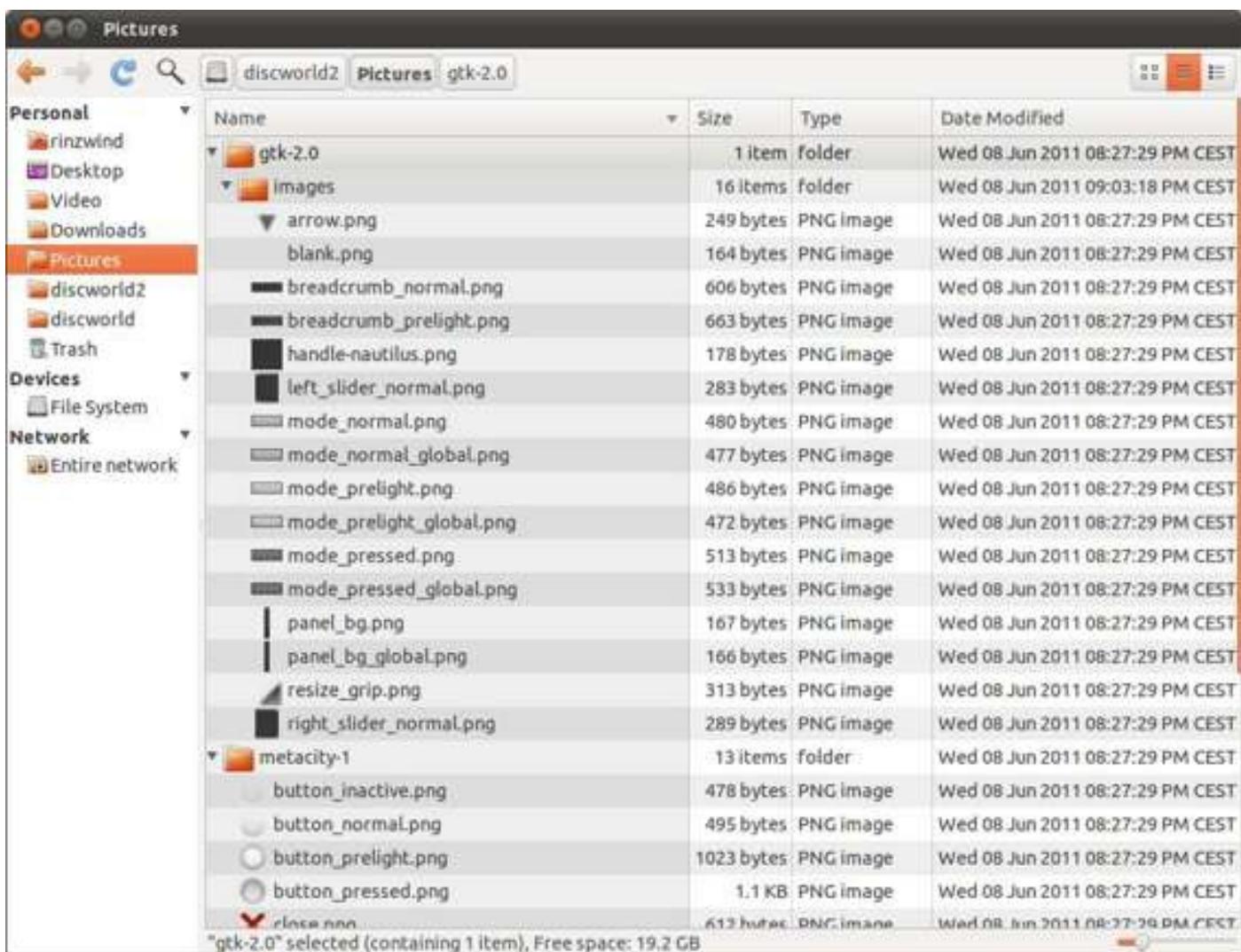
Inside our new directory are 2 sets of images:





With an image editor (Gimp) you can change the colors or do various things on the images. Make sure to keep the same size of the image and of course use sane colors (stick to one color and 1 or 2 shades of this color to make a *theme* and not something that gives people instant headaches).

Recreate these 2 directories in your Pictures folder by copying the theme to your Pictures. I copied the 2 directories inside the theme and removed all directories that are not images with this as a result:



Open all the images inside gimp and start editing them and when you are satisfied copy them over with to your theme's directory and check if it works. Remark: since the theme is owned by root you need to use sudo to copy it over.

- [What GIMP tutorials are available?](#)
- 

[Answer](#) by [fossfreedom](#)

# 11.10 and above

Creating a theme for 11.10 and above (GTK+3) is fortunately very similar to 11.04 and previous versions of Ubuntu that used GTK+2. This answer is based on the already excellent [answer from Rinzwind](#).

Its easier to amend an existing theme rather than to tackle a theme from scratch. In addition - its easier to edit a theme in your own local home folder - this avoids permissions issues etc.

Lets create a new theme that called **foss** based upon the Ambiance theme. Obviously - if you have any other GTK+3 themes installed, use those (see linked Q&A for where to get themes)

Install themes are stored in `/usr/share/themes/` - local themes are stored in your home folder under the folder-name `.themes`

- Open terminal
- Create a local *foss* theme folder `mkdir -P ~/.themes/foss`
- `cp -R /usr/share/themes/Ambiance/* ~/.themes/foss`

Inside the new folder is a file named `index.theme` that needs to be changed to the new theme name.

`gedit ~/.themes/foss/index.theme` change all the old theme names to the new one.

index.theme (~/.themes/foss) - gedit

Open Save Undo

index.theme

```
[Desktop Entry]
Type=X-GNOME-Metatheme
Name=foss
Comment=foss theme
Encoding=UTF-8

[X-GNOME-Metatheme]
GtkTheme=foss
MetacityTheme=foss
IconTheme=ubuntu-mono-dark
CursorTheme=DMZ-White
ButtonLayout=close,minimize,maximize:
```

And now we have a new name called *foss*:

Editing the new theme

Inside our new directory are two key folders - *Unity* and *gtk-3.0*:



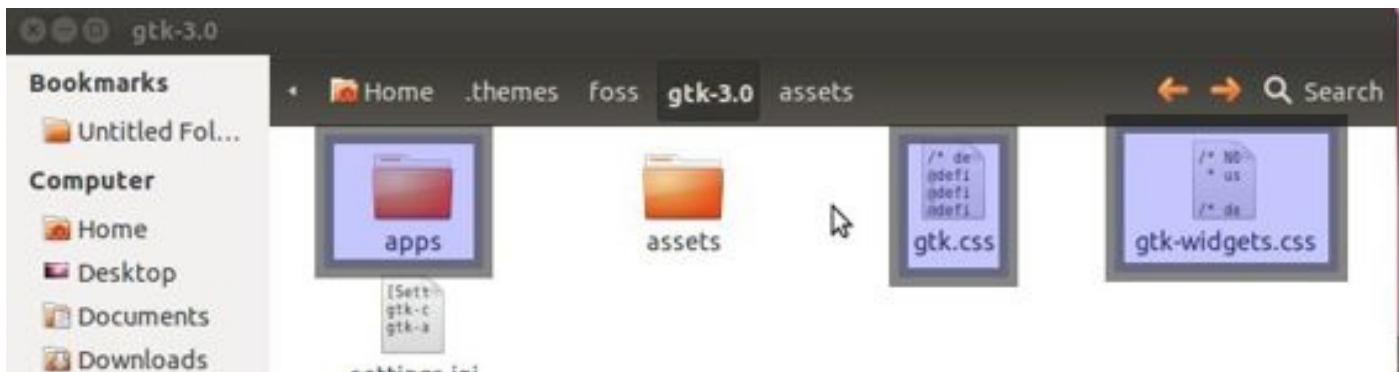
With an image editor such as Pinta or Gimp you can change the colours or do various things on the images within those folders.



Make sure to keep the same size of the image and of course use sane colors (stick to one color and 1 or 2 shades of this color to make a *theme*).

Open all the images inside Pinta/Gimp and start editing them and when you are satisfied copy them over with to your theme's directory.

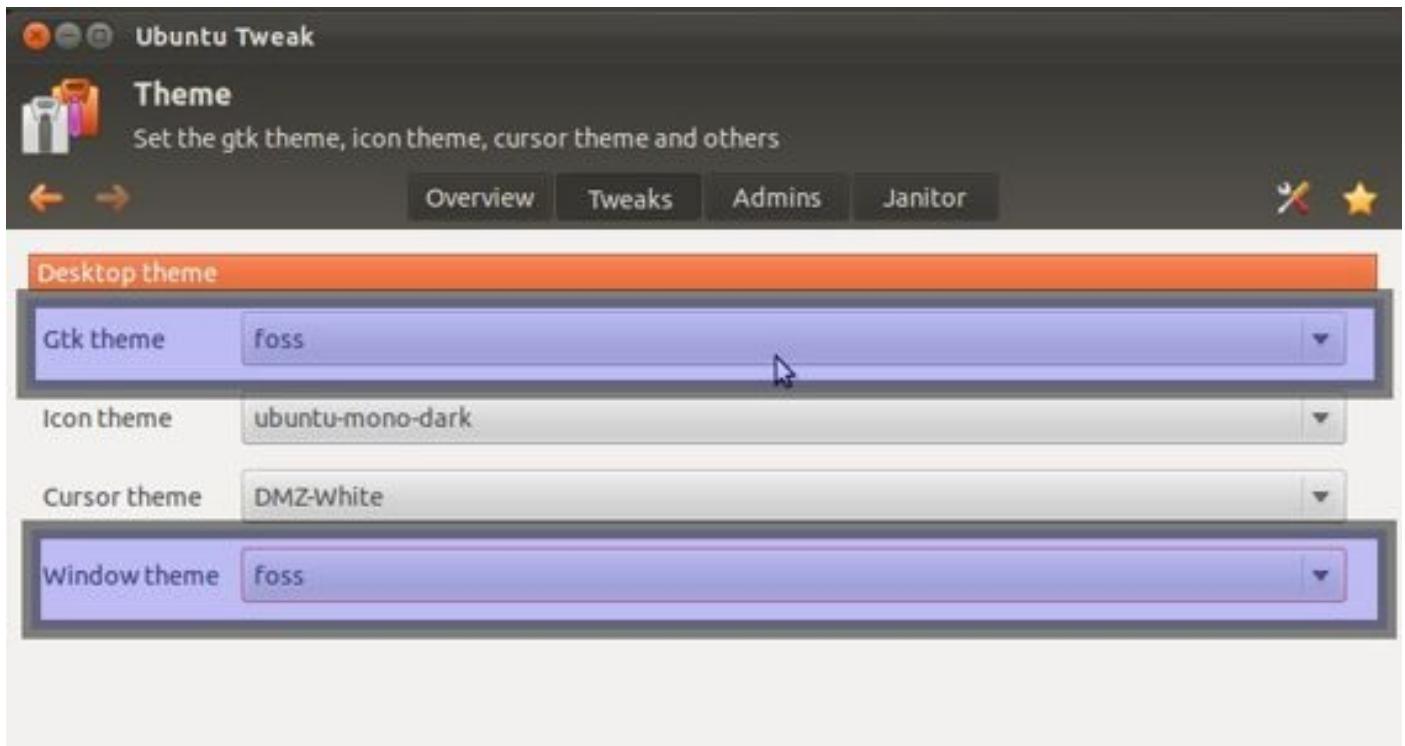
However - the main part of theme editing is changing the various .css files in those folders (and the subfolder Apps).



*Cascading-Style-Sheets* is a well-defined stylesheet language that changes the look and feel of associated objects - in our case a theme - but equally applies to HTML web pages and documents.

It isn't for the uninitiated to edit these - fortunately there are some very good tools to allow you to edit & preview CSS changes - see the linked Q&A below.

Once you are happy with your theme - set your theme via *Ubuntu-Tweak*



Unfortunately you cannot change themes via the standard *Appearance* screen - the themes there are hard-coded in 11.10 & 12.04.

---

Linked Questions:

- [CSS editor with real-time preview and selector localization](#)
  - [How do I install Ubuntu-Tweak?](#)
  - [What GIMP tutorials are available?](#)
  - [Is there a program like Microsoft Paint?](#)
  - [Where to find great themes?](#)
- 

Tags: [unity](#) ([Next Q](#)), [themes](#) ([Next Q](#))

---

## [Q: Am I using Unity or Unity 2D?](#)

Tags: [unity](#) ([Next Q](#))

Unity and Unity 2D look very much alike, so how can new users easily find out whether they are running Unity or Unity 2D?

Tags: [unity](#) ([Next Q](#))

User: [hctorque](#)

---

[Answer](#) by [rolandixor](#)

**Note:**

As of Ubuntu 12.10, Unity 2D is no longer developed and all systems use Unity 3D (with LLVMpipe for systems without hardware acceleration).

---

*The easiest way I have found is to look at the launcher:*

Subtlety in the design of the launcher popups - Unity 3D lives up to its name with a darker shadow “3D” effect whereas Unity 2D is lighter and has a “2D” flat effect.

*Unity 3D*



*Unity 2D*



*If you don't trust your eyes you can rely on the system to tell you, just look at the desktop session variable, open a terminal and type:*

```
echo $DESKTOP_SESSION
```

If it echoes back `ubuntu-2d` that means you are using Unity 2D and `ubuntu` for Unity3D.

*But if you want a bit more details (and that's a big if), here is an extended review:*

# Unity 3D

Unity 3D has several features that set it apart, that are the result of it's "3D" nature and the capabilities afforded to it that way:

- The launcher items fold when there are too many windows open or excess items pinned to the launcher.
  - Also, the trash can icon in Unity 3D is based on your current icon theme, and thus looks transparent in the default setup (when empty).
  - The Panel and Dash change colour to match your wallpaper when the Dash is open, and the launcher is mildly translucent by default.
  - The Dash icon is black on white, with a transparent border, and rounded edges.
  - Unity 3D is a Compiz plugin and requires Compiz, which means your graphics card must have 3D support, and you cannot run it on another window manager; so if you are running anything but Compiz with Unity - you are definitely not running Unity 3D.
  - Unity 3D's icons have a nice gloss+glow to them, and transparent/translucent edges.
  - Unity 3D takes advantage of compositing fully even for quicklists and Launcher item tooltips.
  - Unity 3D's panel has a shadow.
  - Unity 3D has a fully 3D workspace switcher with smooth animations and an orange glow.
- 

## **PLEASE NOTE:**

*These images present a slightly modified launcher, in that I have the Launcher set to "Edge Illumination Toggles" instead of the default "Backlight Always On".*



- Unity 3D's *Launcher with folded icons*.

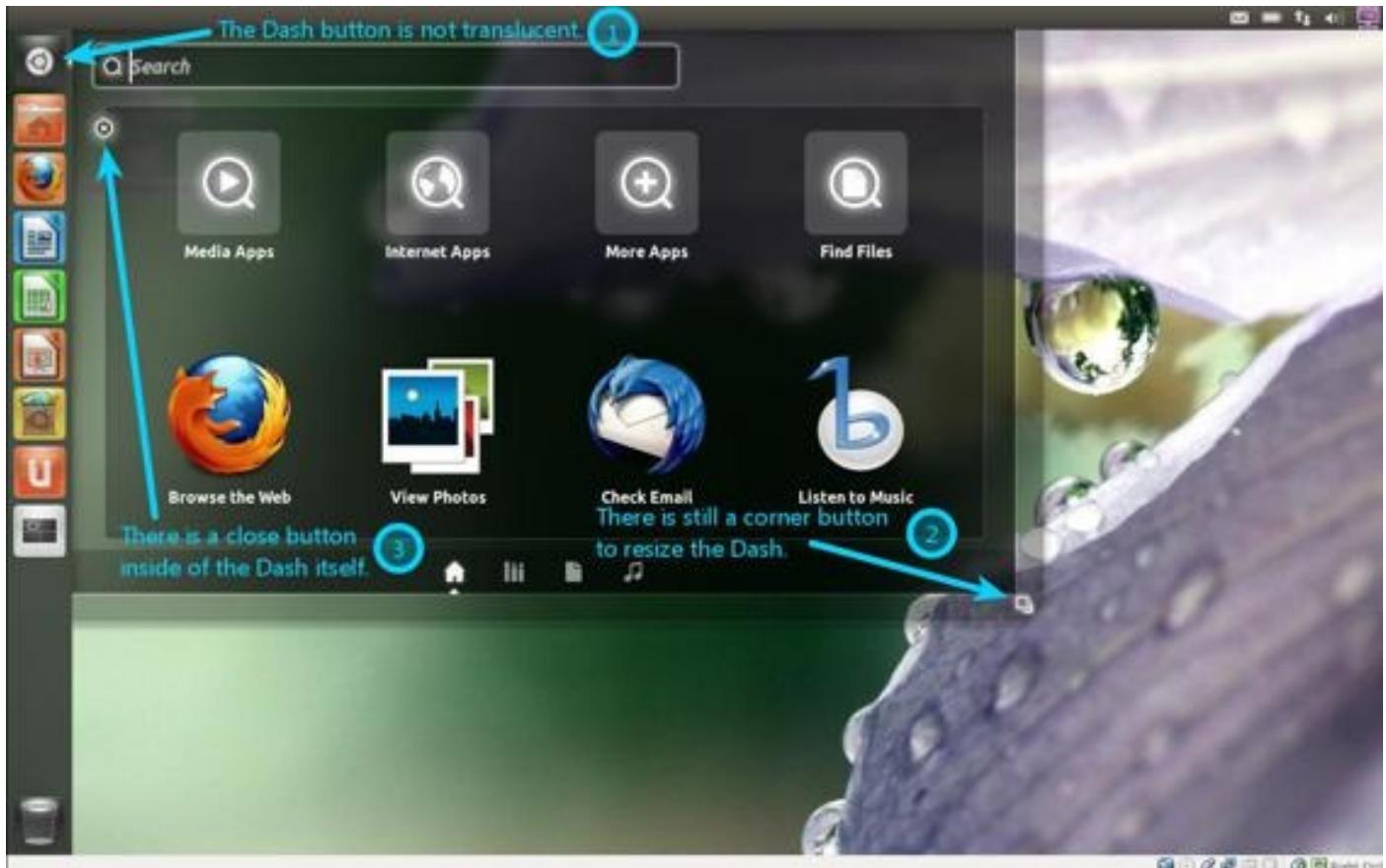


- Unity 3D's *Trash Icon*
-

# Unity 2D:

There are several differences in Unity 2D from Unity 3D. One of them is that the launcher items do not ever fold.

Also note the following:



## ***Notable differences in Unity 2D***

1. *The Dash button is not translucent.*
2. Other buttons are flat icons, and not transparent/translucent with a glossy appearance as in Unity 2D.

## **Also of note:**

- The launcher and Dash are not transparent when not using a composting window manager such as [Compiz](#) 

# Missing Image

or [Mutter](#) 

# Missing Image

---

(for example). In the Default install, Metacity has compositing enabled.

- Unity 2D can run in different Window Managers, unlike Unity 3D. If you run `top` or `gnome-system-monitor`, you will notice that Unity 2D also consists of separate processes for the Panel, Launcher, and Dash.
  - As [noted](#) by fossfreedom, Unity 2D does not currently take advantage of compositing for Launcher item tooltips and quicklists.
  - The Panel + Dash do not adapt to your wallpaper when the Dash is open.
  - The Panel has no shadow.
  - Unity 2D's workspace switcher has no glow, and has slow animations with no smoothness to them.
  - When there is an overflow of items on the Launcher, there is no folding. The launcher only scrolls.
- 

[Answer](#)  by [komputes](#)

Just found out how to tell which session you are using, via command.

Way to know which session is being used (lightdm only, so 11.10 or above):

```
tail -n 20 /var/log/lightdm/lightdm.log | grep "Starting session" | cut -d ' ' -f5
```

Otherwise:

```
echo $DESKTOP_SESSION
```

Hope that helps!

---

[Answer](#)  by [blueeyed](#)

Just look at the desktop session variable:

```
echo $DESKTOP_SESSION
```

It is “ubuntu-2d” for Unity 2D and “ubuntu” for Unity.

---

Tags: [unity](#) ([Next Q](#))

---

**[Q: How do I change the default session for when using auto-logins?](#)** 

Tags: [unity](#) ([Next Q](#)), [lightdm](#) ([Next Q](#))

When autologon is active, `lightdm` will start the Unity 3D session, not the 2D (or any other shell that I want to auto-login to).

Is there a way to start the shell I want automatically (autologon)?

Anyway, if autologon is disabled, the last used session is launched, and that's fine. I just want to choose which is default with autologon.

**Tags:** [unity](#) ([Next Q](#)), [lightdm](#) ([Next Q](#))

**User:** [giowck](#)

---

[Answer](#)  by [fossfreedom](#)

The list of sessions is described in the directory `/usr/share/xsessions`.

Some of the more common session names are as follows:

- For unity-2d the session file is called `ubuntu-2d.desktop`
- For gnome-classic the session file is called `gnome-classic.desktop`
- For gnome-classic (no effects) aka gnome-fallback the session file is called `gnome-fallback.desktop`
- For unity-3d the session file is called `ubuntu.desktop`
- For Lubuntu the session file is called `Lubuntu.desktop`
- For LXDE the session file is called `LXDE.desktop`

Thus, if you change the light-dm configuration file to “ubuntu-2d” this will default the session to Unity-2D

i.e.

```
sudo nano /etc/lightdm/lightdm.conf
```

change the line

```
user-session=ubuntu
```

to

```
user-session=ubuntu-2d
```

Note - if you don't have a lightdm.conf file then for a autologin use the following values for this file:

```
[SeatDefaults]
greeter-session=unity-greeter
user-session=ubuntu-2d
autologin-user=myusername
autologin-user-timeout=0
```

Another possibility is to run:

```
sudo /usr/lib/lightdm/lightdm-set-defaults -s <session-name>
```

E.g.:

```
sudo /usr/lib/lightdm/lightdm-set-defaults -s ubuntu-2d
```

This will also create the `lightdm.conf` file if it wasn't already present.

---

[Answer](#)  by [eliah-kagan](#)

It is strange that LightDM (Ubuntu 11.10's display manager, which provides the graphical login screen) is not remembering your selection across reboots.

You can manually edit the relevant configuration file, which is called `.dmrc` and is located in your home folder. In Nautilus (the file browser), you'll have to press `Ctrl+H` (or `View > Show Hidden Files`) to see it and other files that start with a '.' character. If you have this file—which you probably do—then its contents will be like:

```
[Desktop]
Session=ubuntu
```

For GNOME Classic you can change it to say:

```
[Desktop]
Session=gnome-classic
```

Or for GNOME Classic (no effects) you can change it to say:

```
[Desktop]
Session=gnome-fallback
```

If you happened to want to use Unity 2D (session type Ubuntu 2D), you could change it to say:

```
[Desktop]
Session=ubuntu-2d
```

If you don't have the file at all, then you can create it with the appropriate contents.

If you want to set GNOME Classic or GNOME Classic (no effects) as the default session type for all users—or you'd prefer not to, but the above user-specific method doesn't work—then you can edit `/etc/lightdm/lightdm.conf`, changing the line that says `user-session=ubuntu` to instead say `user-session=gnome-classic` or `user-session=gnome-fallback` (or `user-session=ubuntu-2d`). A few things to keep in mind when considering doing this:

- (1) It is preferable to edit the per-user configuration files in users' home folders, unless you have a reason to prefer changing the global configuration (like that not working).
- (2) Since this is a global configuration file and it contains considerably more than the simple configuration option that you are intending to edit, it is advisable to back it up before editing it, in case you make a mistake. You can do that in the Terminal by running the command `sudo cp /etc/lightdm/lightdm.conf /etc/lightdm/lightdm.conf.old`.
- (3) This file is owned by root, hence the sudo command above. You must also edit it as root. To open it in gedit as root, you can run `gksu gedit /etc/lightdm/lightdm.conf` (either in a Terminal window, or in the graphical Run Application text box, when you can get by pressing `Alt+F2`).

It seems likely that the behavior you're experiencing is a bug, so after gathering additional information by seeing if manually editing `~/.dmrc` works, you may want to report it as one ([read this carefully](#) first, then after searching to see if a similar bug has been reported, initiate the reporting process by invoking `ubuntu-bug lightdm` with the PID of the running `lightdm` process, or, almost as good, run `ubuntu-bug lightdm ...` which should all make sense after you've read [that guide](#)).

By the way, besides Unity (session type Ubuntu), Unity 2D (session type Ubuntu 2D), and GNOME 3 Fallback (GNOME Classic and GNOME Classic (no effects)), you might also consider, as even lighter-weight options, Xfce4 (install the package xubuntu-desktop and select session type Xubuntu) and LXDE (install the package lubuntu-desktop and select session type Lubuntu).

There's also GNOME 3 with the GNOME Shell instead of Unity (install the package gnome-shell and select GNOME) and KDE 4 Plasma (install the package kubuntu-desktop and select Kubuntu), but those unlikely to be less resource-intensive than the above options.

---

[Answer](#)  by [anarci](#)

To change the default Session in Lightdm

```
sudo /usr/lib/lightdm/lightdm-set-defaults --session gnome-shell
```

---

**Tags:** [unity](#) ([Next Q](#)), [lightdm](#) ([Next Q](#))

---

## [Q: How do I set focus follows mouse?](#)

**Tags:** [unity](#) ([Next Q](#)), [window-manager](#) ([Next Q](#))

Is there a way to set up “focus follows mouse” behavior in Unity?

**Tags:** [unity](#) ([Next Q](#)), [window-manager](#) ([Next Q](#))

**User:** [dharmatech](#)

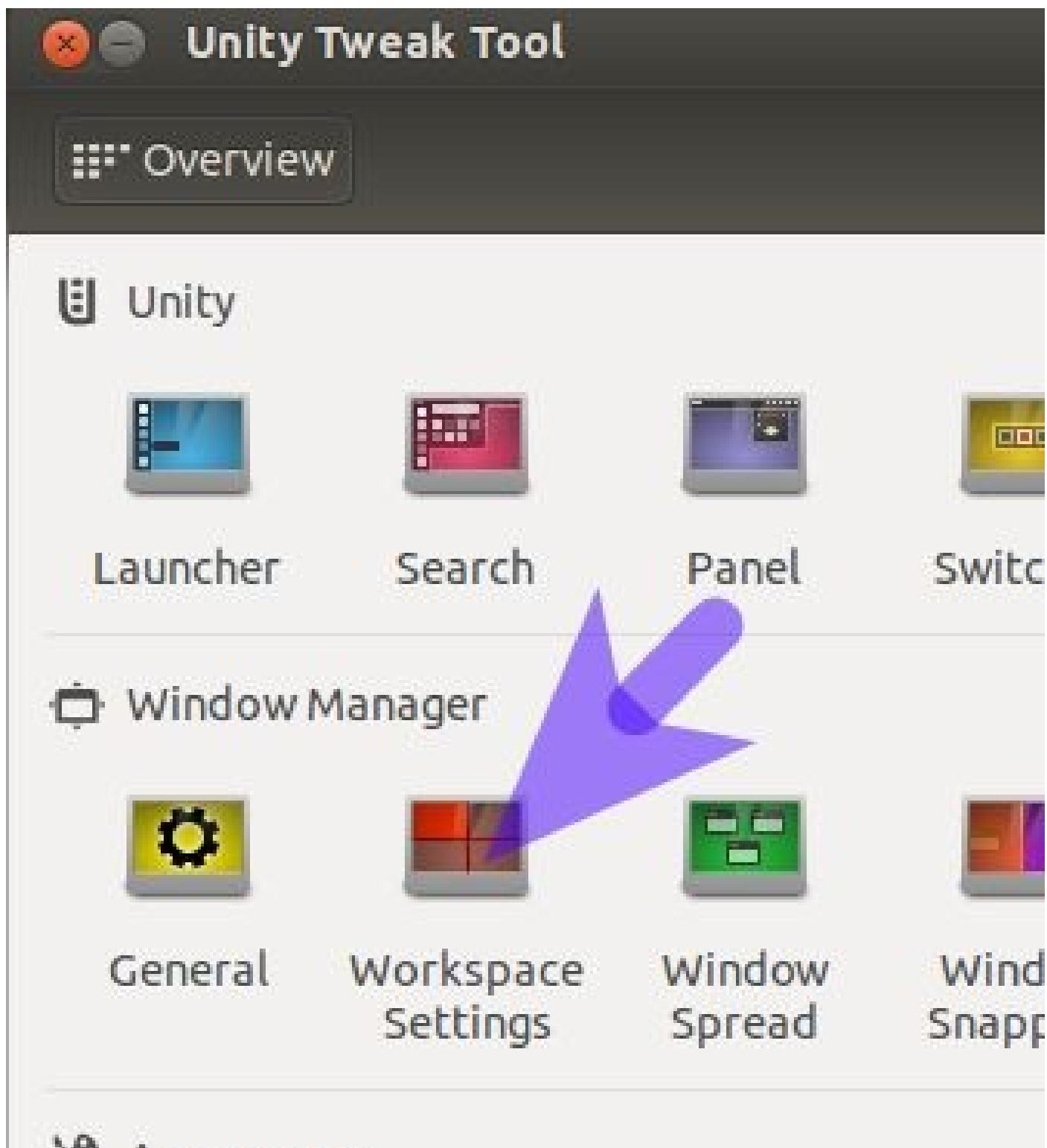
---

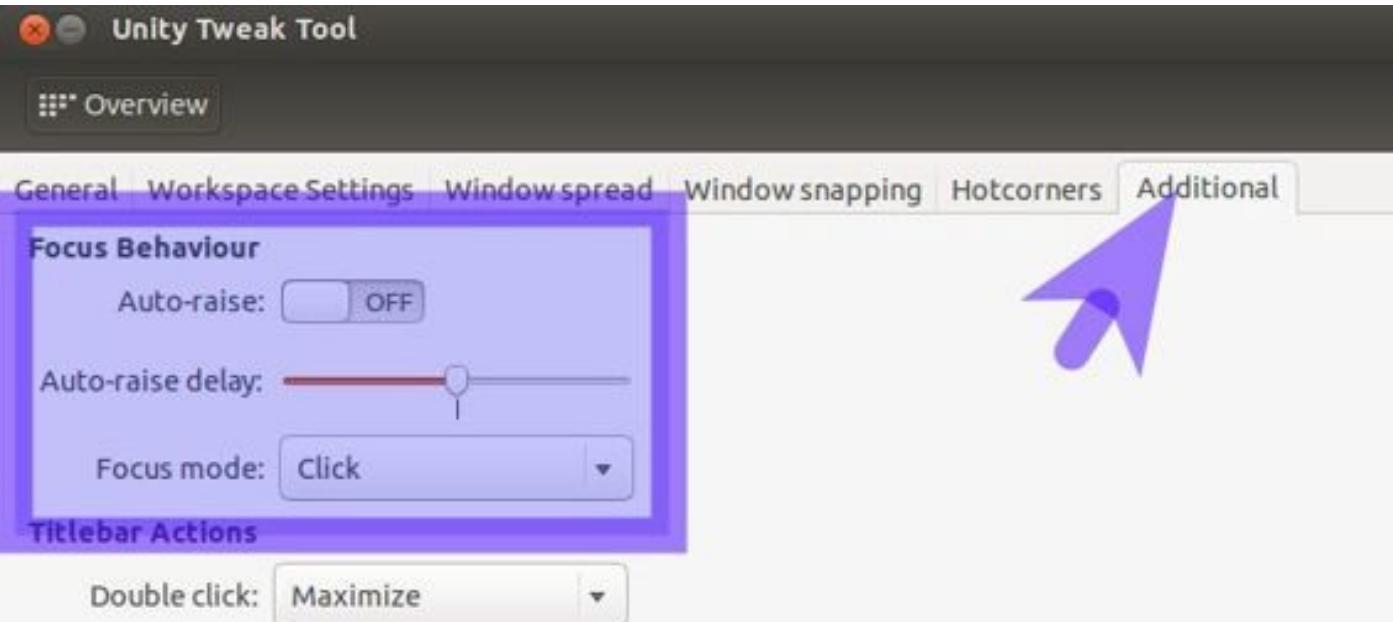
[Answer](#)  by [fossfreedom](#)

## 13.04 and later (GUI)

Follow-on-focus settings can be set using the [unity-tweak-tool](#)

# Missing Image





## 12.10 and later (command line)

The following controls follow-on focus

```
gsettings set org.gnome.desktop.wm.preferences focus-mode 'sloppy'
```

or

```
gsettings set org.gnome.desktop.wm.preferences focus-mode 'mouse'
```

Use the value 'click' to reset to the standard focus-control.

**Note:** the difference between 'sloppy' and 'mouse' is described at the bottom of this answer.

In addition you have the following option which when set, automatically raises the window to have focus:

```
gsettings set org.gnome.desktop.wm.preferences auto-raise true
```

You can control the delay for this auto-raise capability (in milliseconds):

```
gsettings set org.gnome.desktop.wm.preferences auto-raise-delay 500
```

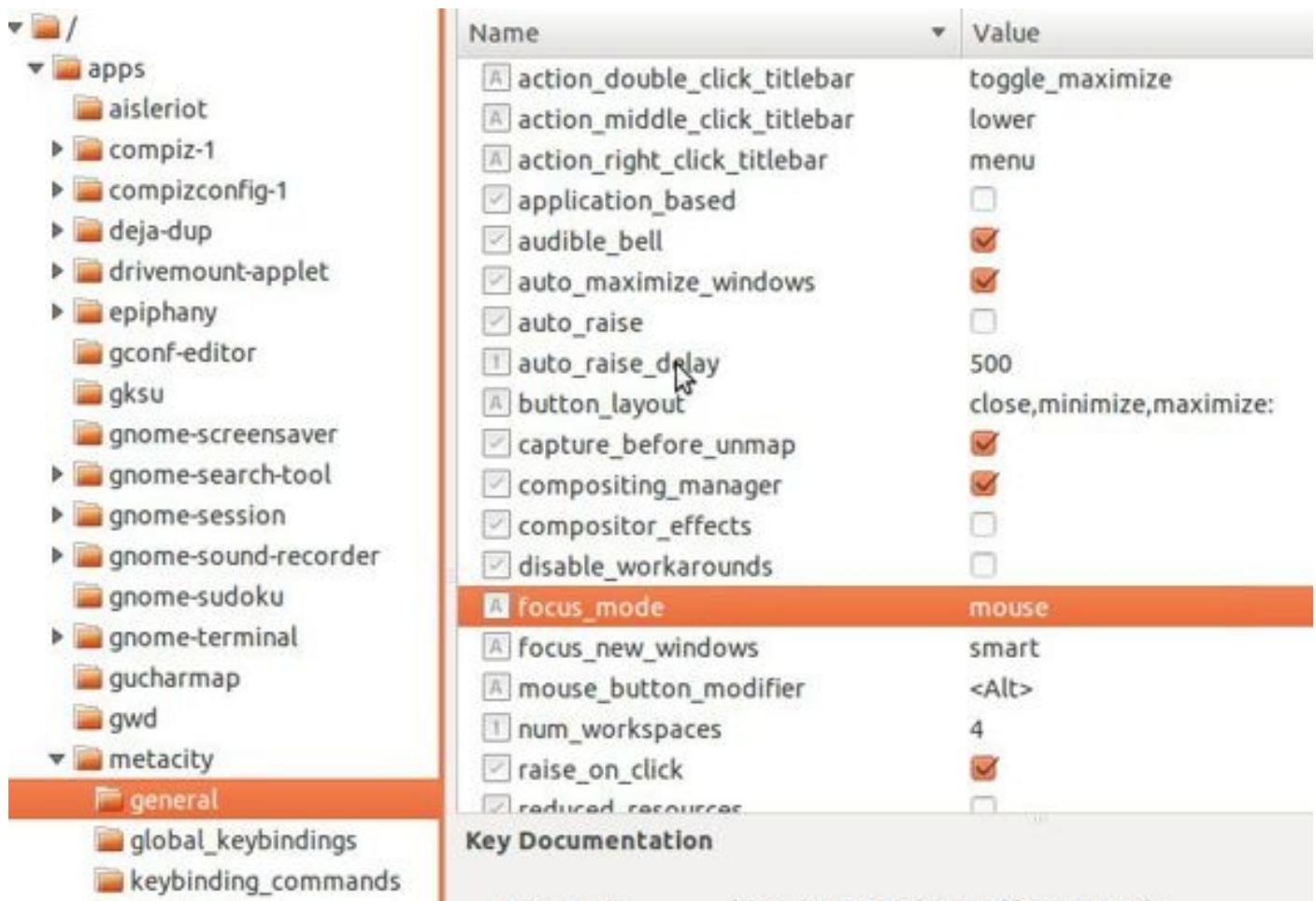
You can change raise-on-click to control what window is on top:

```
gsettings set org.gnome.desktop.wm.preferences raise-on-click false
```

# 12.04

Two methods for 12.04 are presented below:

## method 1



Use gconf-editor and change the focus-mode value shown to *mouse* or *sloppy* (see note below)

If do not have gconf-editor already installed then you can install via the terminal command:

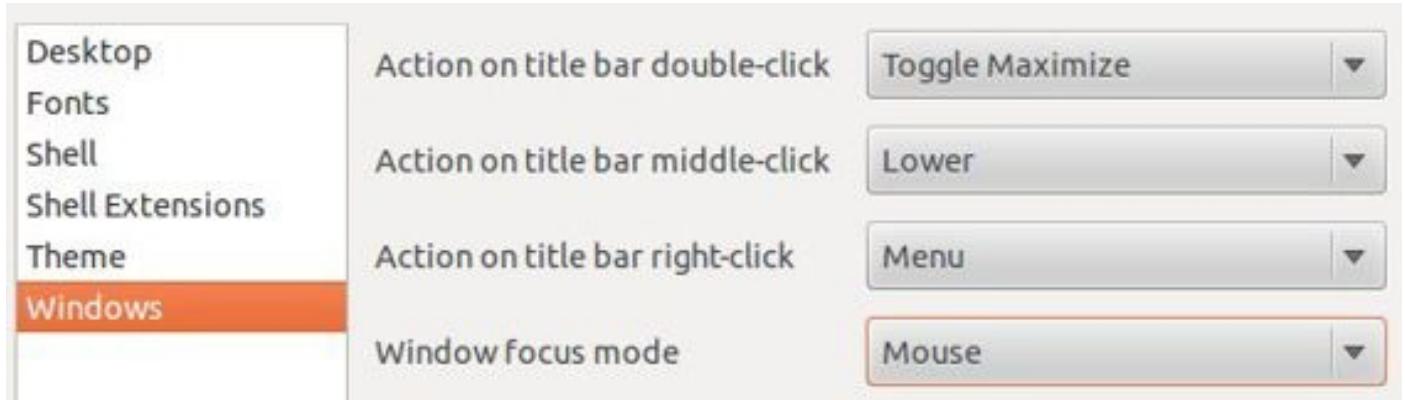
```
sudo apt-get install gconf-editor
```

In addition you have the following key which when set, automatically raises the window to have focus - auto-raise.

You can control the delay for this auto-raise capability (in milliseconds) by changing the key value auto-raise-delay

## method 2

use gnome-tweak-tool



change *windows focus mode* to *mouse* or *sloppy*

(see note below)

# **“mouse” vs “sloppy”**

A focus mode “sloppy” seems to work better at allowing Alt+TAB to override focus.

“mouse” means that if the mouse isn’t in the window, the window isn’t selected, no matter what you’ve selected in any other way.

The window focus mode indicates how windows are activated. It has three possible values; “click” means windows must be clicked in order to focus them, “sloppy” means windows are focused when the mouse enters the window, and “mouse” means windows are focused when the mouse enters the window and unfocused when the mouse leaves the window.

# Controlling What Window is on Top

The following window options control what window is in the front of others (or “on top”). It’s slightly different than what window has the input focus. The following descriptions help explain slightly.

## raise-on-click

Some users who use focus-follows-mouse do not like the windows they interact with to come to the top unless they explicitly click on the titlebar of the window. This gives a finer grain of control when working with multiple windows, but can be frustrating for most users.

## auto-raise

Some users who use focus-follows-mouse, like to have the window their cursor is over automatically raise to the top. This makes the window in full view, with no other windows eclipsing it.

## auto-raise-delay

The length of time to wait before triggering the auto-raise behavior.

---

[Answer](#) by [jon-v](#)

While you can use the gconf-editor or gnome-tweak-tool to do this, they are not installed by default. I also found (on the interwebs from <http://blog.bodhizazen.net/linux/gnome-3-focus-follows-mouse>):

```
gconftool-2 --type string --set /apps/metacity/general/focus_mode mouse
gconftool-2 --type boolean --set /apps/metacity/general/auto_raise true
gconftool-2 --type integer --set /apps/metacity/general/auto_raise_delay 600
```

Personally, I don’t like the auto\_raise feature, so I set the second option to “false” and didn’t set the auto\_raise\_delay option.

Note, however, that this ultimately “breaks” the Unified Menu Bar (UMB) (when you mouse off the item you’re using and onto another one, the Unified Menu Bar is now reflective of whatever you’re now hovering over).

Two Workarounds:

- Move the window to the top of the screen before accessing UMB
- Press F10, which will keep UMB open on focused window for you to interact with

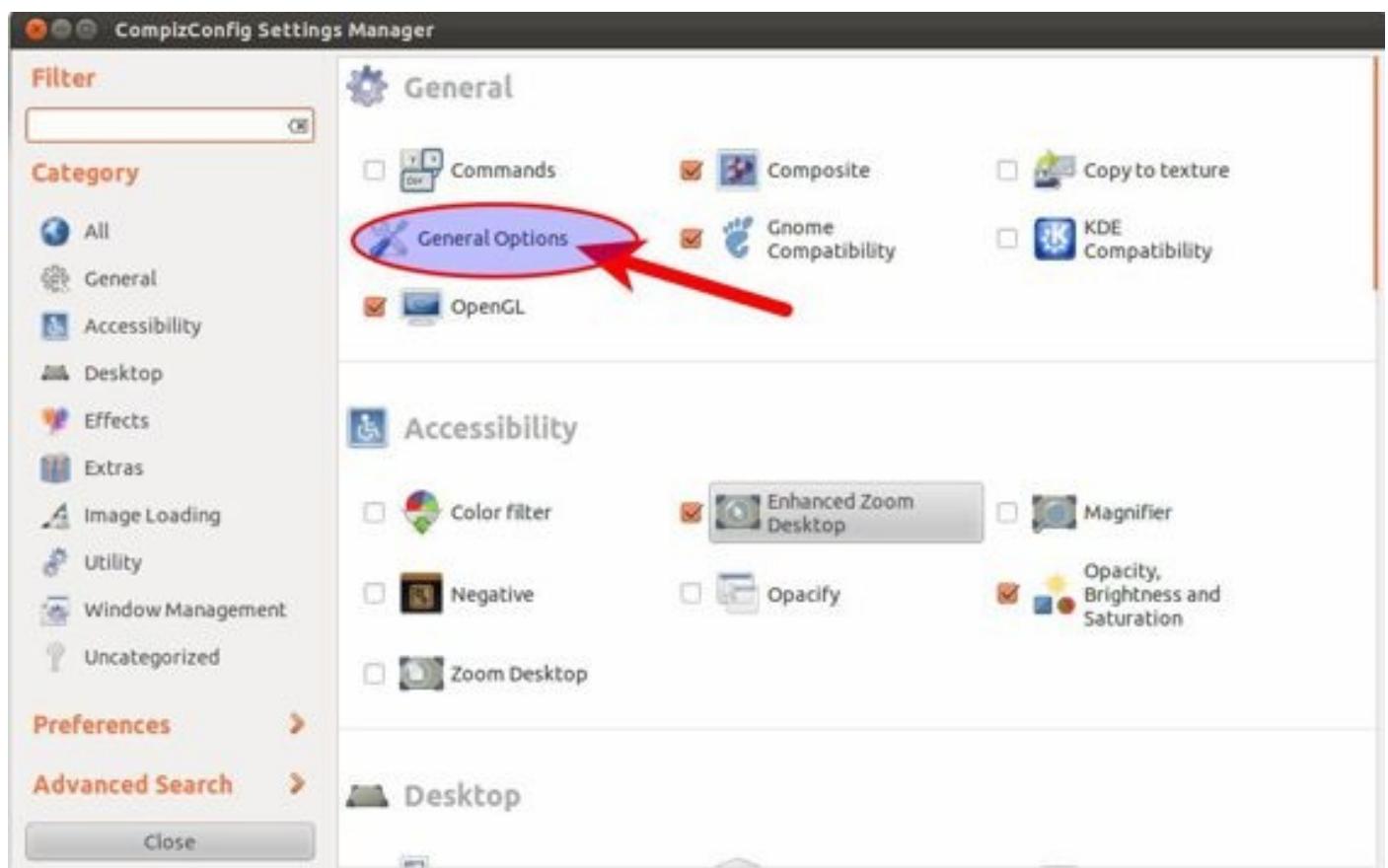
## Tested as recently as Precise

more edits: I've put "breaks" in quotes - yes, it's not really *broken*, but it breaks IMO the *intent* of the UMB, or at least makes it challenging to use as Reese correctly points out in the comment. IMO, that's a "breaks simple usability, but with an annoying workaround." Though given Linux's focus on providing very strong multitasking (which tends to lead to a "cluttered" desktop), it seems that either the UMB diminishes multitasking, or multitasking diminishes the UMB's capabilities. I'll leave that as an exercise to the reader to decide...

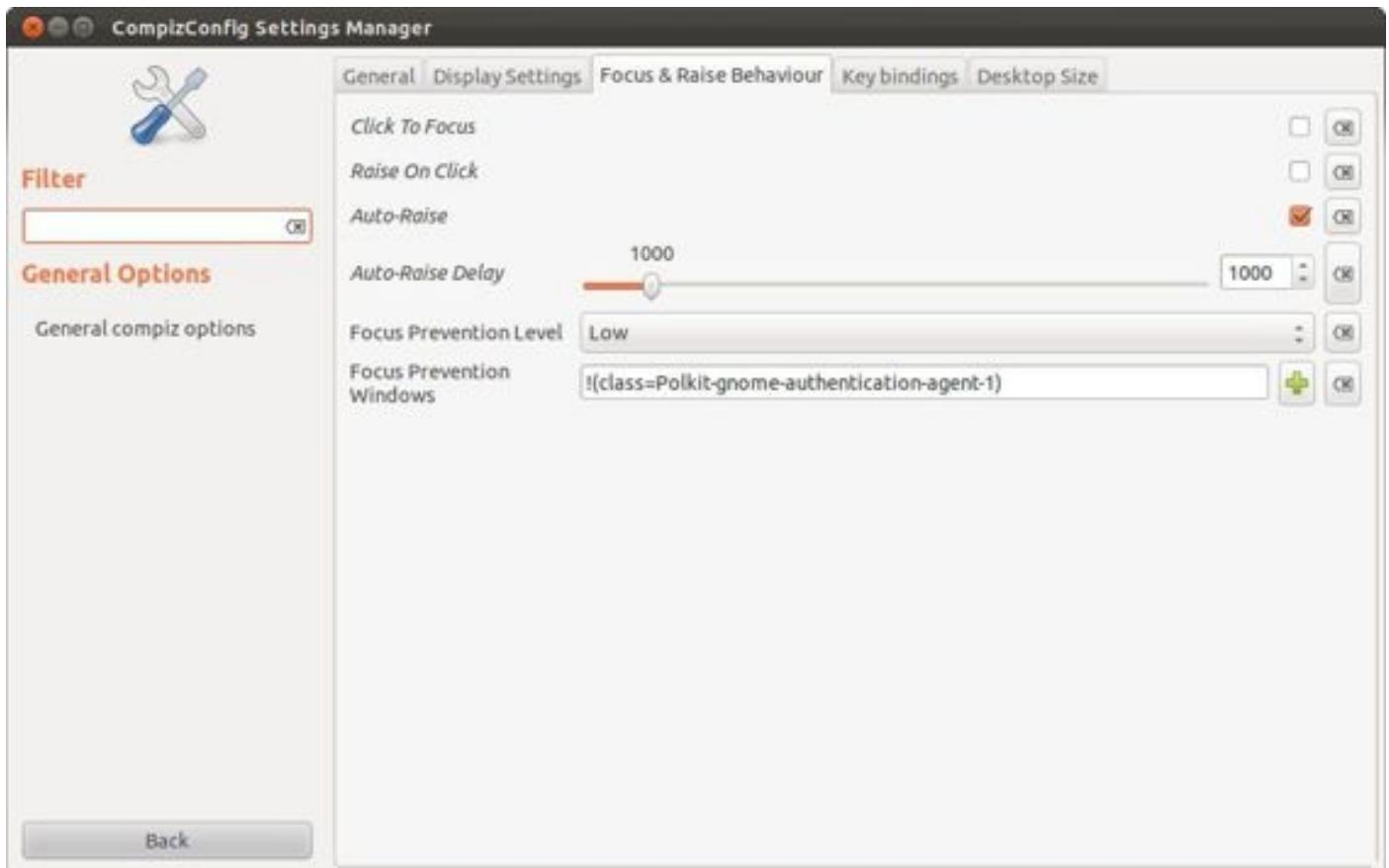
---

### [Answer](#) by [belacq](#)

This can be done through CompizConfig Settings Manager. I've tested it on 11.10, 12.04, and 12.10.



Select the "Focus & Raise Behavior Tab", then uncheck "Click To Focus." Make sure "Auto-Raise" is checked.



If you don't have CompizConfig Settings Manager (also known as 'CCSM') installed, you can do so from the Software Center, or from the command line:

```
sudo apt-get install compizconfig-settings-manager
```

You can then launch it with `ccsm` from the command line, or from the launcher with "compiz" or "ccsm".

Here are some general caveats for running `ccsm`: [what are some of the issues with `ccsm`?](#)

---

**Tags:** [unity](#) ([Next Q](#)), [window-manager](#) ([Next Q](#))

---

## **Q: What is the “show desktop” keyboard shortcut?**

**Tags:** [unity](#) ([Next Q](#)), [shortcut-keys](#) ([Next Q](#))

I just upgraded to 11.10 from 11.04. Previously the shortcut to show the desktop was Super key + D (same as in Windows). But now it is not working. What is the new shortcut?

**Tags:** [unity](#) ([Next Q](#)), [shortcut-keys](#) ([Next Q](#))

**User:** [aneeshep](#)

---

[Answer](#)  by [shymik](#)

### **For 11.10 and 12.10**

Control-Alt-D shows the desktop for me

## For 12.04 ,13.04 and 14.04

Control-Super-D works for me

- [What are Unity's keyboard and mouse shortcuts?](#)
- 

Tags: [unity](#) ([Next Q](#)), [shortcut-keys](#) ([Next Q](#))

---

## **Q: How do I revert Alt-tab behavior to switch between windows on the current workspace?**

Tags: [unity](#) ([Next Q](#))

Enabling *Bias alt-tab sorting to prefer windows on the current viewport* as described [here](#) made no difference. How can I get back the exact same behavior as 11.04, so that alt-tab only switches between windows on the current workspace?

Simply disabling the alt-tab and shift-alt-tab keybindings on the unity switcher seems to have helped, but it still switches workspaces on me sometimes. For example, if I give a terminal window focus then press alt-tab, it switches to another terminal window on any workspace before trying to switch on the same workspace. Also, the Unity switcher still shows up when I alt-tab then hold alt even though I removed its alt-tab keybinding.

Tags: [unity](#) ([Next Q](#))

User: [chris.ritsen](#)

---

Answer  by [Ã'ndrÃ¼k](#)

You can revert back to the older style of window switcher by enabling the Static Application Switcher plugin in CompizConfig Settings Manager:

- Warning: [What are some of the issues with ccsm and why would I want to avoid it?](#)

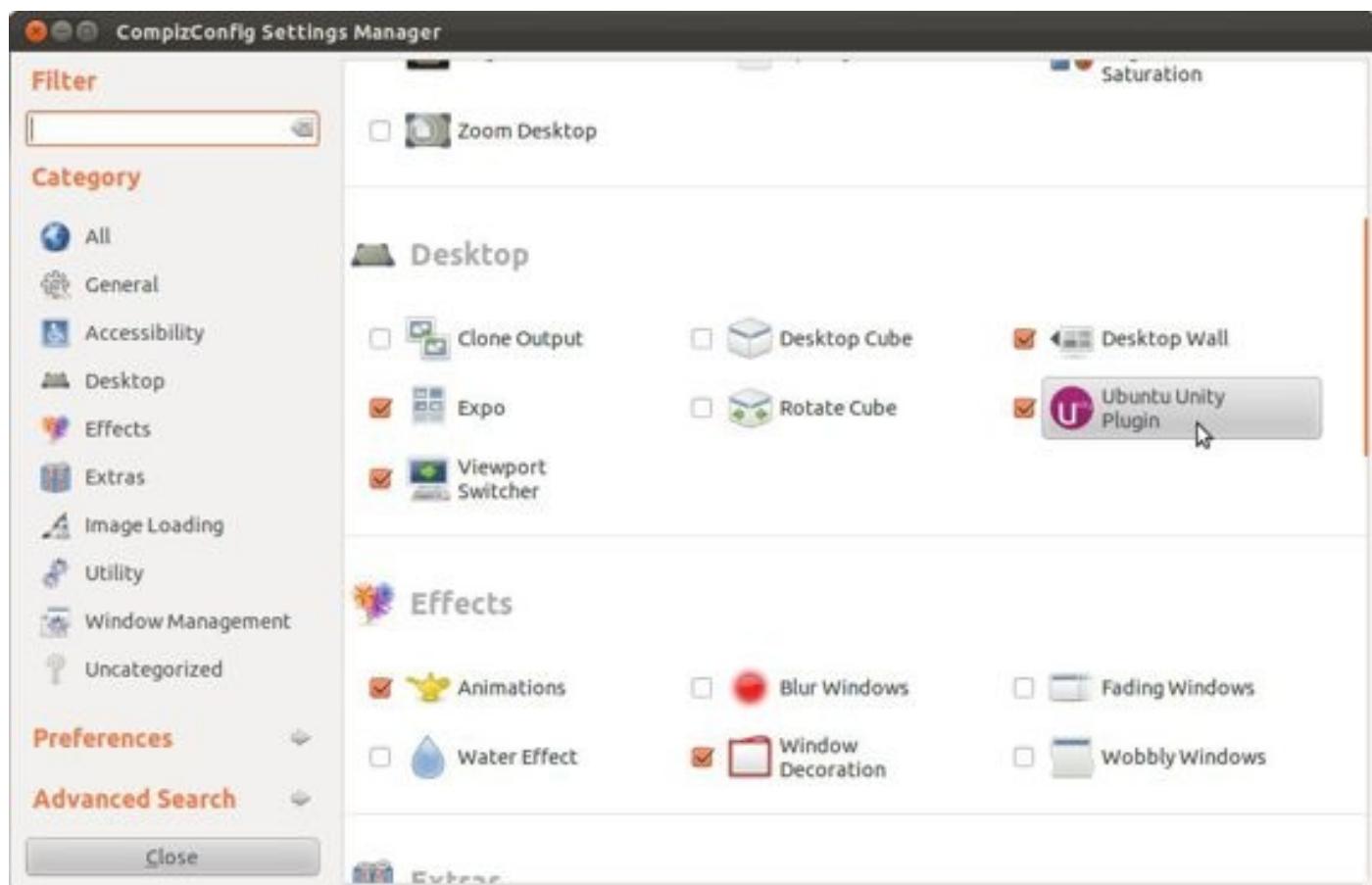
Steps:

1. CompizConfig Manager is gotten through sudo apt-get install compizconfig-settings-manager (thanks to @donbright)
2. sudo apt-get install compiz-plugins to get the static application switcher to show up. (thanks to @Milimetric)
3. CompizConfig Manager is started by typing ccsm in terminal (thanks to @donbright)
4. Disable the keyboard shortcuts for Unity's switcher by unchecking **CompizConfig Settings Manager Desktop Ubuntu Unity Plugin Switcher Key to start the switcher Enabled** and **Key to start the switcher in reverse Enabled**
5. Enable the Static Application Switcher by checking **CompizConfig Settings Manager Window Management Static Application Switcher Enable Static**

## Application Switcher

[Answer](#) by [lassevalentini](#)

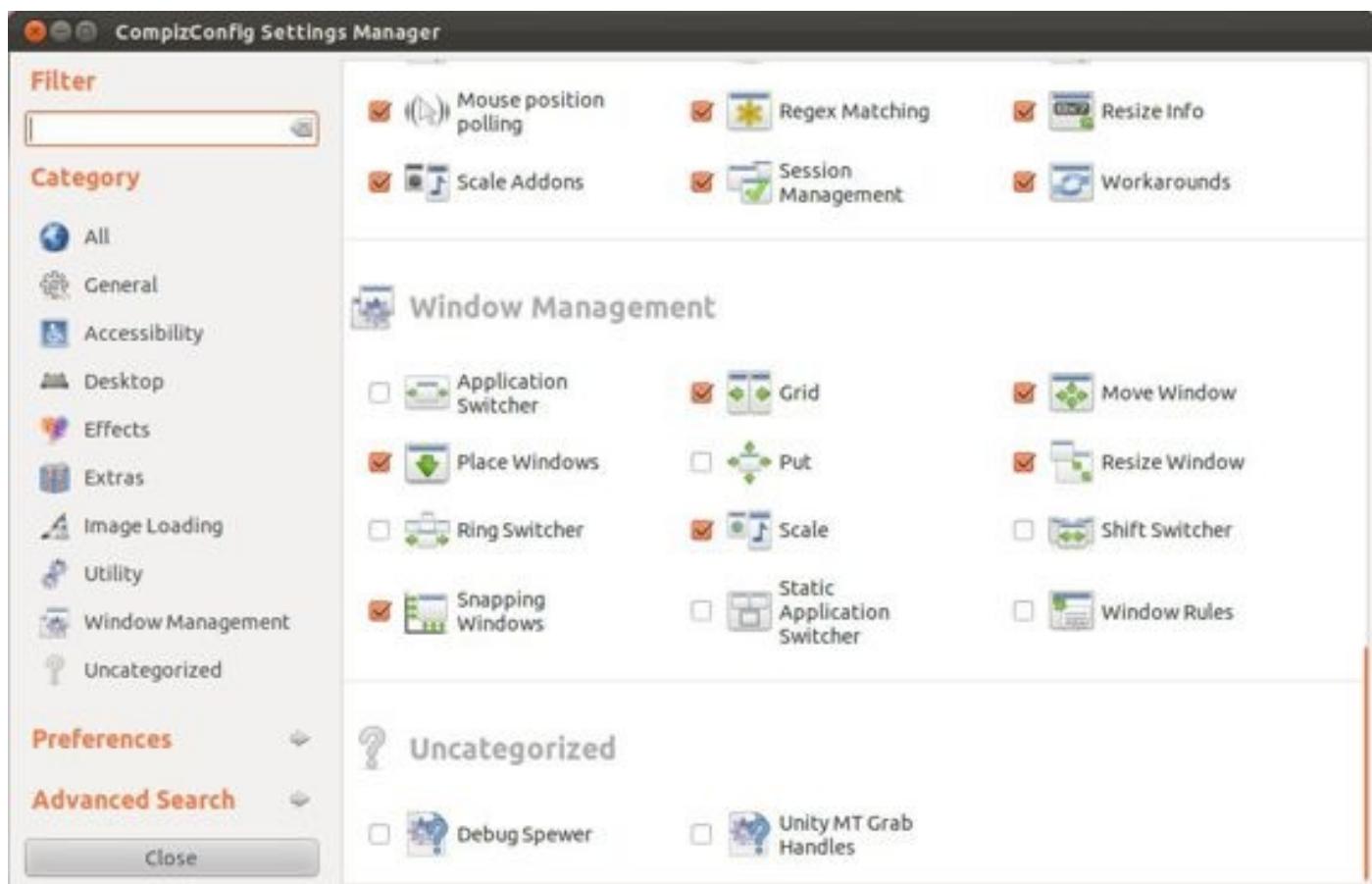
You should install CompizConfig Settings Manager. From there you can find the Unity plugin



and disable the switcher, by clicking on each of the key bindings and unchecking 'Enabled'



Then you can enable one of the other window-switcher plugins under Window Management.



- Warning: [What are some of the issues with ccsm and why should I not use it?](#)

Tags: [unity](#) ([Next Q](#))

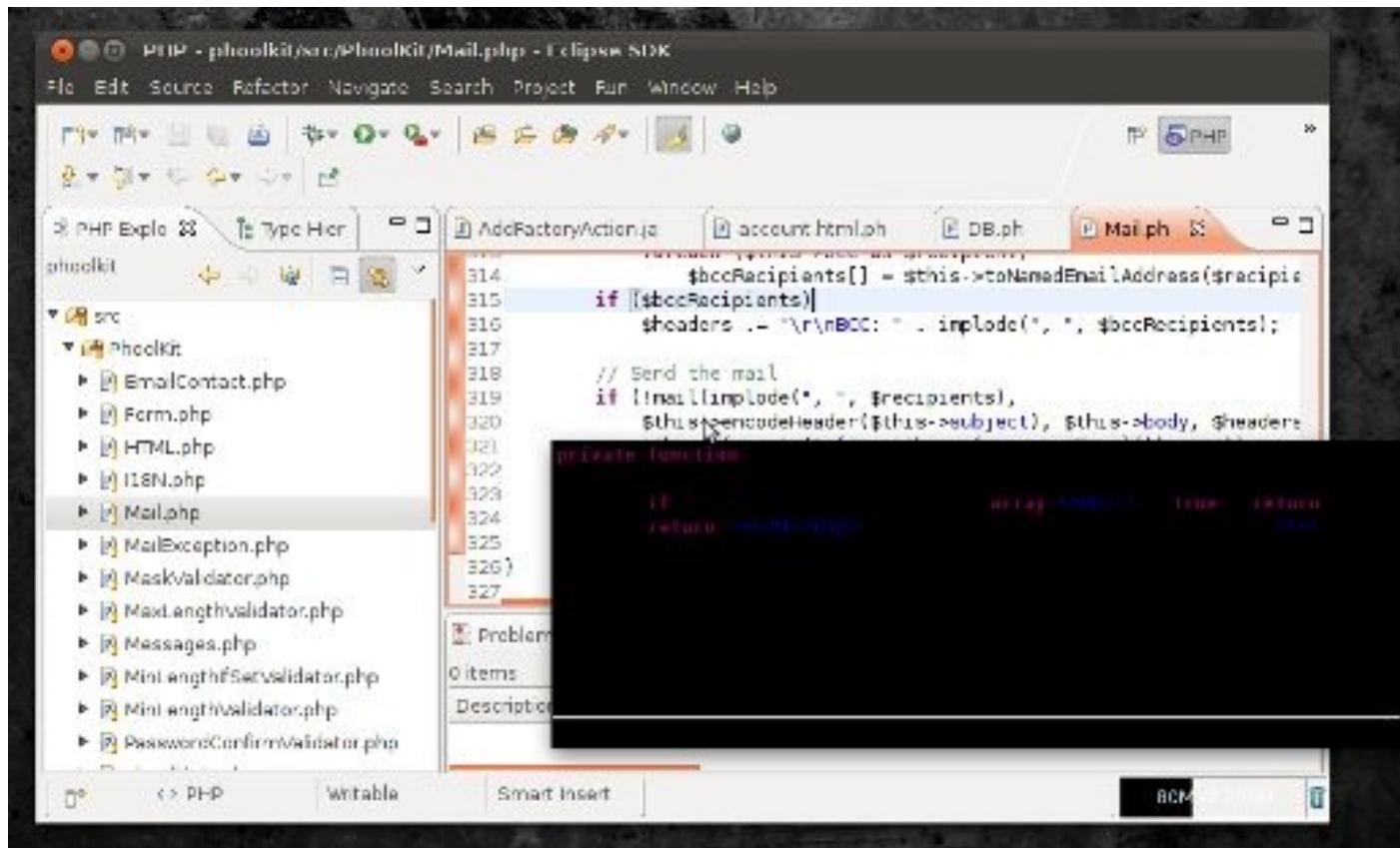
---

## Q: How to change tooltip background color in Unity?

Tags: [unity](#) ([Next Q](#)), [themes](#) ([Next Q](#))

In a lot of applications the tooltips are just plain ugly (White text on black background, way too much contrast) or even unreadable (black or dark blue text (Hyperlinks) on black background). I want to change the background color of the tooltips to some medium gray or even some yellow or something like that, maybe even something semi-transparent.

Here is a screenshot of Eclipse which displays some source code in a tool tip with black text on black background:



Switching to a different theme (Something other than Ambiance or Radiance) helps but I like Ambiance and I want to keep it. It's just this darn tooltip color which is absolutely unacceptable.

I found several solutions for older Ubuntu versions but they no longer work with Unity in Ubuntu 11.10 because I can't find any function to customize the Ambiance or Radiance theme. So how do I do that in the current Ubuntu version?

Tags: [unity](#) ([Next Q](#)), [themes](#) ([Next Q](#))

User: [kayahr](#)

---

Answer  by [kayahr](#)

Found it!

I had to edit these files:

```
/usr/share/themes/Ambiance/gtk-3.0/settings.ini  
/usr/share/themes/Ambiance/gtk-3.0/gtk.css  
/usr/share/themes/Ambiance/gtk-2.0/gtkrc
```

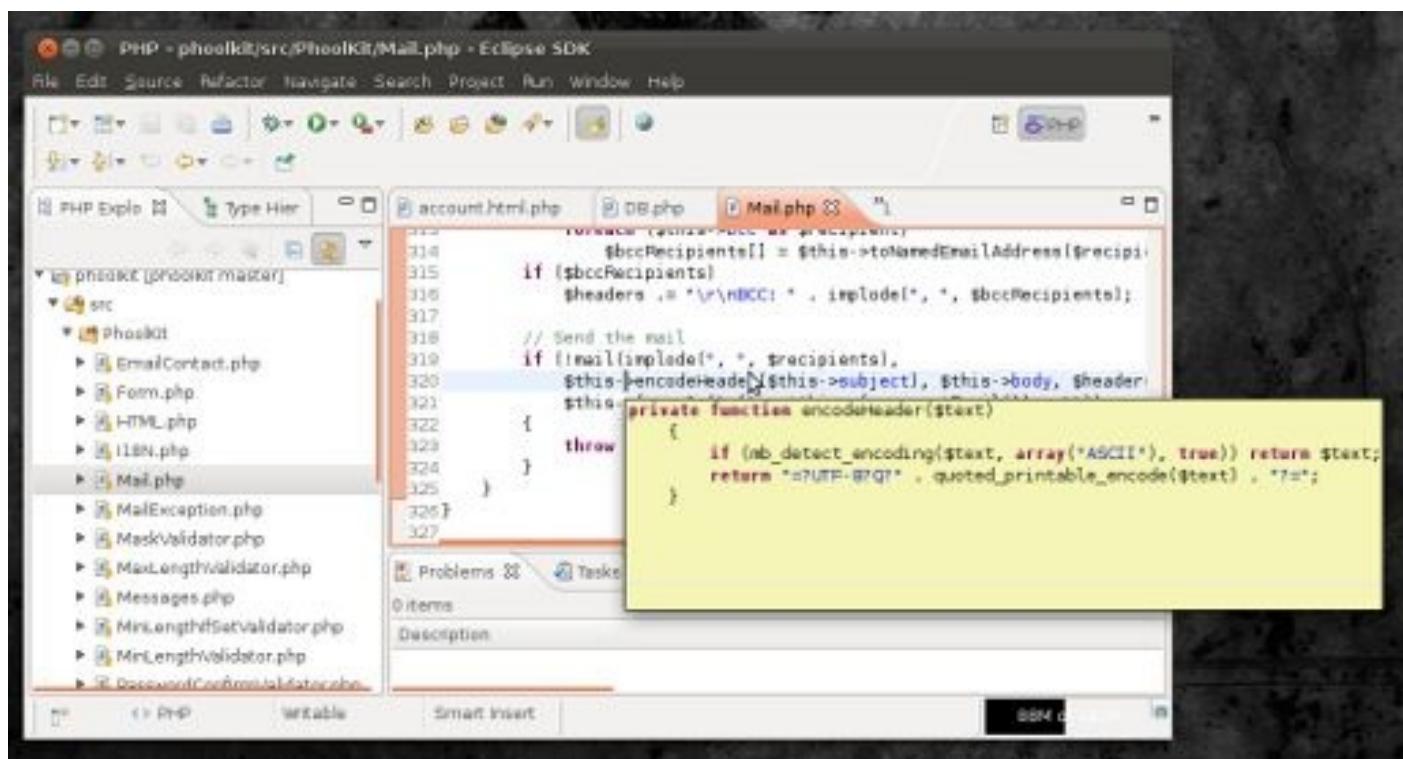
(Addition: for Ubuntu 12.04, it seems you just have to modify the file:

/usr/share/themes/Ambiance/gtk-2.0/gtkrc , replacing the tooltip background and foreground color, with the #000000 and the #f5f5b5 color, respectively)

You require root privileges to edit the files. Use gksudo gedit to edit them.

Search for tooltip in these files and you'll find the color definitions for the foreground and the background. I use #000000 as foreground and #f5f5b5 as background and now the tooltips in all applications are again readable. After changing the color values simply switch to some other theme and then back to Ambiance and the tooltip color is now fixed.

Here is the result:



[Answer](#) by [nick-andrik](#)

Install and open [gnome-color-chooser](#)

# Missing Image

Go to Specific Tooltips and put black foreground over pale yellow background.

[Answer](#) by [victor-p.](#)

I created a small script that does that for you

## [Skip code block](#)

```
#!/bin/sh
# Tooltip fix
# A script to fix themes files in Ubuntu 11.10
# to have readable tooltips in applications such
# as eclipse.
# The script edits the gtk.css, settings.ini and gtkrc files
# Author: Victor Pillac
# http://victorpillac.wordpress.com

if [[ $EUID -ne 0 ]]; then
    echo "This script must be run as root" 1>&2
    exit 1
fi

path=/usr/share/themes
theme=Ambiance

if [ $# = 1 ]; then
    theme=$1
fi

echo "Fixing tooltips for theme $theme"
echo " (you can select a different theme by passing its name as argument)"
sed -i 's/tooltip_bg_color #000000/tooltip_bg_color #f5f5b5/g' $path/$theme/gtk-3.0/gtk.css
sed -i 's/tooltip_fg_color #ffffff/tooltip_fg_color #000000/g' $path/$theme/gtk-3.0/gtk.css
sed -i 's/tooltip_bg_color:#000000/tooltip_bg_color:#f5f5b5/g' $path/$theme/gtk-3.0/settings.ini
sed -i 's/tooltip_fg_color:#ffffff/tooltip_fg_color:#000000/g' $path/$theme/gtk-3.0/settings.ini
sed -i 's/tooltip_bg_color:#000000/tooltip_bg_color:#f5f5b5/g' $path/$theme/gtk-2.0/gtkrc
sed -i 's/tooltip_fg_color:#ffffff/tooltip_fg_color:#000000/g' $path/$theme/gtk-2.0/gtkrc
echo "Done"
```

---

Tags: [unity](#) ([Next Q](#)), [themes](#) ([Next Q](#))

---

## [Q: How to pin Eclipse to the Unity launcher?](#)

Tags: [unity](#) ([Next Q](#)), [eclipse](#) ([Next Q](#))

How can I pin eclipse indigo 3.7 I have ‘installed’ at /opt/ to the taskbar?

I have tried launching eclipse and right-clicking to choose the ‘keep in launcher’ option. But when I click that icon, after closing eclipse, it doesn’t start eclipse.

I have already looked at [How do I add Eclipse Indigo to the launcher?](#)  but no answer worked for me. (Mod note: The answers from this thread are now merged into this one)

Tags: [unity](#) ([Next Q](#)), [eclipse](#) ([Next Q](#))

User: [nunos](#)

---

Answer  by [salem](#)

# For 11.10 and newer

First, create a .desktop file to eclipse:

```
gedit ~/.local/share/applications/opt_eclipse.desktop
```

Then, paste this inside (dont forget to edit Exec and Icon values):

```
[Desktop Entry]
Type=Application
Name=Eclipse
Comment=Eclipse Integrated Development Environment
Icon=** something like /opt/eclipse/icon.xpm **
Exec= ** something like /opt/eclipse/eclipse **
Terminal=false
Categories=Development;IDE;Java;
StartupWMClass=Eclipse
```

After that, open that folder with nautilus:

```
nautilus ~/.local/share/applications
```

If you want to use this launcher outside dash/launcher (ex: as a desktop launcher) you need to add execution permission by right clicking the file and choosing *Properties -> Permissions -> Allow execution*, or, via the command-line:

```
chmod +x ~/.local/share/applications/opt_eclipse.desktop
```

Finally drop opt\_eclipse.desktop to launcher.

---

[Answer](#)  by [bruno-pereira](#)

## For Ubuntu 11.10, 12.04, 12.10

If the applications folder does not exist inside ~/.local/share/ create it

```
mkdir ~/.local/share/applications
```

Check if your installation left you with a workable .desktop file for Eclipse and copy it if exists

```
cp /usr/share/applications/eclipse.desktop ~/.local/share/applications/
```

---

If the file does not exist create a .desktop file for Eclipse in your  
~/.local/share/applications/ folder using gnome-desktop-item-edit, ie:

```
gnome-desktop-item-edit --create-new ~/.local/share/applications/
```

On the name set it to Eclipse, on the command enter the path to the binary file of Eclipse, insert a comment if you want and click the icon to select the icon that you desire for Eclipse.

---

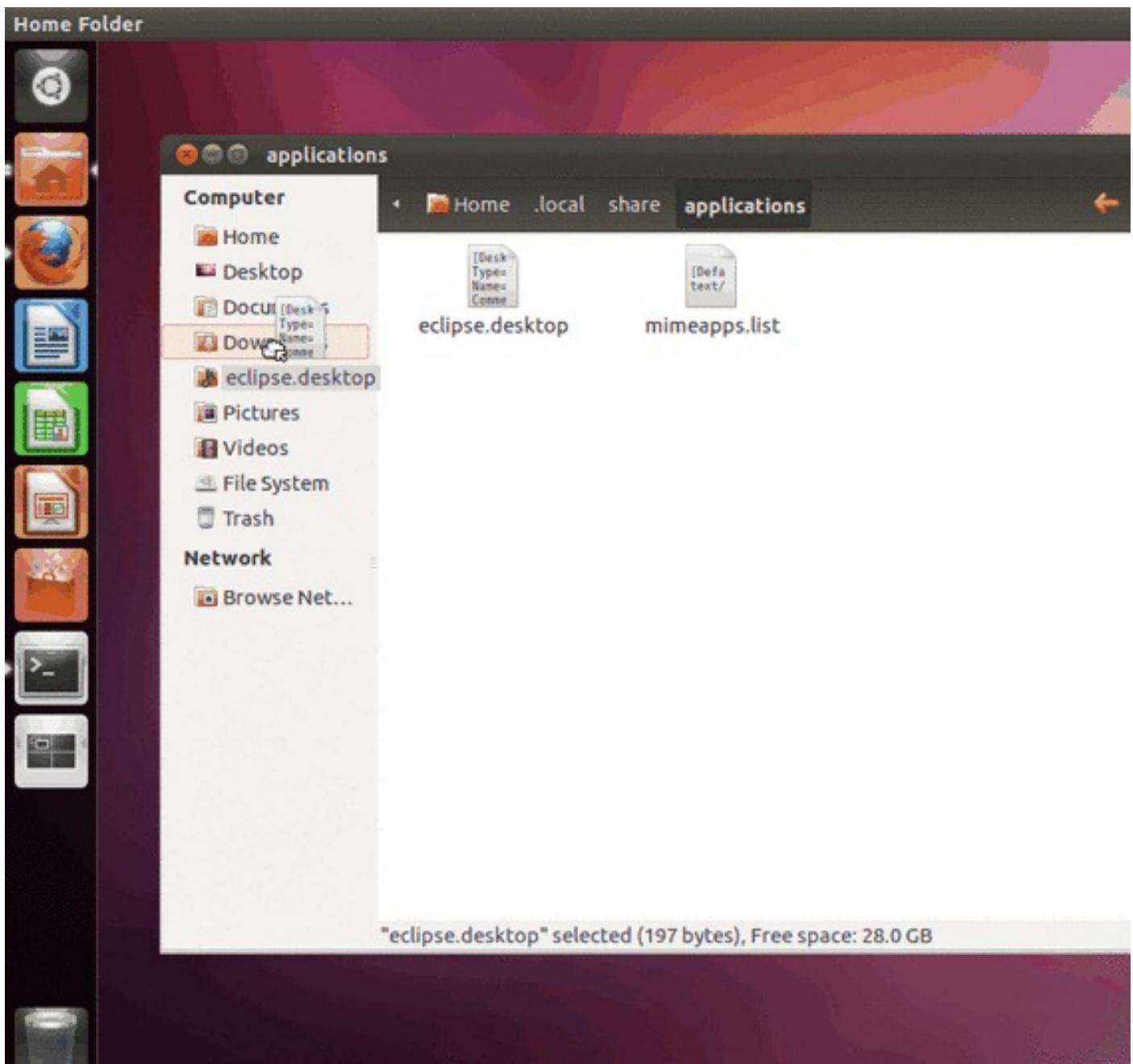
Press ok when you are finished.

---

After copying the file or creating your own open that folder location

```
nautilus ~/.local/share/applications
```

Locate the file you just created and drag it to the launcher



[Answer](#) by [christoph](#)

# 11.04

If user21580's answer doesn't work (great suggestion, but I think it didn't work for me when I installed Indigo), you can try adding an eclipse.desktop file to `~/.local/share/applications/`, with these contents:

## [Skip code block](#)

```
#!/usr/bin/env xdg-open

[Desktop Entry]
Version=1.0
Type=Application
Terminal=false
StartupNotify=true
Icon=<path-to-eclipse-install>/icon.xpm
Name=Eclipse Indigo 3.7
#Exec=env UBUNTU_MENUPROXY=0 <path-to-eclipse-install>/eclipse
Exec=env <path-to-eclipse-install>/eclipse
```

If you experience bugs, you can try the Exec line which is commented out instead of the current one.

References:

- [How can I edit/create new launcher items in Unity by hand?](#)

---

Tags: [unity](#) ([Next Q](#)), [eclipse](#) ([Next Q](#))

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## [Q: What are some of the issues with CCSM and why would I want to avoid it?](#)

Tags: [unity](#) ([Next Q](#))

I've seen some people complaining about how unstable CompizConfig Settings Manager ("CCSM") is and how it can break people's desktops if they're not careful.

What are some of the known problems with CCSM? I'd like to decide whether or not it's worth the risk for me.

Tags: [unity](#) ([Next Q](#))

User: [jorge-castro](#)

---

Answer  by [achiang](#)

I am an experienced Linux user, I've contributed to kernel and work on the Canonical OEM team; I only mention these facts to show my context, which is — the other day, I did a fresh install of 11.10 on my laptop, and wanted to customize something (turning on focus-follows-mouse). I poked around in gnome-control-center for about 30 minutes before giving up and discovering the only way to do this was using ccsm.

After installing ccsm, I configured ffm, and then — accidentally! — my mouse cursor passed over the preferences button and the touchpad on my laptop registered a click.

Boom!

Unity session dead.

Luckily I still had an irc window open and I could beg for help from my colleagues who told me how to recover (`rm ~/.compiz-1`). This is the same problem some people keep having:

- [Unity 3D doesn't work anymore, just shows a menu on the top](#) 
- [Unity doesn't load, no Launcher, no Dash appears](#)
- [Desktop Disappeared](#) 

I know that people are going to google for how to configure things and land up here and they're going to see lots of mentions of ccsm; or worse yet from another unreliable source. The horse is out of the barn already, and we can't go back. The determined users are going to find it anyway, and anyone that tenacious deserves to know how to get what they want (and if you break it you get to keep both pieces!)

But my point is that from now on, we can try and do better for our users.

1. ccsm is dangerous; even if you know not to touch the bad thing, you might accidentally touch it anyway like I did.
2. ccsm has no future; the future plans for Unity are to migrate all the useful configurability bits out of ccsm into safer, supported tools. These tools should start to appear in 12.04.
3. the attitude of “recovering from your mistakes is a positive learning experience” is **niche**. Most normal people just want to use their computers without having them randomly break in mysterious, non-recoverable ways; most normal people do not share our culture of taking things apart to see how they work.

Again — I know that people are going to find the dangerous stuff no matter what. But what we can do here is change our culture and give **opinionated help**, steering people away from the bad stuff and towards the good stuff.

It's easy to convey facts; it's much harder to convey wisdom.

Here, we should be aiming higher than merely giving the facts of what is possible; we should be sharing the wisdom of what is recommended.

---

[Answer](#)  by [didrocks](#)

You can also have other plugins conflicting with the unity one, like commands and such. We need to activate them still for the fallback session (like Alt + F2). So unity by default conflicts with other plugins that are enabled.

However, touching such a plugin in ccsm enables special artefacts like “do you want to remove the unity plugin?” and people don't read and say yes.

Even worse:

1. Unity is depending on LargeDestkop:
2. Wall and Cube are providing LargeDesktop, each one conflicting with each other.

What happens is that, if you enable Cube, ccsm will disable Wall. Then compiz thinks it's smart right now to check for dependency and will tell "oh, I can't have unity" and disable it. Then, it will enable Cube without reenabling unity which has now its "LargeDesktop" requirement matched.

In addition to this, compizconfig has a fragile configuration management, which can, in some unknown cases right now, remove a plugin from the current profile (probably due to a conflict check at start or on upgrade) without any warning

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**Tags:** [unity](#) ([Next Q](#))

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## **Q: How can I remove duplicate second Unity Launcher on a Dual Screen setup?**

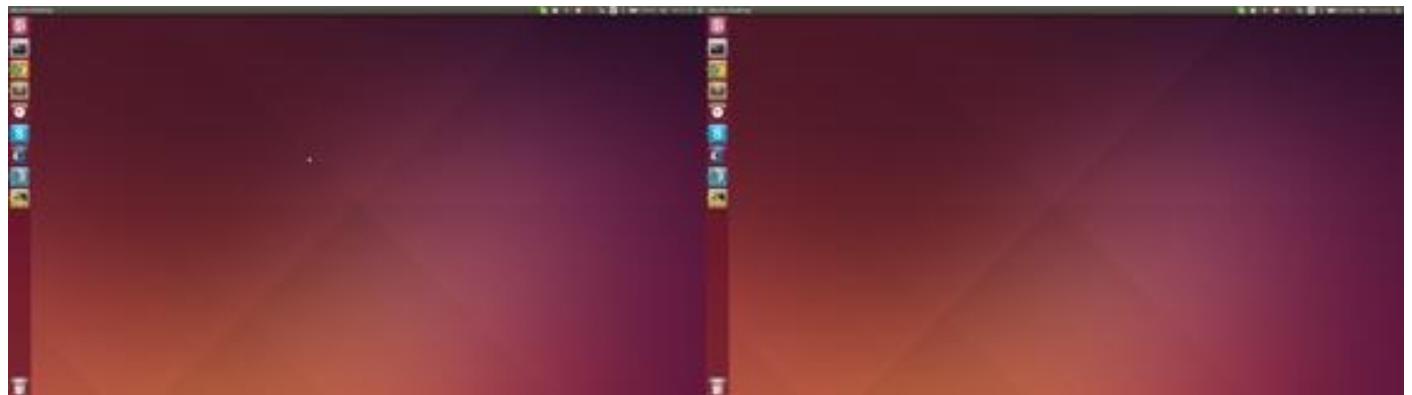
**Tags:** [unity](#) ([Next Q](#)), [multiple-monitors](#) ([Next Q](#))

See attached image. On my dual screen display I have a Unity Launcher on the left hand screen and also on the right hand screen. Both work perfectly fine.

I don't want two Unity Launchers. Every time I move my mouse to the right hand side it gets slowed down over the right launcher hampering my productivity.

I have an Nvidia card with the Nvidia driver and I am using TwinView.

Could somebody please tell me how to remove this extra duplicated launcher?



**Tags:** [unity](#) ([Next Q](#)), [multiple-monitors](#) ([Next Q](#))

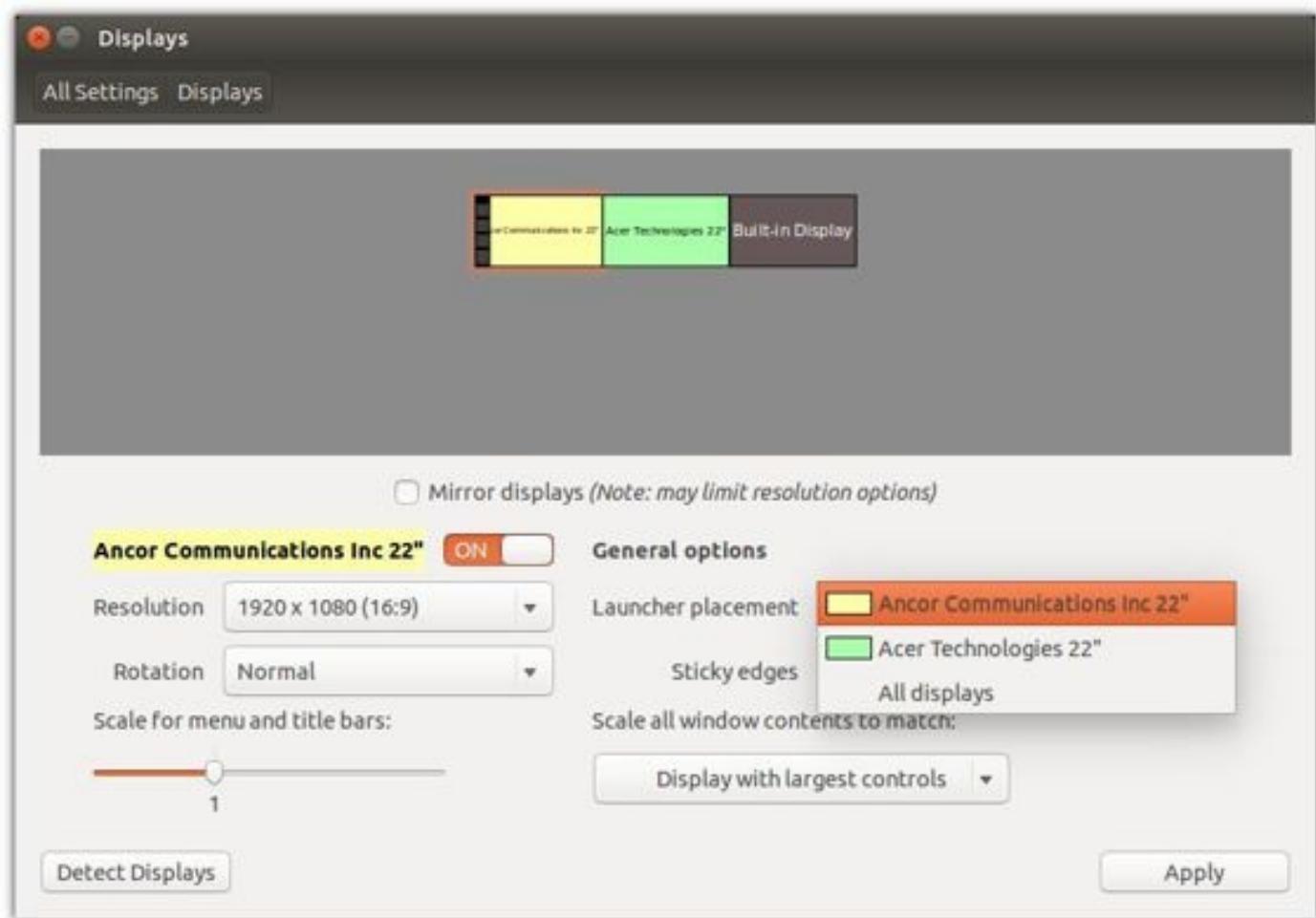
**User:** [eugene-van-der-merwe](#)

---

**Answer** by [jrg](#)

You can now.

Open up Display preferences, and then you can choose between having the launcher on one display or all of them.



This dialog also allows switching on or off the *sticky edges* (i.e. the mouse slowdown) between the displays.

---

[Answer](#) by [jo-erlend-schinstad](#)

The slowdown is a feature to make it possible to use the launcher when it's set to auto-hide. I think it's a bug that it's used when the launcher is set to always visible. I've reported it on Launchpad.net, where bugs are filed, and you might want to set it to affect you. You can find it here:

<https://bugs.launchpad.net/ubuntu/+source/unity/+bug/945847>

In the meantime, you can configure it yourself by using `/apps/compiz-1/plugins/unityshell/screen0/options/overcome_pressure` and `/apps/compiz-1/plugins/unityshell/screen0/options/stop_velocity` in gconf-editor

You can also configure these parameters in CCSM (Compiz Config Settings Manager), in the Unity Plugin, Experimental tab

---

**Tags:** [unity](#) ([Next Q](#)), [multiple-monitors](#) ([Next Q](#))

---

**Q: How do I disable mouse magnet on middle edge with multi monitors?**

**Tags:** [unity](#) ([Next Q](#)), [multiple-monitors](#) ([Next Q](#))

I use Ubuntu 12.04 on a two screen setup. Multiscreen on 12.04 has generally become much better, but there is one thing that really gets on my nerves: there's a mouse magnet of sorts on the middle edge (between the two screens). It's undoubtedly there to make it easier to interact with the launcher on the right screen. But I have enough trust in my mousing skills, the magnet is more annoying than helpful in my case. Can I disable it somehow?

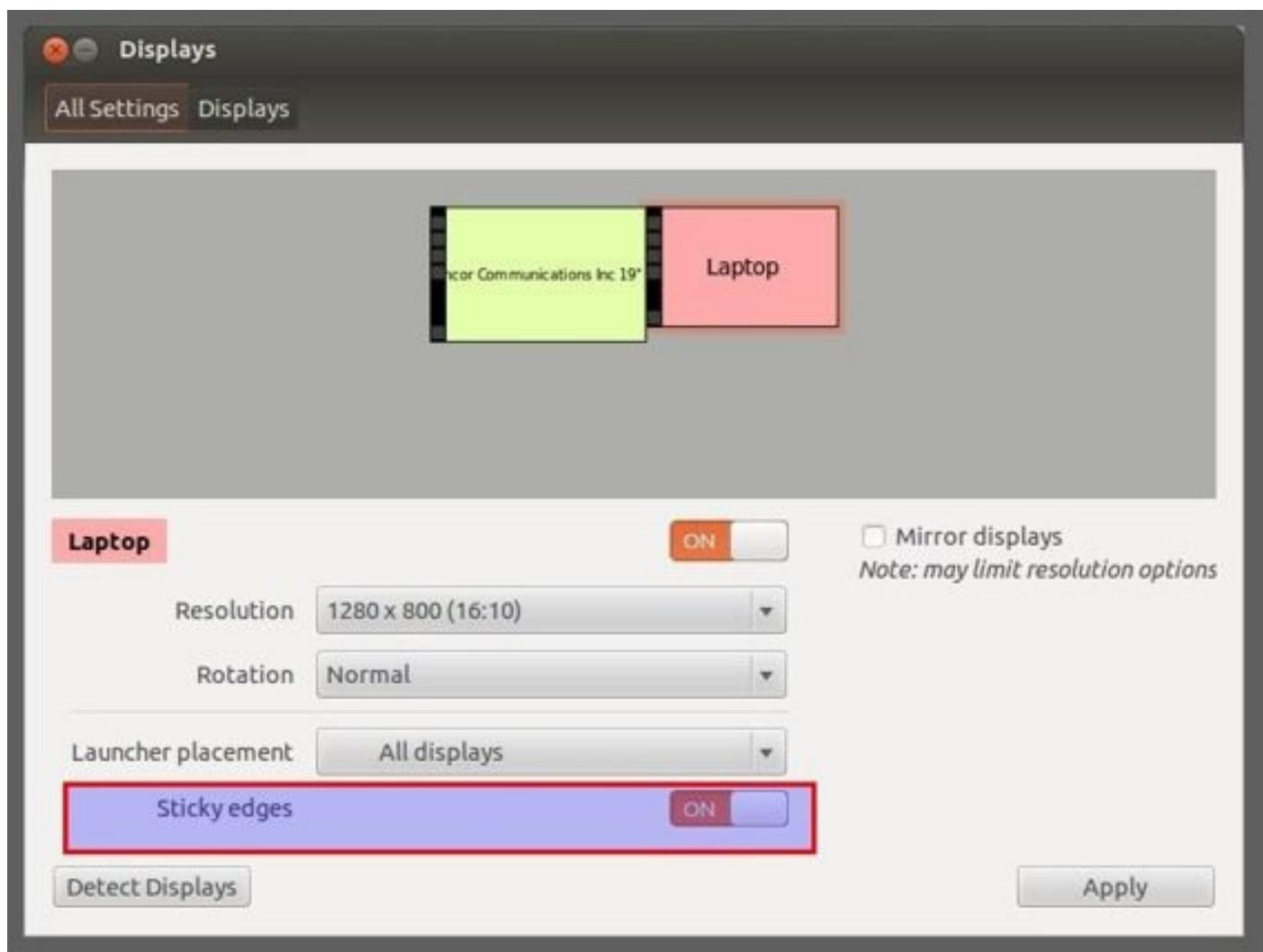
**Tags:** [unity](#) ([Next Q](#)), [multiple-monitors](#) ([Next Q](#))

**User:** [benjamin-wohlwend](#)

---

[Answer](#)  by [javier-rivera](#)

There is a setting for it in Displays:



You may still get the behaviour if you have a launcher on the right monitor, so use the "Launcher Placement" option to select having your launcher on only the left screen. The stickyness between the screens is required for it to be easy to retrieve the launcher there.

You might need to log out and back in (or restart) for the changes to take effect.

---

[Answer](#)  by [jo-erlend-schinstad](#)

The "hang" is a feature to make it possible to use the launcher in multi-monitor setups

when it's set to auto-hide. It can be configured using gconf-editor. The relevant keys are /apps/compiz-1/plugins/unityshell/screen0/options/stop\_velocity, and /apps/compiz-1/plugins/unityshell/screen0/options/overcome\_pressure

Recommended settings to minimize the effect are:

- overcome\_pressure=1
- stop\_velocity=20

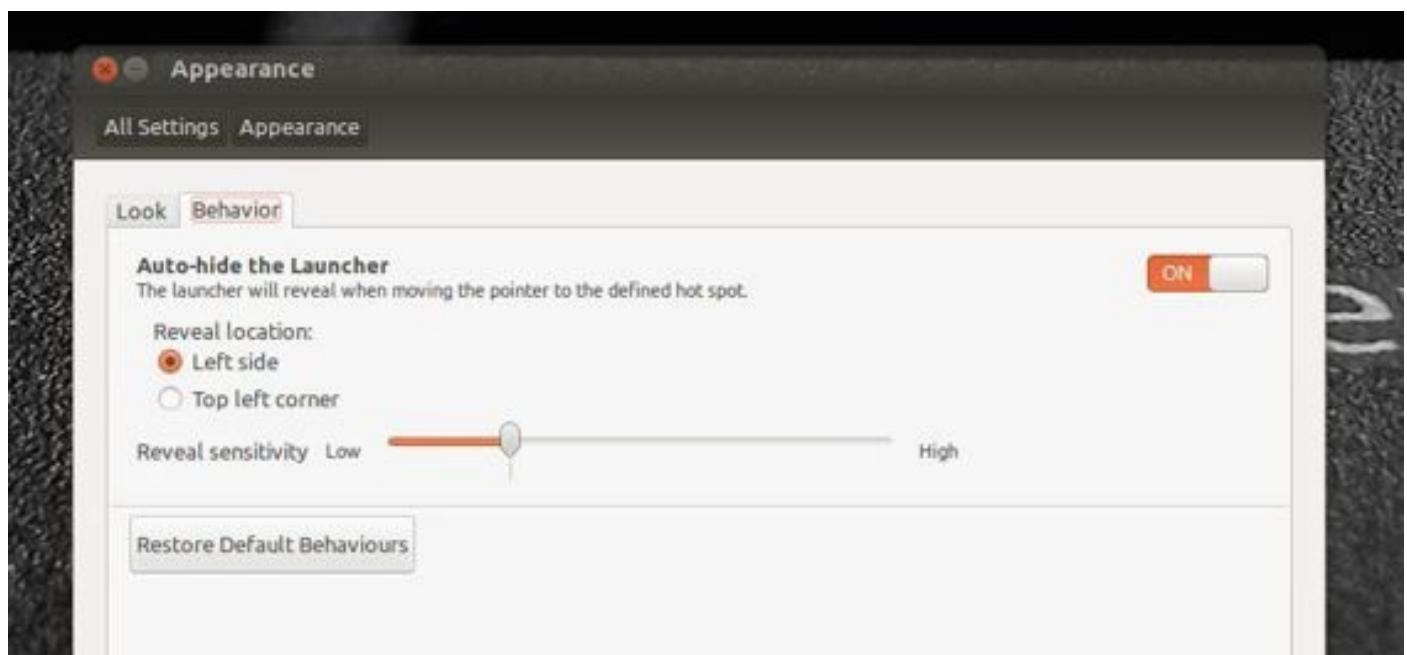
These settings do not completely stop the mouse from sticking, but makes it less likely it will do so. You can reduce stop\_velocity further if you want.

Possibly also /apps/compiz-1/plugins/unityshell/screen0/options/reveal\_pressure. The latter can be configured more easily in *System Settings -> Appearance -> Behavior*.

- [How do I use the gconf editor?](#)
- 

[Answer](#) by [alessio](#)

I personally thought it could be a wrong design in an extended desktop where in the middle of the desktop, a launcher is present. Yet, notice that the launcher has new settings :



The reveal sensitivity allows you to adjust how much the launcher is sensitive to your mouse crossing. The higher, the more you have to push the mouse against the launcher to reveal it. While auto-hide is activated, and about 27 % of reveal sensitivity, you can surf your mouse from the left external monitor to the right one or the opposite, easily without accidentally revealing the launcher. Check the poll, if you want to vote for this option.

Thanks to Hanynowsky's answer <http://askubuntu.com/a/111316/29209>

---

**Tags:** [unity](#) ([Next Q](#)), [multiple-monitors](#) ([Next Q](#))

## [Q: How do I modify or disable the HUD's use of the Alt key?](#)

**Tags:** [unity](#) ([Next Q](#)), [shortcut-keys](#) ([Next Q](#))

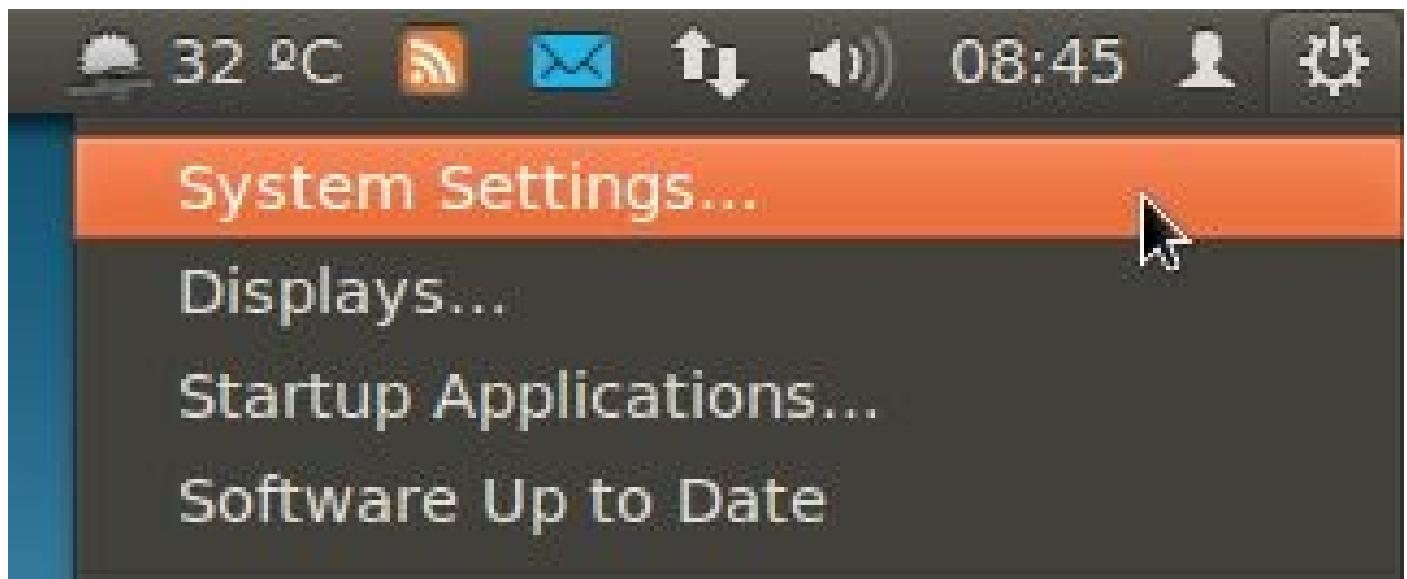
A number of games, Emacs, and the terminal make extensive use of the Alt key. Can Unity be configured to respect this key, rather than launching the HUD with it?

**Tags:** [unity](#) ([Next Q](#)), [shortcut-keys](#) ([Next Q](#))

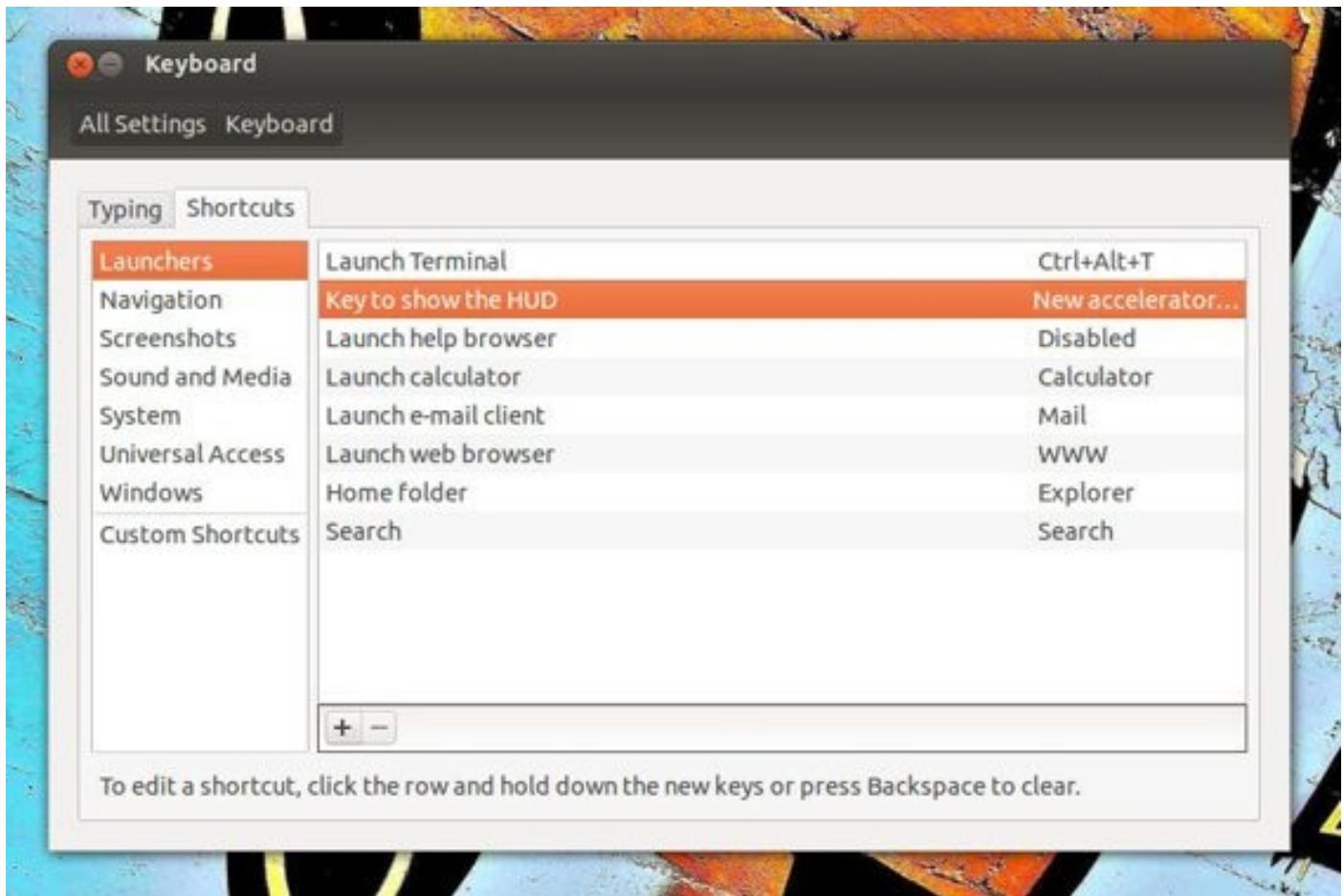
**User:** [eoghanm](#)

**Answer**  by [nastys](#)

Open the System Settings application either by going to Session Indicator in Unity panel, or by searching for System Settings using the HUD.



Then go to Keyboard > Shortcuts > Launchers. You can redefine the HUD key with the *Key to show the HUD* option. Pressing Backspace will disable the HUD shortcut altogether.



If you set it to Alt manually, the setting distinguishes between the left and right Alt key. So if you want to maintain general behaviour and still use Alt combinations, this may be an alternate solution for you.

---

[Answer](#) by [jokerdino](#)

You can use [compizconfig-settings-manager](#)

# Missing Image

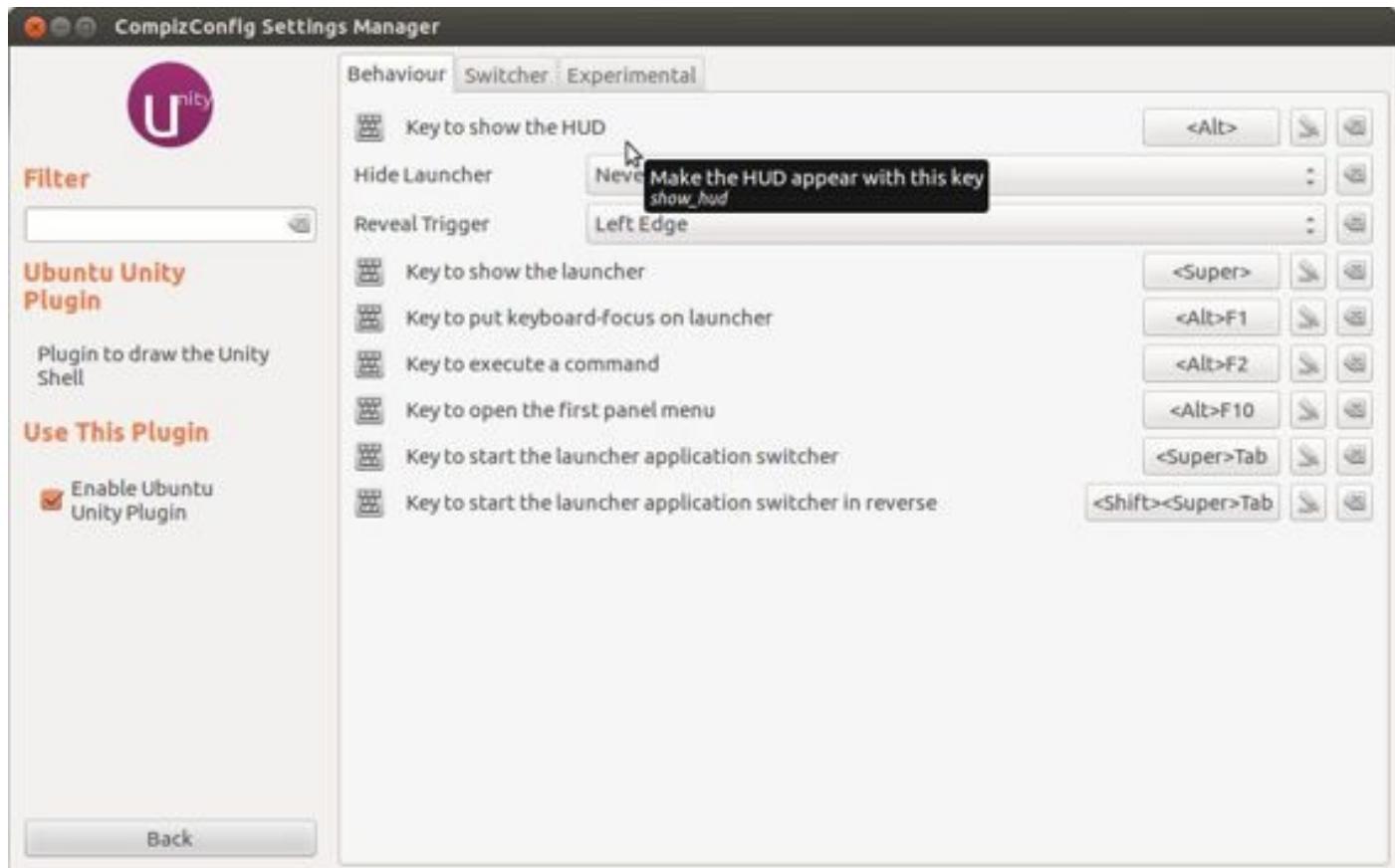
to change the key used to show the HUD.

To install it, run the following command in a terminal:

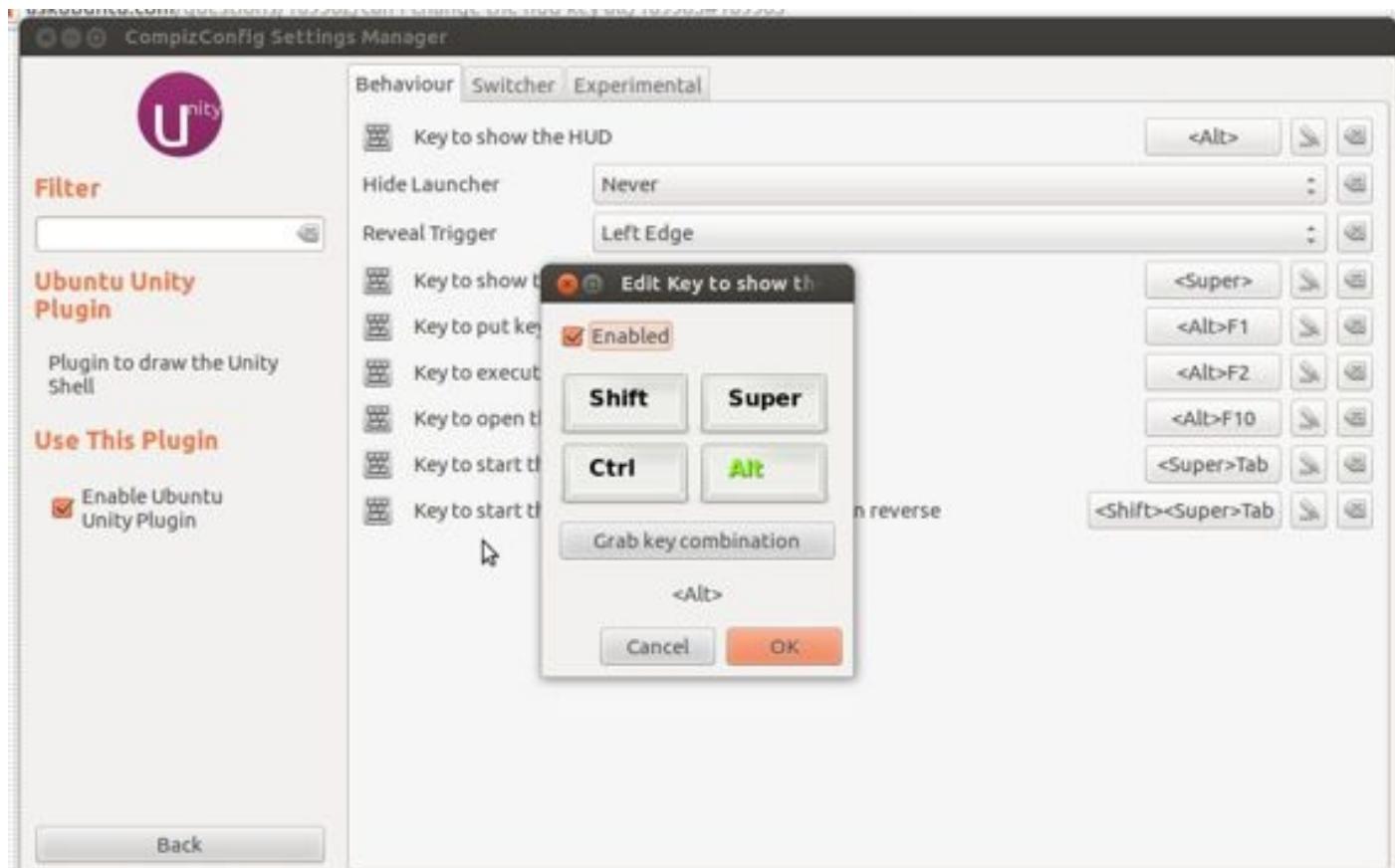
```
sudo apt-get install compizconfig-settings-manager
```

- [What are some of the issues with CCSM and why should I not use it?](#)

After installing it, open it and go to Ubuntu Unity Plugin.



Click on the button for the option *Key to show the HUD* and a dialog similar to the one shown below will appear.



Click on *Grab key combination* and press your desired new key combination and press enter. After that, click on *OK* button and the new key combination will trigger the HUD from now on.

**Tags:** [unity](#) ([Next Q](#)), [shortcut-keys](#) ([Next Q](#))

---

## **Q: What happens under the covers to log me in and start up Unity or another Graphical User Interface?**

**Tags:** [unity](#) ([Next Q](#)), [lightdm](#) ([Next Q](#))

When there's trouble, it might be good to understand what happens under the covers to sign a user into a GUI session and get a Unity (or other window manager) to bring up a desktop.

**Tags:** [unity](#) ([Next Q](#)), [lightdm](#) ([Next Q](#))

**User:** [john-s-gruber](#)

---

[Answer](#)  by [john-s-gruber](#)

# **How a desktop user GUI session gets started with Ubuntu 12.04-14.04**

Here's the chain of events:

# The Ubuntu Linux kernel and upstart

The kernel starts the init process as process number 1. This is upstart for Ubuntu 12.04.

Upstart jobs are in /etc/init/

---

Man page: <http://manpages.ubuntu.com/manpages/precise/man5/init.5.html> 

Logs: kernel log (dmesg; copied to /var/log/syslog), /var/log/upstart/jobname.log, other logs determined by started jobs.

*Source: /etc/init/lightdm.conf*

---

The upstart job executes /usr/sbin/lightdm . We probably can expect this to be converted to a systemd service unit over time.

# Lightdm

---

Man page: <http://manpages.ubuntu.com/manpages/precise/en/man1/lightdm.1.html> 

Also: <https://wiki.ubuntu.com/LightDM> 

Logs: /var/log/syslog, /var/log/lightdm/lightdm.log and /var/log/lightdm/\*, /var/log/auth.log for PAM, /var/log/Xorg.0.log for the Xorg X server.

*Source: man page and /var/log/lightdm/lightdm.log*

---

lightdm gets started fairly late in the init process, for example, the system dbus must to be already started, the filesystem has to be ready, and the graphics display system must be ready.

lightdm creates an xauthority file and then starts X, starting it on VT 7, the virtual terminal you get if you press Alt+Ctrl+F7. When X is started lightdm signals for the Plymouth splash screen program to quit. It's essential that this happens after all of the tty's (1-6) have started.

Since July 2013 Mir support items have been added to lightdm, but those aren't used by default for desktop systems as of 14.04.

X attempts to use the most advanced drivers possible. It's own drivers are loaded from /usr/lib/xorg/modules/. Note that there exist both kernel drivers and xorg drivers for many devices, with the xorg drivers almost certainly using the kernel ones. dri and glx are important features, in particular, for advanced high performance graphics. Logs are stored for X in /var/log/Xorg.0.log .

There is communications over the system dbus about this "seat" and possible user names are acquired. lightdm uses X to draw the screen. unity-greeter is used to assist in the process.

As you select the various possible userid's that userid's background image is used.

lightdm gets the names of potential window-managers/systems from /usr/share/xsessions/\*.desktop.

Account information is acquired via the accountsservice accounts-daemon over dbus.

lightdm and the greeter use PAM to authenticate the user. Once authenticated, PAM will start a gnome-keyring-daemon daemon with the —login option and feed it the user's password so that it can unlock the user's login keyring, if present. See <https://live.gnome.org/GnomeKeyring/Pam>  and man 8 pam\_unix for more information. PAM stores log information in /var/log/auth.log and is controlled by /etc/pam.conf (almost empty) and /etc/pam.d/\*. In particular, see /etc/pam.d/lightdm and /etc/pam.d/lightdm-autologin.

Once the user is authenticated privileges are dropped and a file is written to ~user/.dmrc describing the session. For example:

```
[Desktop]
Session=ubuntu
```

or

```
[Desktop]
Session=awesome
```

The .desktop files from /usr/share/xsessions/\*.desktop now determine the rest of the startup sequence.

For example here's the one for Unity:

```
[Desktop Entry]
Name=Ubuntu
Comment=This session logs you into Ubuntu
Exec=gnome-session --session=ubuntu
TryExec=unity
Icon=
Type=Application
X-Ubuntu-Gettext-Domain=gnome-session-3.0
```

The /usr/sbin/lightdm-session shell script is run with the arguments gnome-session — session=ubuntu (sic.—‘ubuntu’, not ‘unity’)

# lightdm-session

---

Logs: ?

Error Logs: `~/.xsession-errors`

Started Process Logs: `~/.cache/upstart/*`

Source: `/usr/sbin/lightdm-session`

---

`/usr/sbin/lightdm-session` then takes these steps:

Runs:

- `/etc/profile`, `$HOME/.profile`
- `/etc/xprofile` `$HOME/.xprofile`;
- loads resources from `/etc/X11/Xresources` and `$HOME/.Xresources`, if they exist, loads the keyboard map with `setxbmap` using the contents of `/etc/X11/Xkbmap` and `$HOME/.Xkbmap`;
- if not using XKB uses `xmodmap` against any existing `/etc/X11/Xmodmap` and `$HOME/.Xmodmap`
- runs scripts in `/etc/X11/xinit/xinitrc.d`;
- runs the `Xsession` scripts in `/etc/X11/Xsession.d/*`, using the options in `/etc/X11/Xsession.options`.

One of these starts ssh-agent (redundant), another executes `$HOME/.xsessionrc`.

Another starts session-dbus (both ssh-agent and session-dbus as allowed in the above `Xsession.options` file). This session dbus is useful for communications between processes regarding this single user session.

ssh-agent can hold onto ssh keys for the session if they are ssh-add ‘ed some time during the session, but gnome-keyring-daemon does the same thing.

`/etc/X11/Xsession.d/50_check_unity_support` runs `/usr/lib/nux/unity_support_test` and if it fails exports `LIBGL_ALWAYS_SOFTWARE=1` to the environment so that `llvmpipe` will be used to software render the desktop.

*Starting with Ubuntu 13.10: `/etc/X11/Xsession.d/00upstart` sets variable `UPSTART` to 1 `/etc/X11/Xsession.d/99upstart` checks that variable and if set substitutes `init --user` to the other items set to `$STARTUP`. Thus user-mode upstart starts those upstart jobs in `/usr/share/upstart/sessions`. One of those is `gnome-session.conf` which starts `gnome-session`.*

Unless already done, finally lightdm-session starts a window manager, or for unity, the above starts the gnome-session session manager.

It appears that lightdm-session takes on the traditional role of xsession. Its man page is at <http://manpages.ubuntu.com/manpages/precise/man5/Xsession.5.html> . lightdm considers it to be a session-wrapper.

# gnome-session session manager (Unity and Gnome Shells)

---

Manpage: <http://manpages.ubuntu.com/manpages/precise/en/man1/gnome-session.1.html> 

Logs: ?

*Source: man page*

---

gnome-session is used for Unity, but not for awesome by default, for example. See the above .desktop files.

gnome-session starts the specified program from /usr/share/gnome-session/sessions/ and starts applications from ~/.config/autostart/ and /etc/xdg/autostart.

Here's one example from /etc/xdg/autostart:

[Skip code block](#)

```
$cat /etc/xdg/autostart/nm-applet.desktop
[Desktop Entry]
Name=Network
Comment=Manage your network connections
Icon=nm-device-wireless
Exec=nm-applet
Terminal=false
Type=Application
NoDisplay=true
NotShowIn=KDE;
X-GNOME-Bugzilla-Bugzilla=GNOME
X-GNOME-Bugzilla-Component=general
X-GNOME-Autostart-enabled=true
X-Ubuntu-Gettext-Domain=nm-applet
```

Another, /etc/xdg/autostart/gnome-keyring-ssh.desktop, starts gnome-keyring-daemon with the —start option, completing the start of that daemon process and storing important information about it in the environment for potential use by ssh.

From a ps aux list it appears that gnome-session starts window managers with dbus-launch.

# Window Managers

## Awesome Window Manager

---

Man page: <http://manpages.ubuntu.com/manpages/precise/en/man1/awesome.1.html>   
Logs: ?

*Source: man page, config file examination*

---

Here's the awesome.desktop file in /usr/share/xsessions/ used by lightdm-session:

```
[Desktop Entry]
Encoding=UTF-8
Name=awesome
Comment=Highly configurable framework window manager
TryExec=awesome
Exec=awesome
```

As you can see, the entry simply causes the awesome window manager to be executed. It reads its own configuration files, including /etc/xdg/awesome/rc.lua from the awesome package. It can be configured with \$HOME/.config/awesome/rc.lua.

# Unity

---

Source: config file examination

---

Here's the ubuntu.desktop file in /usr/share/xsessions/ :

```
[Desktop Entry]
Name=Ubuntu
Comment=This session logs you into Ubuntu
Exec=gnome-session --session=ubuntu
TryExec=unity
Icon=
Type=Application
X-Ubuntu-Gettext-Domain=gnome-session-3.0
```

This starts the gnome session described in /usr/share/gnome-session/sessions/ubuntu.session

Here is that file:

```
[GNOME Session]
Name=Ubuntu
RequiredComponents=gnome-settings-daemon;
RequiredProviders>windowmanager;panel;
DefaultProvider>windowmanager=compiz
DefaultProvider>panel=compiz
IsRunnableHelper=/usr/lib/nux/unity_support_test
FallbackSession=ubuntu-2d
DesktopName=Unity
```

The IsRunnableHelper program run by gnome-session in 12.04 determines whether unity can be run or whether ubuntu-2d will run. If it makes a mistake and says unity can run and it cannot, there's trouble. Choose ubuntu-2d manually in lightdm if that happens to you.

While it returns a return code, we can see what it is doing by running it with the -p option.

[Skip code block](#)

```
$ /usr/lib/nux/unity_support_test -p
OpenGL vendor string: X.Org R300 Project
OpenGL renderer string: Gallium 0.4 on ATI RS690
OpenGL version string: 2.1 Mesa 8.0.2

Not software rendered: yes
Not blacklisted: yes
GLX fbconfig: yes
GLX texture from pixmap: yes
GL npot or rect textures: yes
GL vertex program: yes
GL fragment program: yes
GL vertex buffer object: yes
GL framebuffer object: yes
GL version is 1.4+: yes

Unity 3D supported: yes
```

For 12.10 and later unsupported hardware uses llvmpipe software to render what the hardware can't. Its configuration file is simpler than the above. See above for how it is enabled.

We can see from the above files that gnome-session must start the settings daemon, and start compiz for purposes of running a window manager and any panels.

# compiz

---

Man page: <http://manpages.ubuntu.com/manpages/precise/en/man1/compiz.1.html> 

Logs: ?

Source: <http://en.wikipedia.org/wiki/Compiz>  , file system examination

---

Once compiz is started, it runs various plugins. Before 12.10 gnome-settings are used to define these. They can be changed with ccsm (compiz config settings manager) or with gconf-editor. The plugin settings are stored in apps/compiz-1/general/screen0/options under active\_plugins. Duplicates have caused me to have segfaults with compiz. These are stored in the user's home directory in the ~/.gconf/ directory organized as above. The actual values are stored in %gconf.xml files there.

Since 12.10 these plugins are stored in binary in your ~/.config/dconf/user file. The dconf, or gsettings method of storing settings is newer. You can see all of these settings with dconf dump /org/gnome/.

Unityshell is one of these plugins. It uses the nux project as an embeded toolkit. Images are drawn on textures in 3 dimensional space with specified transparency values. These are processed by compiz and sent to either llvm or to advanced graphics drivers to have the graphics engines on the system's computer graphic hardware composite and render them. Generally, this is as opposed to rendering images directly to a framebuffer as was done more traditionally. This complicated chain of events is what requires more advanced drivers, and sometimes prompts the use of proprietary graphics drivers in Ubuntu.

---

Tags: [unity](#) ([Next Q](#)), [lightdm](#) ([Next Q](#))

---

## Q: How do I get the Skype status icon back? (on panel/tray)

Tags: [unity indicator](#) ([Next Q](#)), [skype](#) ([Next Q](#))

I installed Skype 4.0 following [this guide](#)  . However my little Skype icon in the unity status bar (in the top right corner with clock, volume, etc.) is gone. How do I get it back?

Tags: [unity indicator](#) ([Next Q](#)), [skype](#) ([Next Q](#))

User: [miceterminator](#)

---

Answer  by [izzx](#)

# You may need to do two things:

## 1. Install the *sni-qt* libraries.

Install [\*sni-qt\*](#)



(click on the link), or with `sudo apt-get install sni-qt sni-qt:i386` from the terminal, and then restart Skype. The tray/panel icon should now be back!

The reason this step is required is because *sni-qt* is installed automatically by the Ubuntu repository Skype package, but NOT by the Skype deb you directly download. Once Skype 4.0 is in the Ubuntu repos, you can install from there and this will no longer be necessary.

## 2. You *may* also need to whitelist the indicator

We don't know why, but for some systems this additional step is required before the indicator will show (thanks to [Bruno Pereira](#)!)

Steps:

1. Install the package [`dconf-tools`](#)

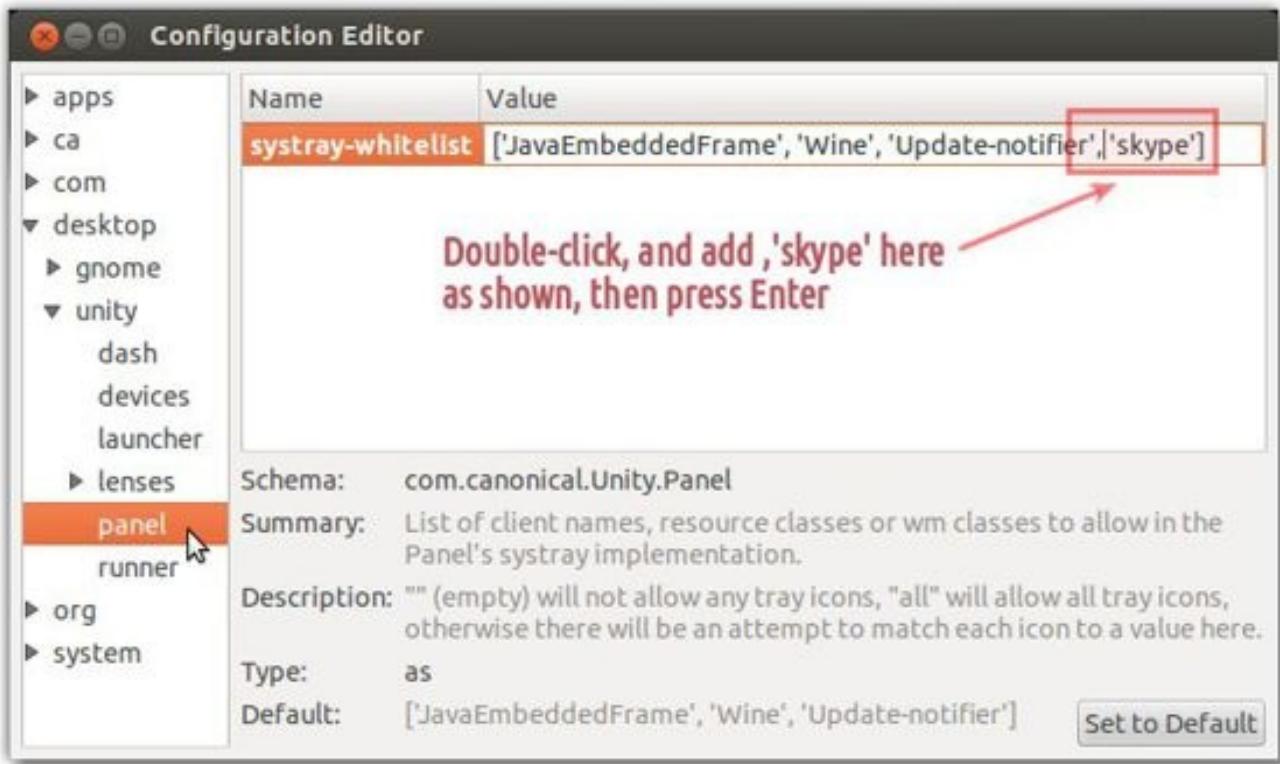


(click on the link), or from the terminal with `sudo apt-get install dconf-tools`

2. Open *dconf editor* from the Dash (or *dconf-editor* from terminal):



3. On the left sidebar, use the triangles to navigate to *desktop > unity > panel*. On Ubuntu 12.10 you instead need to navigate to *com > canonical > unity > panel*. Double-click on the orange [JavaEmbedded...] part on the right, and add , 'skype' to allow the Skype indicator to show, as below:



4. Press Enter, close *dconf editor*, logout and login — your indicator should now be back!
- 

[Answer](#) by [one-zero](#)

### Enable Skype Icon on Unity Notification Panel on Ubuntu 12.04 LTS

When you do a fresh install of Ubuntu 12.04 (Or any version with Unity for that matter), you install Skype and expect it to work as it used to. But if you close the main window - you soon notice that Skype icon is not being displayed in top panel.

To fix this you will need to run a few commands. So open up your terminal and run this:

```
gsettings get com.canonical.Unity.Panel systray-whitelist
```

You should get something like this:

```
['JavaEmbeddedFrame', 'Wine', 'Update-notifier']
```

Basically this means, that Skype is not whitelisted, thus is not allowed by default to display its tray icon. We need to fix this. Append 'Skype' to the list so that you have something like this:

```
['JavaEmbeddedFrame', 'Wine', 'Update-notifier', 'Skype']
```

Then wrap it with double quotes () and add gsettings set com.canonical.Unity.Panel systray-whitelist in front of it. At this point you should have something like this:

```
gsettings set com.canonical.Unity.Panel systray-whitelist "['JavaEmbeddedFrame', 'Wine', 'Update-notifier', 'Skype']"
```

Now just copy this to your Terminal and execute the command. Reboot afterwards. Now you should see the icon.

Source [enter link description here](#) 

---

**Tags:** [unity indicator](#) ([Next Q](#)), [skype](#) ([Next Q](#))

---

[Q: Is it possible to make indicator-appmenu ignore a specific application?](#)

---

[Q: Why is Ubuntu switching to Unity?](#)

---

[Q: How can I configure Unity's launcher auto-hide behavior?](#)

---

[Q: What's the right terminology for Unity's UI elements?](#)

---

[Q: How do I enable or disable the global application menu?](#)

---

[Q: How can I edit/create new launcher items in Unity by hand?](#)

---

[Q: Unity doesn't load, no Launcher, no Dash appears](#)

---

[Q: How do I reset my Unity configuration?](#)

---

[Q: What are Unity's keyboard and mouse shortcuts?](#)

---

[Q: How do I build Unity from source?](#)

---

[Q: How can I keep recent files from appearing in Unity?](#)

---

[Q: What can replace system monitoring in the top Gnome Panel in Unity?](#)

---

[Q: How do I access and enable more icons to be in the system tray?](#)

---

[Q: How do I put a web application on the Launcher?](#)

---

[Q: How do I install the Ask Ubuntu Unity Lens, and how do I use it?](#)

---

[Q: How do I restart Unity](#)

---

[Q: Can I move the Unity launcher?](#)

---

[Q: How can I reduce or increase the number of workspaces in Unity?](#)

---

[Q: Can I use the Unity launcher icon to minimize applications/windows?](#)

---

[Q: Is there an easy way to rearrange or move the icons in the Unity launcher?](#)

---

[Q: How do I make a Theme from scratch for Unity?](#)

---

[Q: Am I using Unity or Unity 2D?](#)

---

[Q: How do I change the default session for when using auto-logins?](#)

---

[Q: How do I set focus follows mouse?](#)

---

[Q: What is the “show desktop” keyboard shortcut?](#)

---

[Q: How do I revert Alt-tab behavior to switch between windows on the current workspace?](#)

---

[Q: How can I set default terminal used in Unity?](#)

---

[Q: How to change tooltip background color in Unity?](#)

---

[Q: How to pin Eclipse to the Unity launcher?](#)

---

[Q: What are some of the issues with CCSM and why would I want to avoid it?](#)

---

[Q: How can I remove duplicate second Unity Launcher on a Dual Screen setup?](#)

---

[Q: How do I disable mouse magnet on middle edge with multi monitors?](#)

---

[Q: How do I modify or disable the HUD’s use of the Alt key?](#)

---

[Q: What happens under the covers to log me in and start up Unity or another Graphical User Interface?](#)

---

[Q: How do I get the Skype status icon back? \(on panel/tray\)](#)

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# Software Installation

## Questions

### [Q: How do I install Adobe Flash player?](#)

**Tags:** [software-installation](#) ([Next Q](#))

I have had significant problems with watching flash video in 64-bit Ubuntu. Does anyone know of a good way to get flash running on the platform?

**Tags:** [software-installation](#) ([Next Q](#))

**User:** [steven-oxley](#)

---

[Answer](#)  by [nathan-osman](#)

### For 11.04 and earlier:

Are you installing it from the Ubuntu Software Center?

1. Go to Applications->Ubuntu Software Center.
2. Click on Canonical Partners
3. Click the Adobe Flash Plugin 11 and click install.

**Note:** this is the method I use on my 64-bit Ubuntu install and it has yet to fail me.

File Edit View Help

Get Software

- Provided by Ubuntu
- Canonical Partners
- For Purchase
- Guayadeque Music Pl...
- PPA for Dmitry Shach...
- Release Packages
- lyricue
- Dépot MultiSystem li...
- Google
- Oracle Corporation

Installed Software

History

Canonical Partners

Adobe Air  
runtime for rich Internet applications

Adobe Flash Plugin 10  
Adobe Flash Player plugin version 10

More Info

Install

Adobe Reader 9  
Adobe Reader

Adobe Reader 9 - German  
Adobe Reader

Centrify Express  
Centrify Express

Fluendo codecs to decode mp3  
MP3 codec support for GStreamer

JOnAS  
Java Open Application Server 5.2

Openbravo ERP  
Enterprise Resource Planning solution

Skype  
Skype Internet Telephony

UltraEdit

10 items available

The screenshot shows the Ubuntu Software Center window. On the left is a sidebar with links like 'Get Software', 'Canonical Partners', 'For Purchase', etc. The main area lists software packages with their names, descriptions, and ratings. An 'Install' button is highlighted with a cursor. At the bottom, it says '10 items available'.

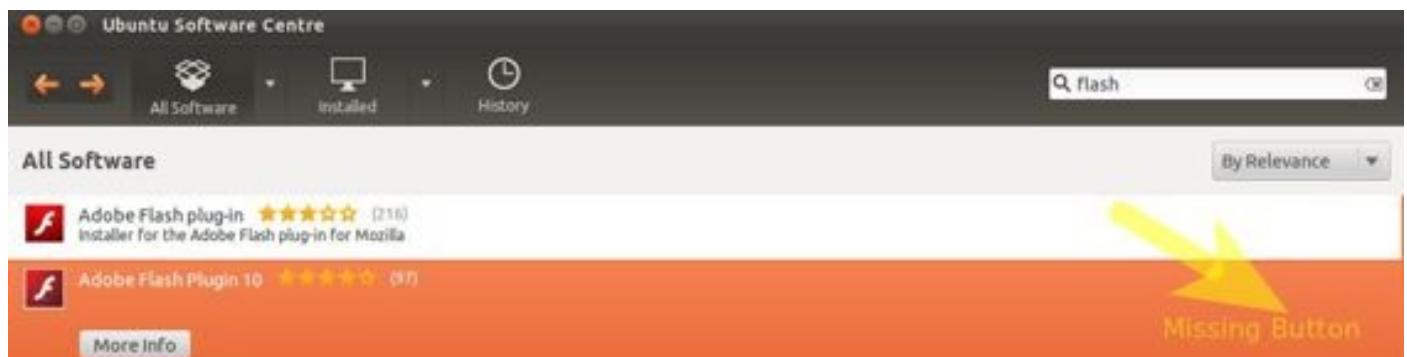
[Answer](#) by [fossfreedom](#)

# For 11.10 and later

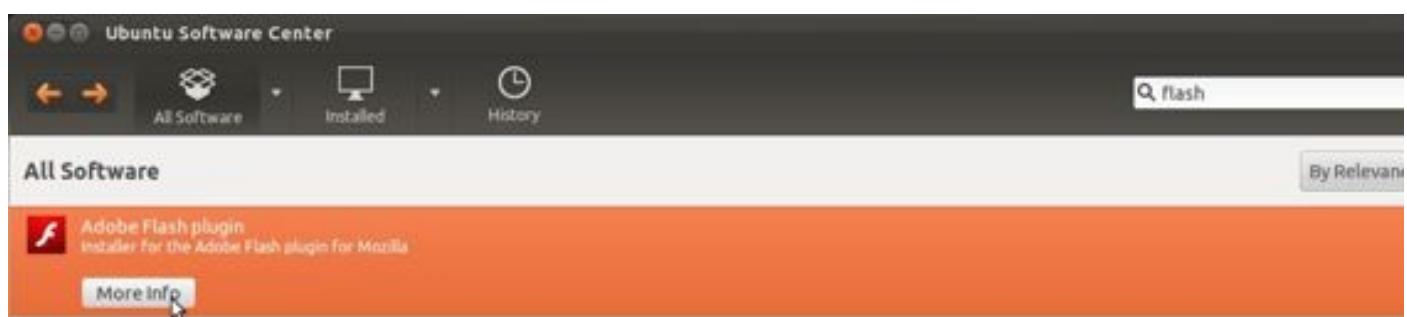
Start Software Center from the Launcher and search for *flash*

Two entries will be found. The first is the wrapper around the 32bit flash version from Adobe. The second is the 64bit flash version.

Select the second flash entry - if the following picture is seen then you have not already enabled the Canonical Partner Repository previously.



Click *More Info*

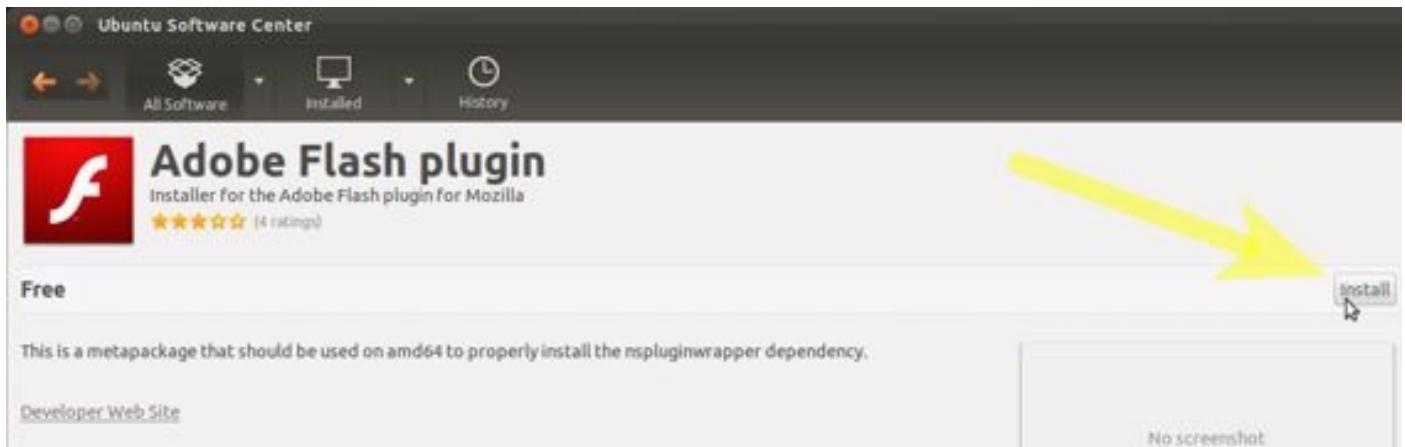


... and click *Use this source* to enable the Canonical Partner Repository



**see the end of this answer for the bug-report**

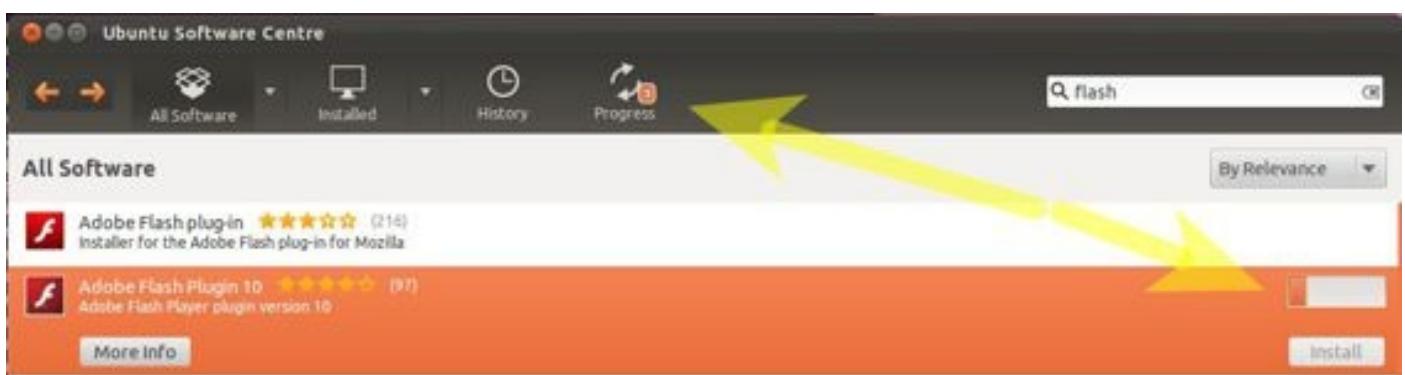
Click *Install*



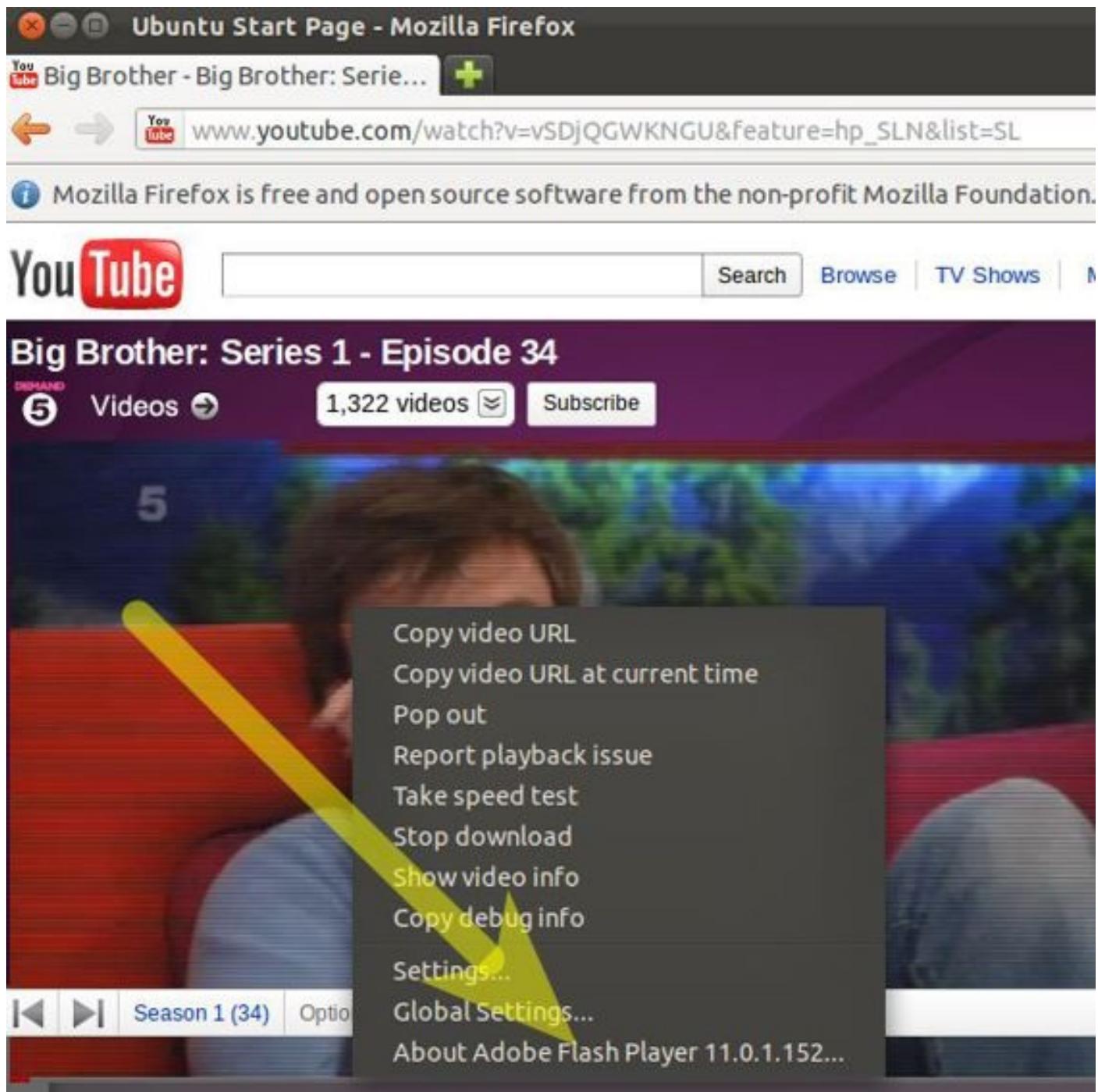
Click the *Install* button and enter your password when prompted. Note - you must have permission to install software.



The installation will proceed:



Once complete - launch Firefox and browse to your Flash Video. Right click and confirm that the latest version of Flash has been installed correctly.



Note - pictures subject to change - the 64bit version has only been recently packaged in the last week before Oneiric release - One issue currently exists:

1. <https://bugs.launchpad.net/ubuntu/+source/flashplugin-nonfree/+bug/870835>

In the interim - either use the first “Multiverse” 32bit plugin in the pictures above or use adobe-flashplugin

```
sudo apt-get install adobe-flashplugin
```

[Answer](#) by ignite

This is how to install Adobe Flash Plugin for Firefox:

1. Go to [this](#) page and select the option .tar.gz for other Linux. Download the file.
2. Unpack the plugin tar.gz and copy the files to the appropriate location.

3. Save the plugin tar.gz locally and note the location the file was saved to.
4. Launch terminal and change directories to the location the file was saved to.
5. Unpack the tar.gz file. Once unpacked you will see the following:
  - libflashplayer.so
  - /usr

6. Identify the location of the browser plugins directory, based on your Linux distribution and Firefox version.(Usually it is /usr/lib/mozilla/plugins/)
7. Copy libflashplayer.so to the appropriate browser plugins directory. At the prompt type:

```
sudo cp libflashplayer.so <BrowserPluginsLocation>
```

8. Copy the Flash Player Local Settings configurations files to the /usr directory. At the prompt type:

```
sudo cp -r usr/* /usr
```

9. Now restart your browser.

---

**Tags:** [software-installation](#) ([Next Q](#))

---

## **Q: What's the easiest way to set up a LAMP stack?**

**Tags:** [software-installation](#) ([Next Q](#)), [php](#) ([Next Q](#)), [apache2](#) ([Next Q](#))

I set up a new VPS instance of Ubuntu and am wondering what the easiest way is to get up and running with a basic LAMP stack (i.e. which packages are required, which configuration options need to be tweaked, if any, etc.).

**Tags:** [software-installation](#) ([Next Q](#)), [php](#) ([Next Q](#)), [apache2](#) ([Next Q](#))

**User:** [jerhinesmith](#)

---

**Answer**  by [andol](#)

```
sudo apt-get install tasksel  
sudo tasksel install lamp-server
```

It will install all the basic LAMP stack for you, prompt for MySQL root password, etc.

More specifically it will install the following packages, and their dependencies.

```
mysql-client-core-5.1 libwrap0 apache2  
libaprutil1-db-dbd-sqlite3 tcpd  
libapache2-mod-php5 apache2.2-common  
apache2-utils php5-common  
libaprutil1-ldap libaprutil1  
php5-mysql mysql-server-core-5.1  
libdbi-perl libplrpc-perl mysql-server
```

apache2.2-bin libdbd-mysql-perl  
libhtml-template-perl  
libnet-daemon-perl libapr1  
mysql-server-5.1 libmysqlclient16  
ssl-cert apache2-mpm-prefork  
mysql-common mysql-client-5.1

You might also want to take a peek at the [Ubuntu Server Guide](#).

---

**Tags:** [software-installation](#) ([Next Q](#)), [php](#) ([Next Q](#)), [apache2](#) ([Next Q](#))

---

## [Q: What is the best place to install user apps?](#)

**Tags:** [software-installation](#) ([Next Q](#))

Occasionally I am installing application with something other than apt-get or the Package Manager.

What is the “*best practice*” location for installing **user apps**? (/usr/bin/, /usr/local/bin/, /opt/, etc)

**Tags:** [software-installation](#) ([Next Q](#))

**User:** [citadelgrad](#)

---

[Answer](#) by [umang](#)

That depends, really. If the application has a makefile, (for python apps) uses distutils (has a setup.py file) or a similar build/install system, put it into /usr/local/ (default behavior).

If you just need to extract a tarball and run directly (e.g. Thunderbird, Firefox) then put it into /opt/.

Why? From what I understand, /usr/local/ has a hierarchy that is similar to /usr/. So a program expecting to get “installed” into /usr/ should work fine in /usr/local/. A program that just needs one directory and will get all files/libraries relative to that directory can get one directory for itself in /opt/.

---

[Answer](#) by [popey](#)

The Linux Filesystem Hierarchy Standard indicates /usr/local

<http://tldp.org/LDP/Linux-Filesystem-Hierarchy/html/usr.html>

“The original idea behind ‘/usr/local’ was to have a separate (‘local’) ‘/usr’ directory on every machine besides ‘/usr’, which might be just mounted read-only from somewhere else. It copies the structure of ‘/usr’. These days, ‘/usr/local’ is widely regarded as a good place in which to keep self-compiled or third-party programs. The /usr/local hierarchy is for use by the system administrator when installing software locally. It needs to be safe

from being overwritten when the system software is updated. It may be used for programs and data that are shareable amongst a group of hosts, but not found in /usr. Locally installed software must be placed within /usr/local rather than /usr unless it is being installed to replace or upgrade software in /usr.”

---

[Answer](#)  by [source-lab](#)

Install unstable programs like firefox devel in /home/user/opt/ makes it a lot easier to remove, and no confusion for other users as to what version they should use... So if it is not a program for global use, install it in a subfolder in your home directory.

Never install programs in /usr/, it is likely to cause chaos, things installed in /usr/ is meant to be for distribution packages only. /usr/local/ is for packages locally compiled. And the structure works in exactly the same way! files in /usr/local/ will be prioritized over files in /usr/

/opt/ should be used for installation of pre-compiled (binary) packages (Thunderbird, Eclipse, Netbeans, IBM NetSphere, etc) and the like. But if they are only for a single user they should be put in your home directory.

If you want to be able to run a program installed in a “weird” location (like /home/user/opt/firefox/) without typing the whole path you need to add it to your \$PATH variable, you can do this by adding a line like this in your /home/user/.profile

```
export PATH=/home/user/opt/firefox:$PATH
```

The folder name should be the one where the executable file you need to run is located.

---

**Tags:** [software-installation](#) ([Next Q](#))

---

## [Q: How do I install the latest stable version of Firefox?](#)

**Tags:** [software-installation](#) ([Next Q](#))

I want to install the latest Firefox on my Ubuntu (64bit) box.

What is the best way to do this? Is there a specific update site or should I download the binaries manually? If doing manually, in which directory should I put the files? In my home directory, or is there a better place?

**Tags:** [software-installation](#) ([Next Q](#))

**User:** [danimajo](#)

---

[Answer](#)  by [peter-smit](#)

The latest version of Firefox is available for as a security updates in all supported releases of Ubuntu, just doing a normal update will pull it in.

Usually it's available within a few hours of Mozilla's announcement, sometimes faster, depending on the archive builders, and the speed of your local mirror, etc.

See also:

- [Firefox New Version - Community Help Wiki](#)
- [How to install the latest stable version of Thunderbird?](#)

---

Tags: [software-installation](#) ([Next Q](#))

---

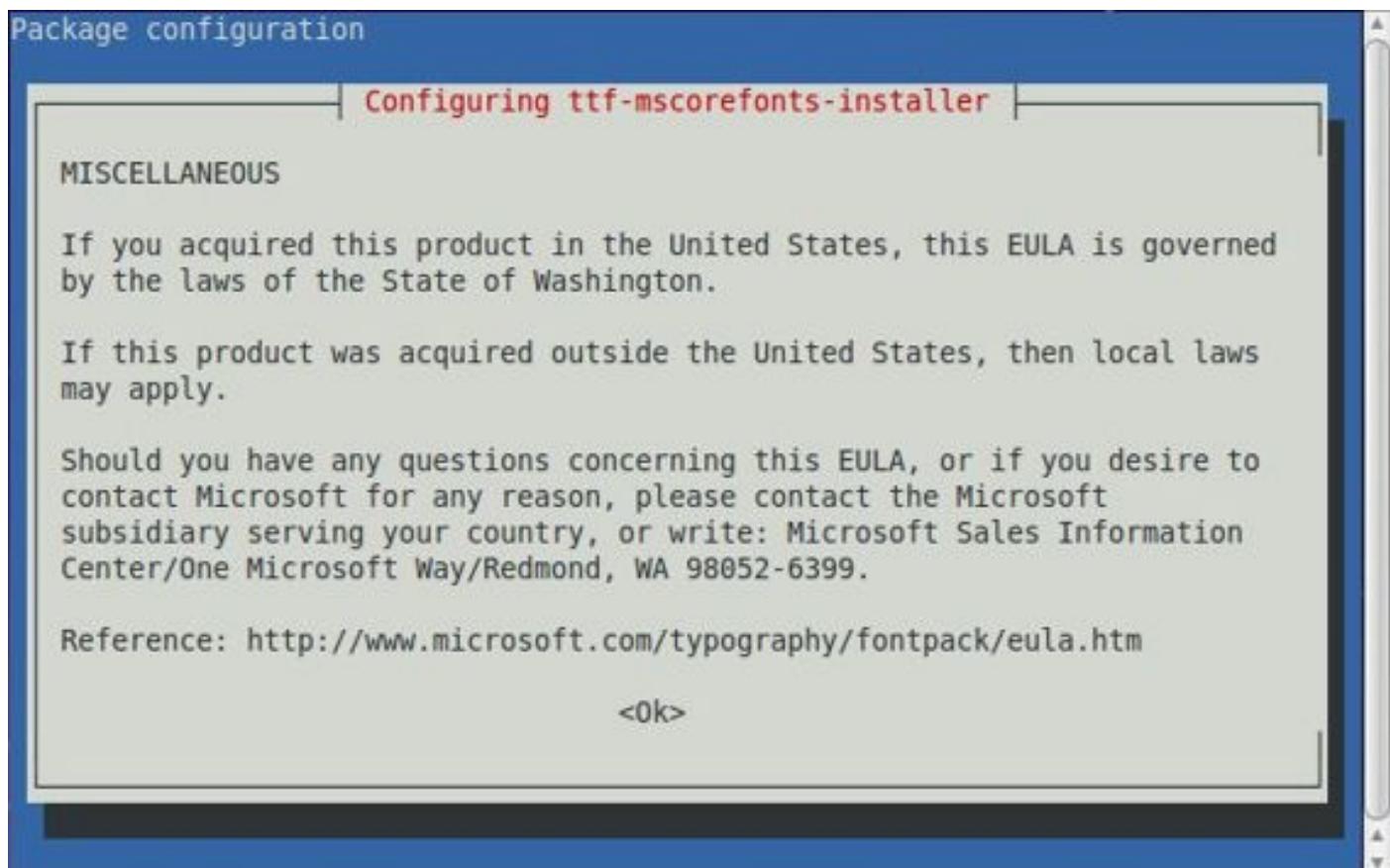
## **Q: How can I accept the Microsoft EULA agreement for ttf-mscorefonts-installer?**

Tags: [software-installation](#) ([Next Q](#)), [apt](#) ([Next Q](#))

After a recent update, [ttf-mscorefonts-installer](#)

# Missing Image

prompted me to accept its license agreement.



For some reason my terminal will not allow me to accept, or for some reason I am pressing the wrong hotkey... I've tried every letter on the keyboard and Enter among others... I'm sure there is a very simple and obvious solution to this.

I've also just tried to remove the package completely however the terminal states that due

to the package not being correctly installed, I should reinstall the package before removing it. Very frustrating! Essentially, because I cannot successfully install this package, I can't really ever upgrade my system because I always have to end up terminating the terminal with the license agreement (thus the upgrade fails).

**Tags:** [software-installation](#) ([Next Q](#)), [apt](#) ([Next Q](#))

**User:** [magic](#)

---

[Answer](#)  by [stefano-palazzo](#)

It's TAB , then return .

:-)

---

**In general, to navigate ncurses-style menus:**

- Use the Tab key to move from one element (e.g., button, text box) to the next. Use Shift+Tab to move in reverse.
- Use Spacebar to “click” the selected button.
- Use Enter to click the default button (or currently selected button, if there is no default).
- You can move up and down in a textbox with the arrow keys, and with Page Up and Page Down. If that doesn’t work, press Tab until the text box you want to navigate in is selected.

If you've accidentally said you don't agree to the EULA, and you want a chance to review it again and agree, you can reinstall ttf-mscorefonts-installer, purging its global configuration files:

```
sudo apt-get --purge --reinstall install ttf-mscorefonts-installer
```

---

[Answer](#)  by [uzhoasit](#)

## Normal install

To install completely silent you can use the `--quiet` parameter:

```
sudo apt-get install ttf-mscorefonts-installer --quiet
```

# When deploying or in scripts

Use debconf to preset the selection:

```
echo ttf-mscorefonts-installer msttcorefonts/accepted-mscorefonts-eula select true | debconf-set-selections
```

**Note:** In connection with sudo you have to use

```
echo ttf-mscorefonts-installer msttcorefonts/accepted-mscorefonts-eula select true | sudo debconf-set-selections
```

# With Kickstart

Add this to your Kickstart.cfg file:

```
preseed --owner ttf-mscorefonts-installer msttcorefonts/accepted-mscorefonts-eula boolean true
```

---

[Answer](#)  by [casey-watson](#)

You can also accept the license with a single command like this:

```
echo ttf-mscorefonts-installer msttcorefonts/accepted-mscorefonts-eula select true | debconf-set-selections
```

This will avoid creating the conf file.

If you're using puppet, here is a recipe for installing the package:

```
class unifocus-context::msfonts {
  exec { "accept-msttcorefonts-license":
    command => "/bin/sh -c \"echo ttf-mscorefonts-installer msttcorefonts/accepted-mscorefonts-eula select true | debconf-set-selections\""
  }

  package { "msttcorefonts":
    ensure  => installed,
    require => Exec['accept-msttcorefonts-license']
  }
}
```

---

**Tags:** [software-installation](#) ([Next Q](#)), [apt](#) ([Next Q](#))

## Q: How do I install and use the latest version of GNOME?

**Tags:** [software-installation](#) ([Next Q](#)), [gnome](#) ([Next Q](#))

I followed the instructions for compiling GNOME Shell and it did compile with a few errors here and there but it didn't run. I installed GNOME Shell using `sudo apt-get install gnome-shell` but I got version 2.31.x, while the latest is 2.91.5 or something. So is there a way for me to install the latest build?

Is there some repository available for the latest build?

**Tags:** [software-installation](#) ([Next Q](#)), [gnome](#) ([Next Q](#))

**User:** [martin-zeltin](#)

---

[Answer](#)  by [jon](#)

## Installing from the Software Center (11.10 and newer)

Open the software center search for “gnome shell” and install it, or just click this button:



Ubuntu Software Center

All Software      Installed      History

## GNOME Shell

Window management and application launching

★★★★★ (4 ratings)

Free

The GNOME Shell redefines user interactions with the GNOME desktop. In particular, it offers new paradigms for launching applications, accessing documents, and organizing open windows in GNOME. Later, it will introduce a new applets eco-system and offer new solutions for other desktop features, such as notifications and contacts management. The GNOME Shell is intended to replace functions handled by the GNOME Panel and by the window manager in previous versions of GNOME. The GNOME Shell has rich visual effects enabled by new graphical technologies.

[Developer Web Site](#)

**Add-ons**

 GNOME user's guide (gnome-user-guide)

Version gnome-shell 3.1.4-0ubuntu2

Total size 13.4 MB to download, 33.9 MB when installed

License Open source

Updates Unknown

**Reviews**

You need to install this before you can review it

For version 3.1.3

★★★★★ Gnome Shell has finally come of age! Benjamin, 2011-07-25

If you haven't tried Gnome Shell in a while, you have to check it out. It's much more polished and coherent than it was last year. I gave it a solid week to get used to, and I can't go back to Unity now. Once I started utilizing the overview and workspaces, I was shocked to see how much faster I was working with windows and programs.

There are some default settings that I didn't like, but these are easily changed if you download gnome-tweak-tool. This is now my default interface, and I'm really looking forward to what future releases bring.

2 of 2 people found this review helpful. Did you? [Yes](#) / [No](#) [Inappropriate?](#)

For version 3.1.3

★★★★★ Great, and pretty! Claran Hurley, 2011-07-24

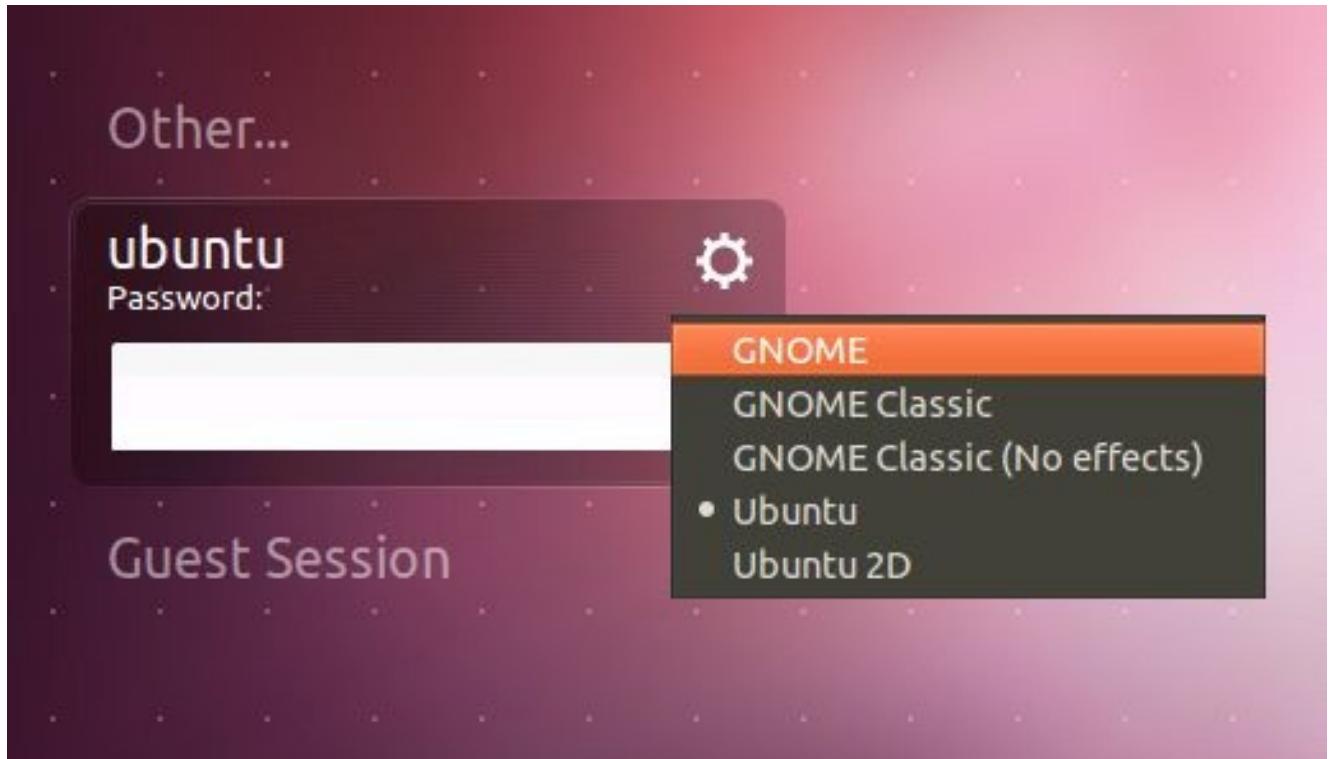
Very nice and easy to use. Unity however still has some things better than it. The Window system in particular is very nice.



After it installs, log out.

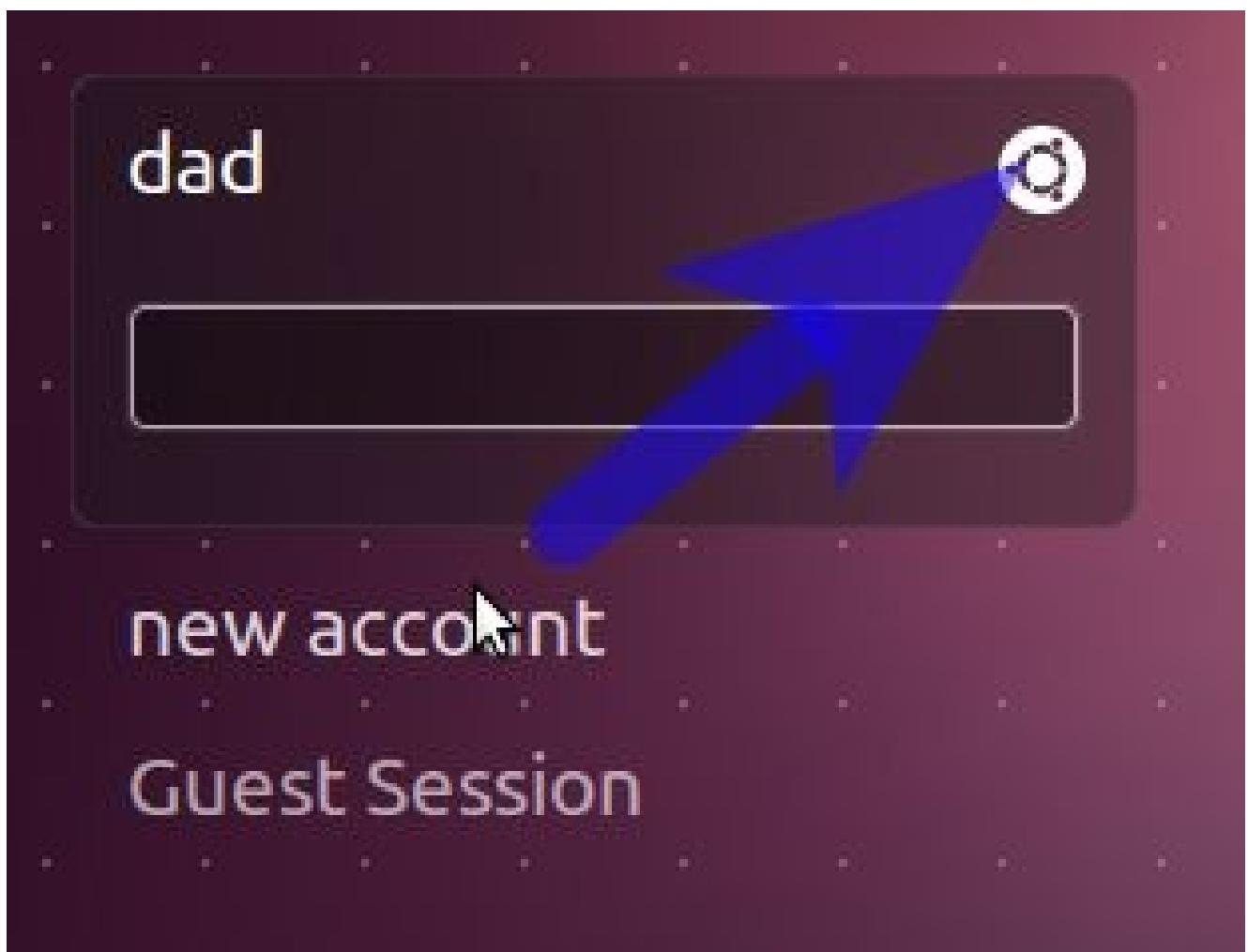
- *For 11.10*

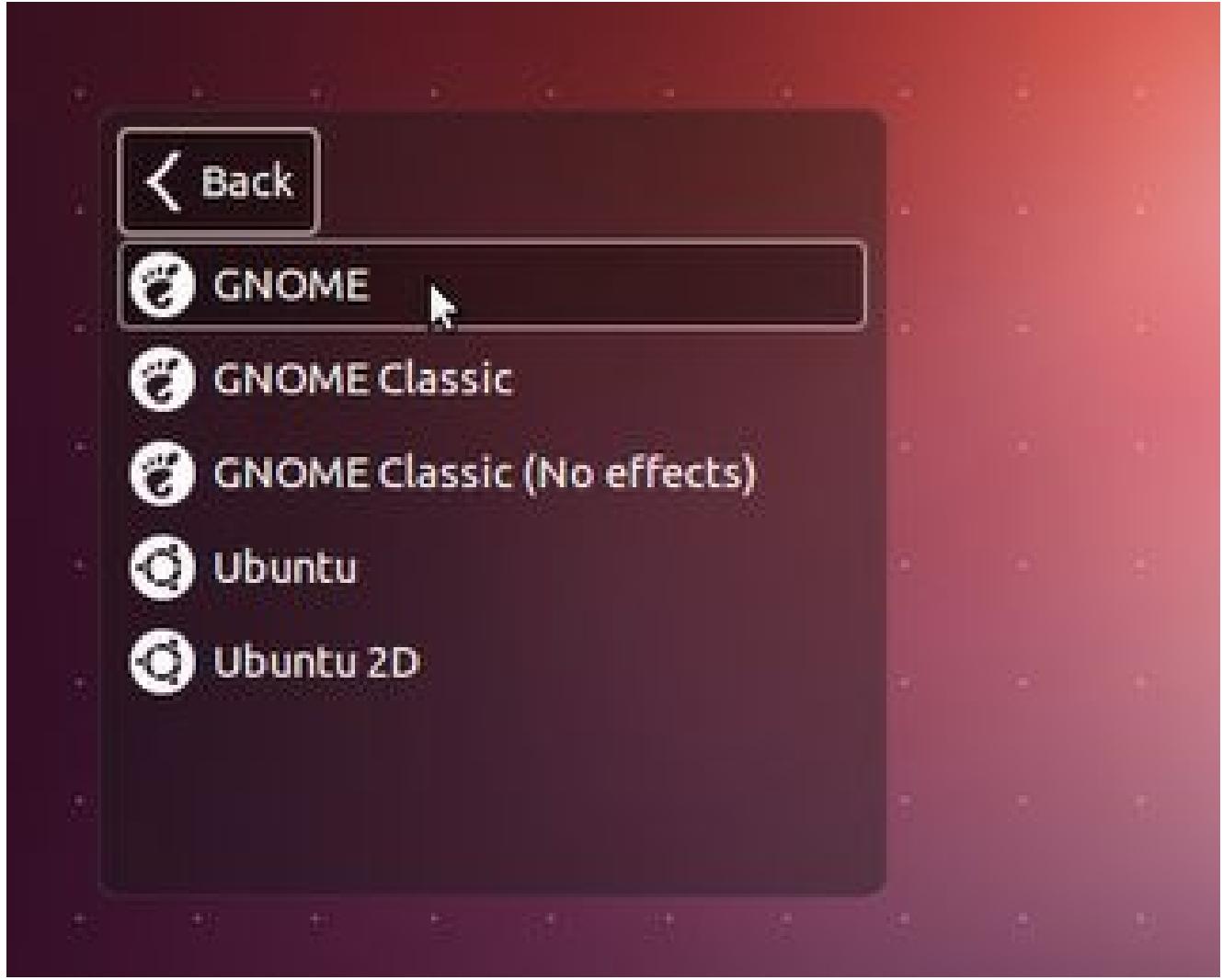
at the login screen click the little gear icon and select “GNOME” from the menu.



- For 12.04 and 12.10

At the login screen click the icon show and select “GNOME” from the menu.





After that just put in your password and login:

The login manager will remember the last session you went into so you only need to select GNOME once, after that you can just login normally.

## Customizing it further

You can also use the fallback mode if you prefer an old-school experience:

- [How to revert to GNOME Classic?](#)

And if you use auto logins you might need to tell lightdm to always use shell:

- [How can I use gnome shell by default instead of unity? !\[\]\(3d8013c17418ea249f4160db701f17bf\_img.jpg\)](#)

## Other Goodies to install with it

- [gnome-documents](#)

# Missing Image

- [gnome-boxes](#)



## Command Line Instructions:

```
sudo apt-get install gnome-shell
```

# Where to report problems:

- Discussion about GNOME3 packaging (Mailing list link on the bottom left):  
<https://launchpad.net/~gnome3-team> 
  - Most problems and issues with this set of packages can go on this list, it should be the first place you report problems and issues.
- Bug reports that are NOT packaging related: <https://bugzilla.gnome.org/> 
  - If GNOME3 isn't working well it could be packaging related, so please don't just randomly report bugs to GNOME unless you are confident that it's an upstream GNOME problem.
  - If you're not sure if you should report the bug upstream then ask someone either on IRC or on the mailing list above if you need help determining if something should be reported to GNOME.

---

[Answer](#)  by [htorque](#)

# Building GNOME Shell from source

(Last content update: 11. Feb. 2011, based on the [official guide](#), feel free to edit.)

## 0. Warnings/errors during compilation

GNOME Shell is under heavy development and sources are often updated a couple of times a day. While below instructions generally should work, it can happen that successful compilation needs some hacks or is not possible at all.

If you encounter any problems, check:

- the [GNOME Shell thread](#) on ubuntuforums.org
- the IRC channel #gnome-shell on irc.gnome.org (keep an eye on the channel's topic!)
- the [GNOME Shell mailing list](#)
- there's also a [list of common problems](#)

Current problems:

- It's necessary to remove a couple of files in the library directories, else compilation will fail. When doing system updates, those files could return: read [this](#) for an explanation why it's necessary to remove those files and how to prevent upgrades to re-install them.

```
sudo rm -rf /usr/lib*/*.la
```

(No worries, this won't harm your system!)

- Before being able to run GNOME Shell, you need to remove a file after the build process:

```
rm ~/gnome-shell/install/lib*/gtk-3.0/modules/libcanberra-gtk-module.so
```

## 1. Building GNOME Shell

(Tested on Ubuntu 10.10 32-bit and the development version of Ubuntu 11.04 64-bit.)

The following will download, compile, and install GNOME Shell in a sandbox-like way - meaning, it won't touch the rest of your system!

- Install dependencies:

```
sudo apt-get install curl dpkg-dev autopoint libedataserverui1.2-dev \
libecal1.2-dev evolution-data-server-dev libcurl2-dev libupower-glib-dev \
libgnome-keyring-dev libxklavier-dev libvorbis-dev libltdl-dev \
```

```
libgstreamer0.10-dev libcroco3-dev xserver-xephyr xulrunner-dev \
python-dev libpam0g-dev mesa-utils mesa-common-dev libxml2-dev \
libreadline5-dev libpulse-dev liborbit2-dev libgl1-mesa-dev libwnck-dev \
libtiff4-dev libstartup-notification0-dev libpng12-dev libjpeg62-dev \
libjasper-dev libgtop2-dev libgnome-desktop-dev libgnome-menu-dev \
libffi-dev libexpat1-dev libdbus-glib-1-dev icon-naming-utils \
gtk-doc-tools gnome-common git-core gettext flex bison automake cvs
```

- Get GNOME Shell's setup script:

```
curl -O https://git.gnome.org/browse/gnome-shell/plain/tools/build/gnome-shell-build-setup.sh
```

- Build the build tool `jhbuild` and download configuration files:

```
/bin/bash gnome-shell-build-setup.sh
```

- This will install `jhbuild` to `~/bin`, which you need to add to your PATH-variable:

```
. ~/.profile
```

- [Optional]: You can change several `jhbuild` options like the path for downloading sources, etc. via editing the file `~/.jhbuildrc-custom`.

- Start the build process:

```
jhbuild build
```

This will (currently) compile 33 modules. Get a cup of coffee, take a nap -> it will take some time.

Once you see \*\*\* success \*\*\* [33/33] you are done. Congratulations, you've just compiled GNOME Shell!

## 2. Running GNOME Shell

- If you're running Compiz, you first need to stop it (by starting Metacity) or else GNOME Shell won't start:

```
metacity --replace &
```

- Finally, run:

```
cd ~/gnome-shell/source/gnome-shell/src
./gnome-shell --replace
```

That's it, you hopefully should now be running GNOME Shell.

## 3. Making GNOME Shell the default window manager

In Ubuntu 10.10, you can simply replace the GNOME session's window manager via changing a GConf key:

- Create a local `.desktop` launcher for GNOME Shell:

```
ln -s ~/gnome-shell/install/share/applications/gnome-shell.desktop  
~/.local/share/applications/gnome-shell.desktop
```

- Then change the session's window manager to be GNOME Shell:

```
gconftool-2 -s /desktop/gnome/session/required_components/windowmanager "gnome-shell" -t  
string
```

- To revert the change, run:

```
gconftool-2 -s /desktop/gnome/session/required_components/windowmanager "gnome-wm" -t string
```

In Ubuntu 11.04, changing the *windowmanager* key doesn't seem to work. Instead you can add a new session item that you can select at the GDM login screen. Therefor you need to create the local .desktop file like above and then create two files:

1. A session file: /usr/share/gnome-sessions/sessions/gnome-shell.session:

```
[GNOME Session]  
Name=gnome-shell  
Required=windowmanager;  
Required-windowmanager=gnome-shell  
DefaultApps=gnome-settings-daemon;
```

2. The session item pointing to the session file: /usr/share/xsessions/gnome-shell.desktop:

```
[Desktop Entry]  
Name=GNOME Shell  
Comment=This session logs you into Ubuntu  
Exec=gnome-session --session=gnome-shell  
TryExec=gnome-session  
Icon=  
Type=Application  
X-Ubuntu-Gettext-Domain=gnome-session-2.0
```

Log out, and you should be able to choose *GNOME Shell* as session.

## 4. Updating GNOME Shell

- Running

```
jhbuild build
```

should update the sources and rebuild what's necessary.

- If it fails for a module, e.g. you get something like this:

```
fatal: git-write-tree: error building trees  
Cannot save the current index state  
*** Error during phase checkout of gdk-pixbuf: ##### Error running git stash save  
jhbuild-stash *** [7/33]
```

then you can try to wipe the current module directory and start with clean sources by choosing option 6:

```
[6] Go to phase "wipe directory and start over"
```

- If that doesn't help, you can start from scratch by running:

```
jhbuild build -afc
```

Still not compiling? Then check the places mentioned in 0.

---

[Answer](#)  by [edm](#)

# For 12.04 and GNOME 3.4

If you have 12.04, a lot of the 3.4 packages will be installed by default minus a few that will be kept at 3.2 for stability reasons. You can add two gnome testing ppas that contain the additional packages that dont make it into 12.04 **however** there is a chance **these will break your system.**

It is highly unlikely that it will be **considered “stable” for at least a month, probably more.**

```
sudo add-apt-repository ppa:gnome3-team/gnome3
sudo add-apt-repository ppa:ricotz/testing
```

Then update your system.

# Warning: If you try this on 11.10, it will break a lot of stuff. Really, it will.

If you are on 11.10, you can still use these ppas but you should **expect lots of breakages**. At your own risk, add those ppas, then:

```
sudo apt-get update && sudo apt-get dist-upgrade  
sudo apt-get install gnome-shell
```

---

**Tags:** [software-installation](#) ([Next Q](#)), [gnome](#) ([Next Q](#))

---

## Q: How do I install a .tar.gz (or .tar.bz2) file?

**Tags:** [software-installation](#) ([Next Q](#))

I have downloaded tar.gz files. But I don't know how to install it. How do I install this kind of file?

**Tags:** [software-installation](#) ([Next Q](#))

**User:** [silambarasan](#)

---

**Answer**  by [andrea-lazzarotto](#)

The first thing you need to do is extracting it in a folder, let's make it your desktop. You can extract an archive right clicking on it and choosing the appropriate entry. It should create a new folder with a similar name, e.g. program-1.2.3. Now you need to open your terminal and then go to that directory:

```
cd /home/yourusername/Desktop/program-1.2.3
```

Make sure you first read a file called INSTALL or INSTALL.txt or README. Check if there is any of these files with the ls command, and then display the right one with:

```
xdg-open INSTALL
```

The file will contain the right indications to go on with the compiling process. Usually the three "classical" steps are:

```
./configure  
make  
sudo make install
```

You may also need to install some dependencies, generally after some configure error which will tell you what you are missing. You can also use checkinstall instead of make install. See here <https://help.ubuntu.com/community/CheckInstall> 

Remember that your mileage may vary.

---

[Answer](#)  by [lekensteyn](#)

You cannot “install” a .tar.gz file or .tar.bz2 file. .tar.gz files are gzip-compressed tarballs, compressed archives like .zip files. .bz2 files are compressed with bzip2. You can extract .tar.gz files using:

```
tar xzf file.tar.gz
```

Similarly you can extract .tar.bz2 files with

```
tar xjf file.tar.bz2
```

If you would like to see the files being extracted during unpacking, add v:

```
tar xzvf file.tar.gz
```

Even if you have no Internet connection, you can still use Ubuntu’s package management system, just download the .deb files from <http://packages.ubuntu.com/> . Do not forget to download dependencies too.

For an easier way to install packages offline, see the question [How can I install software offline?](#).

---

[Answer](#)  by [alvar](#)

# How you compile a program from a source

1. open a console
2. use the command `cd` to navigate to the correct folder. If there is a `README` file with installation instructions, use that instead.
3. extract the files with one of the commands
  - If it's **tar.gz** use `tar xvzf PACKAGENAME.tar.gz`
  - if it's a **tar.bz2** use `tar xvjf PACKAGENAME.tar.bz2`
4. `./configure`
5. `make`
6. `sudo make install`

# Download a package from the software sources or the software center.

If you install a package via the software sources and not downloading the package on your own, you will get new updates to that package and install them via the Update Manager.

You could just install MYPACKAGE by typing in a terminal:

```
sudo apt-get install MYPACKAGE
```

or by using the software center and searching for MYPACKAGE. But if it's not there go with the source..

---

**Tags:** [software-installation](#) ([Next Q](#))

---

## Q: How to install Eclipse?

**Tags:** [software-installation](#) ([Next Q](#)), [ppa](#) ([Next Q](#)), [eclipse](#) ([Next Q](#))

I want to install the latest version of Eclipse but the Ubuntu Software Centre contains an older version.

Is there a PPA or some other way to install latest Eclipse? Please describe the steps for full installation.

**Tags:** [software-installation](#) ([Next Q](#)), [ppa](#) ([Next Q](#)), [eclipse](#) ([Next Q](#))

**User:** [gaurav-butola](#)

---

Answer  by [bitsbuffer](#)

If you've downloaded Eclipse from their official website, follow these steps for the installation.

1. Extract the eclipse.XX.YY.tar.gz using

```
tar -zxvf eclipse.XX.YY.tar.gz
```

2. Become root and Copy the extracted folder to /opt

```
sudo mv eclipse.XX.YY /opt
```

3. Create a desktop file and install it:

```
gedit eclipse.desktop
```

and copy the following to the eclipse.desktop file.

```
[Desktop Entry]
Name=Eclipse
Type=Application
Exec=env UBUNTU_MENUPROXY=0 eclipse44
```

```
Terminal=false
Icon=eclipse
Comment=Integrated Development Environment
NoDisplay=false
Categories=Development;IDE;
Name[en]=Eclipse
```

then execute the following command to automatically install it in the unity:

```
desktop-file-install eclipse.desktop
```

4. Create a symlink in /usr/local/bin using

```
ln -s /opt/eclipse/eclipse /usr/local/bin/eclipse44
```

5. For eclipse icon to be displayed in dash, eclipse icon can be added as

```
cp /opt/eclipse/icon.xpm /usr/share/pixmaps/eclipse.xpm
```

6. Give eclipse the required permissions to modify the osgi file.

```
sudo chown -R $USER:$USER /opt/eclipse/configuration/org.eclipse.osgi
```

That's it.

---

Answer  by [hbdgaf](#)

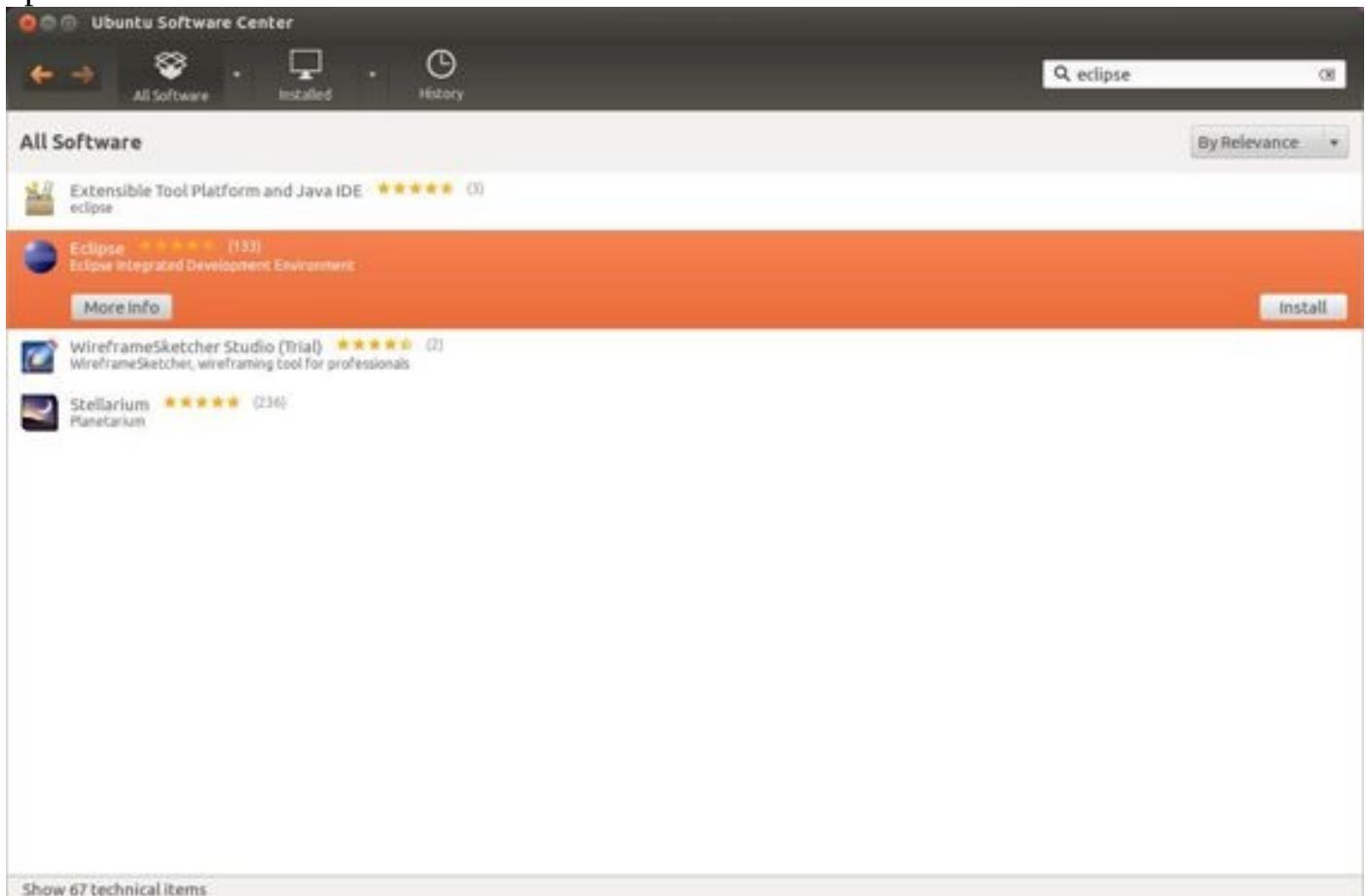
# 12.04 LTS

The preferred method:

Open Software Center -

In Ubuntu software center select Eclipse

I installed the Extensible Tool Platform and Java IDE as well, but installing that is optional.



Enter your password in the authentication dialog.

This will get you 3.7.1 inside of a package management system.

# Alternative options:

The next most preferred method

PPA:

As of this moment, the eclipse-team PPA has no eclipse package for 12.04.

I'll update the answer as things develop.

When it becomes available, if you already installed via software center-

```
sudo add-apt-repository ppa:eclipse-team/ppa && sudo apt-get update && sudo apt-get upgrade
```

The least preferred method

Portable:

For a portable installation you can still download directly from the [Eclipse website](#).

This gives you the ability to customize several Eclipse installations for different languages CDT, Java, and PyDev or Aptana for instance. It doesn't allow automatic updates.

Installing through Software Center is always the preferred method.

I tested the portable 3.7.1 and 3.7.2 tarballs and they work just fine on 12.04 LTS.

An added disadvantage to portable installs is that you have to update your launcher if you move the folder or launch it directly.

---

[Answer](#) by [joe](#)

How to install Eclipse 4.2 on Ubuntu 12.04

Since the Eclipse packages in the Ubuntu repositories are out of date, if we want to install latest releases, we are going to have to do it manually. You can just download the tar.gz file from [eclipse.org](#).

1. [Download Eclipse](#). I got `eclipse-jee-juno-SR1-linux-gtk.tar.gz`

2. Extract it by executing a command line

```
tar -xzf eclipse-jee-juno-SR1-linux-gtk.tar.gz
```

Or with Archive Manager extraction.

3. Move extracted eclipse folder to /opt/ folder

```
mv eclipse /opt/
sudo chown -R root:root /opt/eclipse
sudo chmod -R +r /opt/eclipse
```

4. Create an eclipse executable in your user path

```
sudo touch /usr/bin/eclipse
sudo chmod 755 /usr/bin/eclipse
```

Create a file named `eclipse` in `/usr/bin/` with your preferred editor (nano, gedit, vi...)

Copy this into it

```
#!/bin/sh
export ECLIPSE_HOME="/opt/eclipse"
$ECLIPSE_HOME/eclipse $*
```

And save the file

## 5. Create a Gnome menu item

Create a file named `eclipse.desktop` in `/usr/share/applications/` with your preferred editor (nano, gedit, vi...)

Copy this into it

```
[Desktop Entry]
Encoding=UTF-8
Name=Eclipse
Comment=Eclipse IDE
Exec=eclipse
Icon=/opt/eclipse/icon.xpm
Terminal=false
Type=Application
Categories=GNOME;Application;Development;
StartupNotify=true
```

And save the file

## 6. Launch Eclipse

`/opt/eclipse/eclipse -clean &`

## 7. Now you can Lock Eclipse to the launcher bar by clicking right button on *Lock to Laucher*

---

**Tags:** [software-installation](#) ([Next Q](#)), [ppa](#) ([Next Q](#)), [eclipse](#) ([Next Q](#))

---

## [Q: How do I install the latest version of node.js?](#)

**Tags:** [software-installation](#) ([Next Q](#))

How do I install [node.js](#)  in Ubuntu? I've been looking around, and I can't find anything. Is there a Ubuntu package for node.js, or do I have to compile it myself?

**Tags:** [software-installation](#) ([Next Q](#))

**User:** [jrg](#)

---

[Answer](#)  by [jrg](#)

You can use this node.js PPA:

[ppa:chris-lea/node.js](#)

# Missing Image

([Click here for instructions on using PPAs.](#))

If you're on Ubuntu Server, first do this:

```
sudo apt-get install python-software-properties
```

Then, do this:

```
sudo add-apt-repository ppa:chris-lea/node.js
sudo apt-get update
sudo apt-get install nodejs
```

Then, you have the latest version of node.js installed.

[Answer](#)  by [nickguletskii](#)

Yes, go to Synaptic, search for “nodejs”. The packages are located in the universe repository. I suggest you install all of the packages starting with nodejs if you are doing development.

Just in case that doesn't work:

```
sudo apt-get install g++ curl libssl-dev apache2-utils git-core
git clone git://github.com/joyent/node.git
cd node
./configure
make
sudo make install
```

That will download the sourcecode of node.js, make it and install it.

**Tags:** [software-installation](#) ([Next Q](#))

## [Q: How to automatically fetch missing dependencies when installing software from .deb?](#)

**Tags:** [software-installation](#) ([Next Q](#))

I'm trying to install [MySQL Workbench](#)  on my Ubuntu box (11.04). The website has a Ubuntu .deb available for download (for 10.10 and 10.04 so I chose 10.10).

However,

```
sudo dpkg -i mysql-workbench-gpl_5.2.34-1ubu1010-amd64.deb
```

yields:

[Skip code block](#)

```
(Reading database ... 194069 files and directories currently installed.)
Preparing to replace mysql-workbench-gpl 5.2.34-1ubu1010 (using mysql-workbench-gpl-5.2.34-1ubu1010-
amd64.deb) ...
Unpacking replacement mysql-workbench-gpl ...
dpkg: dependency problems prevent configuration of mysql-workbench-gpl:
 mysql-workbench-gpl depends on libctemplate0; however:
  Package libctemplate0 is not installed.
mysql-workbench-gpl depends on libpython2.6 (>= 2.6); however:
  Package libpython2.6 is not installed.
mysql-workbench-gpl depends on libzip1 (>= 0.8); however:
  Package libzip1 is not installed.
mysql-workbench-gpl depends on python-paramiko; however:
```

```
Package python-paramiko is not installed.  
mysql-workbench-gpl depends on python-pysqld2; however:  
  Package python-pysqld2 is not installed.  
dpkg: error processing mysql-workbench-gpl (--install):  
  dependency problems - leaving unconfigured  
Processing triggers for bamfdaemon ...  
Rebuilding /usr/share/applications/bamf.index...  
Processing triggers for desktop-file-utils ...  
Processing triggers for python-gmenu ...  
Rebuilding /usr/share/applications/desktop.en_US.utf8.cache...  
Processing triggers for python-support ...  
Errors were encountered while processing:  
mysql-workbench-gpl
```

My question is, **is there a way to tell dpkg to automatically fetch missing dependencies**, or do I need to manually `apt-get install` missing packages like `libctemplate0` and `libpython2.6`?

(Or alternatively, is there some other way to get MySQL Workbench easily up & running?)

**Tags:** [software-installation](#) ([Next Q](#))

**User:** [jonik](#)

---

[Answer](#)  by [enzotib](#)

You can install a package and get dependencies from repositories with

```
sudo gdebi package.deb
```

If you already installed the package with missed dependencies, you can download and install dependencies automatically with

```
sudo apt-get -f install
```

Also available is a graphical version `gdebi-gtk`, linked to `.deb` nautilus right click action “Open With GDebi Package Installer”.

---

[Answer](#)  by [rafał-cieślak](#)

dpkg itself **is not capable of managing repositories**. It is required to use a higher-level tool, like `apt-get`, to fetch anything from repositories. dpkg is only the **core tool**, that installs/removes/configures packages, taking care of dependencies and other factors. `apt-get` and `aptitude` are tools that manage repositories, download data from them, and **use** dpkg to install/remove packages from them. This means, that `apt-get` and `aptitude` can resolve dependencies and get required packages from repository, but dpkg cannot, because it knows **nothing** about repositories.

---

**Tags:** [software-installation](#) ([Next Q](#))

---

**Q: How would I install Picasa 3.9?** 

**Tags:** [software-installation](#) ([Next Q](#))

I've noticed a new release of Picasa (3.9). How would I install it over my current install of

Picasa?

**Tags:** [software-installation](#) ([Next Q](#))

**User:** [rolandixor](#)

---

[Answer](#) by [desgua](#)

### To install Picasa 3.9

1) Install [wine](#) and [winetricks](#):

```
sudo apt-get install wine winetricks
```

2) Download [Picasa 3.9](#) from google:

```
cd ~/ && wget http://dl.google.com/picasa/picasa39-setup.exe
```

3) Install Picasa with wine:

```
wine ~/picasa39-setup.exe
```

---

### To fix login

Now you have Picasa 3.9 installed but there is a problem if you want to login to Google to upload some pictures, so to fix it do this:

4) Install Internet Explorer 6:

```
env WINEARCH=win32 WINEPREFIX=~/.tmp winetricks ie6
```

You will have to click “Next” and “Accept” in a few windows:

## Windows Update: Internet Explorer and Internet Tools



Welcome to Setup for Internet Explorer and Internet Tools

The Windows Update setup wizard guides you through installation of Internet features of Windows.

Please read the following license agreement. You must accept the agreement to continue the update.

### SUPPLEMENTAL END USER LICENSE AGREEMENT FOR MICROSOFT SOFTWARE

IMPORTANT: READ CAREFULLY - These Microsoft Corporation ("Microsoft") operating system components, including any "online" or electronic documentation ("OS Components") are subject to the terms and conditions of the agreement under which you have licensed the applicable Microsoft operating system.

- I accept the agreement  
 I don't accept the agreement

< Back

Next >

Cancel

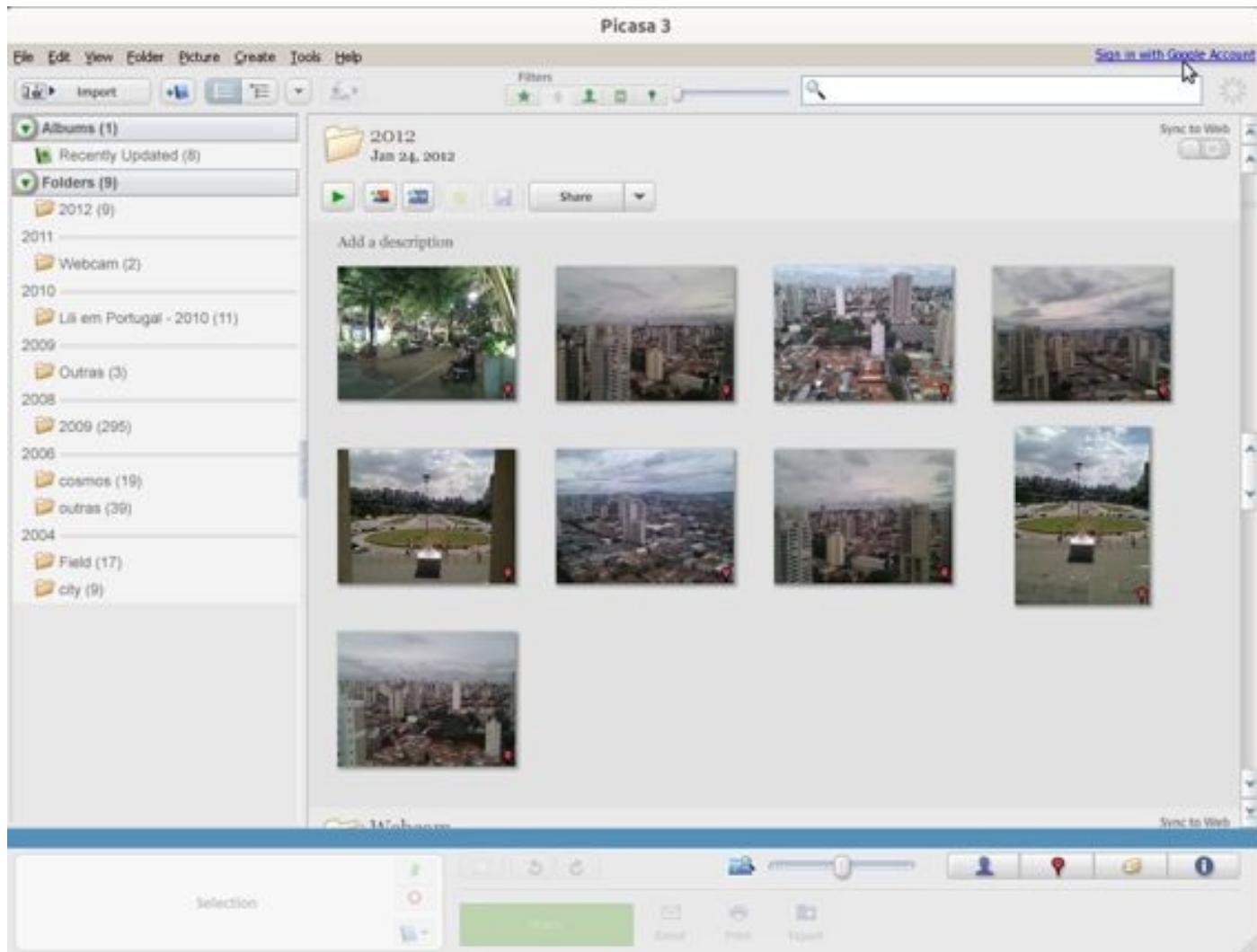
Help

5) Copy the installation into wine folder:

```
cp -r ~/.tmp/* ~/.wine/
```

6) Done! Now just open Picasa as any other program:

Open Dash and search for Picasa. Click at the top right corner to login:



## Notes:

- I) With this method each user will have to run the steps 2 to 5 to get Picasa fully working into his/her user folder. Or ask for he/she to run this once at terminal:

```
cd ~/ && wget http://dl.google.com/picasa/picasa39-setup.exe && wine ~/picasa39-setup.exe && env  
WINEARCH=win32 WINEPREFIX=~/.tmp winetricks ie6 && cp -r ~/.tmp/* ~/.wine/
```

II) If you are feeling lazy, just paste this at terminal and all the steps above will be done for you (as a user specific installation):

```
sudo apt-get install wine winetricks && cd ~/ && wget http://dl.google.com/picasa/picasa39-  
setup.exe && wine ~/picasa39-setup.exe && env WINEARCH=win32 WINEPREFIX=~/.tmp winetricks ie6 && cp  
-r ~/.tmp/* ~/.wine/
```

III) After the step 5, the file “picasa39-setup.exe” can be deleted:

```
rm ~/picasa39-setup.exe
```

And also the folder “~/.tmp”:

```
rm ~/.tmp
```

IV) To uninstall everything:

```
sudo apt-get remove --purge wine ; sudo apt-get remove --purge winetricks ; sudo apt-get autoremove  
; sudo rm /usr/share/applications/Picasa3.desktop ; rm ~/picasa39-setup.exe ; rm -r ~/.tmp ; rm -r  
~/.wine ; rm -r ~/.local/share/applications/wine* ; sed -i '/wine/d'  
~/.local/share/applications/mimeinfo.cache
```

V) I have made two scripts (see it: [check](#) and [installp](#)) that can check if Picasa is installed and install it if needed with the IE6 to fix the login. The following command will download it from my dropbox with a beautiful icon from [qyasogk](#) at [Deviantart](#). After running this command, just search for “Picasa” at Dash, if needed, the install will begin, if don’t needed, Picasa will run.

```
sudo apt-get install wine winetricks ; cd ~/ ; wget -c http://dl.dropbox.com/u/4098082/picasa/check  
; wget -c http://dl.dropbox.com/u/4098082/picasa/installp ; wget -c  
http://dl.dropbox.com/u/4098082/picasa/Picasa-icon.png ; wget -c  
http://dl.dropbox.com/u/4098082/picasa/Picasa3.desktop ; sudo mkdir /opt/picasa ; sudo mv ~/check  
/opt/picasa/ ; sudo mv ~/installp /opt/picasa/ ; sudo mv ~/Picasa-icon.png /opt/picasa/ ; sudo mv  
~/Picasa3.desktop /usr/share/applications/ ; sudo chmod 777 /opt/picasa/check ; sudo chmod 777  
/opt/picasa/installp
```

To remove it:

```
sudo rm -r /opt/picasa ; sudo rm /usr/share/applications/Picasa3.desktop ; rm ~/firstpicasarun
```

---

**Tags:** [software-installation](#) ([Next Q](#))

---

## [Q: How can I install Adobe AIR?](#)

**Tags:** [software-installation](#) ([Next Q](#))

I am a heavy user of certain applications that are built on AIR.

It appears that AIR has discontinued support for Linux. Even the older versions in the Adobe AIR Archives seem to support only 32 bit Linux distributions and I am on 64 bit currently.

Is there even a slight possibility that I could run AIR in these conditions? If so, can you please tell me where can I get a detailed step by step installation for this?

**Tags:** [software-installation](#) ([Next Q](#))

User: [vamsi-emani](#)

---

[Answer](#) by [bashpotato](#)

I need Air for about three programs - YNAB, LongTailPro, Xtend:

1. Download Latest Version Air 2.6.0 For Linux to your Desktop:
  - <http://airdownload.adobe.com/air/lin/download/2.6/AdobeAIRInstaller.bin> - 15.4Mb
2. Ctrl+Alt+T to open terminal
3. sudo apt-get install ia32-libs - (32bit crap if you want to run this in x64 Ubuntu; if you have trouble, see "[Depends: ia32-libs-multiarch but it is not installable](#)" - [Solution](#))
4. cd Desktop (change dir. to Desktop dir.)
5. chmod +x AdobeAIRInstaller.bin (change mode - execute permission yes)
6. ./AdobeAIRInstaller.bin (after you accept the Adobe Air license, it will prompt you for your password; it needs root access in order to install)

## Maybe you'll get an error after the last command?

Sorry, an error has occurred. Adobe AIR could not be installed. Install either Gnome Keyring or KDE KWallet before installing Adobe AIR.

This can be fixed:

- In a terminal (default shortcut: Ctrl+Alt+T), type:

```
locate libgnome-keyring.so
```

- This is my result (yours might be different):

```
/usr/lib/x86_64-linux-gnu/libgnome-keyring.so.0  
/usr/lib/x86_64-linux-gnu/libgnome-keyring.so.0.2.0
```

- As suggested below by @jmendeth, the easiest way to tell the installer where to find these files is to use LD\_LIBRARY\_PATH:

- For 32-bit Ubuntu (tested on 12.04):

```
LD_LIBRARY_PATH=/usr/lib/i386-linux-gnu ./AdobeAIRInstaller.bin
```

- For 64-bit Ubuntu, the command line would probably be:

```
LD_LIBRARY_PATH=/usr/lib/x86_64-linux-gnu ./AdobeAIRInstaller.bin
```

If the LD\_LIBRARY\_PATH trick doesn't work, you can try this:

- Create a symbolic link to your location strings that you found with the previous commands:

```
sudo ln -s /usr/lib/x86_64-linux-gnu/libgnome-keyring.so.0 /usr/lib/libgnome-keyring.so.0
sudo ln -s /usr/lib/x86_64-linux-gnu/libgnome-keyring.so.0.2.0 /usr/lib/libgnome-keyring.so.0.2.0
```

- Use following commands for 32-bit systems:

```
sudo ln -s /usr/lib/i386-linux-gnu/libgnome-keyring.so.0 /usr/lib/libgnome-keyring.so.0
sudo ln -s /usr/lib/i386-linux-gnu/libgnome-keyring.so.0.2.0 /usr/lib/libgnome-keyring.so.0.2.0
```

- Then repeat step 4 & 6 (skip 5, as the permission to execute the file hasn't changed).
- Remove symbolic links after installation of Adobe AIR 2.6.0:

```
sudo rm /usr/lib/libgnome-keyring.so.0
sudo rm /usr/lib/libgnome-keyring.so.0.2.0
```

## Reference:

- <http://www.clarifylinux.org/2012/04/ubuntu-1204-tweak-and-hack-round-up.html>

---

## Answer by [yuvilio](#)

Alternately, you can install a prebuilt .deb

There is air 2.6 (last supported Linux one) available [here](#) for both architectures (Both use 32 bit underneath but at least it works). Thanks to [prusswan](#) for pointing it out.

Make sure you have 32 bit libs it'll need:

```
sudo apt-get install ia32-libs
```

I downloaded the AMD64 one (adobeair\_2.6.0.19170\_amd64.deb) and installed on my computer (am64 with Precise Pangolin 12.04)

```
sudo dpkg -i adobeair_2.6.0.19170_amd64.deb
```

Then I installed the application that needed Adobe Air in the first place and it worked.

## Update for Ubuntu 13:10+,

Trying this technique, i get "Package ia32-libs-gtk is not installed"

I looked up [the package](#) and tried installing those dependencies and other related packages I can think of directly:

```
sudo apt-get install gtk2-engines:i386 libart-2.0-2:i386 libcairo2:i386 libcanberra-gtk0:i386
libdatrie1:i386 libgail-common:i386 libgconf2-4:i386 libgtk2.0-0:i386 liblua5.1-0:i386 libpango1.0-0:i386
libpixman-1-0:i386 libqt4-network:i386 libqt4-test:i386 libqtcore4:i386 libthai0:i386
libbonoboo2-0:i386 libglade2-0:i386 libgnomecanvas2-0:i386 libidl0:i386 liborbit2:i386 libwmf0.2-7:i386
gtk2-engines-murrine:i386
```

But that didn't work for either the deb or [original binary](#).

---

## Answer by [avinash-raj](#)

# Ubuntu 13.10 and 14.04 (64 bit)

1. Install i386 libraries, that are required for successful installation and running of Adobe Air and air applications.

```
sudo apt-get install libxt6:i386 libnspr4-0d:i386 libgtk2.0-0:i386 libstdc++6:i386 libnss3-1d:i386 lib32nss-mdns libxml2:i386 libxslt1.1:i386 libcanberra-gtk-module:i386 gtk2-engines-murrine:i386
```

2. Install libgnome-keyring0:i386 package.

```
sudo apt-get install libgnome-keyring0:i386
```

3. Create symlinks to gnome-keyring so Adobe Air could see it.

```
sudo ln -s /usr/lib/x86_64-linux-gnu/libgnome-keyring.so.0 /usr/lib/libgnome-keyring.so.0  
sudo ln -s /usr/lib/x86_64-linux-gnu/libgnome-keyring.so.0.2.0 /usr/lib/libgnome-keyring.so.0.2.0
```

4. Download Adobe Air installer from [here](#) .

5. Give execute permission and then run that .bin file.

```
sudo chmod +x AdobeAIRInstaller.bin  
sudo ./AdobeAIRInstaller.bin
```

[Source](#) 

---

**Tags:** [software-installation](#) ([Next Q](#))

---

## [Q: How do I install the Cinnamon Desktop?](#)

**Tags:** [software-installation](#) ([Next Q](#))

I have read that there is a new Gnome-2 like interface called Cinnamon produced by the Linux Mint developers.

Is this available for Ubuntu users - and if so how do I install it?

**Tags:** [software-installation](#) ([Next Q](#))

**User:** [fossfreedom](#)

---

[Answer](#)  by [fossfreedom](#)

Cinnamon is a Gnome-Shell desktop fork. It is not strictly a Gnome-2 interface, although the developers aims are laudable - to produce a simpler more traditional desktop interface.

Development seems to be rapid. It is usable and certainly fun to play with with a growing number of extensions to install to extend the base installation.

# How to install

## for 13.04 & 13.10

Cinnamon is now available in the Universe repository

[cinnamon](#)

# Missing Image

Since it is in this repository, it is community maintained and thus it is up to the community to update the packages as and when new releases and bug-fixes are released.

For Ubuntu 14.04, there is currently no cinnamon packages in the Universe repository.

## Via PPA for 11.10 and later

**EDIT: 22/05/2014 - the PPA ppa:gwenda1-lebihan-dev/cinnamon-stable has been removed or hidden from public view.** I contacted the maintainer and the following is their reply:

The stable PPA is indeed no longer being maintained.

The nightly PPA is being kept for development purposes and should not be used on any sort of production machine (it can and will break at any time).

To be honest, I don't have an alternative to offer Ubuntu users at the moment, apart from switching to a distribution that does support Cinnamon. There are many such distributions out there, and I'm only hoping for someone to (finally) step up on Ubuntu's side to provide proper packages to its users.

**EDIT: 25/04/14 - Two alternative PPA's have now been created - both claiming to enable the *stable* version of Cinnamon for Ubuntu users. I cannot vouch for the [veracity of these PPAs](#)**

### Option 1: 12.04 & 14.04 users only:

```
sudo add-apt-repository ppa:tsvetko.tsvetkov/cinnamon
sudo apt-get update
sudo apt-get install cinnamon
```

### Option 2: 14.04 users only:

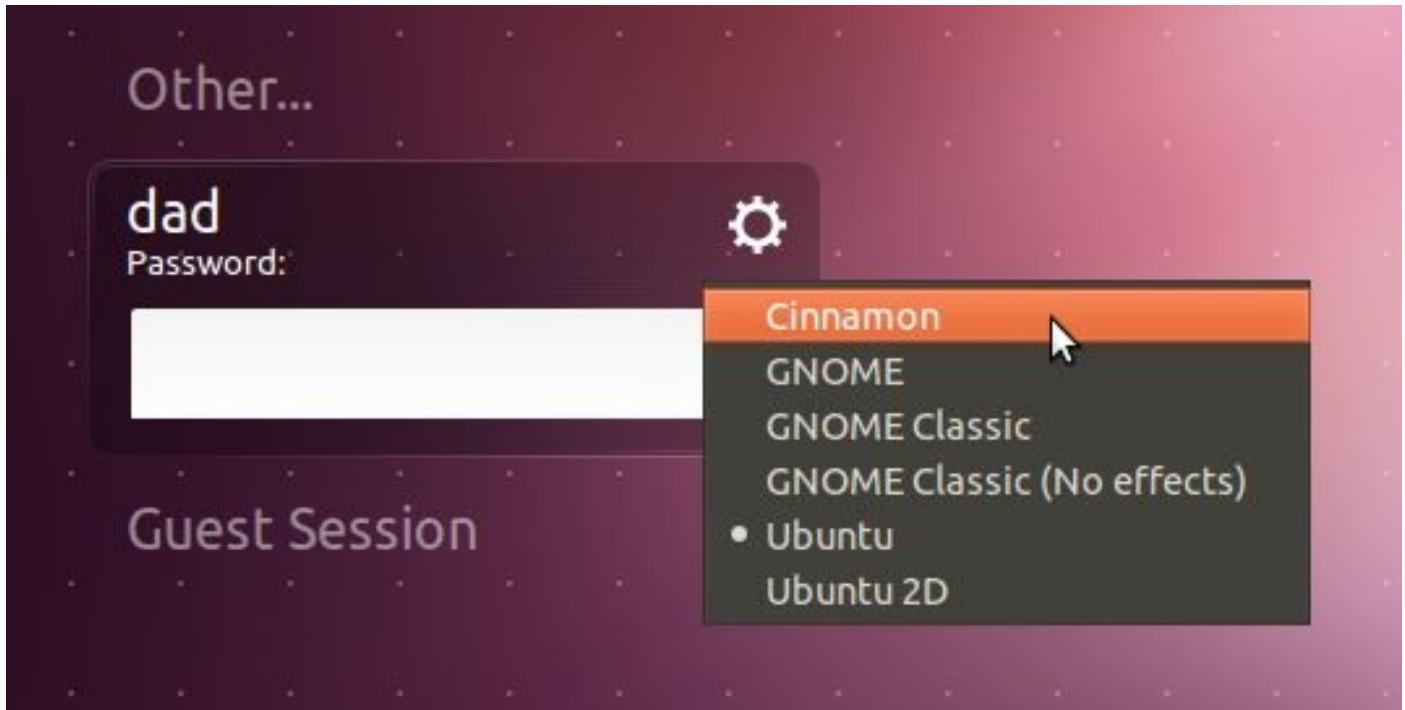
```
sudo add-apt-repository ppa:lestcape/cinnamon
sudo apt-get update
sudo apt-get install cinnamon
```

As an alternative you may wish to consider the unstable nightly automatic builds - please note Gwendal's warning above:

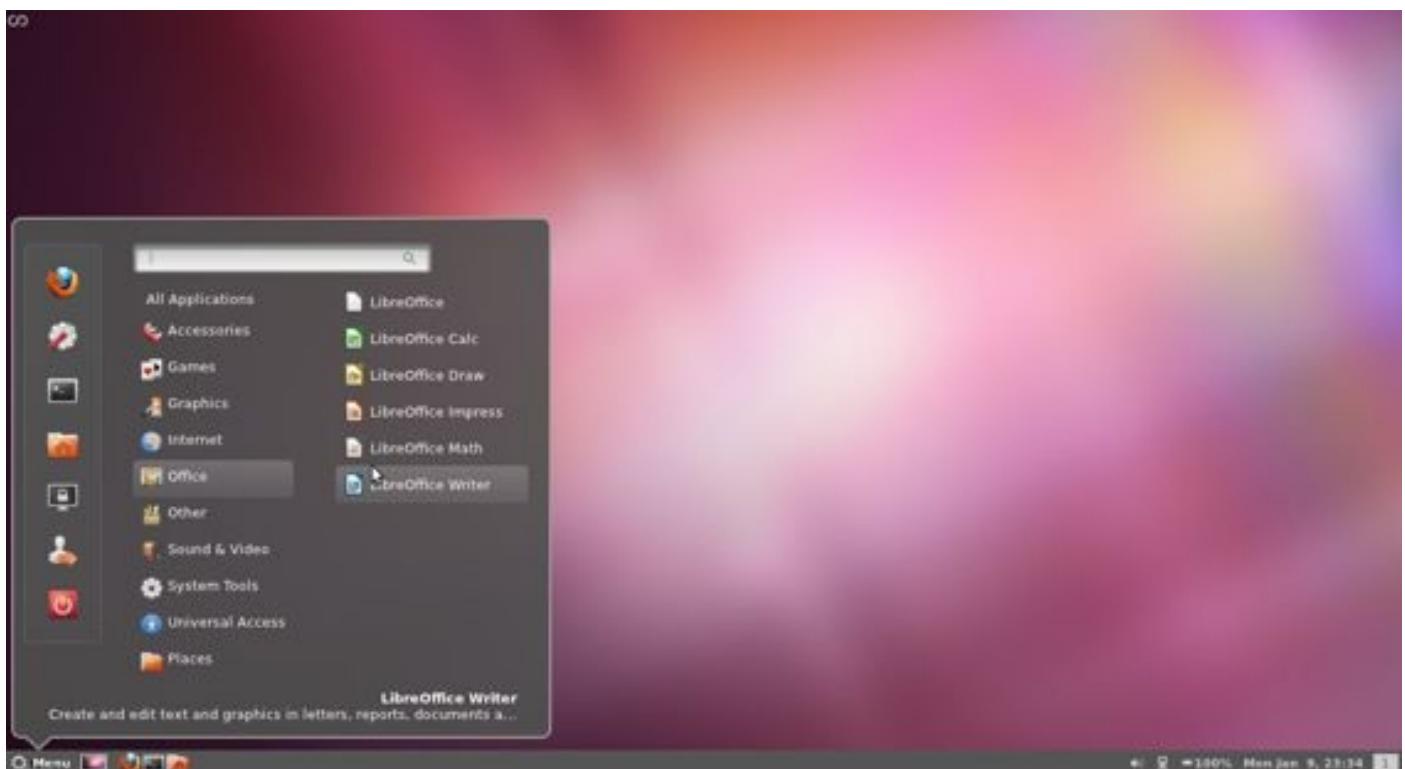
```
sudo add-apt-repository ppa:gwendal-lebihan-dev/cinnamon-nightly  
sudo apt-get update  
sudo apt-get install cinnamon
```

## After installation

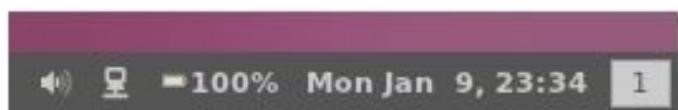
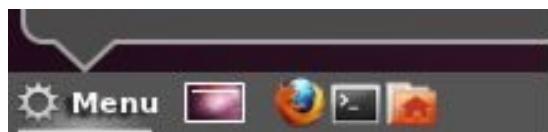
Logout and select the Cinnamon session:



Enter your password and you'll see the Cinnamon desktop



... showing the traditional *start type* menu and applet design from Gnome-2



# Extensions/Applets

The Cinnamon desktop uses the same philosophy as Gnome-Shell - functionality can be added to by installing Extensions & Applets.

Cinnamon uses its own Settings tool.

## *Cinnamon Settings*



## *Cinnamon Applets*

Similar to gnome-shell extensions - you can install applets from a dedicated Mint website.

A screenshot of the Cinnamon Settings - Applets interface. On the left, there's a sidebar with checkboxes next to various applets: Accessibility, Bluetooth, Cinnamon calendar, Keyboard, Cinnamon Menu, Network Manager, Panel launchers, and Power Manager. A blue arrow points from the "Get new applets" button in this sidebar to a Firefox browser window titled "Spices : Cinnamon - Mozilla Firefox". The Firefox window shows a list of applets from the "cinnamon-spices.linuxmint.com/applets" website, each with a score and a small icon. The applets listed include Places, Hardware Monitor, Weather, Recent Documents, Force Quit, Iconized, Window List, Trash, Toggle LookingGlass, Restart Cinnamon, Power-off, Simple CPU Monitor, System monitor, a11y, Network speed monitor, Messaging Menu, Screen locker, Separator, Spaces, Logout, Panel Separator (icon), Autostart programs, GPaste, Panel Separator (Theme), and Separator2.

[Answer](#)  by [fossfreedom](#)

# 12.04 vs 11.10

I contacted the Ubuntu Cinnamon [PPA owner](#) - Gwendal LE BIHAN - 2nd April - this is the reply:

We are currently in the process of finalizing the migration of cinnamon to gnome3.4. The PPA will be updated with precise packages as soon as this is done.

Those packages should be available within a week or 2, and definitely before precise's release.

Note that no more releases of cinnamon will be available for other versions of Ubuntu, since the gnome3.4 libraries are not available on versions of Ubuntu prior to precise.

---

Precise builds are now available [in the PPA](#) and can be installed per the linked answer.

From now on, the Oneiric packages in the PPA will be fixed at v1.4. Thus if you are an Oneiric (11.10) user, your upgrade route should be via the 12.04 distro route, followed by reactivating or adding the PPA.

Alternatively, you may wish to consider one of the other answers to the question.

---

**Tags:** [software-installation](#) ([Next Q](#))

---

## [Q: What is the correct way to install proprietary ATI Catalyst Video Drivers \(fglrx\) directly from AMD?](#)

**Tags:** [software-installation](#) ([Next Q](#))

I am planning on doing a fresh install of Ubuntu and want to know what is the correct way to install ATI Catalyst Video Driver?

---

There are multiple valid answers for this question spanning over several versions of Ubuntu. For your convenience an index of each below:

- [14.04](#) 
- [13.04](#) 
- [12.10](#)
- [12.04](#)
- [11.10/11.04 etc](#) 

**Tags:** [software-installation](#) ([Next Q](#))

**User:** [stephen-myall](#)

---

[Answer](#) by [stephen-myall](#)

The following instructions explain how to install the latest ATI Catalyst video driver of Ubuntu 12.04 LTS (Precise Pangolin).

- [Ubuntu 12.10 instructions](#)
- [Ubuntu 13.04 instructions](#)

### Note

AMD has released the **Catalyst 12.8** driver for Linux systems in August bringing some improvements and bug fixes. This driver is based on the fglrx 8.982 release, and it improves support for Ubuntu 12.04 LTS.

---

To keep up to date with the latest driver information always refer to [AMDs official website](#) as updates are published fairly regularly.

# Installing the AMD/ATI Catalyst drivers for 12.04 LTS

## Tested: v12.4, v12.6, v12.8

---

### Important Information and Preparation

Only use these instructions if you have opted **NOT** to use the official Ubuntu binaries.

- If you wish to use the official Ubuntu binaries or want to install the latest ATI Catalyst video driver for previous versions of Ubuntu, navigate to the [answer of this question](#) and follow the instructions.

Before deciding, check if Ubuntu supports your video card [here](#) .

- If you are currently using the official Ubuntu binaries and want to install the latest ATI Catalyst video driver there is a prerequisite to purge some files. Before proceeding with these instructions. You can **Skip the step to purge** if you have a fresh install of Ubuntu 12.04.

### Removing (purging) existing drivers

```
sudo sh /usr/share/ati/fglrx-uninstall.sh  
sudo apt-get remove --purge fglrx fglrx_* fglrx-amdcccle* fglrx-dev*
```

---

### Install these dependencies

You need to install some dependencies to your system, do this by running these in Terminal:

```
sudo apt-get install build-essential cdbs fakeroot dh-make debhelper debconf libstdc++6 dkms  
libqtgui4 wget execstack libelfg0 dh-modaliases
```

---

### For 64-bit Only

```
sudo apt-get install ia32-libs-multiarch i386 lib32gcc1 libc6-i386
```

---

### Installing the lastest ATI/AMD driver

Download the appropriate driver for your machine [here from the AMD/ATI Website](#)  and then enter the following into the terminal (remember to navigate to where you extracted the driver to beforehand and make sure no other .run files exist in that folder):

```
sudo sh *.run --buildpkg Ubuntu/precise
```

If it is required, a package manager window will open and install some dependencies and after a while create the following four .deb packages:

```
fglrx_8.961-0ubuntu1_amd64.deb  
fglrx-amdcccle_8.961-0ubuntu1_amd64.deb  
fglrx-dev_8.961-0ubuntu1_amd64.deb
```

Note: It will also create a file called fglrx-installer\_8.961-0ubuntu1\_amd64.changes. If you wish you can read this file to know the changes that have been affected through AMD/ATI Catalyst and related information.

**To install the created .deb files, type:**

```
sudo dpkg -i *.deb
```

Note: In case any of the packages are broken, open Synaptic Package Manager and go to Edit -> Fix Broken Packages. In case you are new to Ubuntu, broken here means that some dependent packages are not yet installed. Once you sort out the issue as indicated above through the Synaptic Package Manager, the problem of broken packages should be resolved.

## Continuing with the installation, type:

```
sudo aticonfig --initial
```

**Before rebooting your computer:** If you are using a beta version, you may want to remove the AMD “Testing” watermark. Otherwise skip the next block of instructions.

## Beta versions: Removing the AMD “Testing” watermark

Edit the ATI signature file via “nano” or “gedit”:

```
sudo nano /etc/ati/signature
```

OR

```
sudo gedit /etc/ati/signature
```

By replacing the “UNSIGNED” line with the following code:

```
9777c589791007f4aeeff06c922ad54a2:ae59f5b9572136d99fdd36f0109d358fa643f2bd4a2644d9efbb4fe91a9f6590a
```

Make sure to save before/on closing the file.

That will remove the AMD “Testing” watermark (which you will now never see) from the bottom right of your screen when you reboot ([source](#)).

**Now go ahead and reboot your computer.**

If all is right, the fglrx driver that corresponds to AMD/ATI Catalyst will be installed and working on your system. To confirm the drivers are working open a terminal and type:

```
fglrxinfo
```

You should get an output similar to the following:

```
display: :0 screen: 0
OpenGL vendor string: Advanced Micro Devices, Inc.
OpenGL renderer string: ATI Radeon HD 4300/4500 Series
OpenGL version string: 3.3.11631 Compatibility Profile Context
```

Note: If you see any mention of MESA in the output, the fglrx drivers have not been installed correctly. See the troubleshooting section for more details

You can make configuration changes through the AMD/ATI Catalyst Control Center. It can either be found in your Application menu or you can launch it through a terminal like this:

```
sudo amdcccle
```

### **IMPORTANT NOTE:**

Be aware that when you manually install fglrx, this can subtly break your system, since the packaging system isn't made aware of your changes.

The [Launchpad](#) developers get many bug reports from users who do this and then later discover after a few upgrades that their system starts behaving weird because of those fglrx remnants.

---

[Answer](#) by [stephen-myall](#)

# Installing the ATI Catalyst Drivers for 12.10

## Important UPDATE (22nd October 2012)

Latest proprietary AMD Catalyst driver version 12.9 cannot be used with Ubuntu 12.10 If you have a AMD Radeon HD 2xxx-4xxx series card.

Drivers for these cards are now available in a separate branch called legacy series. Unfortunately these legacy drivers (version 12.6) have not been updated to work with Ubuntu 12.10. Ubuntu 12.10 comes with xorg 1.13 while these drivers have support for older xorg 1.12. So if you want to install these drivers in Ubuntu 12.10, you have to downgrade to xorg 1.12.

[Source and get Legacy Drivers here \(if above note applies to you\)](#)

---

---

# INSTRUCTIONS

**Uninstall firstly the current AMD driver with these two commands:**

```
sudo sh /usr/share/ati/fglrx-uninstall.sh  
sudo apt-get remove --purge fglrx fglrx_* fglrx-amdcccle* fglrx-dev* xorg-driver-fglrx
```

**Note:** You will need to install the drivers (following the instructions below) but first add the same dependencies described in the answer above for 12.04LTS.

**Start now the installation of ATI Catalyst v# with these commands under Ubuntu 12.10 or older:**

```
cd /tmp && wget -O amd-driver-12-6-x86_64.run http://www2.ati.com/drivers/linux/amd-driver-installer-12-6-x86_64.run  
chmod +x amd-driver-12-6-x86_64.run  
sudo sh amd-driver-12-6-x86_64.run
```

**Then follow setup instructions:**

**Run next this command to finish the installation:**

```
sudo aticonfig --initial -f
```

**Then reboot your system:**

```
sudo reboot
```

**That's it!**

---

[Answer](#)  by [rodrigo-martins](#)

# Installing the ATI Catalyst Drivers for 13.04

*These instructions will install Catalyst v13.4, in order to see what is the latest available driver visit the [Official AMD Website](#)*

# Instructions

## Check your card

Only RadeonHD cards are supported by Catalyst drivers.

To know which card is installed in your system type the following command in a terminal:

```
lspci | grep VGA
```

It may show you your graphic card.

# Before continue please read first! Which Radeon cards are no longer supported by ATI's Catalyst:

- Cards that no longer can make use of AMD Catalyst drivers and are limited to open-source drivers:

ATI Radeon 9500-9800, Xpress200-1250, 690G, 740G, X300-X2500, Mobility RadeonHD 2300

- Cards that doesn't work with AMD Catalyst in Xserver versions newer than v1.13 and Linux Kernel newer than v3.5:

ATI RadeonHD 2x00 - 4xx0 cards

These cards can make use of the Catalyst Legacy driver, but only if you downgrade your Xserver version. This can be done really easily by following the instructions given at [LaunchPad](#). This PPA downgrades the Xserver and install a patched version of fglrx that supports kernel version 3.5.

## Removing (purging) existing drivers

```
sudo sh /usr/share/ati/fglrx-uninstall.sh  
sudo apt-get remove --purge fglrx fglrx_* fglrx-amdcccle* fglrx-dev*
```

## Install Dependencies

- For 32-bit systems:

```
sudo apt-get install build-essential cdbs dh-make dkms execstack dh-modaliases linux-headers-generic fakeroot libqtgui4
```

- For 64-bit systems:

```
sudo apt-get install build-essential cdbs dh-make dkms execstack dh-modaliases linux-headers-generic fakeroot libqtgui4 lib32gcc1
```

## Download Catalyst package

```
cd ~/  
mkdir catalyst  
cd catalyst/
```

In order to have the latest drivers installed check if v13.4 is the latest offered in [AMD Webpage](#), if v13.4 isn't the latest you may want to manually download the drivers from there, extract the zip file to ~/catalyst/ folder and then skip the following first two commands and execute the last replacing the package name with the name of the extracted one in ~/catalyst/ folder

```
wget http://www2.ati.com/drivers/linux/amd-catalyst-13.4-linux-x86.x86_64.zip  
unzip amd-catalyst-13.4-linux-x86.x86_64.zip  
chmod +x amd-catalyst-13.4-linux-x86.x86_64.run
```

## Install Drivers

Navigate to the extracted package (~catalyst/), make sure it is the only .run file in that

folder, and type in the following command

```
sudo sh *.run --buildpkg Ubuntu/raring
```

An AMD Catalyst window will open to deploy the .deb packages wait until it finishes and then execute this command to proceed:

```
sudo dpkg -i fglrx*.deb
```

## Configuration

- Generic Configuration

*This will work for most people*

```
sudo aticonfig --initial -f
```

- Minimal Config

*A very basic /etc/X11/xorg.conf file might be what you need if you have a new card that's not fully supported by aticonfig. Here follows the entirety of a minimal xorg.conf file for the Radeon HD 6870:*

```
Section "Device"
    Identifier "ATI radeon 6870"
    Driver "fglrx"
EndSection
```

- X2/Dual GPU Cards

*Only use if you have an X2 card (e.g. 4870X2 or 5970) !!Do not use for two separate cards in crossfire!!*

```
sudo amdconfig --initial -f --adapter=all
```

- Dual/Multi Monitors

*If you have a dual monitor display (also known as “Big Desktop”)*

```
sudo aticonfig --initial -f
sudo aticonfig --set-pcs-str="DDX, EnableRandR12, FALSE"
```

Be advised that you may need to manually set the correct refresh rate for your second monitor through catalyst. See [this threat](#).

## Before Rebooting

Just in case, write down these instructions for the case you get a black screen:

- If the X server fails to start, switch to a new TTY using Ctrl+Alt+F2. Log in, and attempt to start the X server.

```
sudo startx
```

- If it fails to start, you will likely see a stacktrace, and immediately above it will be something along the lines of “Could not stat /usr/lib64/fglrx/switchlibGL” which means that you failed to copy the executables properly. Ctrl+C, and immediately copy the switchlibGL and switchlibglx executables to the fglrx folder in /usr/lib64/ or /usr/lib32/.

- If all else fails, revert your xorg.conf and reboot:

```
sudo cp /etc/X11/xorg.conf.orig /etc/X11/xorg.conf
```

This should return your original display.

- If anything worked, try these key combinations in this order:

Ctrl+Alt+F1 ; Ctrl+Alt+Backspace ; Alt+PrntScr+r ; Alt+PrntScr+s ; Alt+PrntScr+e ;  
Alt+PrntScr+i ; Alt+PrntScr+n ; Alt+PrntScr+u ; Alt+PrntScr+b ; and in the last case  
hold Ctrl+Alt+SysRq (SysRq usually is the same as Print Screen) and type very slowly R  
E I S U B.

## Test your Installation

Restart your system and type in the terminal:

```
fglrxinfo
```

The output may be similar to this if everything went fine:

```
display: :0 screen: 0
OpenGL vendor string: Advanced Micro Devices, Inc.
OpenGL renderer string: AMD Radeon HD 7900 Series (This line may be different depending on what
graphics card you are using.)
OpenGL version string: 4.2.12217 Compatibility Profile Context 12.104 (This line may be different
depending on what graphics card and Catalyst version you are using.)
```

Now try:

```
fgl_glxgears
```

If you experience issues or a hang, you may need to disable fast TLS:

```
sudo aticonfig --tls=0
```

That is it!

[Source](#) 

**Tags:** [software-installation](#) ([Next Q](#))

## Q: How do I resolve unmet dependencies?

**Tags:** [software-installation](#) ([Next Q](#)), [apt](#) ([Next Q](#)), [package-management](#) ([Next Q](#))

How do I resolve unmet package dependencies?

Occasionally, when I'm installing stuff, I get an error like the following:

```
Some packages could not be installed. This may mean that you have
requested an impossible situation or if you are using the unstable
distribution that some required packages have not yet been created
or been moved out of Incoming.
The following information may help to resolve the situation:
```

```
The following packages have unmet dependencies:
 package1 : Depends: package2 (>= 1.8) but 1.7.5-1ubuntu1 is to be installed
E: Unable to correct problems, you have held broken packages.
```

How can I resolve this?

**Tags:** [software-installation](#) ([Next Q](#)), [apt](#) ([Next Q](#)), [package-management](#) ([Next Q](#))

**User:** [jrg](#)

---

[Answer](#)  by [basharat-sialvi](#)

APT is a package management system for Debian and other Linux distributions based on it, such as Ubuntu. For the most part, APT is easy to use for installing, removing, and updating packages. In rare instances, often when you are mixing in third-party dependencies, there is a chance that apt-get may end up giving you an error telling you that a package installation could not be completed.

# Solutions:

It is always a good idea to back up configuration files like `/etc/apt/sources.list`, so you can revert the changes if needed.

- If the error shows something like this:

```
<some-package>: Depends: <other-package> (= version) but this-version  
is to be installed
```

Then make sure that the restricted and universe repositories are enabled. Hit Alt+F2, type `software-properties-gtk` and hit Enter.

Under Ubuntu Software tab, enable all the repositories.



- One possible cause of unmet dependencies could be corrupted package database, and/or some packages weren't installed properly. To fix this problem, hit Alt+Ctrl+T to open terminal and try to run one of the following commands:

```
sudo apt-get clean
```

or,

```
sudo apt-get autoclean
```

`apt-get clean` clears out the local repository of retrieved package files (the .deb files). It removes everything but the lock file from `/var/cache/apt/archives/` and `/var/cache/apt/archives/partial/`. `apt-get autoclean` clears out the local repository of retrieved package files, but unlike `apt-get clean`, it only removes package files that can no longer be downloaded, and are largely useless.

- One of the most basic fixes to resolve dependencies problems is to run:

```
sudo apt-get -f install
```

The `-f` here stands for fix broken. Apt will attempt to correct broken dependencies. If you manually installed a package that had unmet dependencies, apt-get will install those dependencies, if possible, otherwise it may simply remove the package that you installed in order to resolve the problem.

Then run:

```
sudo dpkg --configure -a
```

Then run this again:

```
sudo apt-get -f install
```

If the output is:

0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.

That means it failed.

- Next solution is to run:

```
sudo apt-get -u dist-upgrade
```

If it shows any held packages, it is best to eliminate them. Packages are held because of dependency conflicts that apt cannot resolve. Try this command to find and repair the conflicts:

```
sudo apt-get -o Debug::pkgProblemResolver=yes dist-upgrade
```

If it cannot fix the conflicts, it will exit with:

0 upgraded, 0 newly installed, 0 to remove and 6 not upgraded.

Delete the held packages one by one, running `dist-upgrade` each time, until there are no more held packages. Then reinstall any needed packages. Be sure to use the `--dry-run` option, so that you are fully informed of consequences:

```
sudo apt-get remove --dry-run package-name
```

Since removing the package you are trying to install may not be ideal, you might also try finding a repository that has the packages you need to satisfy the dependencies.

Finally, if all else fails, you can attempt to satisfy the dependencies yourself, either by finding and installing the necessary packages, or by installing them from source and then creating [deb](#) packages for them.

# Disable/Remove/Purge PPAs:

PPAs (Personal Package Archive) are repositories hosted on [Launchpad](#). You can use PPAs to install or upgrade packages that are not available in the official Ubuntu repositories.

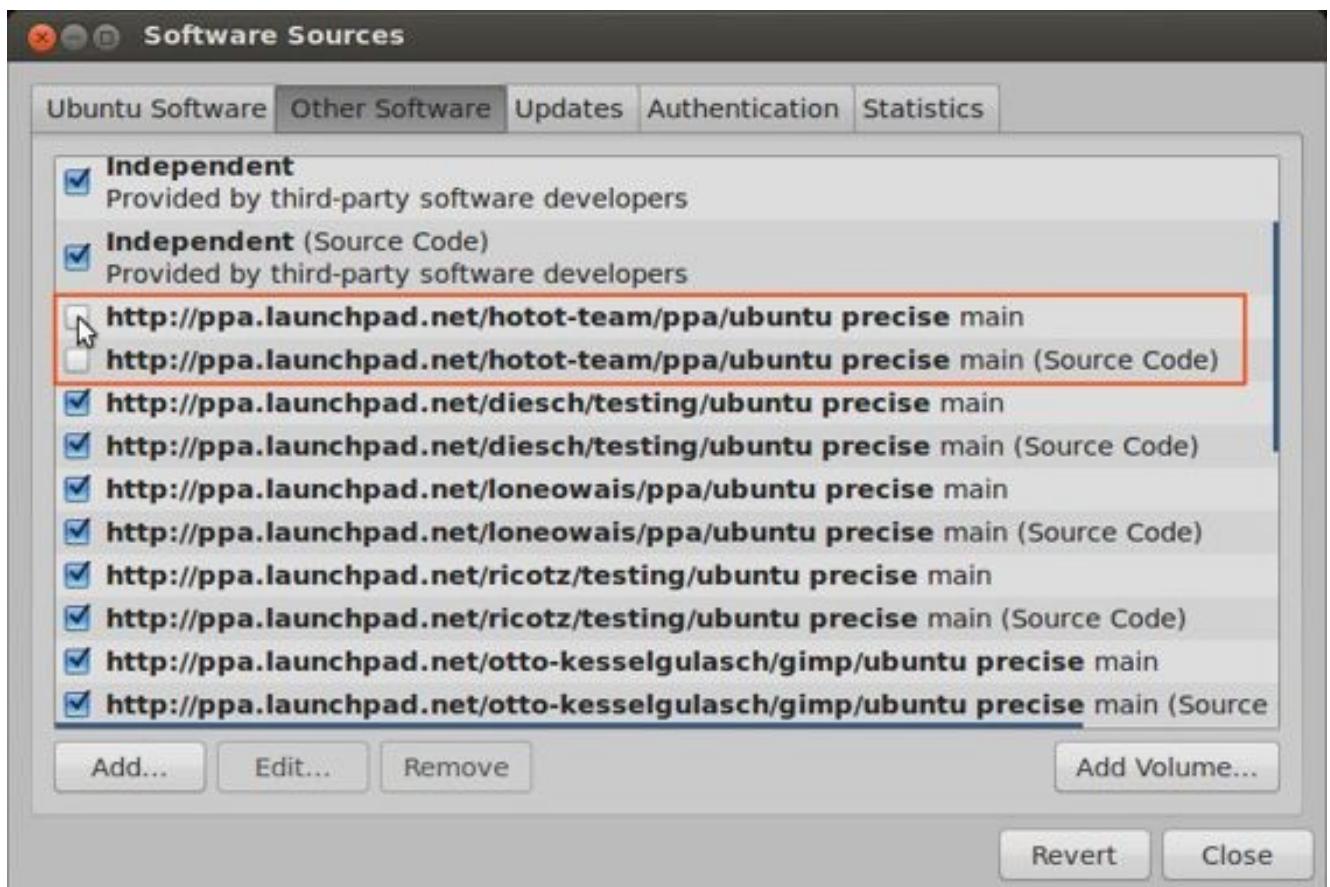
One of the most common causes of unmet dependencies are PPAs, specially when used to upgrade the existing package in Ubuntu repositories. To solve the problem you have tree options, disable, purge (revert back to original package in Ubuntu repositories) or remove PPA.

- **Disable:**

Disabling a PPA means no more updates for the packages installed from that PPA. To disable a PPA: Open Software Center > Edit > Software Sources Or,

Hit Alt+F2 and run software-properties-gtk.

Click on other Software tab, you'll see that each PPA have two lines here, one for the compiled packages and one for the source, Uncheck both lines to disable a PPA. Here you can also add and remove PPAs.



- **Purge:**

Purging a PPA means, downgrading the packages in the selected PPA to the version in the official Ubuntu repositories and disabling that PPA. [PPA Purge](#) does exactly that. To install PPA Purge run the following command:

```
sudo apt-get install ppa-purge
```

But, Considering the question apt is broken so the above command will fail. So use this command

```
mkdir ppa-purge && cd ppa-purge && wget http://mirror.pn1.gov/ubuntu/pool/universe/p/ppa-purge/ppa-purge_0.2.8+bzr56_all.deb && wget http://mirror.pn1.gov/ubuntu/pool/main/a/aptitude/aptitude_0.6.6-1ubuntu1_i386.deb && sudo dpkg -i /*.deb
```

To use PPA Purge:

```
sudo ppa-purge ppa:someppa/ppa
```

If ‘ppa-purge’ command fails for some reason, you can’t run ‘ppa-purge’ again unless you re-enable the PPA (To enable the PPA follow the same steps as disabling a PPA and Check the both lines of a particular PPA to enable it).

Note: PPA Purge doesn’t remove PPAs ([may be in future](#)), So you’ll have to manually remove the PPA.

- **Remove:**

If the package installed from a PPA doesn’t exist in official Ubuntu repositories then using PPA Purge is not recommended, because there’s nothing to be downgraded and PPA Purge wouldn’t delete it either. To remove a PPA and installed packages run the following commands: (Ignore the first command if you don’t want to remove the installed packages)

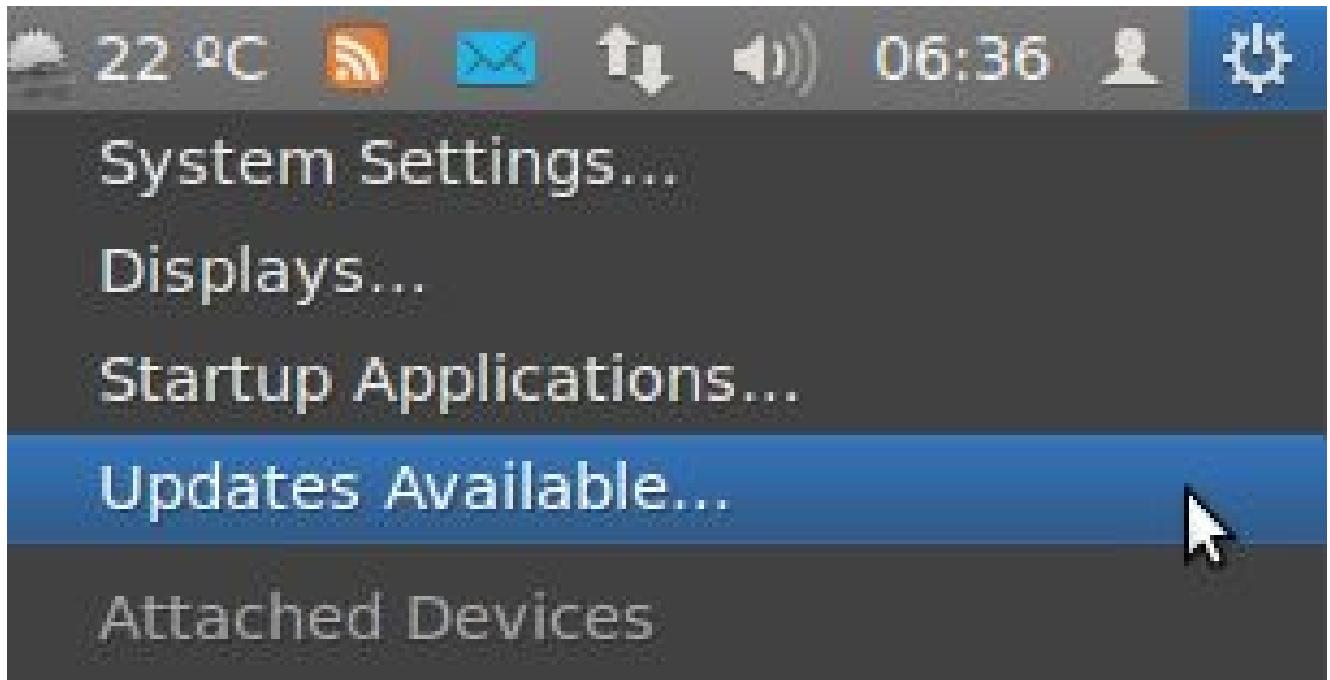
```
sudo apt-get autoremove --purge package-name  
sudo add-apt-repository --remove ppa:someppa/ppa  
sudo apt-get autoclean
```

Alternatively you can use Y PPA Manager to disable/remove/purge PPA’s (Details at the end of answer).

# Preventive Measures:

So how can we avoid this from happening in the first place?

- Keep Ubuntu Up to date. Ubuntu automatically notifies when updates are available, you can also check for available updates by clicking on Session Indicator in Unity panel:



Or, Hit Alt+Ctrl+T to open terminal and run following commands:

```
sudo apt-get update  
sudo apt-get upgrade
```

*Update: Synchronizes your list of available packages with the servers in source repositories. Upgrade: Downloads & installs any newer versions of your installed packages.*

- If you decide to add other repositories to sources.list, make sure that the repository is meant to work (and known to work) with Ubuntu. Repositories that are not designed to work with your version of Ubuntu can introduce inconsistencies in your system and might force you to re-install. Also, make sure that you really need to add external repositories as the software package(s) you are looking for may already have been introduced into the official repositories! [Source](#)
- Remove duplicate PPAs. Y PPA Manager (installation guide at the end of answer) can easily scan and remove duplicate PPAs.
  - Hit Alt+F2 and run y-ppa-manager to open Y PPA Manager.
  - Once open, double click or hit Enter on Advanced.
  - In resulting window select Scan and remove duplicate PPAs and click OK.

# Missing Image

# Getting Help:

When asking for help on [Askubuntu](#) or any other help forum, you should include the output of the following commands in your question:

- `sudo apt-get install package-name`

Output of actual error.

- `cat /etc/apt/sources.list`

This will show your sources.list

- `cat /etc/apt/sources.list.d/*`

This will show the list of PPAs (If any).

# Additional Sources:

- [‘apt’ Ubuntu Manpage](#)
  - [‘apt-get’ Ubuntu Manpage](#)
  - [‘apt-get/how-to’ Community Ubuntu documentation](#)
  - [‘Repositories/Ubuntu’ Community Ubuntu documentation](#)
  - [‘Repositories/CommandLine’ Community Ubuntu documentation](#)
- 

[Y PPA Manager](#): Y PPA Manager is an one stop shop for all of your PPA needs.

# Missing Image

Here are some of its features:

- search packages in all Launchpad PPAs
- list and download packages in a PPA
- add / remove / purge a PPA
- backup and restore PPA sources
- remove duplicate PPA sources

To install Y PPA Manager, open terminal by hitting Alt+Ctrl+T and run following commands:

```
sudo add-apt-repository ppa:webupd8team/y-ppa-manager
sudo apt-get update
sudo apt-get install y-ppa-manager
```

Considering the question, apt is broken, so use these commands instead

```
sudo su
```

and

32 Bit:

```
mkdir y-ppa-manager && cd y-ppa-manager && wget https://launchpad.net/~webupd8team/+archive/y-ppa-
manager/+files/launchpad-getkeys_0.3.2-1~webupd8~oneiric_all.deb && wget
https://launchpad.net/~webupd8team/+archive/y-ppa-manager/+files/y-ppa-manager_0.0.8.6-
1~webupd8~precise_all.deb && wget https://launchpad.net/~webupd8team/+archive/y-ppa-
manager/+files/yad_0.17.1.1-1~webupd8~precise_i386.deb && dpkg -i /*.deb
```

64 Bit:

```
mkdir y-ppa-manager && cd y-ppa-manager && wget https://launchpad.net/~webupd8team/+archive/y-ppa-
manager/+files/launchpad-getkeys_0.3.2-1~webupd8~oneiric_all.deb && wget
https://launchpad.net/~webupd8team/+archive/y-ppa-manager/+files/y-ppa-manager_0.0.8.6-
1~webupd8~precise_all.deb && wget https://launchpad.net/~webupd8team/+archive/y-ppa-
manager/+files/yad_0.17.1.1-1~webupd8~precise_amd64.deb && dpkg -i /*.deb
```

---

[Answer](#) by amith-kk

Note: All commands asked to be run must be run in the terminal, which can be opened by either `Ctrl+Alt+T` or searching for terminal in the dash.

# Is it really broken?

Try running the following command and try to reinstall the software you were trying to install

```
sudo apt-get update
```

# Pre-Performance Steps

## Backing up

Back up the following files:

- /etc/apt/sources.list
- /var/lib/dpkg/status

To do so, use these commands

```
sudo cp /etc/apt/sources.list /etc/apt/sources.list.original
```

and

```
sudo cp /var/lib/dpkg/status /var/lib/dpkg/status.original
```

# Clearing your apt-cache

apt keeps a cache of recently downloaded packages to save bandwidth when it is required to be installed. This can be counter-productive in some cases

Now, to clean it, you have two options

```
sudo apt-get clean
```

This will remove all cached packages belonging to the folder `/var/cache/apt/archives/` and `/var/cache/apt/archives/partial` except the `.lock` files. This is recommended

```
sudo apt-get autoclean
```

This scans the folders `/var/cache/apt/archives/` and `/var/cache/apt/archives/partial` and checks if the package is still in the repositories and removes the ones that aren't

---

# Fixing dependencies

## Using apt's fix-broken mode

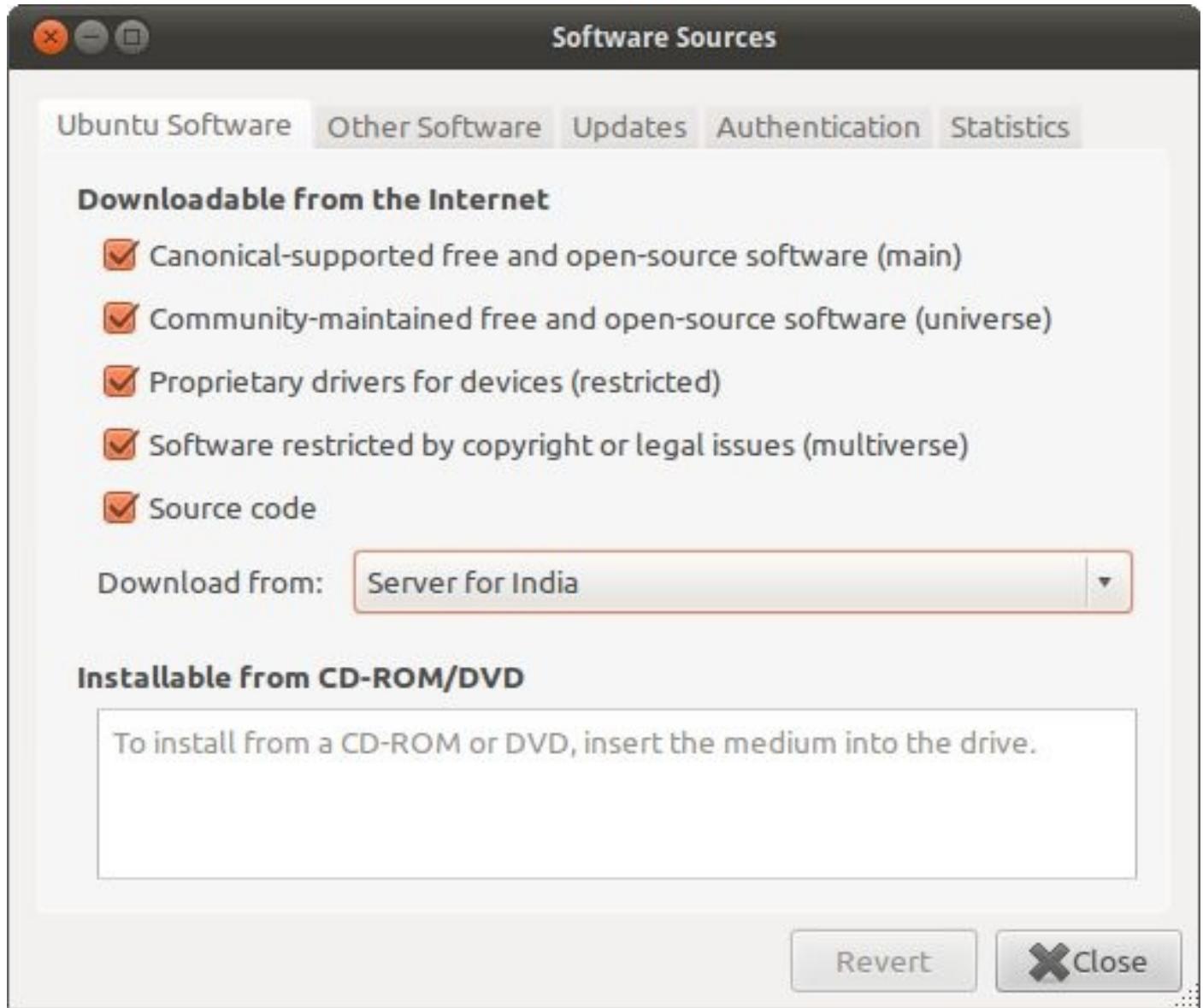
```
sudo apt-get -f install
```

This will cause apt to scan for missing dependencies and fix them from the repositories  
If the output states that nothing new was installed or upgraded, it has failed.

---

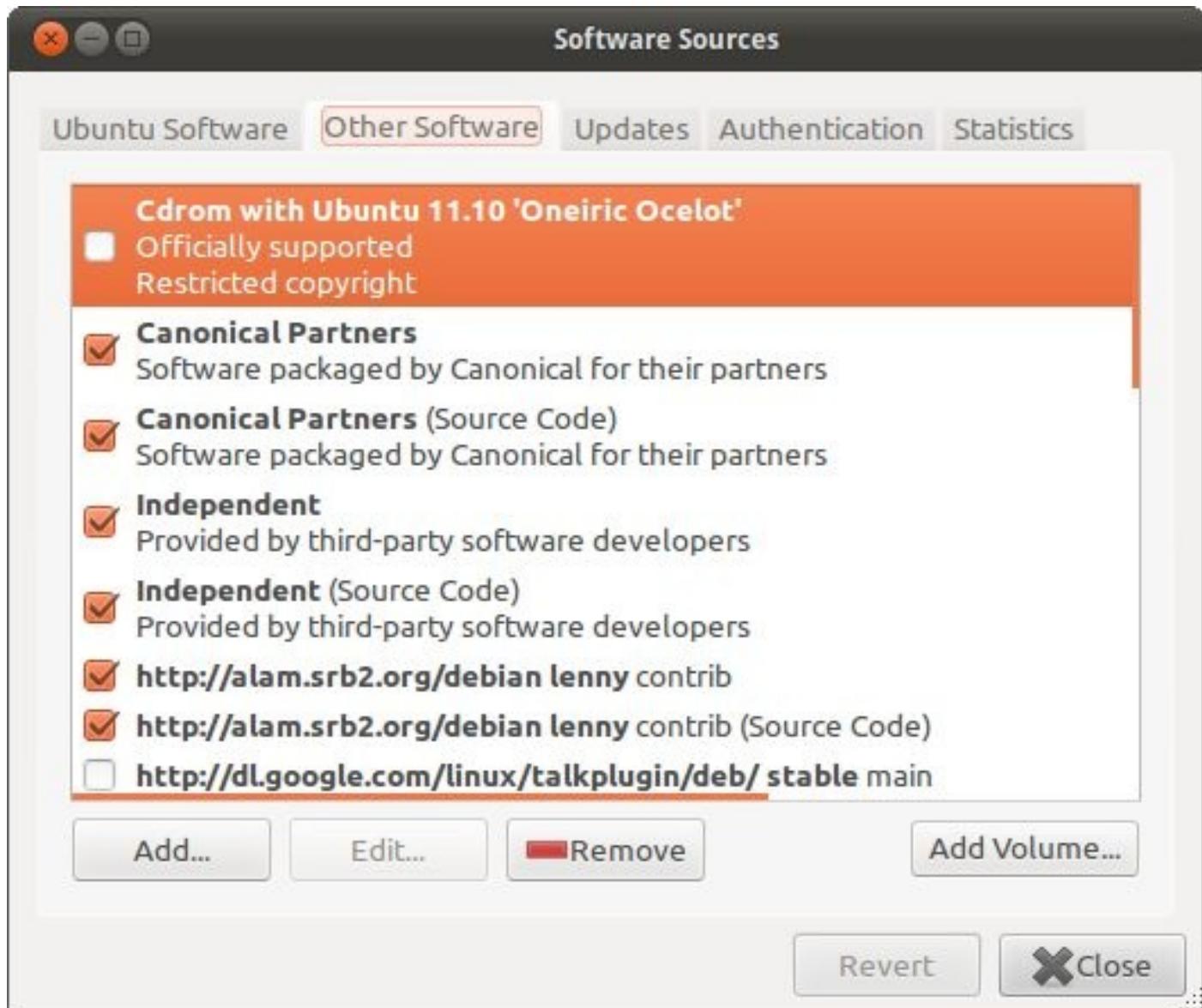
# Checking if all required sources are enabled

Type `gksu software-properties-gtk` and you'll get this window



Make sure all sources are enabled.

next, go to the Other software tab and check if the required PPAs for the software to be installed are there and are enabled. Also, try disabling some PPAs which might be having broken packages



now, run `sudo apt-get update`

Try installing the software now

# Selecting a better server to download from

Type gksu software-properties-gtk and you'll get this window



Click the Download from the Dropdown box and select other

## Software Sources

Ubuntu Software Other Software Updates Authentication Statistics

### Downloadable from the Internet

- Canonical-supported free and open-source software (main)
- Community-maintained free and open-source software (universe)
- Proprietary drivers for devices (restricted)
- Software restricted
- Source code

Download from:

- Main server
- Server for United States
- Server for India

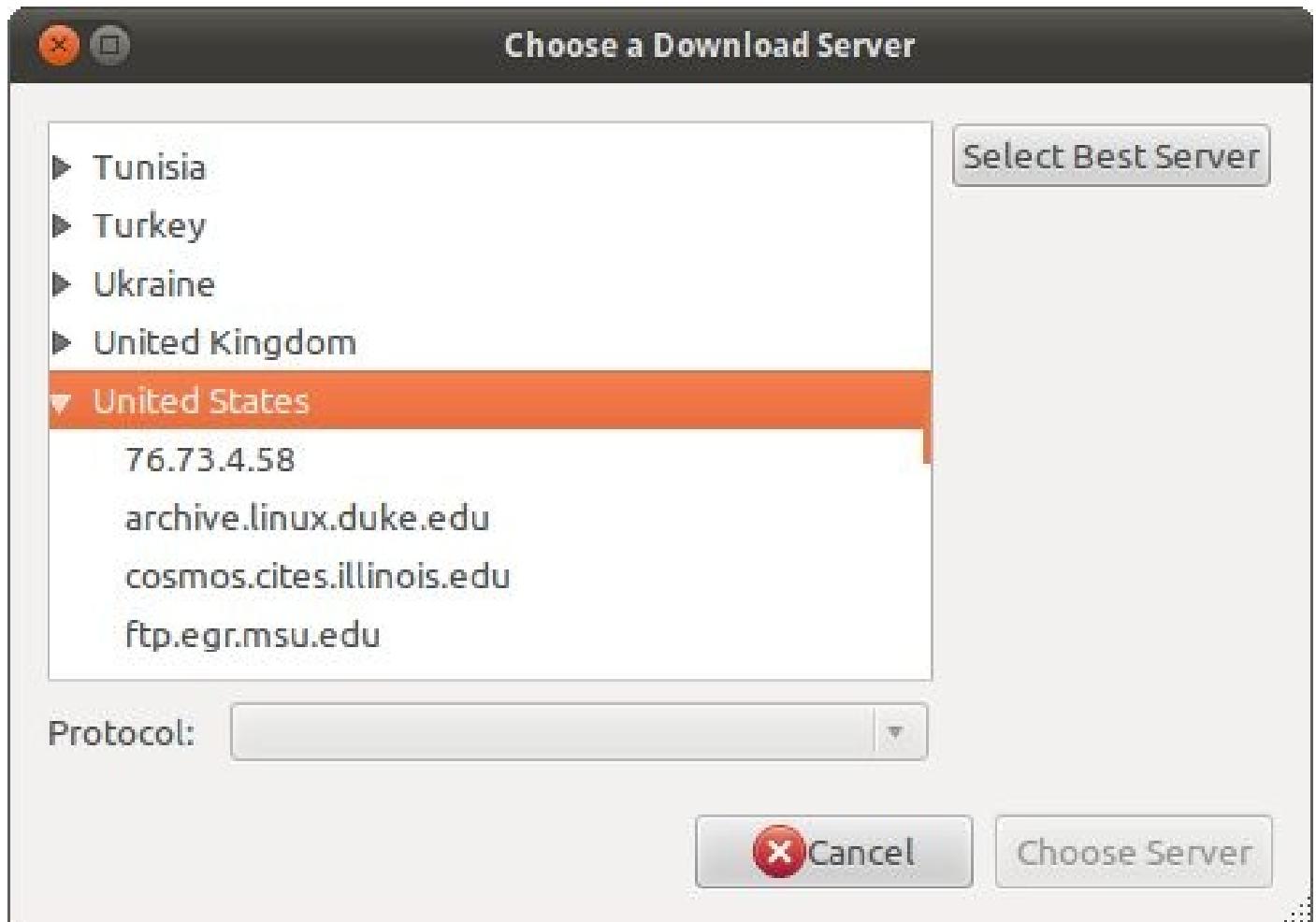
### Installable from CD

To install from a CD-ROM or DVD, insert the medium into the drive.

Revert

 Close

Click Select Best Server



Run `sudo apt-get update`

Try installing the software

also, try using `sudo apt-get install -f`

---

# PPA Purge

This is a tool used to purge broken/unwanted ppa's and their applications along with it  
To install it, run

```
sudo apt-get install ppa-purge
```

But, Considering the question apt is broken so the above command will fail. So use this command

```
mkdir ppa-purge && cd ppa-purge && wget http://mirror.pnl.gov/ubuntu/pool/universe/p/ppa-purge/ppa-purge_0.2.8+bzr56_all.deb && wget http://mirror.pnl.gov/ubuntu/pool/main/a/aptitude/aptitude_0.6.6-1ubuntu1_i386.deb && sudo dpkg -i /*.deb
```

Now use ppa purge

```
sudo ppa-purge ppa:someppa/ppa
```

# Y-PPA Manager

Y-PPA Manager is a gui app that helps you manage PPA's and various problems assosiated with it

To install it

```
sudo add-apt-repository ppa:webupd8team/y-ppa-manager
```

and

```
sudo apt-get update
```

and

```
sudo apt-get install y-ppa-manager
```

Considering the question, apt is broken so, use these command instead

```
sudo su
```

and

32 Bit:

```
mkdir y-ppa-manager && cd y-ppa-manager && wget https://launchpad.net/~webupd8team/+archive/y-ppa-manager/+files/launchpad-getkeys_0.3.2-1~webupd8~oneiric_all.deb && wget https://launchpad.net/~webupd8team/+archive/y-ppa-manager/+files/y-ppa-manager_0.0.8.6-1~webupd8~precise_all.deb && wget https://launchpad.net/~webupd8team/+archive/y-ppa-manager/+files/yad_0.17.1.1-1~webupd8~precise_i386.deb && dpkg -i /*.deb
```

64 Bit:

```
mkdir y-ppa-manager && cd y-ppa-manager && wget https://launchpad.net/~webupd8team/+archive/y-ppa-manager/+files/launchpad-getkeys_0.3.2-1~webupd8~oneiric_all.deb && wget https://launchpad.net/~webupd8team/+archive/y-ppa-manager/+files/y-ppa-manager_0.0.8.6-1~webupd8~precise_all.deb && wget https://launchpad.net/~webupd8team/+archive/y-ppa-manager/+files/yad_0.17.1.1-1~webupd8~precise_amd64.deb && dpkg -i /*.deb
```

Now type in y-ppa-manager

You'll be presented with this window

# Y PPA Manager

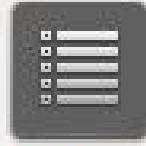
Double click an item to perform an action:



Add a PPA



Remove a PPA



List packages in a PPA  
enabled on your computer



Advanced



Search in all Launchpad PPAs



Settings

Help

Close

Double click on advanced, and you'll get this window

## Advanced - Y PPA Manager

### Purge a PPA

Scan and remove duplicate PPAs

Try to import all missing GPG keys

Try to fix all GPG BADSIG errors

Backup repositories

Restore repositories backup

Re-enable working PPAs after Ubuntu upgrade

Update release name in working PPAs



Cancel



OK

Do the following Tasks outlined in black

## Advanced - Y PPA Manager

Purge a PPA

Scan and remove duplicate PPAs

Try to import all missing GPG keys

Try to fix all GPG BADSIG errors

Backup repositories

Restore repositories backup

Re-enable working PPAs after Ubuntu upgrade

Update release name in working PPAs



Cancel



OK

# **Prevention is better than cure**

It is better to prevent than to search for this question on AskUbuntu :D  
So, here are the guidelines to keep you safe

# Keep your system up-to-date

always run the following command regularly

```
sudo apt-get update&&sudo apt-get upgrade
```

or, you can always use Update Manager with this command

```
gksu update-manager
```

# **Using only trusted PPA's**

Only use PPA's meant to be used on Ubuntu also, only use PPA's with trusted sources.  
Infact, the package might already be in the ubuntu repositories

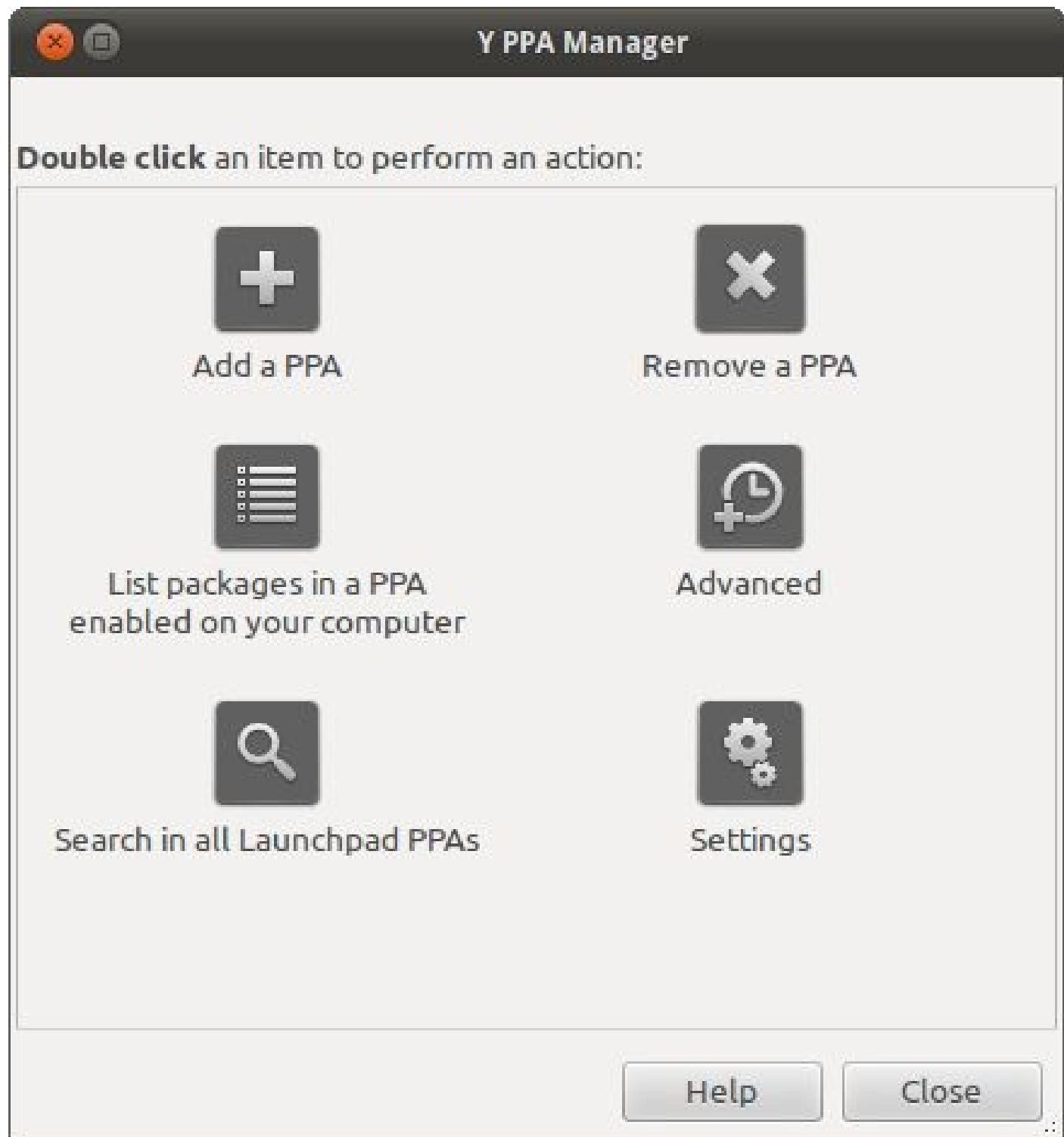
# Backing up when things are good and restoring it later

For this you need Y-PPA-Manager. The steps to install it are given above.

Run this command to open Y-PPA-Manager

```
y-ppa-manager
```

You'll be presented with this window



Double click on advanced, and you'll get this window



Run this:

## Advanced - Y PPA Manager

### Purge a PPA

Scan and remove duplicate PPAs

Try to import all missing GPG keys

Try to fix all GPG BADSIG errors

### Backup repositories

Restore repositories backup

Re-enable working PPAs after Ubuntu upgrade

Update release name in working PPAs

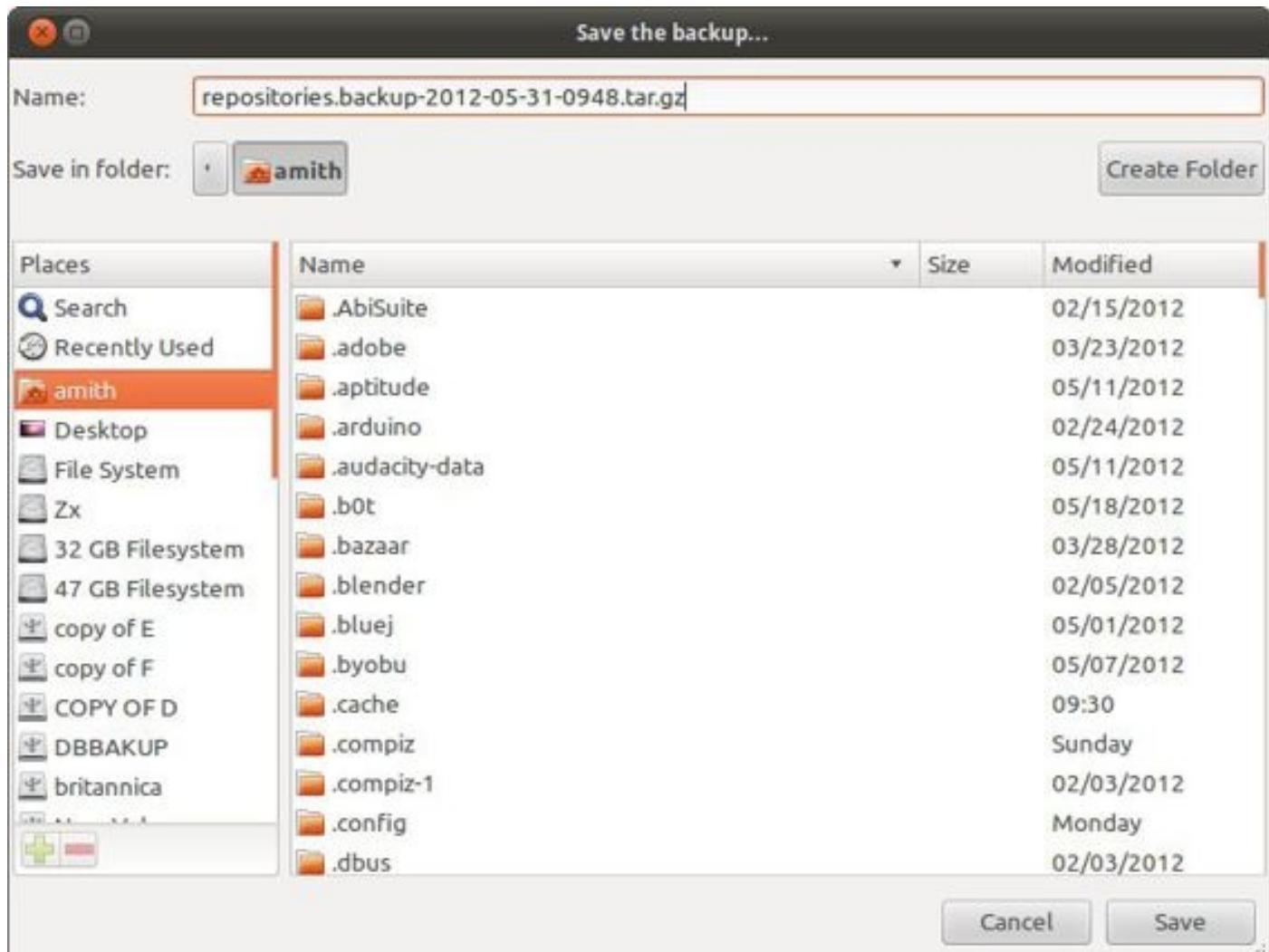


Cancel



OK

You'll be asked to save a tar.gz file with a dialog similar to the one below. Save it in another partition or a safe place



Later, when you need to restore it again, follow similar steps and when you get to the advanced dialog, Click on this:

## Advanced - Y PPA Manager

### Purge a PPA

Scan and remove duplicate PPAs

Try to import all missing GPG keys

Try to fix all GPG BADSIG errors

Backup repositories

### Restore repositories backup

Re-enable working PPAs after Ubuntu upgrade

Update release name in working PPAs



Cancel



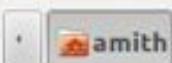
OK

You'll be asked to restore from the previous backup which you saved before with a dialog similar to the one below

### Select backup to restore...

Name: the\_tar\_gz\_you\_backed\_up.tar.gz

Save in folder:



Create Folder

#### Places

- Search
- Recently Used
- amith
- Desktop
- File System
- Zx
- 32 GB Filesystem
- 47 GB Filesystem
- copy of E
- copy of F
- COPY OF D
- DBBAKUP
- britannica

| Name           | Size | Modified   |
|----------------|------|------------|
| .AbiSuite      |      | 02/15/2012 |
| .adobe         |      | 03/23/2012 |
| .aptitude      |      | 05/11/2012 |
| .arduino       |      | 02/24/2012 |
| .audacity-data |      | 05/11/2012 |
| .b0t           |      | 05/18/2012 |
| .bazaar        |      | 03/28/2012 |
| .blender       |      | 02/05/2012 |
| .bluej         |      | 05/01/2012 |
| .byobu         |      | 05/07/2012 |
| .cache         |      | 09:30      |
| .compiz        |      | Sunday     |
| .compiz-1      |      | 02/03/2012 |
| .config        |      | Monday     |
| .dbus          |      | 02/03/2012 |

Cancel

Restore

# All In one Script

*Coming soon*

---

# Still not working?

Package dependency errors are not always generic and depends on the package to be installed.

If following all the steps given to fix the error does not work for you, you can always ask on [Ask Ubuntu](#)

Here are some commands which you need to post the output of

```
sudo apt-get install packagename
```

and

```
cat /etc/apt/sources.list
```

and

```
cat /etc/apt/sources.list.d/*
```

(Thanks to [Basharat Sial](#))

There are also other files/commands that you need the output of that might be error specific, and users will probably prompt you in the comments to post the file/command.

---

[Answer](#) by [overprescribed](#)

These answers so far are focused on how to automagically resolve such an issue, mostly hoping that it resolves itself, but not focused on understanding how to investigate dependencies. Its important to try things like making sure your package lists are up to date, for you need to make sure a simple update or clearing of the cache doesn't resolve the issue before digging deeper. If everything behind the scenes is working as it should, however, its paramount to learn how to understand dependencies. Sometimes the layers of dependencies can seem overwhelming, but the concept is simple, and key to understanding how software is installed/uninstalled in an Ubuntu system.

I highly recommend [aptitude](#) to anyone using a .deb based system like Ubuntu. Its tree structure allows you to easily browse dependencies including recommended and suggested packages, as well as visualize conflicts and unmet dependencies. It is an invaluable tool for when apt-get doesn't offer a simple solution, and for visualizing dependencies in general. ([Synaptic](#) is also available in Ubuntu, but I don't find it as intuitive.)

Aptitude also offers a conflict resolver that will walk you through all the possible combinations of installed/removed/upgraded/etc packages to satisfy all requirements without conflict or issue. This can be successful even when apt is unable to find a solution. As a Ubuntu user, situations don't normally arise that require you to investigate why that particular package is being installed, but its almost inevitable as you use the system more.

---

**Tags:** [software-installation](#) ([Next Q](#)), [apt](#) ([Next Q](#)), [package-management](#) ([Next Q](#))

## **Q: How do I install the latest TeX Live 2012?**

**Tags:** [software-installation](#) ([Next Q](#))

Ubuntu 12.04 still includes the outdated and obsolete 2009 version of TeX Live. Other than installing manually from the TeX Live website, is there any alternative to install the latest 2012 version on Ubuntu Precise 12.04?

**Tags:** [software-installation](#) ([Next Q](#))

**User:** [izx](#)

---

[Answer](#) by [izx](#)

## **TeX Live 2012 is available for 12.04 in an *official* “backports” PPA**

TeX Live 2012 is scheduled for inclusion in the next Ubuntu release (Quantal 12.10). Meanwhile, Ubuntu’s TeX Live maintainer, Jeremy Bicha, has created [an official “backports” PPA](#) to allow 12.04 users to easily install/upgrade to the new version.

To install/upgrade to TeX Live 2012:

1. Open a terminal with `Ctrl+Alt+T`
2. Add the *texlive-backports* PPA by typing the below (enter your password when prompted):

```
sudo add-apt-repository ppa:texlive-backports/ppa
```

3. Then type:

```
sudo apt-get update
```

4. *Installation:*

- If you are installing TeX Live for the first time, type:

```
sudo apt-get install texlive
```

- If you already have TeX Live installed and are upgrading, type:

```
sudo apt-get upgrade
```

**Warning:** this will also upgrade all other packages on your Ubuntu system for which upgrades are available. If you do not wish to do this, please use the previous `sudo apt-get install texlive` instead.

---

**Tags:** [software-installation](#) ([Next Q](#))

---

## [Q: How do I install Sublime Text 2/3?](#)

**Tags:** [software-installation](#) ([Next Q](#))

I installed Sublime Text 2 on 12.04 as per this [tutorial](#) .

However I don't have adequate permissions when launching the program from the Unity launcher. For example I cannot install packages, or if I add a folder to the sidebar when I close Sublime and reopen, the folder is no longer listed. If I run `sudo sublime` in the terminal all changes remain after closing.

I've tried chown-ing the Sublime Text 2 folder in usr/lib sudo `chown -R mylogin:mylogin /usr/lib/"Sublime Text 2"` but this seemed to have no effect.

**Tags:** [software-installation](#) ([Next Q](#))

**User:** [michael-gruber](#)

---

[Answer](#)  by [jared-burrows](#)

# Install via the Package Manager(apt-get):

I know this already answered but you can simply just add to your packages:

## For Sublime-Text-2:

```
sudo add-apt-repository ppa:webupd8team/sublime-text-2  
sudo apt-get update  
sudo apt-get install sublime-text
```

## For Sublime-Text-3:

```
sudo add-apt-repository ppa:webupd8team/sublime-text-3  
sudo apt-get update  
sudo apt-get install sublime-text-installer
```

Source: <https://gist.github.com/dantoncancellla/4977978> 

# Install Manually via Terminal:

## Download from the Sublime Site:

### 32-bit:

```
wget http://c758482.r82.cf2.rackcdn.com/Sublime\ Text\ 2.0.2.tar.bz2  
tar vxjf Sublime\ Text\ 2.0.2.tar.bz2
```

### 64-bit:

```
wget http://c758482.r82.cf2.rackcdn.com/Sublime\ Text\ 2.0.2\ x64.tar.bz2  
tar vxjf Sublime\ Text\ 2.0.2\ x64.tar.bz2
```

### For Both::

```
sudo mv Sublime\ Text\ 2 /opt/  
sudo ln -s /opt/Sublime\ Text\ 2/sublime_text /usr/bin/sublime
```

Source: <http://www.tecmint.com/install-sublime-text-editor-in-linux/> 

# Install Manually via Script:

Check out this nice script on Github("Install Sublime Text on Fedora.") that you can run, just make sure to edit the “\*.tar.bz2” in the script to download the latest version of Sublime Text!

## [Skip code block](#)

```
#!/usr/bin/env bash
# Usage: {script} [ OPTIONS ] TARGET BUILD
#
#   TARGET      Default target is "/usr/local".
#   BUILD       If not defined tries to get the build into the Sublime Text 3 website.
#
# OPTIONS
#
#   -h, --help  Displays this help message.
#
# Report bugs to Henrique Moody <henriquemoody@gmail.com>
#
set -e

if [[ "${1}" = '-h' ]] || [[ "${1}" = '--help' ]]; then
    sed -E 's/^#\s?(.*)/\1/g' "${0}" |
        sed -nE '/^Usage/,/^Report/p' |
        sed "s/{script}/$(basename "${0}")/g"
    exit
fi

declare URL
declare URL_FORMAT="http://c758482.r82.cf2.rackcdn.com/sublime_text_3_build_%d_x%d.tar.bz2"
declare TARGET="${1:-/usr/local}"
declare BUILD="${2}"
declare BITS

if [[ -z "${BUILD}" ]]; then
    BUILD=$((
        curl -Ls http://www.sublimetext.com/3 |
        grep '<h2>Build' |
        head -n1 |
        sed -E 's#<h2>Build ([0-9]+)</h2>#\1#g'
    ))
fi

if [[ "$(uname -m)" = "x86_64" ]]; then
    BITS=64
else
    BITS=32
fi

URL=$(printf "${URL_FORMAT}" "${BUILD}" "${BITS}")

read -p "Do you really want to install Sublime Text 3 (Build ${BUILD}, ${BITS}) on \"${TARGET}\"? "
[ Y/n]: " CONFIRM
CONFIRM=$(echo "${CONFIRM}" | tr [a-z] [A-Z])
if [[ "${CONFIRM}" = 'N' ]] || [[ "${CONFIRM}" = 'NO' ]]; then
    echo "Aborted!"
    exit
fi

echo "Downloading Sublime Text 3"
curl -L "${URL}" | tar -xJc ${TARGET}

echo "Creating shortcut file"
cat ${TARGET}/sublime_text_3/sublime_text.desktop |
    sed "s#/opt#${TARGET}#g" |
    cat > "/usr/share/applications/sublime_text.desktop"

echo "Creating binary file"
```

```
cat > ${TARGET}/bin/subl <<SCRIPT
#!/bin/sh
if [ \$${1} == \"--help\" ]; then
    ${TARGET}/sublime_text_3/sublime_text --help
else
    ${TARGET}/sublime_text_3/sublime_text \$@ > /dev/null 2>&1 &
fi
SCRIPT

echo "Finish!"
```

Source: <https://gist.github.com/henriquemoody/3288681> 

This helped me and I hope it helps everyone else as well!

---

[Answer](#)  by [sergey](#)

Basically, your problem is that you're **using a wrong article** :) If it was on an SE site I would down-vote it.

Manually copying stuff which does not come from Ubuntu repositories into /usr is **WRONG**. This directory is managed by Ubuntu's package manager and messing with it is going to cause you trouble at some point or another - for example, the next time you upgrade your system Sublime will likely be removed without a trace.

Running the program as root is even wronger, especially in the case of SublimeText which has its own package manager which basically downloads stuff from Internet and lets it run on your computer. A simple typo in a plugin could destroy all data on your machine.

A proper solution, if you want to install the program system-wide, would be to find/build a .deb file and install it - this way package manager would be aware of the package. Webupd8 maintains a [PPA for SublimeText2](#) , so you can just use that.

However, there's a much lazier solution which I am personally using - just unpack SublimeText somewhere in your home directory, create a bin directory in your home directory and symlink sublime\_text executable into that directory. This does not require root privileges at all and the editor runs just fine.

The article also does some shell integration, such as registering sublime\_text as a default editor and adding an icon, and I was too lazy to do that - however, I'm sure that it can be done without messing with system-wide settings.

This does not explain, however, the problems with permissions you're having - SublimeText stores all its settings in your home folder anyway, so even if you installed it system-wide it should not have problems. What probably happened is that you started it the first time with superuser privileges (i.e. from the sudo shell), so the editor's config directory (in ~/.config/sublime-text-2) is owned by root now. You need to do something like

```
sudo chown -R yourusername:yourusername /home/yourusername/.config/sublime-text-2
```

to fix this.

---

[Answer](#)  by [alex-l.](#)

Here is how to solve this.

1) undo all the steps in the linked webpage in reverse order.

1a) if you didn't save a copy of your original defaults.list then open a terminal and run

```
sudo cp /usr/share/applications/defaults.list /usr/share/applications/defaults.list.bak && cat  
/usr/share/applications/defaults.list.bak | sed "s/sublime\.desktop/gedit.desktop/g" | sudo tee  
/usr/share/applications/defaults.list
```

2) get the version of sublime you want and extract it to the current directory.

3) in bash cd to the directory where you extracted sublime

4) mv Sublime\ Text\ 2 ~/.local

4a) if you want to be able to run sublime from the command line then run `mkdir -p ~bin && ln -s ~/.local/Sublime\ Text\ 2/sublime_text ~bin/sublime`. The default .bashrc will add ~bin to your \$PATH the next time your shell launches.

5) Make a file called sublime.desktop in `~/.local/share/applications/` and paste the following inside.

#### [Skip code block](#)

```
[Desktop Entry]  
Version=1.0  
Name=Sublime Text 2  
# Only KDE 4 seems to use GenericName, so we reuse the KDE strings.  
# From Ubuntu's language-pack-kde-XX-base packages, version 9.04-20090413.  
GenericName=Text Editor  
  
Exec=~/local/Sublime\ Text\ 2/sublime_text  
Terminal=false  
Icon=~/local/Sublime Text 2/Icon/48x48/sublime_text.png  
Type=Application  
Categories=TextEditor;IDE;Development  
X-Ayatana-Desktop-Shortcuts>NewWindow  
  
[NewWindow Shortcut Group]  
Name>New Window  
Exec=~/local/Sublime\ Text\ 2/sublime_text -n  
TargetEnvironment=Unity
```

6) `test -e ~/.local/share/applications/defaults.list -a $(grep -sc \' [Default\ Applications\] ~/.local/share/applications/defaults.list) != 10 || echo "[Default Applications]" >> ~/.local/share/applications/defaults.list; grep gedit.desktop /usr/share/applications/defaults.list | sed "s/gedit\.desktop/sublime.desktop/g" >> ~/.local/share/applications/defaults.list`

7) done.

It should now be installed locally in your home directory and you should have no more issues with permissions.

---

**Tags:** [software-installation](#) ([Next Q](#))

---

## [Q: How do I update Oracle Java 7 \(JDK and JRE\)](#)

**Tags:** [software-installation](#) ([Next Q](#)), [java](#) ([Next Q](#))

Recently, I've installed JDK 7 from the Oracle site, using [these instructions](#) 

Now, I'm wondering what is the correct method to update it (or, better, to keep up-to-date automatically)? For instance, there were some security issues fixed few days ago.

**Tags:** [software-installation](#) ([Next Q](#)), [java](#) ([Next Q](#))

**User:** [pilat](#)

---

[Answer](#)  by [buzz-dee](#)

You can use the [webupd8 java ppa](#) , so you get [updates automatically](#)  through the package manager.

```
sudo add-apt-repository ppa:webupd8team/java  
sudo apt-get update  
sudo apt-get install oracle-java7-installer  
sudo update-alternatives -s java-7-oracle
```

- [Are “PPA’s” safe to add to my system, and what are some “red flags” to watch out for?](#)

If you need the latest Oracle Java 6, you install it too:

```
sudo apt-get install oracle-java6-installer
```

If you want test Oracle Java 8 early access builds, you can install it too:

```
sudo apt-get install oracle-java8-installer
```

To switch between different Java versions, you could use the following terminal command:

```
sudo update-alternatives --config java
```

**Source:**

- [Web Upd8: Install Oracle Java 7 in Ubuntu via PPA Repository](#) 
  - [Web Upd8: Oracle Releases Critical Security Update For Java 7 \(7U13\) And Java 6 \(6U39\), PPA Updated](#) 
  - [Web Upd8: Install Oracle Java 8 In Ubuntu Via PPA \[JDK8\]](#) 
- 

**Tags:** [software-installation](#) ([Next Q](#)), [java](#) ([Next Q](#))

---

## **Q: How to install Internet Explorer (multiple versions)?**

**Tags:** [software-installation](#) ([Next Q](#)), [virtualbox](#) ([Next Q](#)), [virtualization](#) ([Next Q](#))

I am developing one site which has chat feature in Rails. I am using Ubuntu 12.04 LTS. I need to check that the site is IE9 because the chat feature using socket io of HTML5. I want to know that how to install IE9 in Ubuntu. I have looked at Chrome and Firefox extensions but if any standalone is available then please give me suggestion.

**Tags:** [software-installation](#) ([Next Q](#)), [virtualbox](#) ([Next Q](#)), [virtualization](#) ([Next Q](#))

**User:** [anand-soni](#)

---

[Answer](#)  by [suhaiib](#)

Microsoft has created some customized Windows VHDs with the purpose of allowing web designers to test websites in Internet Explorer 10, 9, 8 and 7, for Free for 30 days:

You can download the virtual machine images from this website:

- [Virtual Machine \(VM\), Windows Virtual PC & Browserstack | Modern.IE#downloads](#) 

From the site:

1. Download the SFX and all RAR files for the VM (smaller VMs may not have files with RAR extension). In each set below that contains a split archive, the provided text file (.txt) contains URLs to all files in the set, and this can be used directly with the ‘wget’ command in Linux. From the terminal, enter wget -i [URL TO TEXT FILE]. For Windows XP single file downloads, use wget [URL TO DOWNLOAD FILE] instead.

Example 1:

```
wget -i  
https://az412801.vo.msecnd.net/vhd/IEKitV1_Final/VirtualBox/Linux/IE8_Win7/IE8.Win7.For.LinuxVirtualMachine.sfx
```

Example 2:

```
wget  
https://az412801.vo.msecnd.net/vhd/IEKitV1_Final/VirtualBox/Linux/IE6_XP/IE6.WinXP.For.LinuxVirtualMachine.sfx
```

1. After the download of all files for a set is complete, give the SFX file execute permission by typing chmod +x filename.sfx at the terminal.
2. Execute the SFX executable from the terminal with ./filename.sfx to expand the virtual machine to the current directory.

See also:

- [Making Internet Explorer Testing Easier with new IE VMs - Rey Bango](#) 
  - [Free Official MSIE VM's for Linux and Mac | Hacker News](#) 
- 

[Answer](#)  by [mendhak](#)

Is this for personal/normal use or for testing website development?

If it's for normal browsing, you can get [winetricks](#) . Then run

```
winetricks ie6
```

or

```
winetricks ie7
```

or

```
winetricks ie8
```

And it should install a barebones, just-functioning version of IE. It won't be the full thing though. You may find that running IE in VMWare Player or VirtualBox with their seamless integration may be a better choice.

If this is for testing web development, have a look at [browsershots.org](#) which can test the website for you in different browsers and versions.

---

[Answer](#)  by [kv1dr](#)

The best option is to run IE from the VirtualBox. Some time ago Microsoft created some files to run IE 7, 8 and 9 for free from VirtualBox(no Windows license needed). Give it a try.

Quoted from [Webupd8.org](#):

Microsoft has created some customized Windows VHDs with the purpose of allowing web designers to test websites in Internet Explorer 9, 8 and 7, for free. To make it easier to set up, xdisssent has created a Mac OSX / Linux script that will download the required files, extract them, install the latest VirtualBox guest additions and so on.

Read more [here](#) .

---

**Tags:** [software-installation](#) ([Next Q](#)), [virtualbox](#) ([Next Q](#)), [virtualization](#) ([Next Q](#))

---

## **[Q: How to add “Open terminal here” to Nautilus’ context menu?](#)**

**Tags:** [software-installation](#) ([Next Q](#)), [nautilus](#) ([Next Q](#))

I am working on Ubuntu 12.04 64bit.

I want to add “Open terminal here” to Nautilus context or right-click menu but it tries to download 32bit version from Internet.

**Tags:** [software-installation](#) ([Next Q](#)), [nautilus](#) ([Next Q](#))

**User:** [sagar-nikam](#)

---

[Answer](#)  by [air-dex](#)

You have to install the

# Missing Image

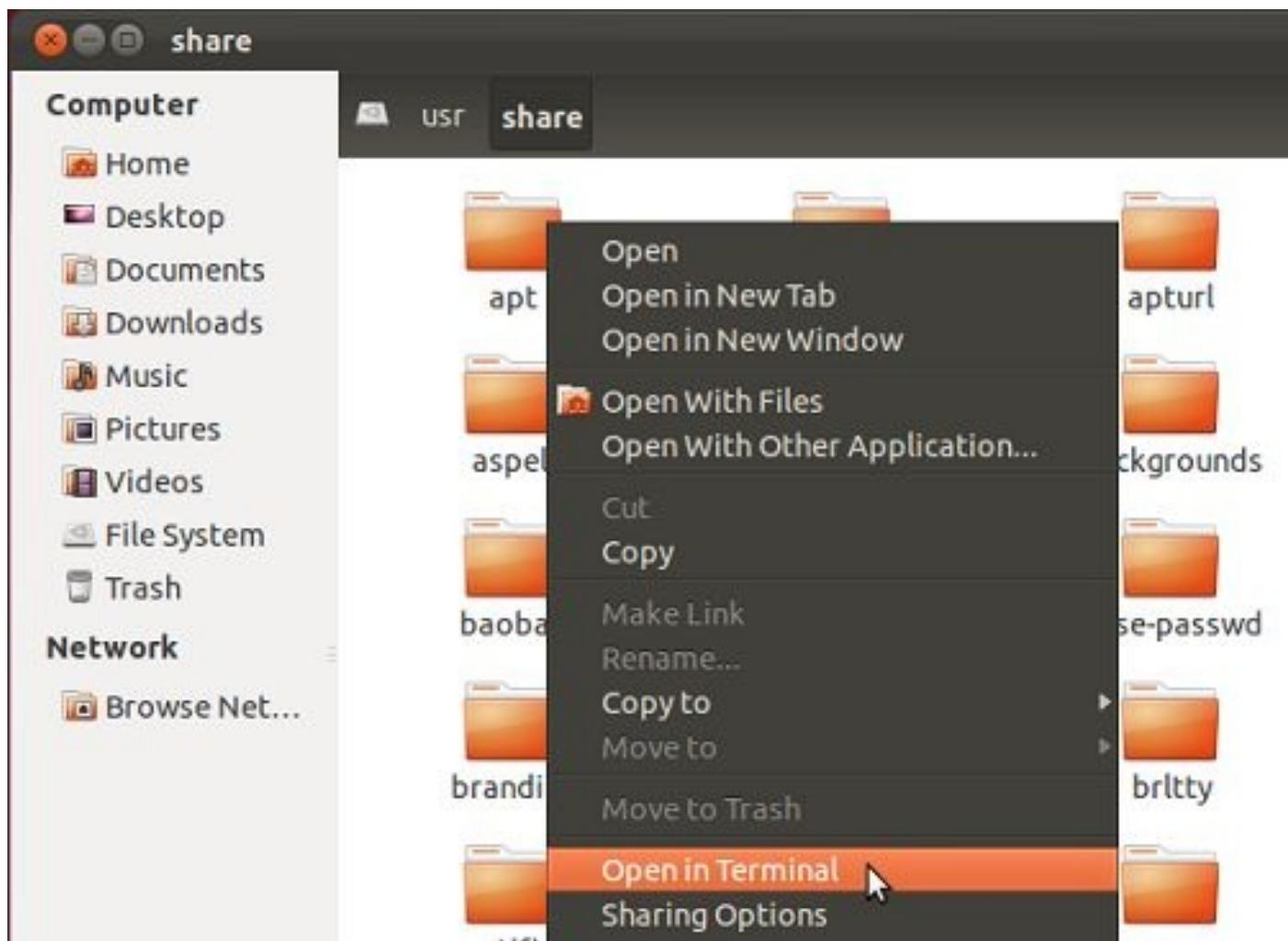
[nautilus-open-terminal](#) package :

```
sudo apt-get install nautilus-open-terminal
```

Then:

```
nautilus -q
```

in order to reset Nautilus



---

**Tags:** [software-installation](#) ([Next Q](#)), [nautilus](#) ([Next Q](#))

---

## [Q: How do I install LibreOffice 4?](#)

**Tags:** [software-installation](#) ([Next Q](#)), [libreoffice](#) ([Next Q](#))

I want to download and install [LibreOffice 4](#) . How can I do this?

**Tags:** [software-installation](#) ([Next Q](#)), [libreoffice](#) ([Next Q](#))

User: [seth](#)

---

[Answer](#) by user76204

You can use the [Libreoffice 4.2 ppa](#) from the libreoffice packaging team, which offers stable backports for Precise (12.04), Saucy (13.10), and Trusty (14.04).

**Note:** if you rely on libreoffice for work or school you may not want to risk updating, even though the backports provided are largely stable.

```
sudo add-apt-repository ppa:libreoffice/libreoffice-4-2
sudo apt-get update
sudo apt-get dist-upgrade
```

Obviously, if you don't already have libreoffice installed, you will also need to run

```
sudo apt-get install libreoffice
```

It should be noted that this ppa will only produce updates for the 4.2 series, while the [main libreoffice ppa](#) will provide updates beyond the 4.2 series, although that ppa is largely for testing and development builds.

When the 4.2 stable series becomes available, I will update this ppa.

**Update:** The 4.2 stable version has become available.

(The original 4.0 series ppa [is here at launchpad](#), if anyone has any special reason to use that series.)

For more information, see [this very recent useful article](#) on libreoffice 4, and the [getting started guide](#) at the official documentation site.

---

[Answer](#) by [seth](#)

# This method is not recommended!

While using this method will still work fine, and you will end up with the latest version of LibreOffice, LibreOffice 4.2 is now available in the Trusty repositories and the recommended method of installation is [using the software center or apt](#) .

If you want to live on the wild side, or you want the absolute latest and greatest version of LibreOffice use this answer.

If you find something out of date, please leave a comment below or go ahead and fix it yourself :)

---

Start by downloading it:

- Direct torrent link: [LibreOffice 4.3.0 torrent 64 bit](#)  or [LibreOffice 4.3.0 torrent 32 bit](#) 
- Normal installer direct link: [LibreOffice 4.3.0 normal installer 64 bit](#)  or [LibreOffice 4.3.0 normal installer 32 bit](#) 

I recommend the torrent for faster download speed and for slow connections.

---

To install LibreOffice 4 you will need to remove all previous versions. Run:

```
sudo apt-get remove --purge libreoffice-core libreoffice-common  
sudo apt-get autoremove --purge
```

*Note:* I'm not 100% sure this will remove *all* of LibreOffice. If you experience any errors later, please let me know.

---

# Extract the files:

1. cd to the Downloads directory:

```
cd Downloads
```

2. Extract the tar.gz:

For 64 bit:

```
tar -xvzf LibreOffice_4.3.0_Linux_x86-64_deb.tar.gz
```

For 32 bit:

```
tar -xvzf LibreOffice_4.3.0_Linux_x86_deb.tar.gz
```

# Install the program:

1. cd to the programs folder:

For 64 bit:

```
cd LibreOffice_4.3.0_Linux_x86-64_deb/DEBS
```

For 32 bit:

```
cd LibreOffice_4.3.0_Linux_x86_deb/DEBS
```

2. Install part one (for both 32 and 64 bit):

```
sudo dpkg -i *.deb
```

You're done! You can now remove both the directory and the tarball:

```
rm -r ~/Downloads/LibreOffice_4.3.0_Linux_x86-64_deb  
rm ~/Downloads/LibreOffice_4.3.0_Linux_x86-64_deb.tar.gz
```

Go add the [re-add the applications](#)  to your launcher!

Some Kubuntu users will need to run this command to fix how LibreOffice 4 looks in KDE:

```
sudo mv /opt/libreoffice/ure/lib/libstdc++.so.6 /opt/libreoffice/ure/lib/libstdc++.so.6.old
```

**Tags:** [software-installation](#) ([Next Q](#)), [libreoffice](#) ([Next Q](#))

## Q: How to install gcc-4.8

**Tags:** [software-installation](#) ([Next Q](#)), [gcc](#) ([Next Q](#))

I checked the gcc version on my system.

It is currently at 4.6.3. I read that gcc-4.8 is out.

I tried the following commands without success:

```
sudo apt-get install gcc (gcc is already the newest version)  
sudo apt-get install gcc-4.8 (unable to locate package)
```

Does anyone know how to install this package on 12.04?

**Tags:** [software-installation](#) ([Next Q](#)), [gcc](#) ([Next Q](#))

**User:** [mdt](#)

[Answer](#)  by [kevin-bowen](#)

**Is GCC-4.8 available for 12.04 Precise now?**

**Update:** As of 6/05/2013, there is currently a release of gcc 4.8.1 for 12.04(precise)

available at <https://launchpad.net/~ubuntu-toolchain-r/+archive/test>.

The short answer is: *gcc-4.8 is currently available for 12.04(Precise) via the toolchain PPA or by compiling the source(see below for details).*

## Release Announcement

The [announcement for the release of gcc-4.8](#) was made on March 22nd, so you probably won't be seeing this in an official repository just yet.

However, it appears that Launchpad does have a PPA available for the [toolchain test](#) builds that does include gcc-4.8, here: <https://launchpad.net/~ubuntu-toolchain-r/+archive/test>

According to the [changelog and package list](#), there are debs for i386, amd64, arm, and powerpc and were built against raring 13.04.

The latest available version of gcc, for 12.04, is 4.8.1 and is available in the toolchain PPA.

## Adding the toolchain/test PPA:

To add the PPA to your system, open a terminal(**Ctrl+Alt+t**) and run the following commands:

```
sudo apt-get install python-software-properties  
sudo add-apt-repository ppa:ubuntu-toolchain-r/test  
sudo apt-get update  
sudo apt-get install gcc-4.8  
sudo update-alternatives --install /usr/bin/gcc gcc /usr/bin/gcc-4.8 50
```

You will also be prompted to install a number of suggested packages. These packages are recommended, but optional, for the installation of gcc-4.8.

- [What are PPAs and how do I use them?](#)
- [Are PPA's safe to add to my system and what are some “red flags” to watch out for?](#)

## What C++ features are available in gcc-4.8 that are not available in gcc-4.7.2?

- According to [GNU.ORG](#), gcc-4.7, supports a number of [C++11 features](#).
- As of the gcc-4.8 release, gcc-4.7 does not support 8 out of 64 features (See [C++0x/C++11 Support in GCC](#))
- These features are:

```
Language Features  
- Rvalue references for *this  
- Generalized attributes  
- Alignment support  
- Inheriting constructors  
Concurrency  
- Bidirectional Fences  
- Memory model  
- Abandoning a process and at_quick_exit  
- Thread-local storage
```

- For a full list of changes in gcc-4.8, see the [Changelist](#)

## I need these gcc features on 12.04 Precise, now. How can I get them?

## **Building GCC-4.8 from source:**

If you need gcc-4.8 on 12.04 now, your only option is to [build it from source](#).

Please read the [GCC installation FAQ](#) prior to installation.

You can download gcc-4.8 from one of gnu.org's [mirror sites](#) or directly from their [SVN server](#).

Here is an example of steps to compile from source (see [here](#) for additional details.) Note that these may vary depending on your system and preferences.

### 1. Download the [source code](#)

- Make a build directory (`mkdir gcc-build && cd gcc-build`)
- Download the source file: `wget http://www.netgull.com/gcc/releases/gcc-4.8.0/gcc-4.8.0.tar.bz2` (adjust this command to use an appropriate [mirror site](#).)
- Unzip the file (`tar -xvjf <file name>`)

### 2. Install some additional libraries (`sudo apt-get install libgmp-dev libmpfr-dev libmpc-dev libc6-dev`)

### 3. Compile the source: `./gcc-4.8.0/configure --prefix=/app/gcc/4.8.0`

### 4. Run make (This will take some time to complete. Go make some coffee, or bake some cookies. ;-))

### 5. Install the code: `sudo make install`

Once this process has completed, run the command `gcc --version` to verify that the installation has completed successfully. You should see something similar to the following output:

```
maggotbrain@foucault:~$ gcc --version
gcc (Linaro 4.8.0) 4.8.0
Copyright (C) 2013 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
```

The bottom line: Thank all those folks who provide easy to install Ubuntu backports for you. Give them some of the cookies that you baked while running make. ;-)

---

**Tags:** [software-installation](#) ([Next Q](#)), [gcc](#) ([Next Q](#))

---

## **Q: How can I install and use powerline plugin?**

**Tags:** [software-installation](#) ([Next Q](#)), [vim](#) ([Next Q](#))

[Powerline](#) is a plug-in to display informational and beautiful statusline for vim, tmux and shell prompt for bash, zsh.

**Vim statusline:**



VISUAL → ⌘ develop > ./setup.py  
REPLACE → ⌘ develop > ./setup.py

unix < utf-8 < python 2% 1:1  
unix < utf-8 < python 2% 1:1

How can I install and setup Powerline for different applications and shells in Ubuntu?

**Tags:** [software-installation](#) ([Next Q](#)), [vim](#) ([Next Q](#))

User: [basharat-sialvi](#)

Answer  by basharat-sialvi

# Plugin Installation:

Install python-pip and git: Open terminal by hitting **Ctrl+Alt+T** and run:

```
sudo apt-get install python-pip git
```

- **Per user:**

In terminal run:

```
pip install --user git+git://github.com/Lokaltog/powerline
```

Add `~/.local/bin` to `$PATH` by modifying `~/.profile` with your favourite editor:

```
gksudo gedit ~/.profile
```

and adding following lines at the end of it:

```
if [ -d "$HOME/.local/bin" ]; then  
    PATH="$HOME/.local/bin:$PATH"  
fi
```

- **System wide:**

In terminal run:

```
su -c 'pip install git+git://github.com/Lokaltog/powerline'
```

# Font Installation:

Powerline provides two ways of installing the required fonts. If you're using one of following terminal: Gnome Terminal, Konsole, lxterminal, st, Xfce Terminal, Terminator, Guake, Yakuake then you should use “*Fontconfig*” method.

- **Fontconfig:** (recommended)

- **Per User:**

Run the following commands in terminal:

```
wget https://github.com/Lokaltog/powerline/raw/develop/font/PowerlineSymbols.otf
https://github.com/Lokaltog/powerline/raw/develop/font/10-powerline-symbols.conf
mkdir -p ~/.fonts/ && mv PowerlineSymbols.otf ~/.fonts/
fc-cache -vf ~/.fonts
mkdir -p ~/.config/fontconfig/conf.d/ && mv 10-powerline-symbols.conf
~/.config/fontconfig/conf.d/
```

- **System wide:**

Run the following commands in terminal:

```
wget https://github.com/Lokaltog/powerline/raw/develop/font/PowerlineSymbols.otf
https://github.com/Lokaltog/powerline/raw/develop/font/10-powerline-symbols.conf
sudo mv PowerlineSymbols.otf /usr/share/fonts/
sudo fc-cache -vf
sudo mv 10-powerline-symbols.conf /etc/fonts/conf.d/
```

- **Patched font:**

Use this method only if “*Fontconfig*” method doesn’t work for you or you’re using a terminal other than mentioned above.

1. Download the font of your choice from [powerline-fonts](#).
2. Move your patched font to `~/.fonts/` for per user installation or `/usr/share/fonts` for system wide installation.
3. Run `fc-cache -vf ~/.fonts` to update your font cache, `sudo fc-cache -vf` to do it system wide.

To use patched font in Gvim see this [answer](#) and to change the font of your respective terminal check this question: [How to change the font of various terminal emulators?](#). You may have to reboot your system after font installation for changes to take effect.

# Usage: (for per user installation)

- **Vim statusline:**

Add following to your `~/.vimrc` or `/etc/vim/vimrc`:

```
set rtp+=$HOME/.local/lib/python2.7/site-packages/powerline/bindings/vim/
" Always show statusline
set laststatus=2

" Use 256 colours (Use this setting only if your terminal supports 256 colours)
set t_Co=256
```

- **Bash prompt:**

Add the following line to your `~/.bashrc` or `/etc/bash.bashrc`:

```
if [ -f ~/.local/lib/python2.7/site-packages/powerline/bindings/bash/powerline.sh ]; then
    source ~/.local/lib/python2.7/site-packages/powerline/bindings/bash/powerline.sh
fi
```

- **Zsh prompt:**

Add the following line to your `~/.zshrc` or `/etc/zsh/zshrc`:

```
if [[ -r ~/.local/lib/python2.7/site-packages/powerline/bindings/zsh/powerline.zsh ]]; then
    source ~/.local/lib/python2.7/site-packages/powerline/bindings/zsh/powerline.zsh
fi
```

- **Tmux statusline:**

Add the following line to your `~/.tmux.conf`:

```
source ~/.local/lib/python2.7/site-packages/powerline/bindings/tmux/powerline.conf
set-option -g default-terminal "screen-256color"
```

If your terminal supports 256 colours, set `TERM` environment variable to `xterm-256color` by modifying `~/.bashrc` or `/etc/bash.bashrc` and adding following line:

```
export TERM=xterm-256color
```

To check if your terminal supports 256 colours check the documentation of your terminal or google it. Most popular terminals support 256 colours.

# Usage: (for system wide installation)

- **Vim statusline:**

Add following to your `~/.vimrc` or `/etc/vim/vimrc`:

```
set rtp+=/usr/local/lib/python2.7/dist-packages/powerline/bindings/vim/
" Always show statusline
set laststatus=2

" Use 256 colours (Use this setting only if your terminal supports 256 colours)
set t_Co=256
```

- **Bash prompt:**

Add the following line to your `~/.bashrc` or `/etc/bash.bashrc`:

```
if [ -f /usr/local/lib/python2.7/dist-packages/powerline/bindings/bash/powerline.sh ]; then
    source /usr/local/lib/python2.7/dist-packages/powerline/bindings/bash/powerline.sh
fi
```

- **Zsh prompt:**

Add the following line to your `~/.zshrc` or `/etc/zsh/zshrc`:

```
if [[ -r /usr/local/lib/python2.7/dist-packages/powerline/bindings/zsh/powerline.zsh ]]; then
    source /usr/local/lib/python2.7/dist-packages/powerline/bindings/zsh/powerline.zsh
fi
```

- **Tmux statusline:**

Add the following line to your `~/.tmux.conf`:

```
source /usr/local/lib/python2.7/dist-packages/powerline/bindings/tmux/powerline.conf
set-option -g default-terminal "screen-256color"
```

If your terminal supports 256 colours, Set `TERM` environment variable to `xterm-256color` by modifying `~/.bashrc` or `/etc/bash.bashrc` and adding following line:

```
export TERM=xterm-256color
```

To check if your terminal supports 256 colours check the documentation of your terminal or google it. Most popular terminals support 256 colours.

# Configuration:

For detailed information on configuring Powerline: [Configuration](#).

# Uninstall:

To uninstall Powerline run one of following commands in terminal:

- To uninstall per user installation:

```
pip uninstall powerline
```

- To uninstall system wide installation:

```
su -c 'pip uninstall powerline'
```

Source: [Powerline beta documentation](#) 

# Alternatives:

If you're installing Powerline just for Vim you should try [vim-airline](#) which is more customizable and lightweight.

---

**Tags:** [software-installation](#) ([Next Q](#)), [vim](#) ([Next Q](#))

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## [Q: How to install Wine](#)

**Tags:** [software-installation](#) ([Next Q](#)), [wine](#) ([Next Q](#))

I am looking for a step by step instruction to guide me in the ways of installing, configuring and debugging many of the issues new users have when dealing with Wine in Ubuntu.

What is the recommended way of installing Wine, some of the issues that it has and how to solve them.

If I have a specific problem with an App in Wine, how do I go about solving it. What are the recommended steps to ensure that I can fix a problem related to an app I wish to use.

**Tags:** [software-installation](#) ([Next Q](#)), [wine](#) ([Next Q](#))

**User:** [luis-alvarado](#)

---

[Answer](#) by [luis-alvarado](#)

Please see the [Wine Application Database](#) before reading this guide for specific app problems since it covers all apps currently tested in Wine, components you need to use and most problems and solutions for each app. This should be the first thing you do when dealing with any Wine specific app issue.

### Main Content

1. Differences between the Wine version in Software Center and the PPA
2. How can I install the Wine version from Software Center / PPA
3. How to deal with 2 or more versions of Wine installed (PlayOnLinux)
4. How to know which components an application needs
5. How to install additional components, DLLS and Libraries to Wine
6. Troubleshooting a Wine App
7. How do I open multiple Wine apps without them using the same Window (Overlapping)
8. Does having Ubuntu 64 bit influence Wine

9. Benefits of Using PlayOnLinux (PoL) / CodeWeavers CrossOver / DosBox
10. What are some special parameters and tips I can use with Wine
11. Stability, Performance and App Support Wine offers to end users

**Steam for Linux please see: [How can I install Steam?](#)** 

# **1. Differences between the Wine version in Software Center and the PPA**

The Wine version available in the Software Center is good, but over time it gets old and with less updates applied to it. Even though the Development version is considered “unstable”, since around 1.3.x it has been more stable, has offered better performance and has solved many problems than the current “stable”.

In comparison, the stable version receives an update 3 months after release. The development version receives an update every 2 weeks which is uploaded to the PPA in a few days after release.

The decision to stick with the stable version (Even number version: 1.0, 1.2, 1.4...) or with the unstable versions (Odd number version: 1.1, 1.3, 1.5...) is up to the user, but they should know the difference between them and why it would be better, not just for compatibility but also performance to stay with the Development version. You not only get the latest with any new fixes it offers, but also become a tester for the latest and can help in the development cycle. Additionally you carry a version that has solved more bugs than the current stable version. Keep that in mind when deciding which version to use.

## 2. How can I install the Wine version from Software Center / PPA

Ubuntu by default comes with Wine in its repositories. To do it via Software Center, simply open Software Center and type in the search box ‘wine’. This should show you the Wine package and you can click on it to install. After that you need to open at least once the ‘winecfg’ for the wine environment to create itself.

To do it via PPA (Recommended) in the terminal type the following:

```
sudo add-apt-repository ppa:ubuntu-wine/ppa -y && sudo apt-get update && sudo apt-get install wine
```

That should leave you with the latest version. When the development cycle for 1.7 comes out for example, you would change `wine` to `wine1.7`. Installing the PPA will also install `winetricks`.

### **3. How to deal with 2 or more versions of Wine installed**

You can have more than 1 version of Wine installed (with some tricks) but it is generally NOT RECOMMENDED. There are some special cases where a piece of software might only work on an specific Wine version until developers solve the problem but it is unwise to have 2 or more versions of wine that can conflict with one another, specially if the user starts confusing each one.

For such a scenario I would recommend to deal with this multiple instances of Wine via PlayOnLinux (PoL), which can create an individual container for each version. To install PoL simply go to their site and install the [Ubuntu package](#) . Then follow their step by step configuration which offers several advantages over traditional Wine installations.

This also applies to updates. When you have a previous Wine version like Wine 1.5 and want Wine 1.7, I recommend removing the previous package and the proceeding to install the newer one. A simple `sudo apt-get remove wine1.5` should do that and then proceed with installing the newer development version.

## 4. How to know which components an application needs

To find out what components an app needs, look in the [Wine Application Database](#). It lists if the application is usable, what components it needs and how to install them.

## 5. How to install additional components, DLLS and Libraries to Wine

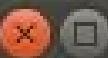
To have a working and enhanced Wine environment for your games and apps, I suggest you use `winetricks` to install additional components which will offer better compatibility with games for example. `winetricks` comes installed by default when you install the Wine PPA. So, to have a better working system do the following:

In this example I will use `winetricks` to prepare for HL/HL2 (Non steam versions, since the Steam versions already came out. For this versions I would suggest: [How can I install Steam?](#)). Know that [Half-Life](#) and HL2 are natively supported in Ubuntu). To play HL/HL2 you need the Wine PPA as mentioned above. After installing and opening `winecfg` at least once continue with `winetricks`. you can open `winetricks` in 2 ways, the terminal, in which you would type `winetricks` (In case the `winetricks` window does not open, then type `winetricks --gui`) or in the Dash by typing `winetricks`. After it opens follow this steps:

Select **Select the default wineprefix**



Select **Install a windows DLL or component**



# Winetricks - current prefix is "/home/cyrex/.wine"

What would you like to do to this wineprefix?

- Install a Windows DLL or component
- Install a font
- Change settings

Install all that I have marked (and any additional you need). This covers many apps:

| <input type="checkbox"/>            | cryptsz     | MS cryptsz   | Microsoft | 2003 | download |
|-------------------------------------|-------------|--|-----------|------|----------|
| <input checked="" type="checkbox"/> | d3dx10      | MS d3dx10_?.dll from DirectX user redistributable          | Microsoft | 2010 | download |
| <input checked="" type="checkbox"/> | d3dx11_42   | MS d3dx11_42.dll   | Microsoft | 2010 | download |
| <input checked="" type="checkbox"/> | d3dx11_43   | MS d3dx11_43.dll   | Microsoft | 2010 | download |
| <input checked="" type="checkbox"/> | d3dx9       | MS d3dx9_?.dll from DirectX 9 redistributable              | Microsoft | 2010 | download |
| <input checked="" type="checkbox"/> | d3dx9_26    | MS d3dx9_26.dll  | Microsoft | 2010 | download |
| <input checked="" type="checkbox"/> | d3dx9_28    | MS d3dx9_28.dll  | Microsoft | 2010 | download |
| <input checked="" type="checkbox"/> | d3dx9_31    | MS d3dx9_31.dll  | Microsoft | 2010 | download |
| <input checked="" type="checkbox"/> | d3dx9_35    | MS d3dx9_35.dll  | Microsoft | 2010 | download |
| <input checked="" type="checkbox"/> | d3dx9_36    | MS d3dx9_36.dll  | Microsoft | 2010 | download |
| <input checked="" type="checkbox"/> | d3dx9_39    | MS d3dx9_39.dll  | Microsoft | 2010 | download |
| <input checked="" type="checkbox"/> | d3dx9_42    | MS d3dx9_42.dll  | Microsoft | 2010 | download |
| <input checked="" type="checkbox"/> | d3dx9_43    | MS d3dx9_43.dll  | Microsoft | 2010 | download |
| <input type="checkbox"/>            | d3dxof      | MS d3dxof.dll from DirectX user redistributable            | Microsoft | 2010 | download |
| <input type="checkbox"/>            | devenum     | MS devenum.dll from DirectX user redistributable           | Microsoft | 2010 | download |
| <input type="checkbox"/>            | dinput      | MS dinput.dll; breaks mouse, use only on Rayman 2 etc.     | Microsoft | 2010 | download |
| <input type="checkbox"/>            | dinput8     | MS DirectInput 8 from DirectX user redistributable         | Microsoft | 2010 | download |
| <input type="checkbox"/>            | dirac       | The Dirac directshow filter v1.0.2                         | Dirac     | 2009 | download |
| <input type="checkbox"/>            | directmusic | MS DirectMusic from DirectX user redistributable           | Microsoft | 2010 | download |
| <input type="checkbox"/>            | directplay  | MS DirectPlay from DirectX user redistributable            | Microsoft | 2010 | download |
| <input checked="" type="checkbox"/> | directx9    | MS DirectX 9 (Usually overkill. Try d3dx9_36 first)        | Microsoft | 2010 | download |
| <input type="checkbox"/>            | vyy         | OpenAL libraries v.0.9.4.1142, SPCEA, CINEOLA, VYDVIS, VYC |           |      |          |
| <input type="checkbox"/>            | pdh         | MS pdh.dll (Performance Data Helper)                       |           |      |          |
| <input checked="" type="checkbox"/> | physx       | PhysX  |           |      |          |
| <input type="checkbox"/>            | pngfilt     | pngfilt.dll (from ie5)                                     |           |      |          |
| <input type="checkbox"/>            | quartz      | quartz.dll (from Directx 9 user redistributable)           |           |      |          |
| <input type="checkbox"/>            | vcrun2005   | Visual C++ 2005 libraries (mfc80,msvcp80,msvcr80)          |           |      |          |
| <input checked="" type="checkbox"/> | vcrun2008   | Visual C++ 2008 libraries (mfc90,msvcp90,msvcr90)          |           |      |          |
| <input checked="" type="checkbox"/> | vcrun2010   | Visual C++ 2010 libraries (mfc100,msvcp100,msvcr100)       |           |      |          |
| <input type="checkbox"/>            | vcrun6      | Visual C++ 6 sp4 libraries (mfc42,msvcp60,msvcirt)         |           |      |          |

|                                     |              |   |
|-------------------------------------|--------------|---|
| <input type="checkbox"/>            | wmp10        | Windows Media Player 10                             |
| <input checked="" type="checkbox"/> | wmp9         | Windows Media Player 9                              |
| <input type="checkbox"/>            | wsh56js      | MS Windows scripting 5.6, jscript only, no cscript  |
| <input type="checkbox"/>            | wsh56vb      | MS Windows scripting 5.6, vbscript only, no cscript |
| <input type="checkbox"/>            | wsh57        | MS Windows Scripting Host 5.7                       |
| <input checked="" type="checkbox"/> | xact         | MS XACT Engine                                      |
| <input checked="" type="checkbox"/> | xact_jun2010 | MS XACT Engine                                      |
| <input checked="" type="checkbox"/> | xinput       | Microsoft XInput (Xbox controller support)          |
| <input type="checkbox"/>            | xmllite      | MS xmllite dll                                      |
| <input checked="" type="checkbox"/> | xna31        | MS XNA Framework Redistributable 3.1                |
| <input type="checkbox"/>            | xna40        | MS XNA Framework Redistributable 4.0                |
| <input type="checkbox"/>            | xvid         | Xvid Video Codec                                    |

Now right click the installer for HL/HL2 and select **Open with Wine**. Both games should work perfectly. This applies to apps in general and depending on the app you will need to install more or less components.

Also know that you can install each component in terminal by simply adding the name of the component after the `winetricks` command, for example:

`winetricks vcrun2010` - Will install vcrun2010 using `winetricks`

`winetricks xna40` - Will install xna40

# 6. Troubleshooting a Wine App

Sometimes, when running an App one or several of the following can actions can happen:

- Frozen App
- Wine opens a Blue window for a moment and then closes it
- Nothing appears to happen
- Inside the Wine window everything is Black in the start or at some point
- DLL, Video card or Component not recognized

For most of this problems there are solutions. Here are the recommended steps for you to start troubleshooting your way into a Wine app:

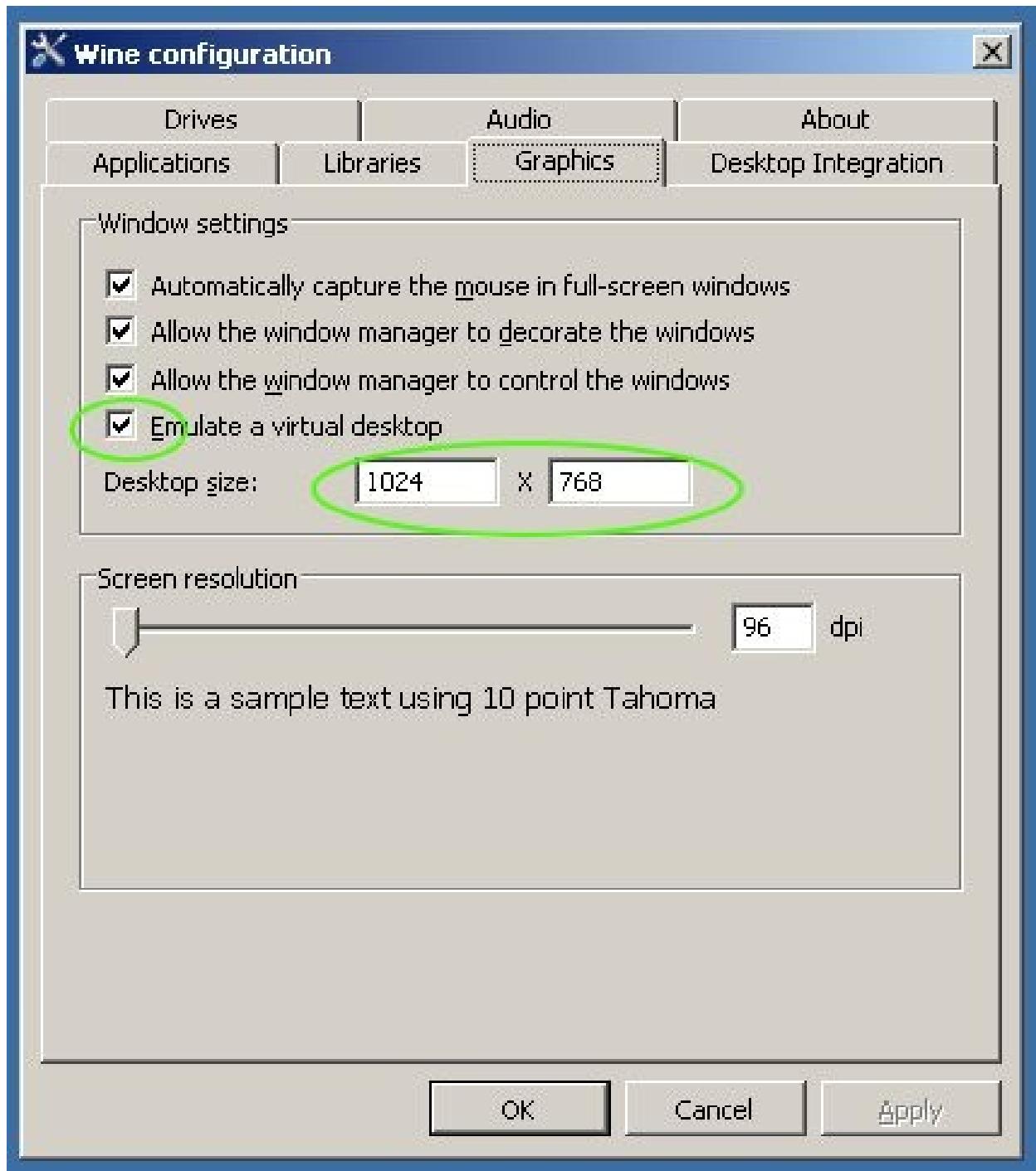
1. Always visit [the Wine App Site](#) to see what other testers have done to make the App work. For example here is me testing [Dead Island: Riptide](#) which I gave it a Bronze since after the selecting the character the whole game went to a Black screen. What I did to test out what was happening was to go to the terminal and run the game from there. In the terminal some of the errors suggested I was missing a vital piece for the game to work. After reading the error output and doing what it suggested (Replacing a corrupted DLL) I could install a component the game needed and the game [worked perfectly](#).
2. Knowing **what the game needs** is crucial to getting the game working correctly. Setting the winecfg options and OS environment is only a small part. This is only creating the environment for the app. You need to add other functionality like DirectX, XNA, .NET Framework and more that the app might need in order to work. These are key components for some apps. Without them, even if some apps work correctly, others will not. Making sure you have all of this components gives you a higher chance of complying with what an app needs.
3. As you can see from my [Dead Island](#) test I added several winetricks packages and also installed 3 packages the game comes with (DirectX, Windows Media Format and Microsoft Visual C++ 2010). With this I managed to guarantee that the game would start and be playable.
4. Some apps are only created for certain Windows versions as seen with [Dungeon Keeper](#). To specify a particular Windows Version for a particular app you can open winecfg navigate to **Applications** and select **Add Application**, then search for the applications executable file and click on **Open**. Now select the application from the list and then change the Windows Version for it. This way, only this application will have a specific version of Windows assigned to it, instead of globally changing the Windows version for all apps.
5. Changing the Windows version globally can affect apps that were installed with a different Windows version. For example, Installing [Terraria](#) in a Windows XP environment and then changing it after playing to Windows 7 will give you one of two errors, one, not finding the saved games and two not running the app.

6. Running an app to diagnose what the problem can be done through the terminal which is the best way by far to know what the app is doing or needing. The app can tell you information like:

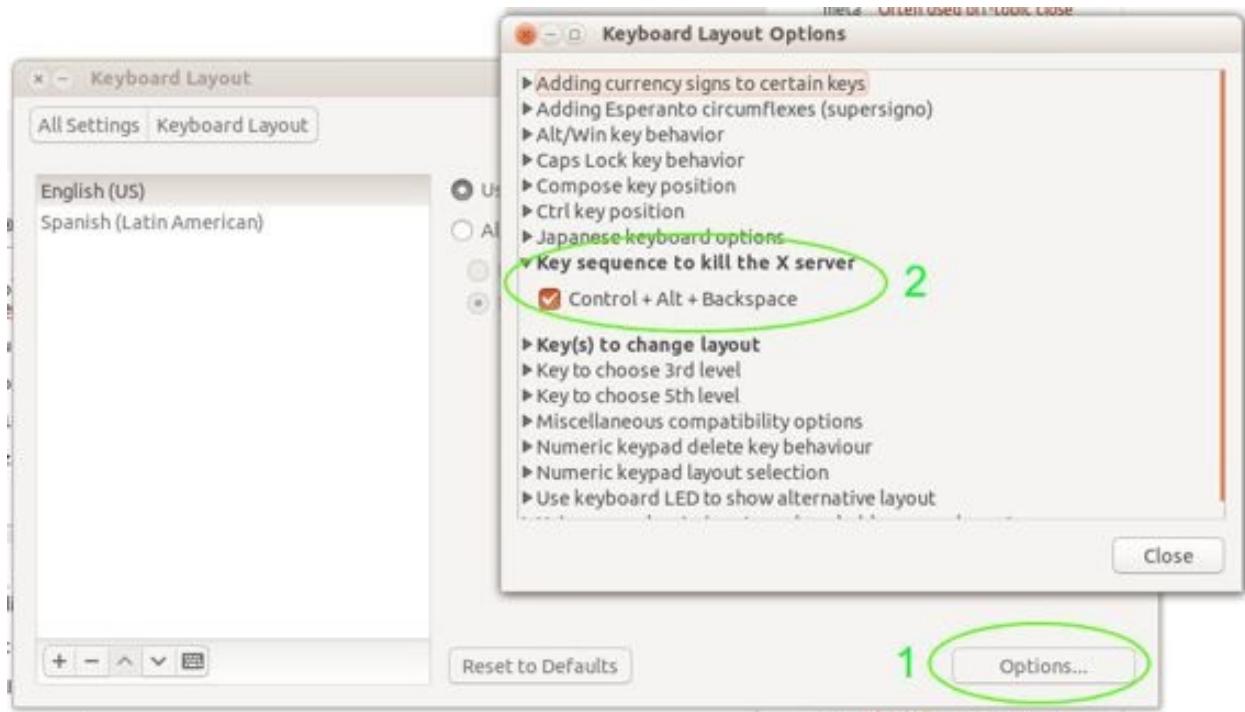
- What missing DLL it needs to run (mscore.dll, steam\_api.dll)
- What missing component it needs to run (XNA, DirectX, .NET...)
- If the problem is you are using a 64 Bit environment instead of a 32 Bit
- If you need to add a parameter for the app to run

For missing DLLs I suggest using [dll-files](#) to download specific DLLs missing that are needed for the APP. Normally you can paste this DLLs inside the game folder or in the Windows/System32 folder (Or both) and that should solve the problem. For missing components use [winetricks](#).

7. When troubleshooting an App, always run the app in an emulated Desktop Window. Open winecfg go to **Graphics** and enable **Emulate a Virtual Desktop**. Then set the resolution for it. This way, if the app freezes, hijacks the keyboard and/or mouse focus, at least you have a way to eliminate the app instead of having it fullscreen where you have few choices:



8. For freezing scenarios of an app at fullscreen I suggest activating the “Kill X” feature that is found in the Keyboard Layout Window which can save you several seconds of time when trying to get out of a frozen Wine app:



9. Another technique of getting out of frozen or not responding Wine apps is by pressing **CTRL+ALT+F1**, login in and typing `wineserver -k`. For this cases I typically first try to press **CTRL+ALT+T** to make the terminal open and I can do the `wineserver -k` from there. This will kill the running Wine process and give you the freedom to troubleshoot from another angle.
10. Remember that if an app needs a minimum or recommended hardware requirement in Windows, it will also need the same on Linux. If the app needs 512 MB of RAM and a 2.0 Ghz CPU, it will need the same on Linux using Wine.
11. Sometimes you will come across an app in an ISO or any other Image format that you can not manage to open or install. Ubuntu comes with several tools to open this files but the best one I have tried so far is CDEMU which covers several types of images that bring Multi-Sector or Protected format. This is the closest you will get to something similar to DAEMON Tools. Cases like The Sims 3, Simcity 2000 and others can only be opened and installed using this app. More info in [Apps capable of mounting/unmounting CD/DVD Images with multi-sector or protected format](#)
12. For cases where an specific app is not running, showing graphical glitches, black screen or not running with full graphics I actually recommend reading one of the following links that applies to the end user for video support:

**Nvidia Users** - [Installing Nvidia Drivers](#)

**Hybrid** - [Is a NVIDIA GeForce with Optimus Technology supported by Ubuntu?](#)

**Ati** - [What is the correct way to install proprietary ATI Catalyst Video Drivers \(fglrx\) directly from AMD?](#)

Apart from checking the above, if you have the correct drivers I would also add that you need to check if your video card has OpenGL support. For this I would

first install mesa-utils if not yet installed:

```
sudo apt-get install mesa-utils
```

to test for OpenGL support. Simply run a check to see if you have OpenGL support:

```
glxinfo|grep 'direct rendering'
```

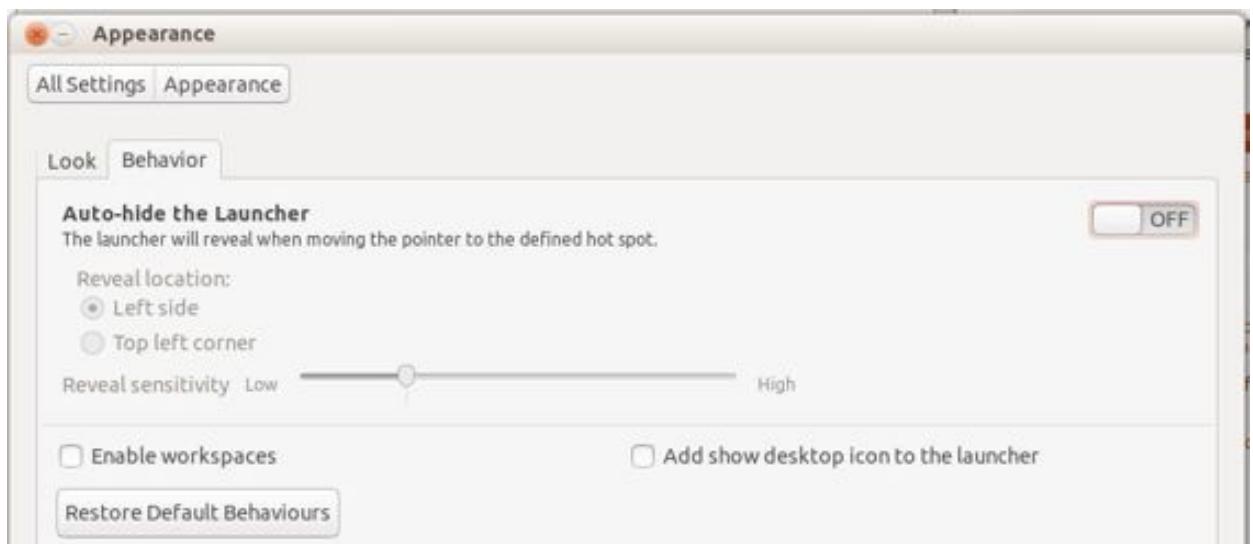
which should say **Yes** if you do have support. Another alternative would be:

```
/usr/lib/nux/unity_support_test -p.
```

Lastly, you can run `glxgears` to give you an idea of how your video card renders and its FPS for the render. Another very important point is to run the application from the terminal as in `wine AppName.exe`, this way it will show what the problem is.

13. If the Unity Launcher is not hiding itself when running a Wine app or is moving the app to the right you can do one of 2 things:

- Hold the `ALT` key and click and drag the Wine to the Left
- In the appearance option select “Auto-Hide The Launcher” and set the sensitivity to a level you like. This way the launcher will hide when the mouse leaves it’s area.



14. Shader Model 3.0 is not recognized in Wine (Including Steam games)

There are games that require Shader Models and output an error similar to **Required OpenGL extension GL\_EXT\_texture\_compression\_s3tc**. To fix this simply type the following in the terminal:

```
sudo apt-get install libtxc-dxtn-s2tc0
```

Wine has come a LONG way from the days where newer games could not be played. It has gotten to a point where playing in Ubuntu is effortless. Wine has even some support for SM4.0 and DirectX 10/11 on Wine 1.6. If the problem persists it means that either your video card does not support this or you are missing the correct libraries.

Another reason that Wine might not detect Shader Model is because it might be set to **Disabled** in the Winetricks. Open the Dash and type `winetricks`. Select your wineprefix then **Change Settings**. Then look for the `glsl=enabled` option and select it. This should solve the Shader Model issue. Cases like the game Limbo are solved this way.

## 7. How do I open multiple Wine apps without them using the same Window (Overlapping)

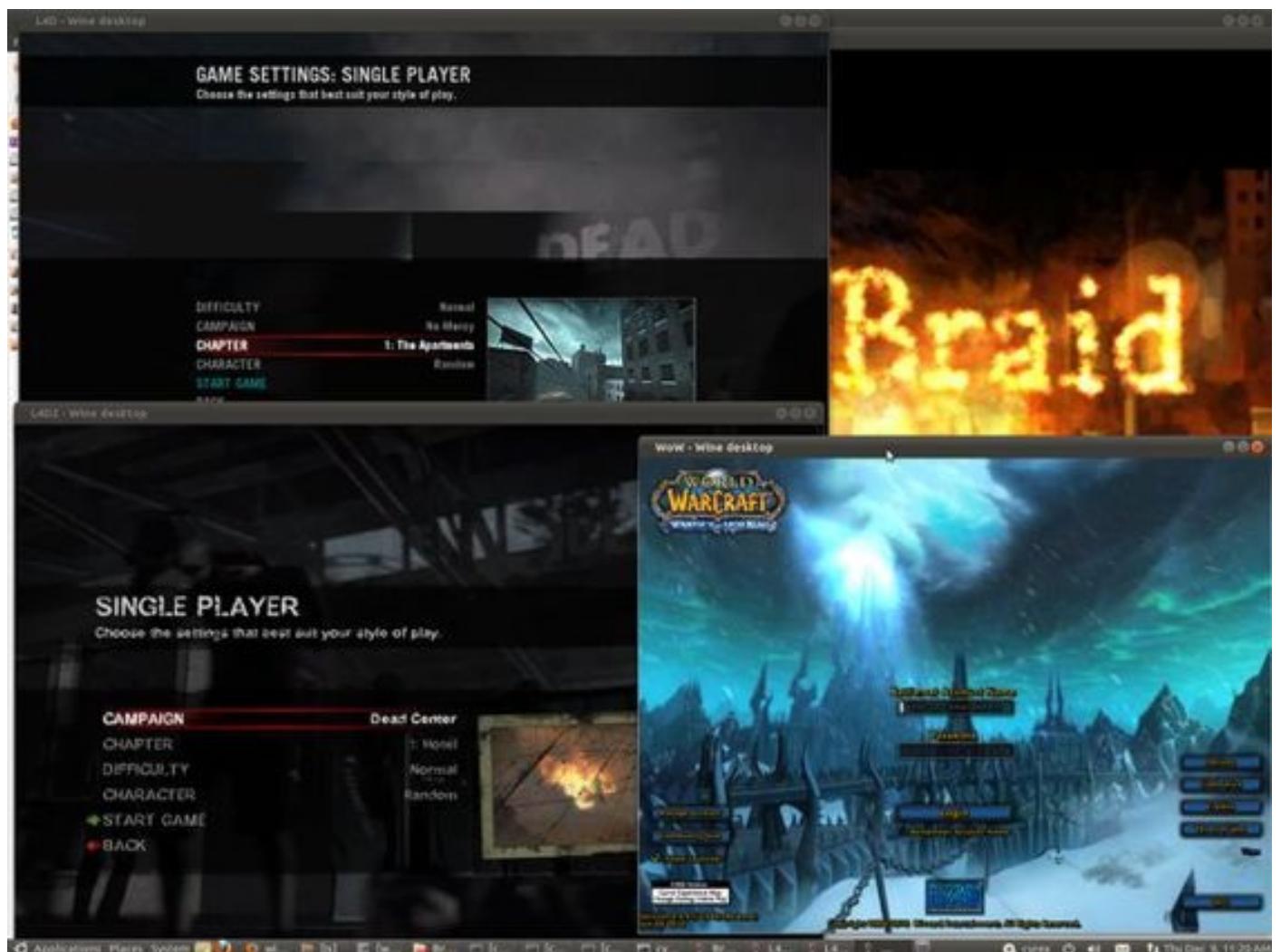
You can setup multiple Wine windows by adjusting some Wine parameters before starting each individual Wine program. The fastest way is to open the terminal where the executable of the app you want to run exists. Let us assume it is the **Wow.exe** app. Then simply type the following:

```
wine explorer /desktop=WOW,1024x768 "Wow.exe" -opengl -console
```

This would open the Wow.exe executable with a Window titled “WOW”, a resolution of 1024x768 for that specific Window and it would apply the parameters -opengl and -console to the Wow executable. Now assuming you have the game installed somewhere else, you would the following change:

```
wine explorer /desktop=WOW,1024x768 "/media/cyrex/fun/wow/Wow.exe" -opengl -console
```

This would execute the Wow.exe assuming it resides in the folder wow inside a partition called fun in your /media/USER folder. The output should be similar to this when running for example 4 apps:

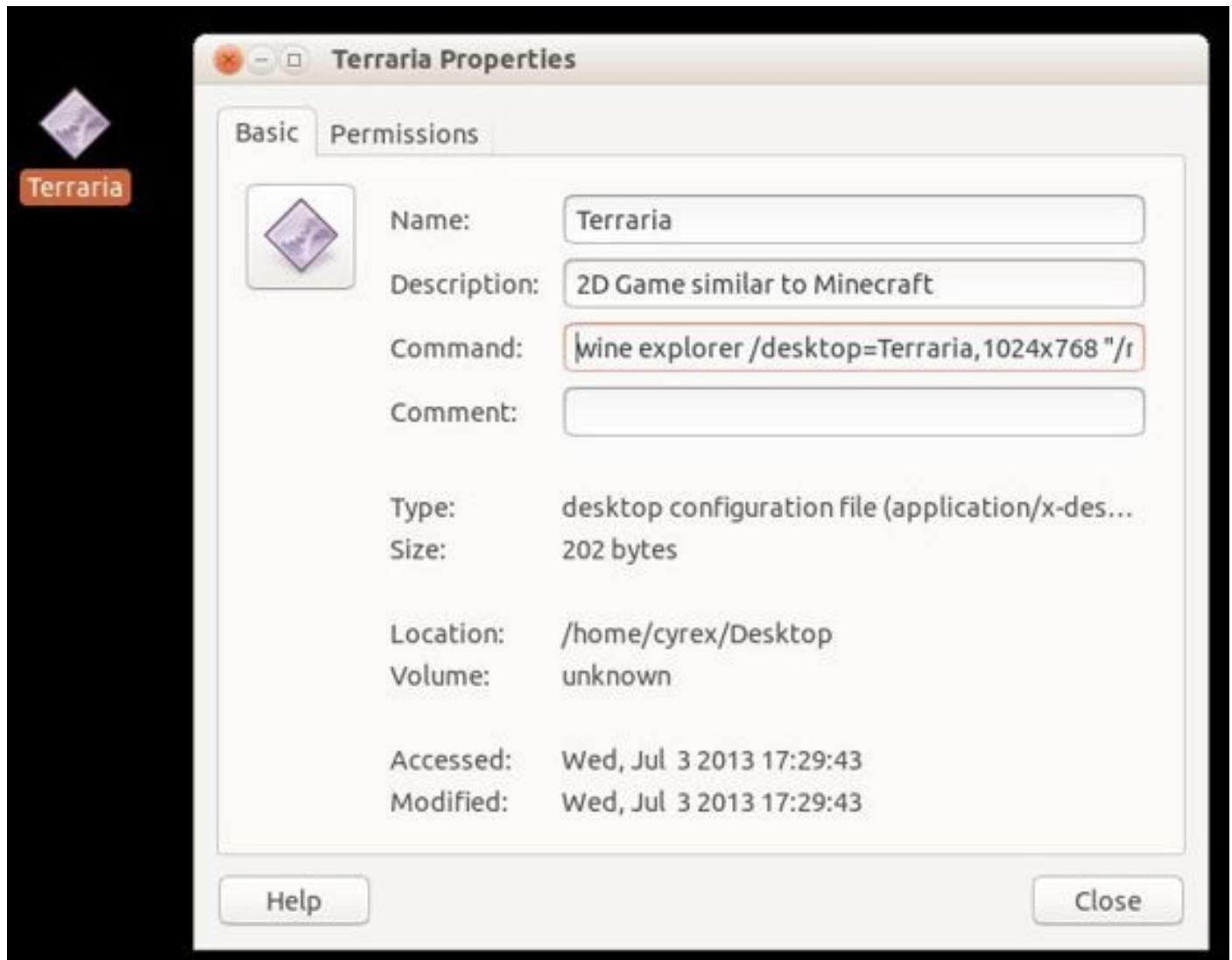


Now this is all great but, what if you wanted to execute the game every time but you do

not want to type all of that or open the terminal at all. Well there is a more easier way to accomplish this. The idea is to create a Desktop shortcut. Simply right click on the Desktop to open the Context Menu and select **New Document** —> **Empty Document**. This should create an “Untitled Document” file on your desktop. Now open the file and paste in it the following:

```
[Desktop Entry]
Type=Application
```

Now save it and rename the file to the application you want to open but at the end add “.desktop”. It will turn into an “Executable Windows Icon”. Now right click the Icon again and go to **Properties** —> Permissions —> Activate **Allow executing file as program**. Now go to the **Basic** Tab and insert the information you need to execute that wine app. The end result should be something like this:



## 8. Does having Ubuntu 64 bit influence Wine

Yes, having Ubuntu 64 Bit will also set Wine as 64 bit. This will create several problems for many Windows apps that only work on 32 Bit. To solve this you need to do the following after having successfully installed the PPA version as I mentioned above. Immediately after installing the PPA wine package and before opening `winecfg` open the terminal (Make sure you are at your home folder by typing `cd ~`) and type the following:

```
rm -fr ~/.wine
export WINEARCH=win32
export WINEPREFIX="/home/USER/.wine"
winecfg
```

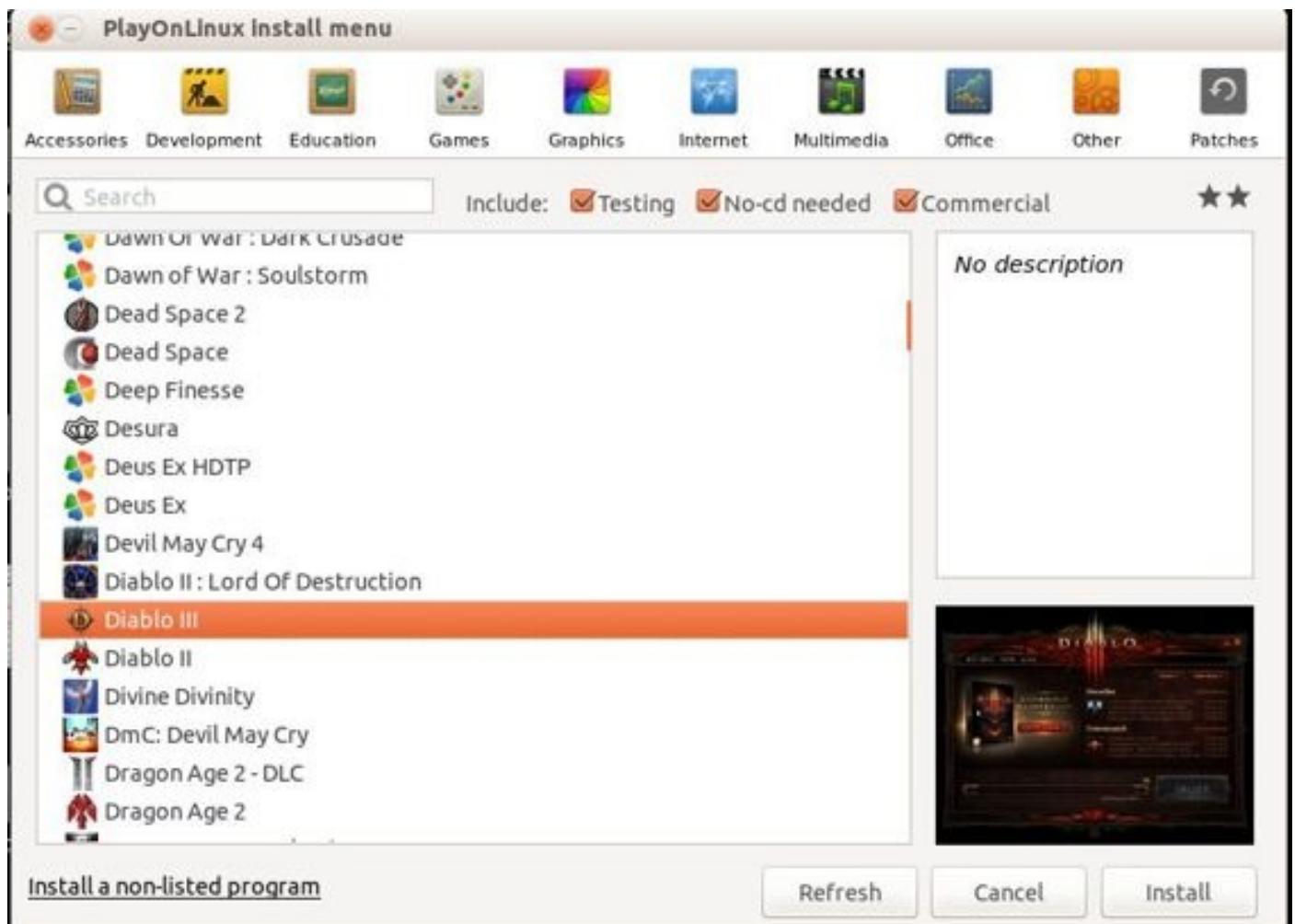
Change **USER** with your user account. For example in My case, that line would read  
`export WINEPREFIX="/home/cyrex/.wine"`

With this method you have changed the Wine architecture to 32 bit and on the moment you open Winecfg, it will configure all the Windows versions available to 32 Bit.

# 9. Benefits of Using PLayOnLinux (PoL) / CodeWeavers CrossOver / DosBox

## PlayOnLinux (PoL)

Although you can actually install and configure everything you need with Wine alone and it's complementing apps (winetricks, regedit, explorer) using PoL can save you some trouble and time when installing an application. With PoL you can find a list of apps that you can select and install in its database:

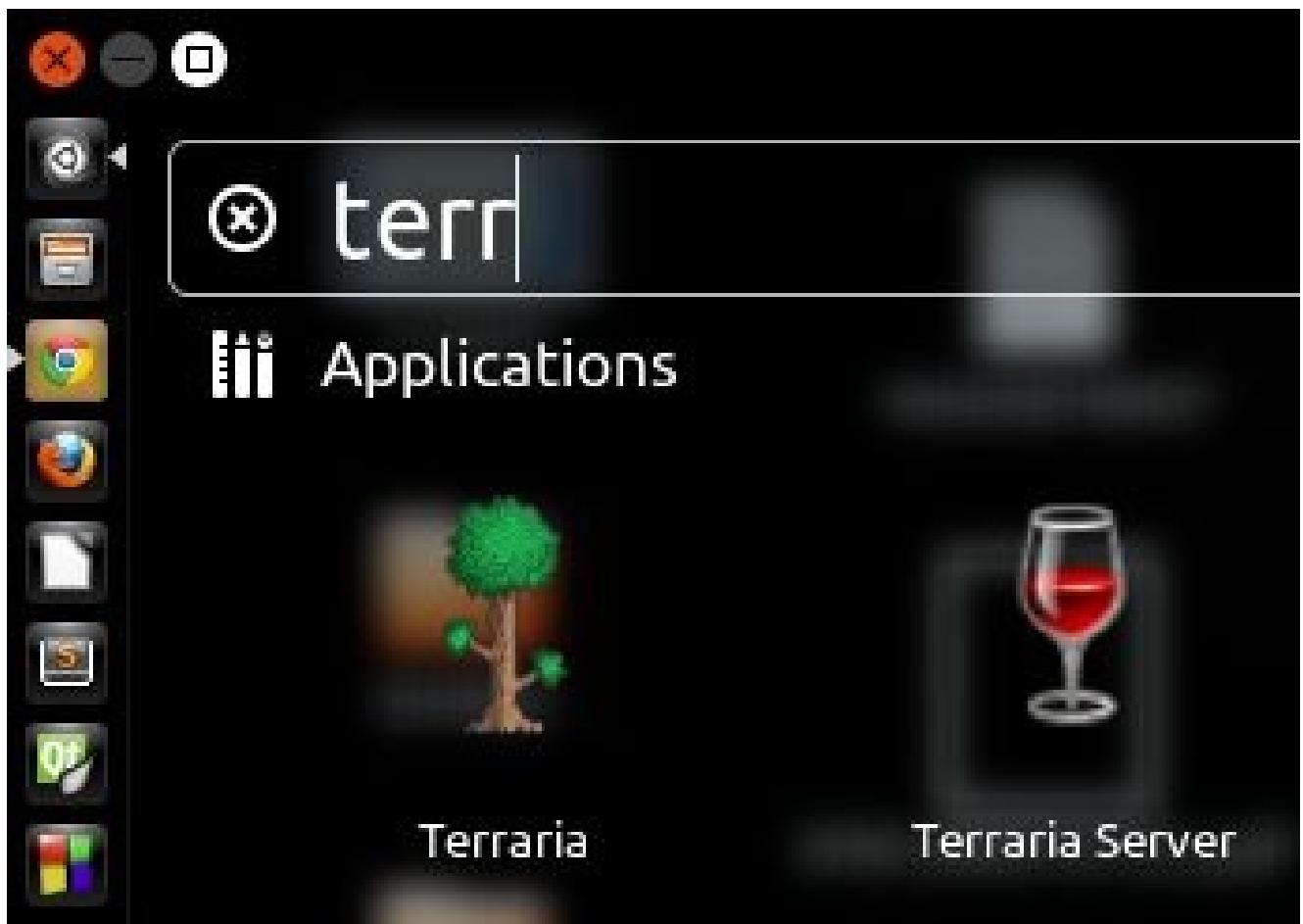


and by simply selecting to install you achieve the following benefits:

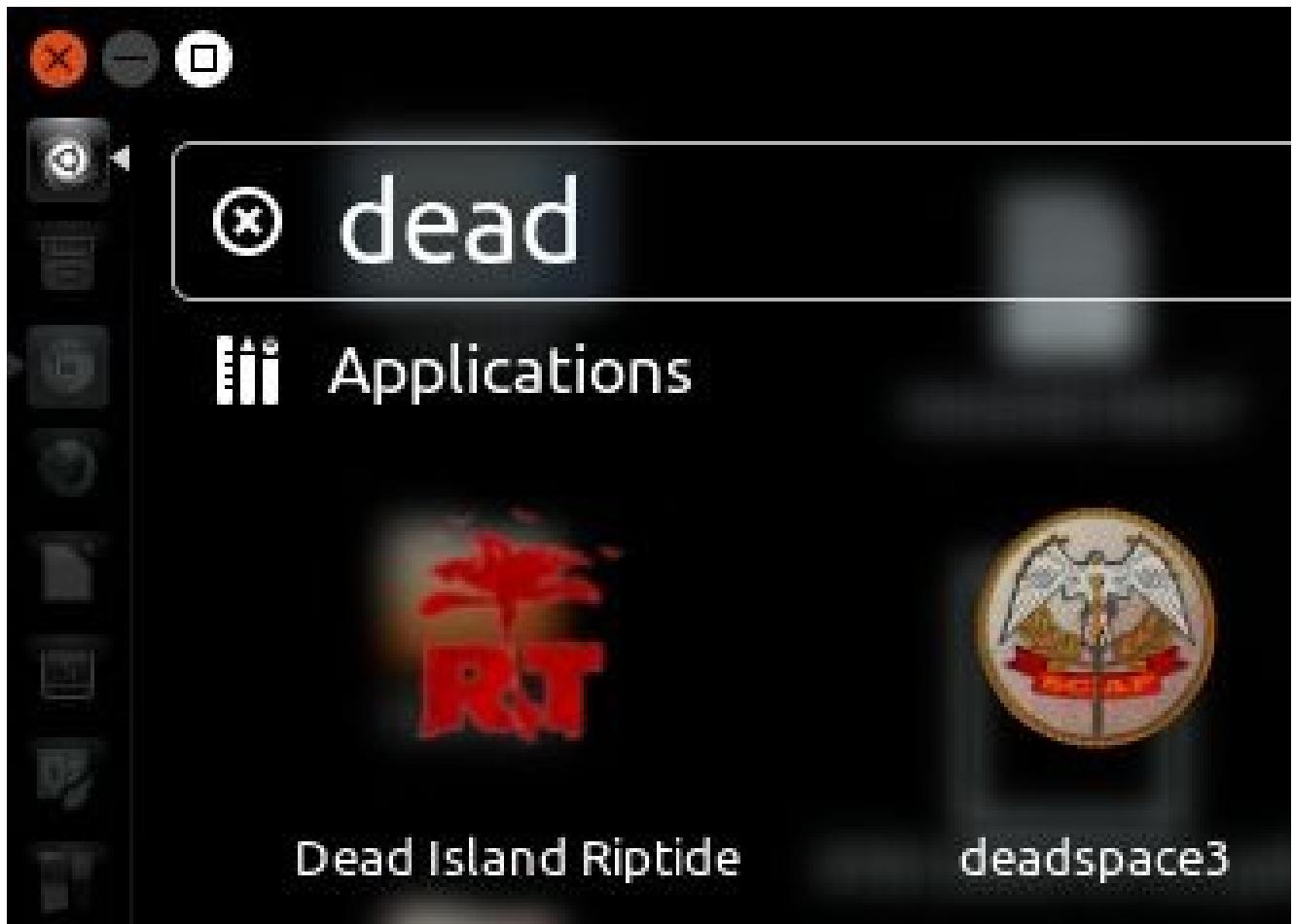
- Creating an independent container which holds the app installed, a specific Wine version for the app installed (In some cases, a specific Wine version works better for a specific app than the current Wine version).
- Automatically installing any additional DLL and Components the app needs to function correctly.
- Adding the appropriate registry keys the app needs
- Create an independent way of running multiples apps without them overlapping each other with Windows version changes, regedit changed, specific Wine versions, etc..

Of course, it is important to know that PoL works side by side with Wine and it needs Wine to work correctly (It is based on it). In many cases, an app might not work with PoL but will work with the default Wine configurations I have mentioned in this guide. So if you find the app you want to use in PoL, great. But if you don't find it, remember you always have the alternative to using the default Wine to install and configure the app.

The benefits of installing the app using Wine and installing it using PoL is that with Wine, you can access and execute the App using the DASH, like in the images below:



(Terraria)



(Dead Space & Dead Island)

### **CodeWeavers CrossOver (CC)**

CC is very similar to PoL on how to install and configure apps. The main difference is that CC offers official support. They even have their own [CodeWeavers Database](#) which holds more than 10.000+ apps. Not only that but they have a ranking system similar to the one in Wine's AppDB. They have also contributed to the development of Wine some of which you can see in their [Support](#).

### **DosBox (DB)**

DB is to MS-DOS apps as Wine is to Windows apps. With DB you can run MS-DOS apps in your system. Simply install the dosbox package and you are done. Running an app is as simple as going to the folder where the app resides and executing the following:

```
dosbox ./
```

This will open the current folder as a drive letter on the DB environment.

You can also mount a folder by doing the following after opening DB:

```
mount x: /Absolute/Path/To/Folder/Of/App
```

For example

```
mount c: /home/cyrex/Desktop/Dune2
```

Will create the C: Drive letter which contains the Dune2 folder. So if I simply execute dune2.exe I get the following:

```
x - cyrex@cyrex: ~/Desktop/DUNE2
```

```
cyrex@cyrex:~/Desktop/DUNE2$ dosbox ./
DOSBox version 0.74
Copyright 2002-2010 DOSBox Team, published under GNU GPL.
...
CONFIG:Loading primary settings from config file /home/cyrex/.dosbox/dosbox-0.74.conf
MIXER:Got different values from SND: freq 44100, blocksize 512
ALSA:Can't subscribe to MIDI port (65:0) nor (17:0)
MIDI:Opened device:none
CPU speed: fixed 3300 cycles.
CPU speed: fixed 3630 cycles.
CPU speed: fixed 3993 cycles.
CPU speed: fixed 4392 cycles.
CPU speed: fixed 4831 cycles.
CPU speed: fixed 5314 cycles.
CPU speed: fixed 5845 cycles.
CPU speed: Fixed 6429 cycles.
CPU speed: fixed 7071 cycles.
CPU speed: fixed 7778 cycles.
CPU speed: fixed 8555 cycles.
CPU speed: fixed 9410 cycles.
CPU speed: fixed 10351 cycles.
CPU speed: fixed 11386 cycles.
CPU speed: Fixed 12524 cycles.
CPU speed: Fixed 13776 cycles.
CPU speed: Fixed 15153 cycles.
CPU speed: Fixed 16668 cycles.
CPU speed: Fixed 18334 cycles.
CPU speed: fixed 20167 cycles.
CPU speed: fixed 22183 cycles.
CPU speed: fixed 24401 cycles.
CPU speed: fixed 26841 cycles.
```



# 10. What are some special parameters and tips I can use with Wine

There are a couple, for example:

## COMMANDS

`wine --version` - Shows the version of wine

`wineserver -k` - Kills all wine versions for the specific user. This is useful if your Wine app is frozen, took the whole screen and does not let you use Ubuntu, has the mouse or keyboard focused on it and other Wine issues that might appear with some apps.

`wine explorer` - Will open an explorer similar to the Windows Explorer

`wine explorer /desktop=X,Y` - Creates a virtual desktop where **X** is the name of the Desktop Window and **Y** is the resolution of the Window. For example: `wine explorer /desktop=WOW,1024x768 Wow.exe`

`regedit` - Will open the regedit version of Wine similar to the Windows one.

`wine uninstaller` - Will open the Add & Remove of Wine similar to the one in Windows. Here you will be able not only see which apps you have install and uninstall them, but also be able to install new apps if you wish.

`winetricks` - Will open the winetricks app to install missing Libraries, DLLS and Components essential for the correct functionality of many Windows apps.

`winecfg` - Will open the Wine Configuration where you can set Video, Sound and Windows version.

`wine ipconfig` - Shows you the IP that Wine can see. Similar to ipconfig.

`wine netstat` - Shows you the IP/Port connections made. Similar to netstat.

`wine start` - Sets the working directory for the executable. This option helps in cases where the executable only works from the same folder and not from a full path.

`export WINEPREFIX` - This variable is used to change the Wine Prefix to another location. For example if you wish to merge PoL and Wine (Not recommended since PoL has multiple Prefixes) you can do the following:

```
export WINEPREFIX="/home/USER/.PlayOnLinux/wineprefix/PREFIX"
```

Where PREFIX is the one you want to merge with Wine. You would have to run winecfg again.

## TIPS

- When dealing with a folder that has spaces (eg: World of Warcraft), you can execute the Wow.exe file by adding the \ symbol in front of every space, this escapes the symbol. The end result would be something like “World\ of\ Warcraft\Wow.exe”. If you do not want to add this escape symbols to your line of code, simply double quote

the entire link, so it looks like:

```
wine explorer /desktop=WOW,1024x768 "/media/cyrex/My Partition/World of Warcraft/Wow.exe" -opengl -console
```

as you can see, there are 2 folders with spaces in them, “My Partition” and “World of Warcraft”, but since I quoted the whole string, the need to include escape characters is not needed. If you wished to use the Wine Path (eg: C:/) then all slashes would be a double slash (eg: “C:\Program Files\App”).

- Parameters that are applied to an app should always be OUTSIDE the quoted strings. Using the example above, we can see **-opengl** and **-console** outside the quotes.
- When dealing with apps that take hold of your mouse and/or keyboard, you can use `wineserver -k` to kill the app, or simply opening the App in Windows mode or setting the Windows mode with the `wine explorer /desktop` parameter will save you from having this mouse/keyboard problems.

# 11. Stability, Performance and App Support Wine offers to end users

## APP SUPPORT

I have tried Wine since 2005 and seen how the developing process in Wine under Ubuntu has been quickly catching up to the latest games.

Around 2009 if somebody came to me and wanted to change to Ubuntu, one of the questions they would ask me would be: Can I play X game on Ubuntu?. If the answer was positive for that game the next question would be something along the lines of: Will it have the same performance?

In 2009 my normal answer was no in both questions. After Wine 1.2 came out in 2012 and then 1.4 in 2012, I had changed my answer for several games and for the first time I was more positive about telling a new user that they could actually play the game. Many cases started to appear which would amaze me a many other users, cases like Deep Space 2 which is/was one of the latest games I could play and which I tested 3 days after it was released. Alice in Wonderland (The new one I mean), The Sims 3, World of Warcraft, Amnesia and others. Even Skyrim could be played. This are games that demand powerful graphics and you can play them with little to no additional setups other than the normal install and play steps I provided above.

A quick way to know what games can or can not be played on Wine (In Ubuntu) and a method I actually recommend is to visit the Wine App Database:

<http://appdb.winehq.org/> which holds more than 10000+ games. This also includes information for most games about the performance and stability, which is not the same for each game that can be playable on Linux. This helps knowing if a game is playable and has the same confirmed performance over the same game on Windows.

The Wine App Database also offers something called **Ranking** which helps determining what games can be played with less configuration and a bigger chance of them working out of the box. When you see this ranks, you have an idea if the App will work or not. Mind that you need to also take into consideration what hardware and Wine version the tester shows on the Wine Database. The rankings are as follow:

**Platinum Rank** - It means you have a 99% chance it will work out of the box with no problems at all, from start to finish. This includes stability, performance and anything you can do with the app. The chance the app has on working is almost 100%.

**Gold Rank** - It means you might find yourself doing a little bit of configuring but at the end it will work out good, but note that in most cases, Gold status will work out of the box for most users. They might also show as Gold because they have not being tested with the latest Wine version so the problems manifested on an older version might be gone already. The chance the app has on working ranges between 60% to 99%.

**Silver Rank** - It means that the game will run, but might have graphical, sound or control issues. Apart from this, you might also need to configure or do many steps for the app to

work correctly. The chance the app has on working ranges between 30% to 60%.

**Bronze Rank** - It means the game might run, it needs a lot of configuration to make it work and in most cases it will not work correctly. The chance the app has on working ranges between 0% to 30%.

**Garbage Rank** - It means the app still does not work, not even install. The only way to make it work would be when Superman starts eating kryptonian cereal in the morning.

A couple of years ago the amount of Platinum games was less than 50. In 2012 you could find [More than 1500 games](#) out of which almost 200 were in the [Latest Titles](#). Today there are more than 5800 Games of which 1800+ are Platinum. The only need here is for more people to participate and test the apps on Wine. This is the main reason I will always recommend using the PPA from Wine.

## PERFORMANCE

For game tests and performance information see [Gaming performance difference between Windows and Ubuntu](#)

---

**Tags:** [software-installation](#) ([Next Q](#)), [wine](#) ([Next Q](#))

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## [Q: Complete Installation Guide for Android SDK / ADT Bundle on Ubuntu](#)

**Tags:** [software-installation](#) ([Next Q](#))

What all needs to be done to install Android SDK / ADT Bundle on Ubuntu?

Each of the steps in the answer was found on some different forum as I encountered obstacles getting started with my Android SDK and posted questions in appropriate forums thereafter. So I thought this would be useful in that it is a one stop solution available, in case one ever needs to re-install Ubuntu and install the Android SDK / ADT Bundle from scratch!

**Tags:** [software-installation](#) ([Next Q](#))

**User:** [host-website-on-ipage](#)

---

[Answer](#) by [host-website-on-ipage](#)

**Step 1:**

Check in System Settings -> Details, whether your Ubuntu is 32-bit or 64-bit

**Step 2:**

(Using software centre or command lines) If your Ubuntu is a 32-bit OS then install `libgl1-mesa-dev`

In case of 64-bit OS install `ia32-libs` (Ubuntu 13.04 or earlier), or `libgl1-mesa-dev:i386` (Ubuntu 13.10 and above)

**Step 3:** Install openjdk-6-jdk or better, openjdk-7-jdk

**Step 4:** Download the Android SDK or the ADT Bundle from [here](#) and unzip it to wherever you want.

**Step 5:** Check that the unzipped ADT Bundle folder (or Android SDK folder, as the case may be) have the folders tools and platform-tools. These folders contain some important commands stored. Add them to your executable path. Adding them to the path can be done as follows:

First execute gedit `~/.pam_environment`. A file opens. Just add these lines to that file:

```
PATH DEFAULT=${PATH}:/path/to/tools  
PATH DEFAULT=${PATH}:/path/to/platform-tools
```

Here you have to replace `/path/to/tools` and `/path/to/platform-tools` by the absolute paths according to where you unzipped the SDK or the ADT bundle download. Now all the commands adb, android, emulator etc can be simply executed in the terminal without giving absolute paths. That is, you will not get a “command not found” error if you gave it without its absolute path.

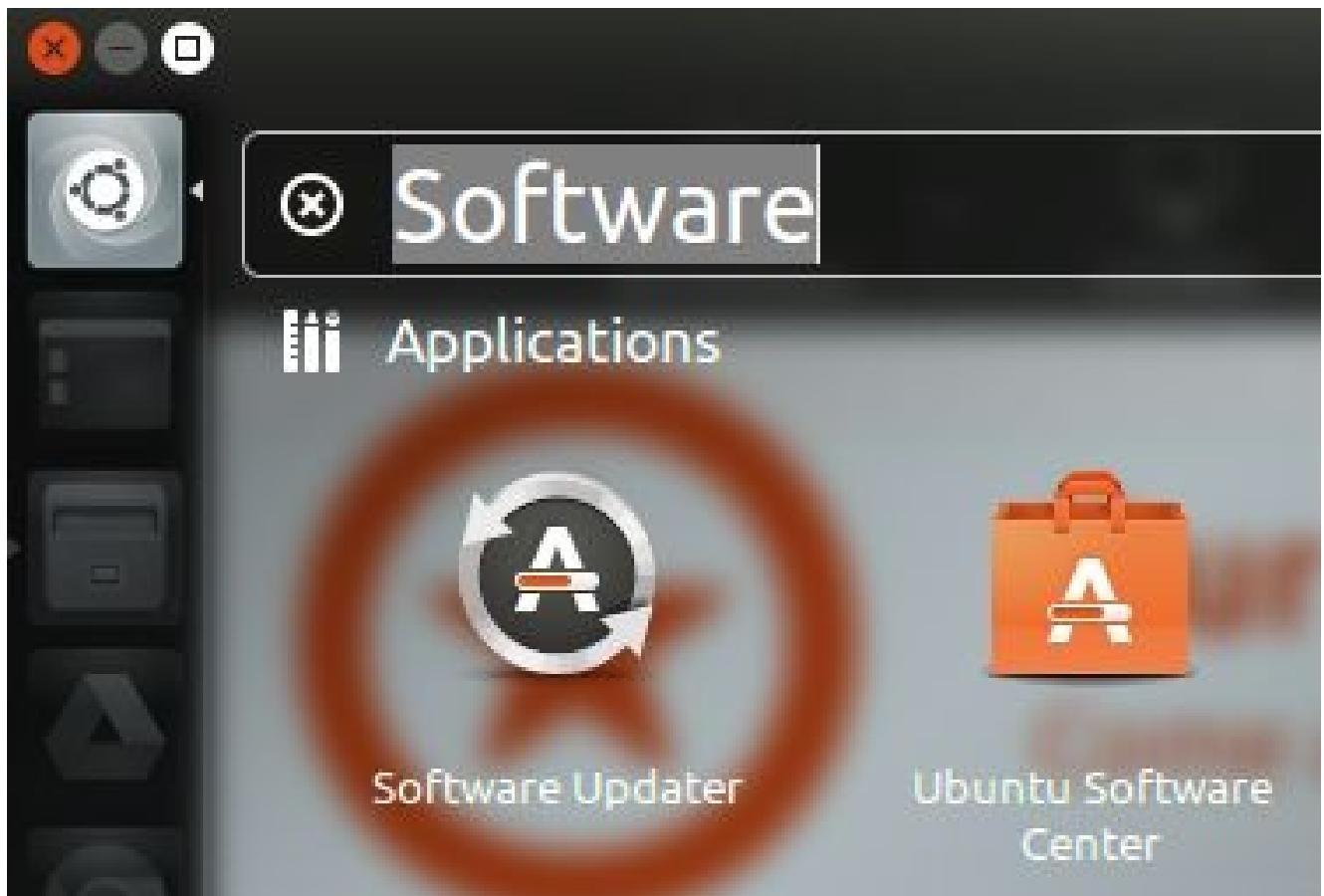
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[Answer](#) by [casper-li](#)

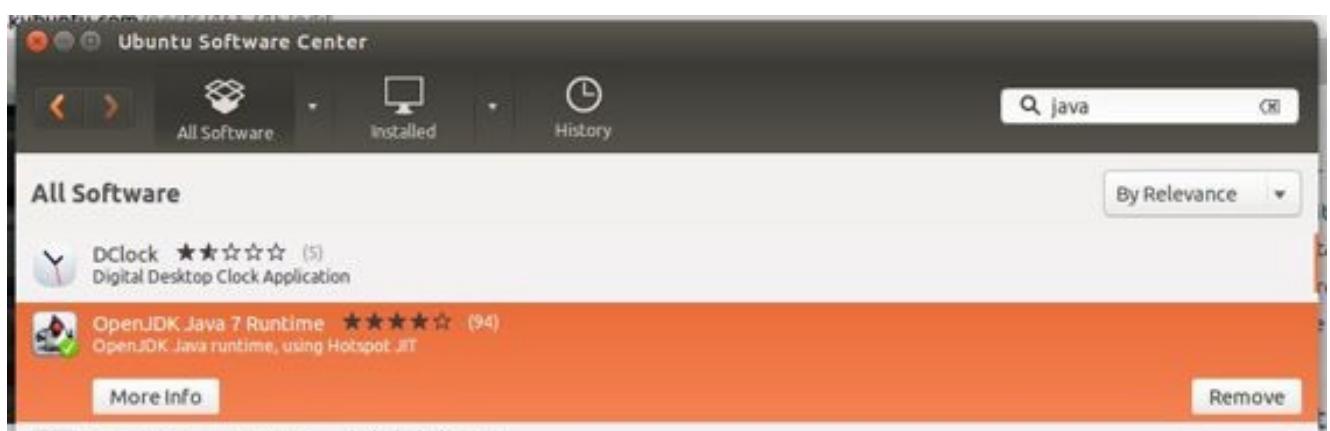
```
Target : Super Newbies  
IDE   : Eclipse
```

# 1. Installing Java Runtime (JDK) and Eclipse IDE

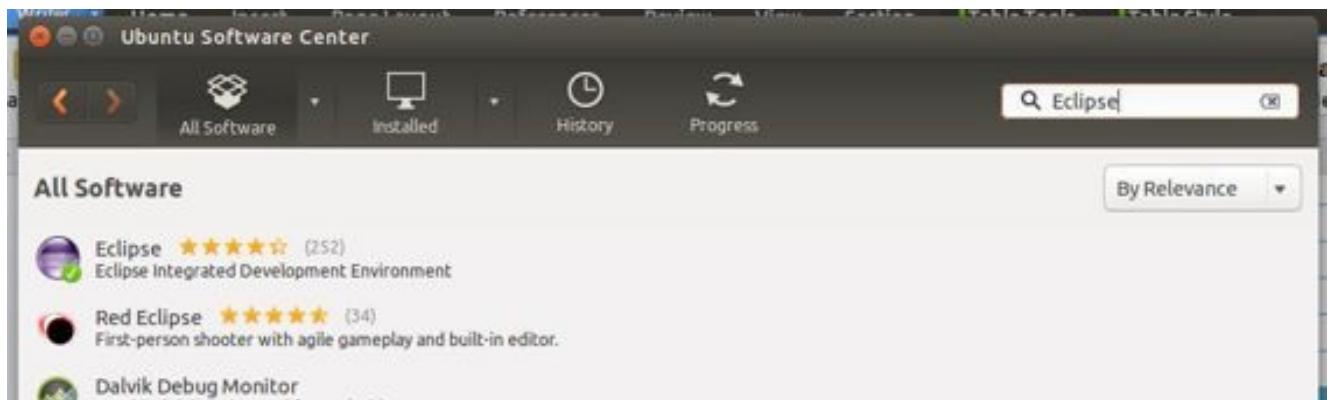
- Search Software on Ubuntu and launch Ubuntu Software Center



- Search Java on Ubuntu Software Center and then install the OpenJDK Java Runtime.



- Search Eclipse on Ubuntu Software Center and then install it.



- If you have successfully installed eclipse and JDK, it will appear in the search result on your computer.



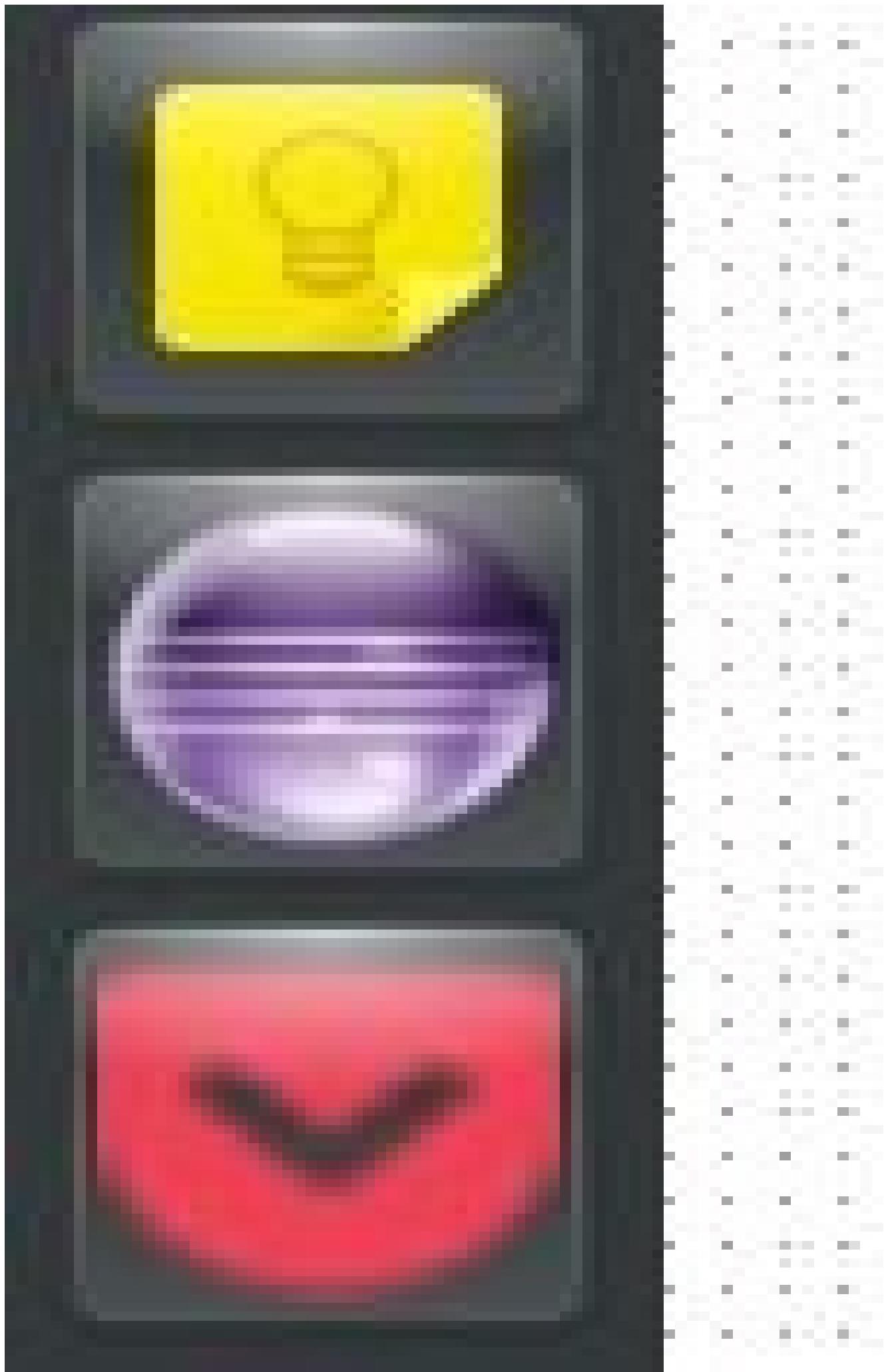


- For the JDK, you can also press CTRL + ALT + T to open a terminal and type command `java -version` to check again.

```
casper@casper-UX32VD: ~
casper@casper-UX32VD:~$ java -version
java version "1.7.0_55"
OpenJDK Runtime Environment (IcedTea 2.4.7) (7u55-2.4.7-1ubuntu1)
OpenJDK 64-Bit Server VM (build 24.51-b03, mixed mode)
casper@casper-UX32VD:~$
```

A terminal window showing the output of the `java -version` command. The output indicates that Java version 1.7.0\_55 is installed, using the OpenJDK Runtime Environment (IcedTea 2.4.7) and OpenJDK 64-Bit Server VM.

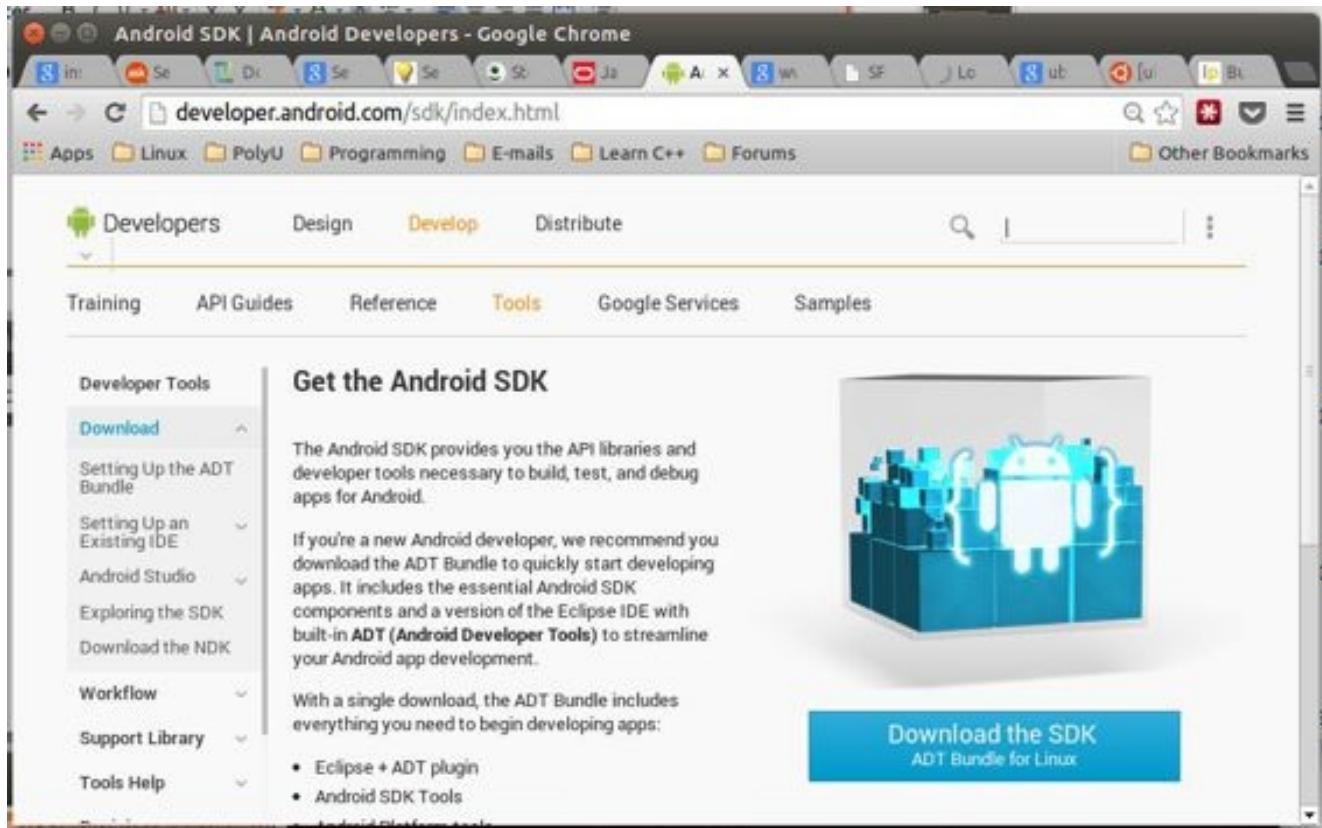
- Tips : Lock the eclipse icon on launcher.



---

## 2. Downloading SDK

- Go to <http://developer.android.com/sdk/index.html> to download the latest version of SDK.



- Scroll down and click DOWNLOAD FROM OTHER PLATFORMS

**Android Studio Early Access Preview**

A new Android development environment called Android Studio, based on IntelliJ IDEA, is now available as an **early access preview**. For more information, see [Getting Started with Android Studio](#).

If you prefer to use an existing version of Eclipse or another IDE, you can instead take a more customized approach to installing the Android SDK. See the following instructions:

- ✓ [USE AN EXISTING IDE](#)
- ✓ [SYSTEM REQUIREMENTS](#)
- ✓ [DOWNLOAD FOR OTHER PLATFORMS](#)

- Click `android-sdk_r22.6.2-linux.tgz` under Linux 32 & 64-bit of SDK Tools Only.

#### SDK Tools Only

| Platform                | Package  | Size            | MD5 Checksum                     |
|-------------------------|--|-----------------|----------------------------------|
| Windows<br>32 & 64-bit  | android-sdk_r22.6.2-windows.zip                | 108917505 bytes | 6e5bfdb7b9c1d231ed6ec78b31551cbf |
|                         | installer_r22.6.2-windows.exe<br>(Recommended) | 87383126 bytes  | 2a68b8b22ecd0aba779b1581a914b395 |
| Mac OS X<br>32 & 64-bit | android-sdk_r22.6.2-macosx.zip                 | 74639394 bytes  | 2a319c862dd1dcf450bfe2a6b3d9c608 |
| Linux<br>32 & 64-bit    | android-sdk_r22.6.2-linux.tgz                  | 101050024 bytes | ff1541418a44d894bedc5cef10622220 |

- Tick I have read and agree with the above terms and conditions and click Download android-sdk\_r22.6.2-linux.tgz.

## Get the Android SDK

Before installing the Android SDK, you must agree to the following terms and conditions.

### Terms and Conditions

This is the Android Software Development Kit License Agreement

#### 1. Introduction

1.1 The Android Software Development Kit (referred to in this License Agreement as the "SDK" and specifically including the Android system files, packaged APIs, and Google APIs add-ons) is licensed to you subject to the terms of this License Agreement. This License Agreement forms a legally binding contract between you and Google in relation to your use of the SDK.

1.2 "Android" means the Android software stack for devices, as made available under the Android Open Source Project, which is located at the following URL: <http://source.android.com/>, as updated from time to time.

1.3 "Google" means Google Inc., a Delaware corporation with principal place of business at 1600 Amphitheatre Parkway, Mountain View, CA 94043, United States.

I have read and agree with the above terms and conditions

[Download android-sdk\\_r22.6.2-linux.tgz](#)

- Wait for the download process.

Tools Help

Revisions

ADK



### 3. Preparing for Installation

- Go to the location where you set to download the file.
- Right click the file[.tgz] and select Extract Here.



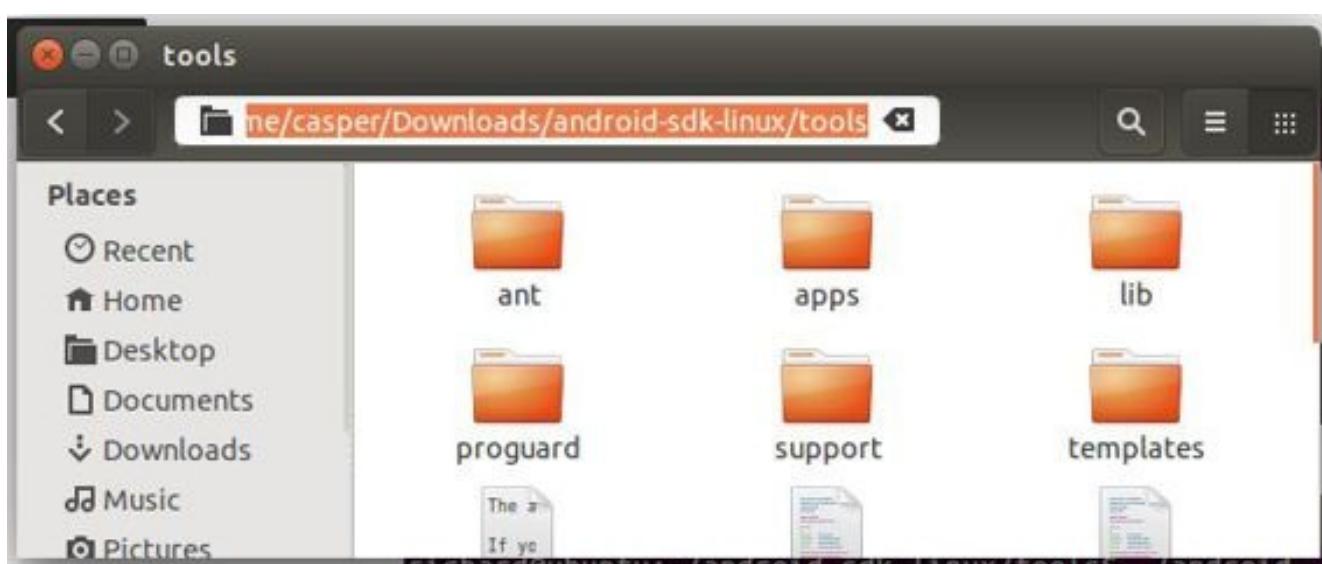
- Now you can see that a file called android-sdk-linux appears as if the following.



- Enter the folder android-sdk-linux.

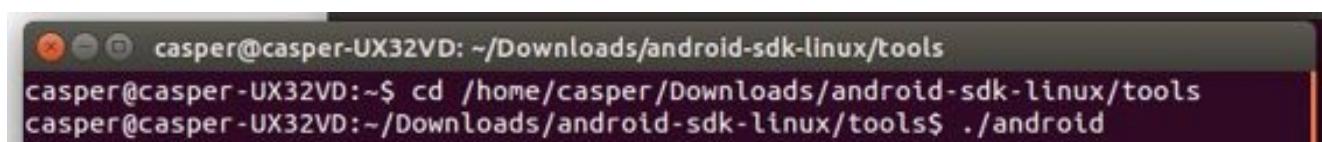


- Enter the folder tools and then copy the folder location.



- Press the keys **CTRL + ALT + T** to open a terminal and then use the following command. Where `/home/casper/Downloads/android-sdk-linux/tools` is the location I copied previously. You can just type `cd` and right click to past the location to the terminal.

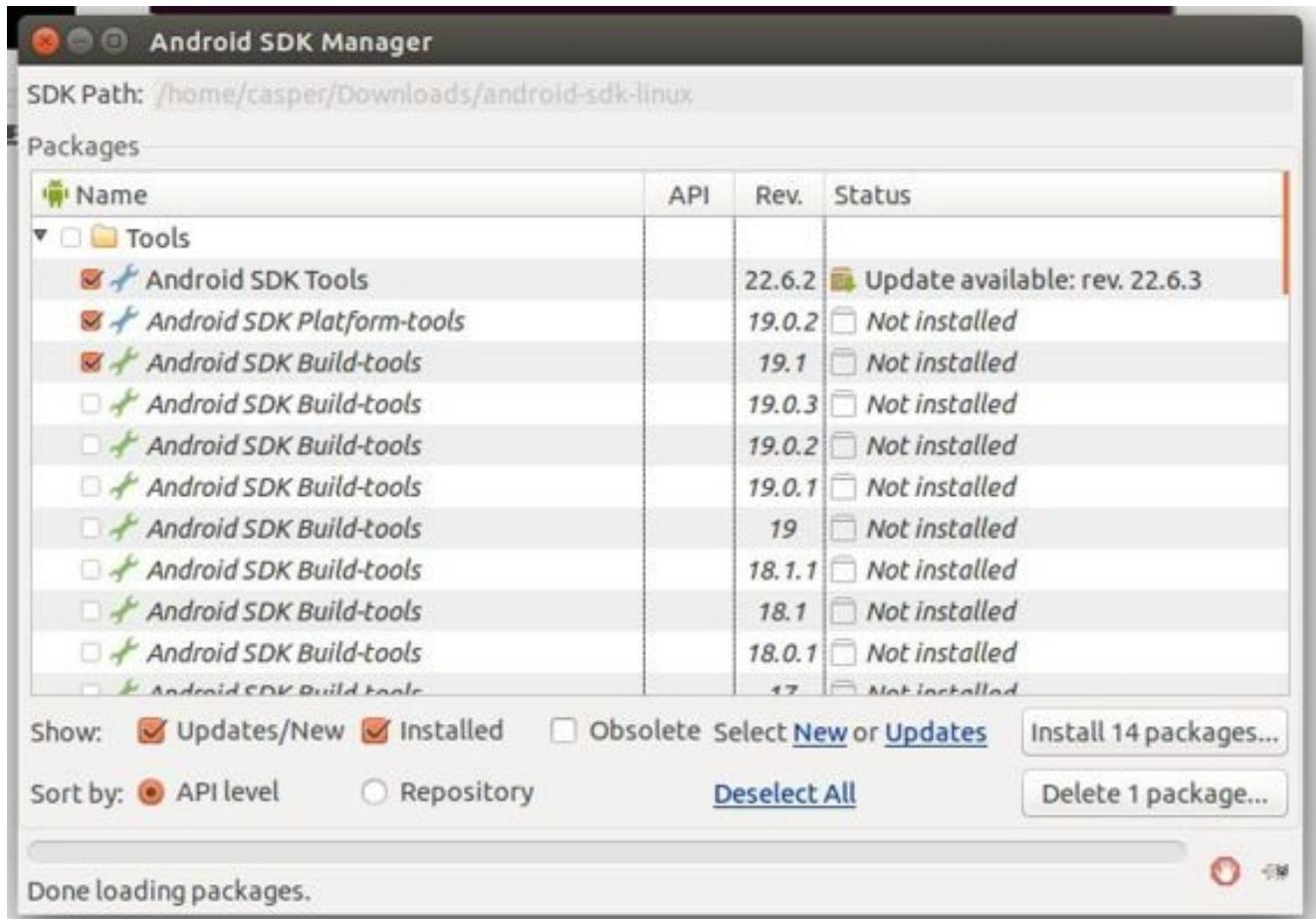
```
cd /home/casper/Downloads/android-sdk-linux/tools  
./android
```



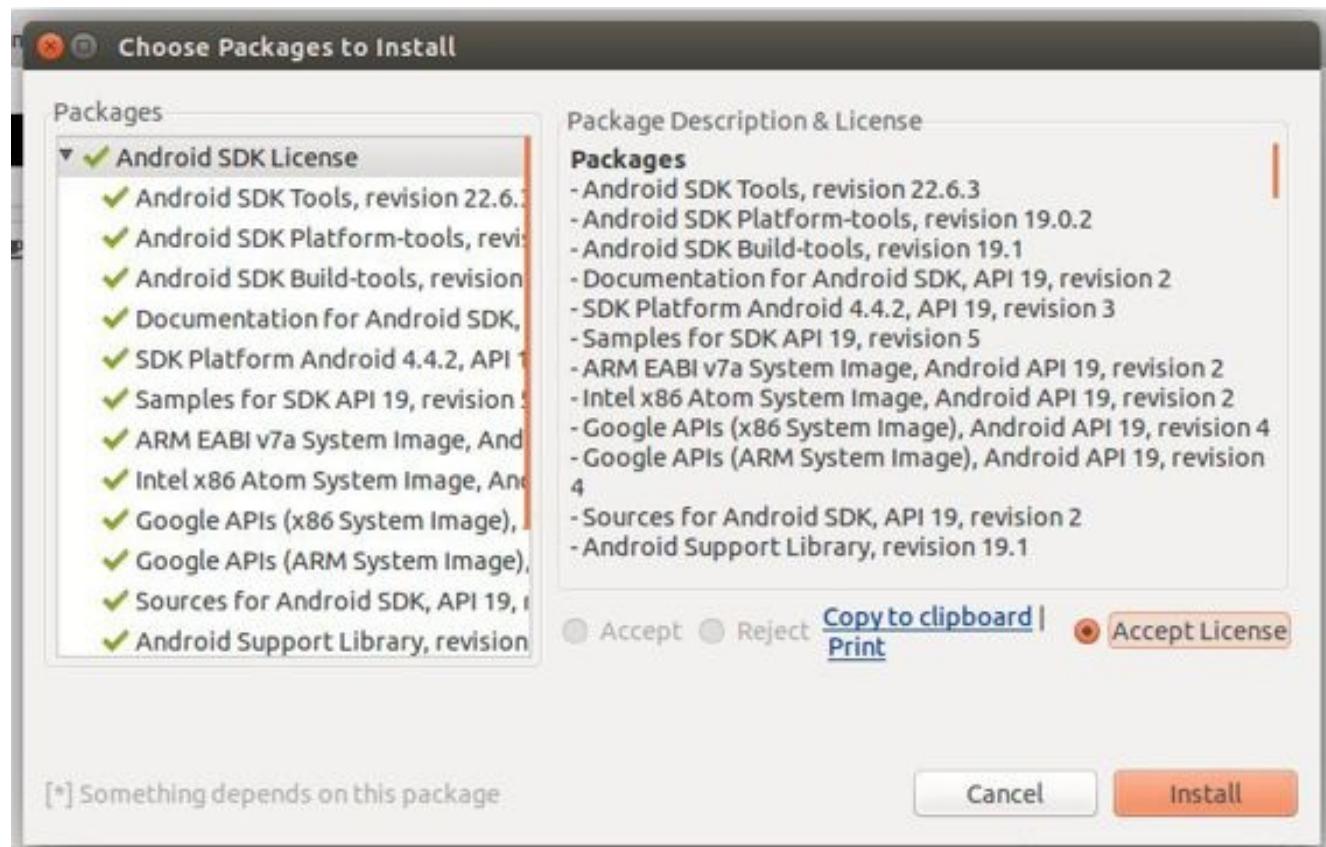
- Now the Android SDK Manager will be run.

## 4. Installing Packages

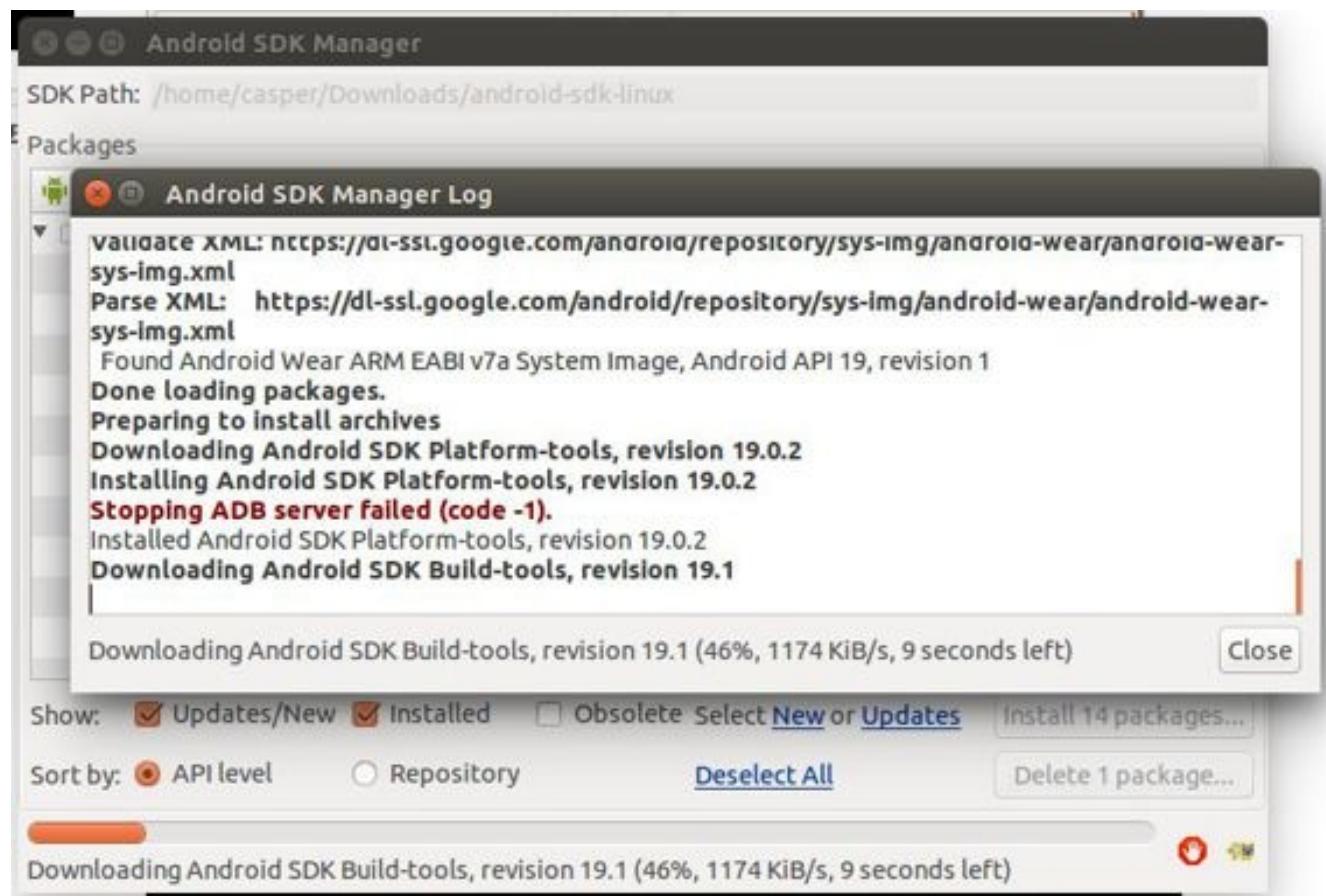
- Click Install [Number] packages....



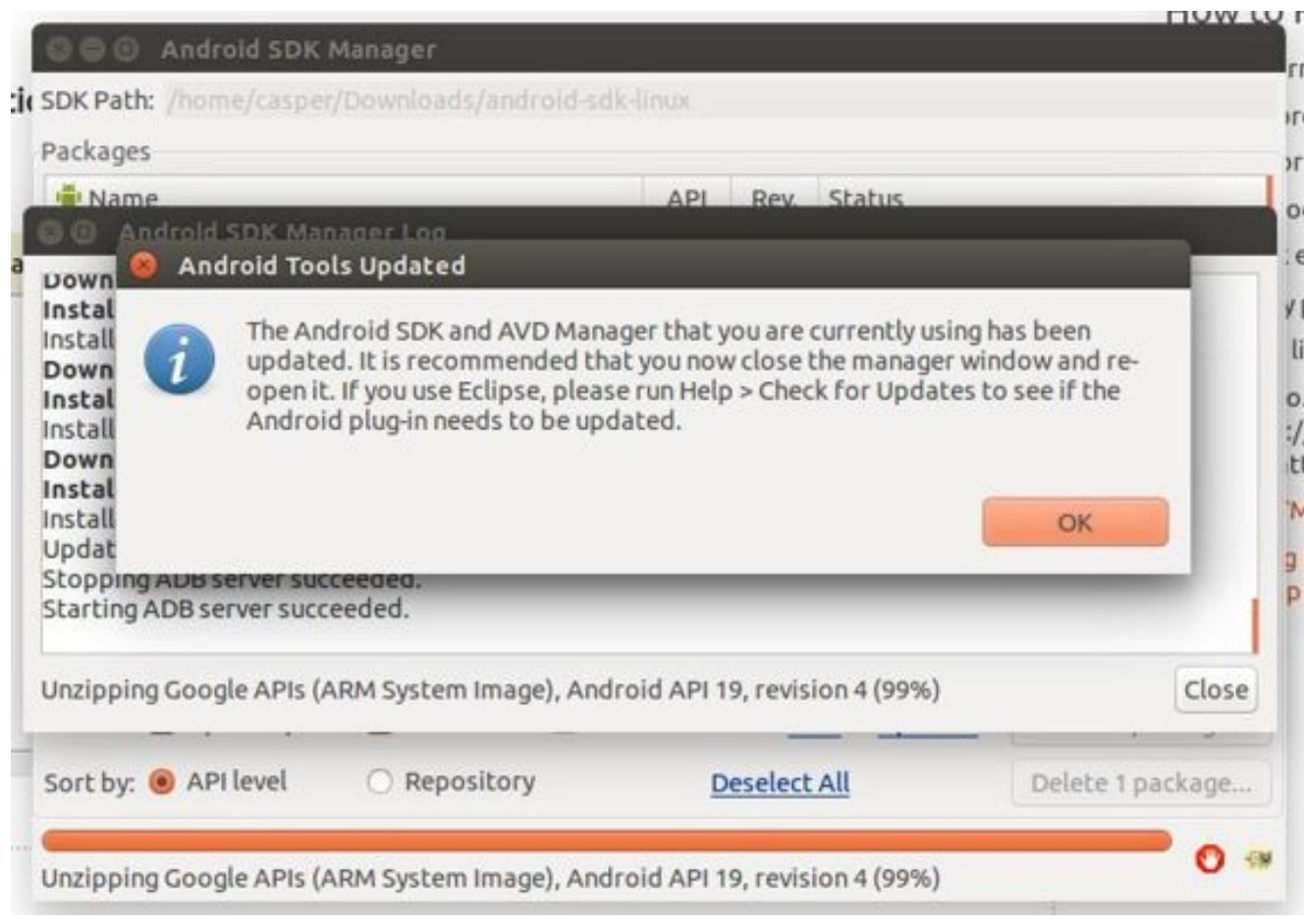
- Click Accept License and then click Install.



- Wait for the installation process.

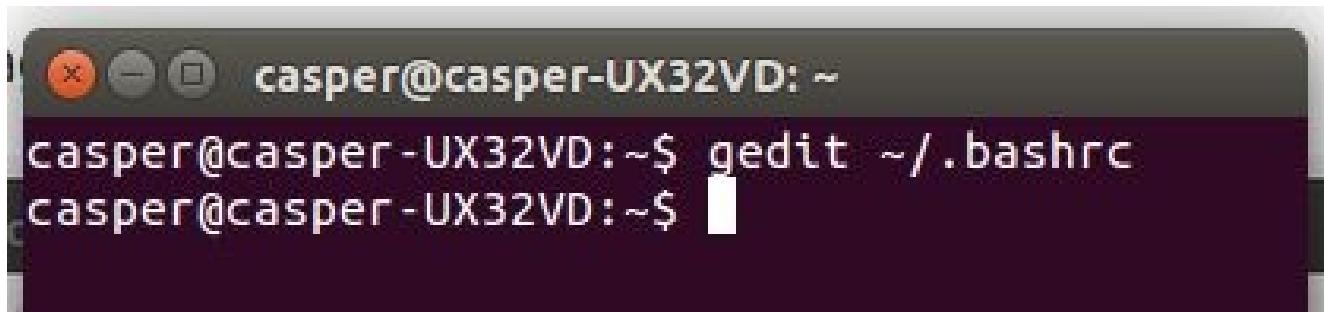


- Finally, this message will be shown.



## 5. Editing “.bashrc”

- Press CTRL + ALT + T to open a new terminal and type : gedit ~/.bashrc



- Now the following text will appear.

```
# ~/.bashrc: executed by bash(1) for non-login shells.
# see /usr/share/doc/bash/examples/startup-files (in the package bash-doc)
# for examples

# If not running interactively, don't do anything
case $- in
    *i*) ;;
    *) return;;
esac

# don't put duplicate lines or lines starting with space in the history.
# See bash(1) for more options
HISTCONTROL=ignoreboth

# append to the history file, don't overwrite it
shopt -s histappend

# for setting history length see HISTSIZE and HISTFILESIZE in bash(1)
HISTSIZE=1000
HISTFILESIZE=2000
```

- Add the following to the top of the entire text and then save it. (Do not close the file)

```
export PATH=${PATH}:~/android-sdk-linux/tools
export PATH=${PATH}:~/android-sdk-linux/platform-tools
```

- Example :

The screenshot shows a terminal window titled ".bashrc (~) - gedit". The file content is as follows:

```
export PATH=${PATH}:~/android-sdk-linux/tools
export PATH=${PATH}:~/android-sdk-linux/platform-tools

# ~/.bashrc: executed by bash(1) for non-login shells.
# see /usr/share/doc/bash/examples/startup-files (in the package bash-doc)
# for examples

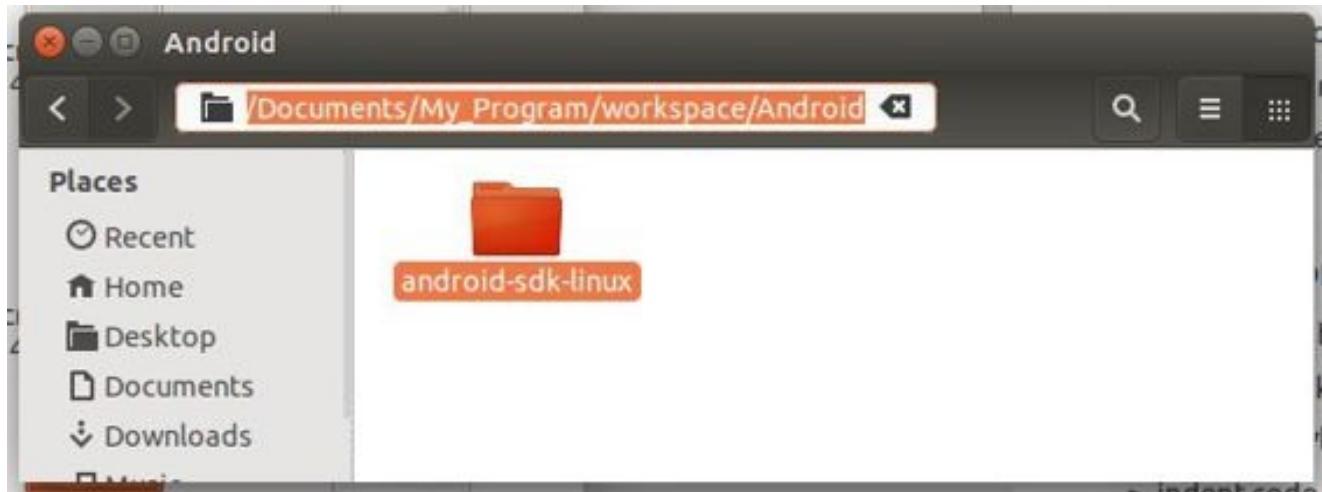
# If not running interactively, don't do anything
case $- in
    *i*) ;;
    *) return;;
esac

# don't put duplicate lines or lines starting with space in the history.
# See bash(1) for more options
HISTCONTROL=ignoreboth

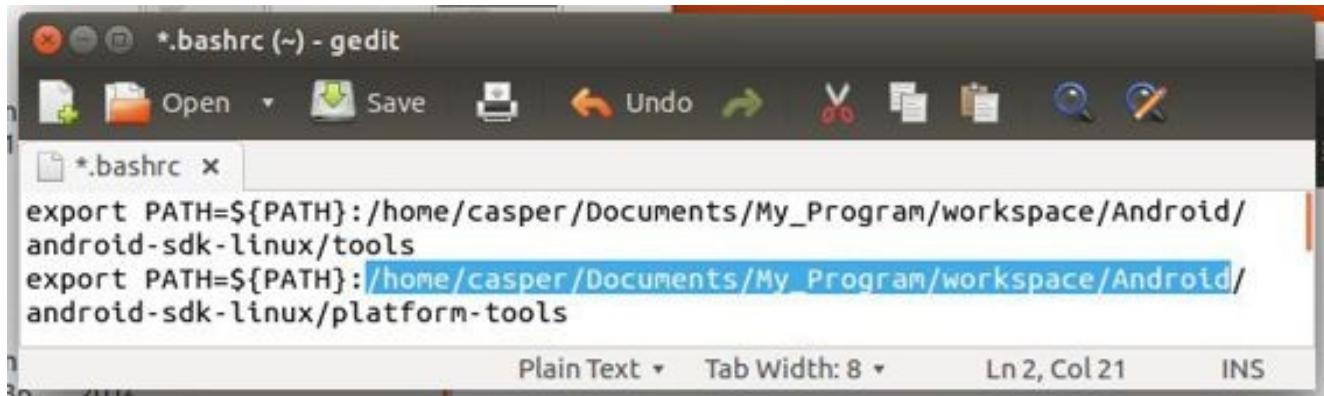
# append to the history file, don't overwrite it
shopt -s histappend
```

At the bottom of the window, there are status indicators: "Plain Text", "Tab Width: 8", "Ln 2, Col 55", and "INS".

- [Recommended] Move the whole file android-sdk-linux to your eclipse's workspace and under a folder that you create named Android. Moreover, you have to copy the location.



- Now back to the ".bashrc" file and replace the '~' with the location you copied previously and then save it and close it.



A screenshot of the gedit text editor window. The title bar says ".bashrc (~) - gedit". The menu bar includes "File", "Edit", "View", "Search", "Help", and "About". The toolbar has icons for Open, Save, Undo, Redo, Cut, Copy, Paste, Find, and Replace. The main text area contains the following code:

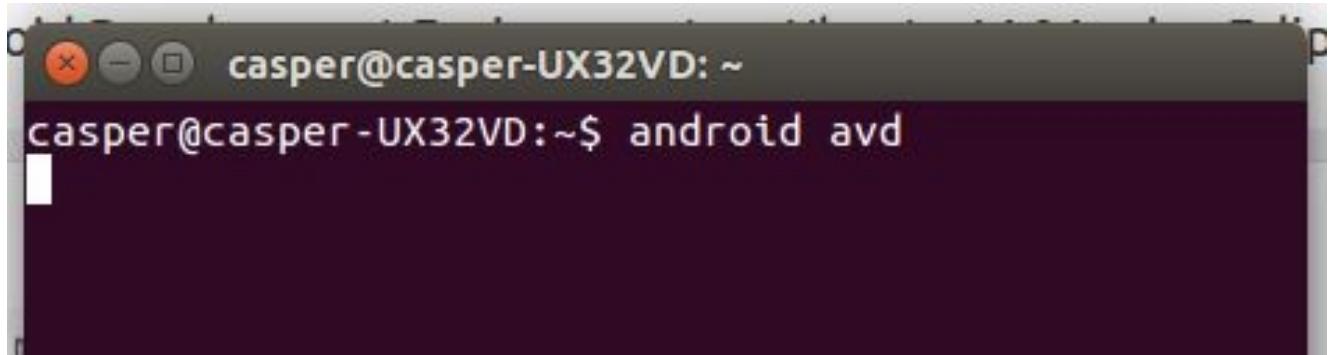
```
export PATH=${PATH}:/home/casper/Documents/My_Program/workspace/Android/
android-sdk-linux/tools
export PATH=${PATH}:/home/casper/Documents/My_Program/workspace/Android/
android-sdk-linux/platform-tools
```

The bottom status bar shows "Plain Text" and "Tab Width: 8". The cursor is at "Ln 2, Col 21".

- Logout and relogin your Ubuntu system.
-

## 6. Setting Up an Android Virtual Device

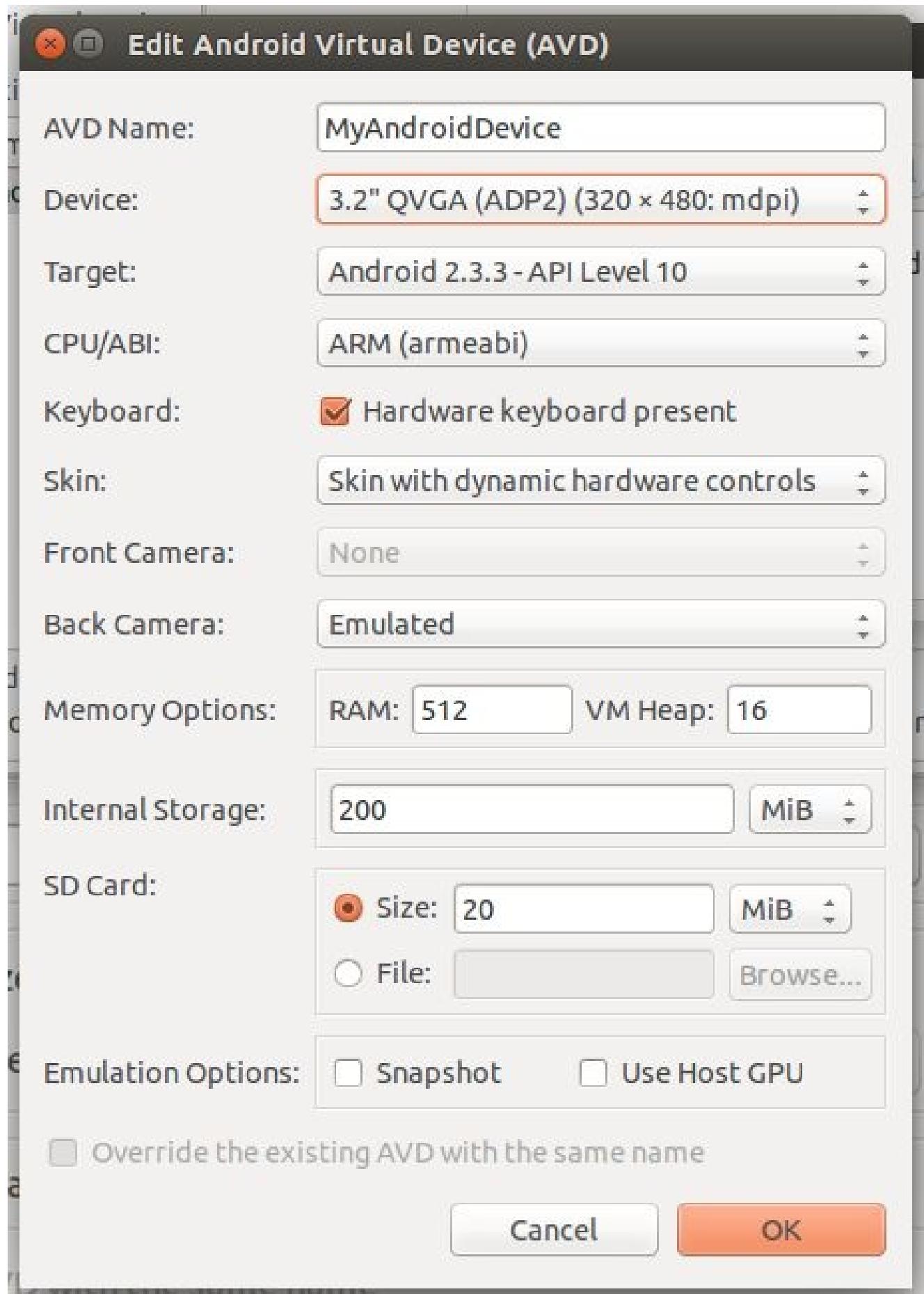
- Press CTRL + ALT + T and type android avd to open the Android Virtual Device Manager.



```
casper@casper-UX32VD:~$ android avd
```



- Click New.... Set up like the following and click OK.



- Click your virtual device and then click Start....



- Click Launch.



## Launch Options

Skin: 480x800

Density: High (240)



Scale display to real size

Screen Size (in): 4.0

Monitor dpi:

96

?

Scale:

default



Wipe user data



Launch from snapshot

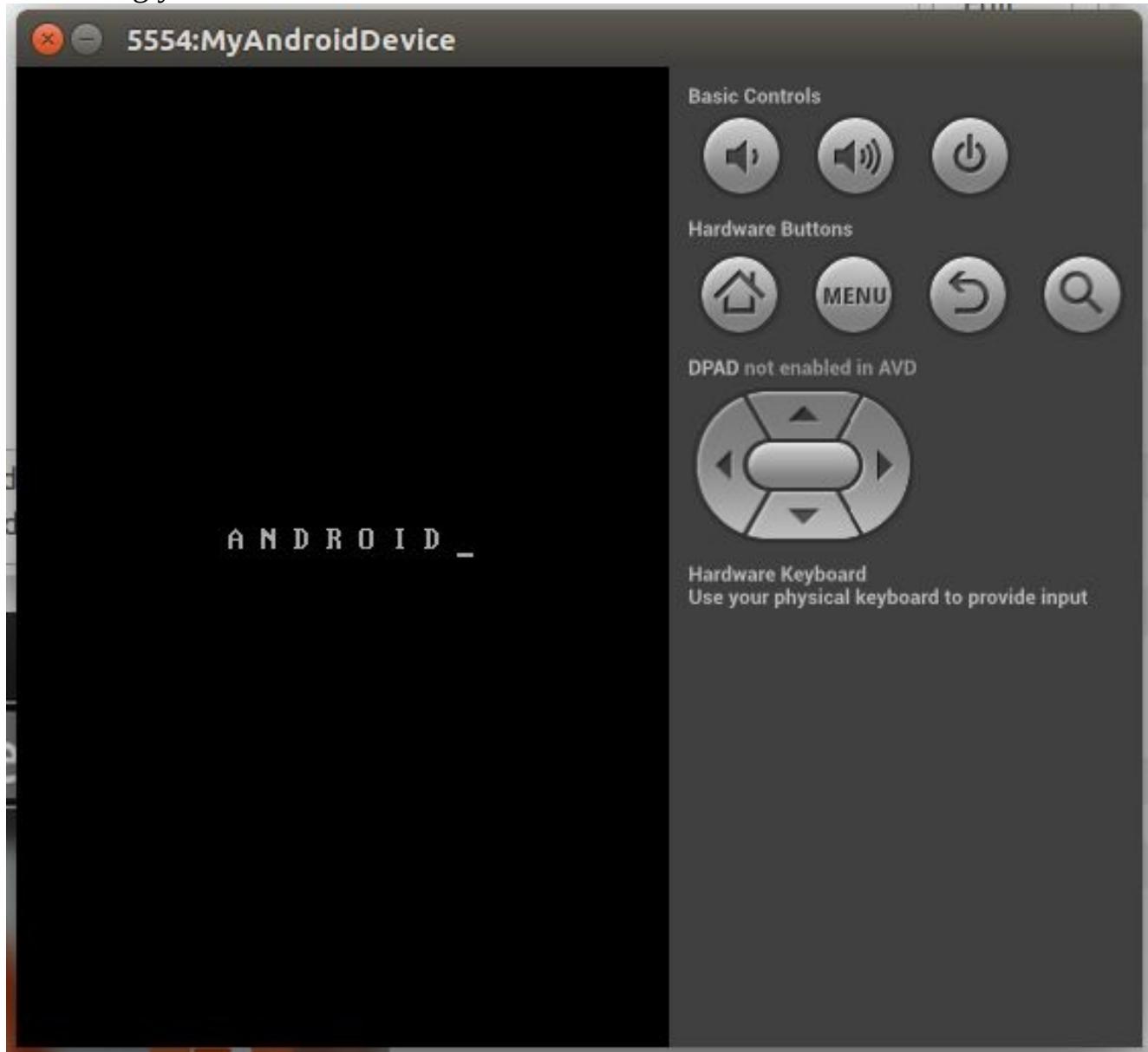


Save to snapshot

Cancel

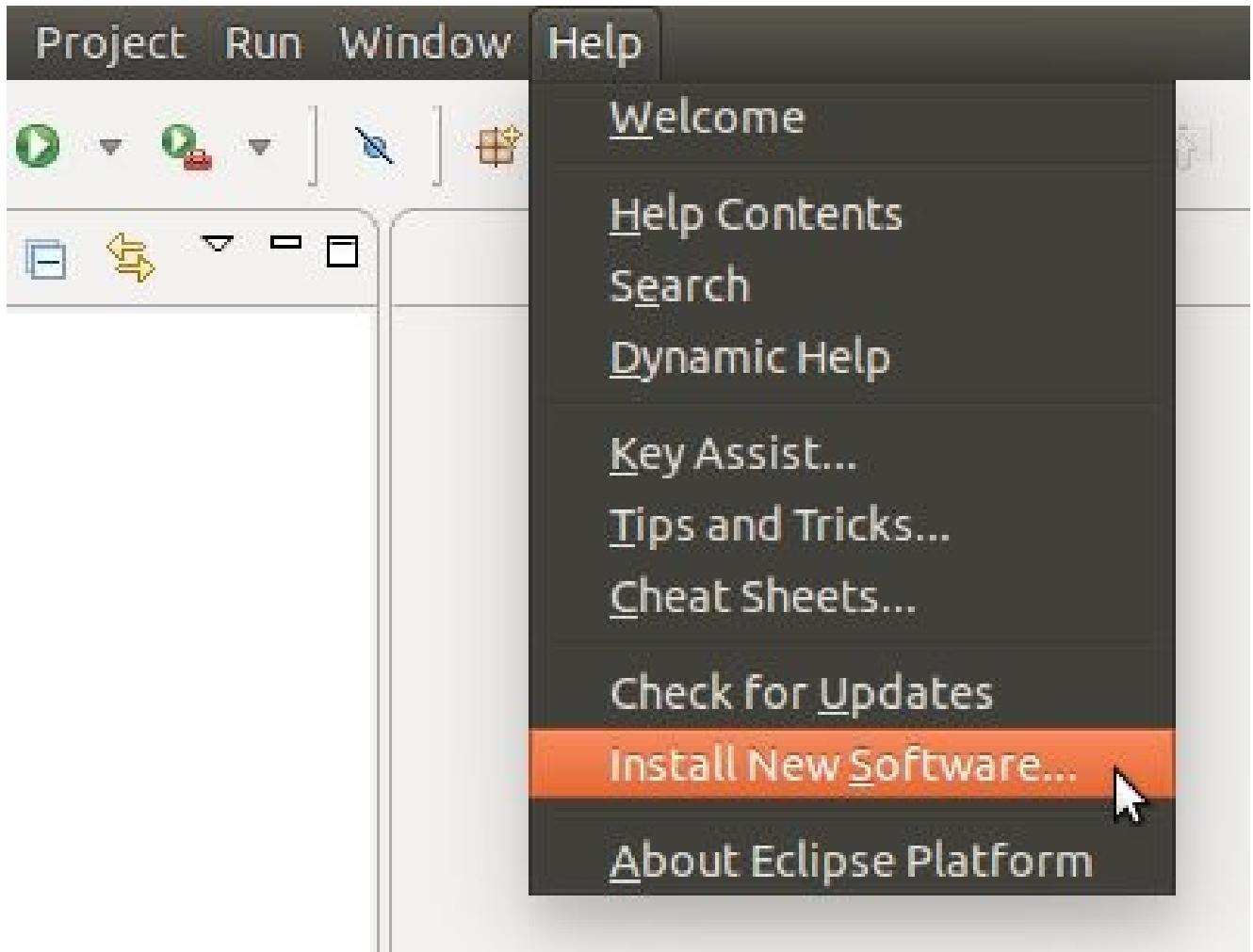
Launch

- Launching your virtual device



## 7. Installing ADT Plugin on Eclipse

- Start Eclipse and go to Help -> Install New Software...



- Click Add....

**Install**

### Available Software

Select a site or enter the location of a site.

Work with: type or select a site

Find more software by working with the ["Available Software Sites"](#) preferences.

| Name  | Version |
|---|---------|
| <input type="checkbox"/> ⓘ There is no site selected. |         |

**Details**

Show only the latest versions of available software  Hide items that are already installed

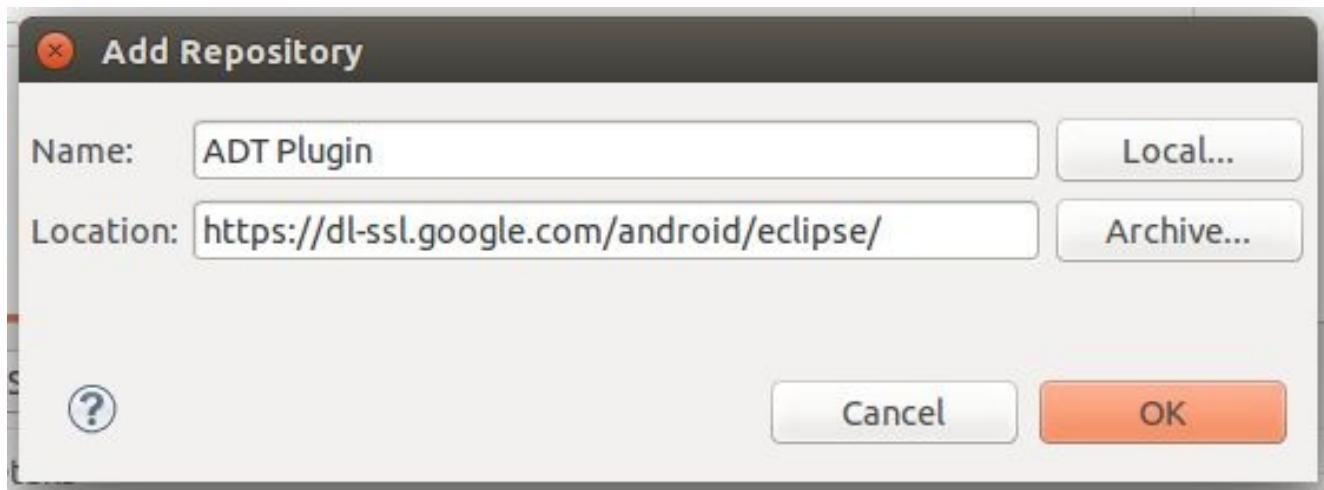
Group items by category [What is already installed?](#)

Show only software applicable to target environment

Contact all update sites during install to find required software

- Type the following and then click OK.

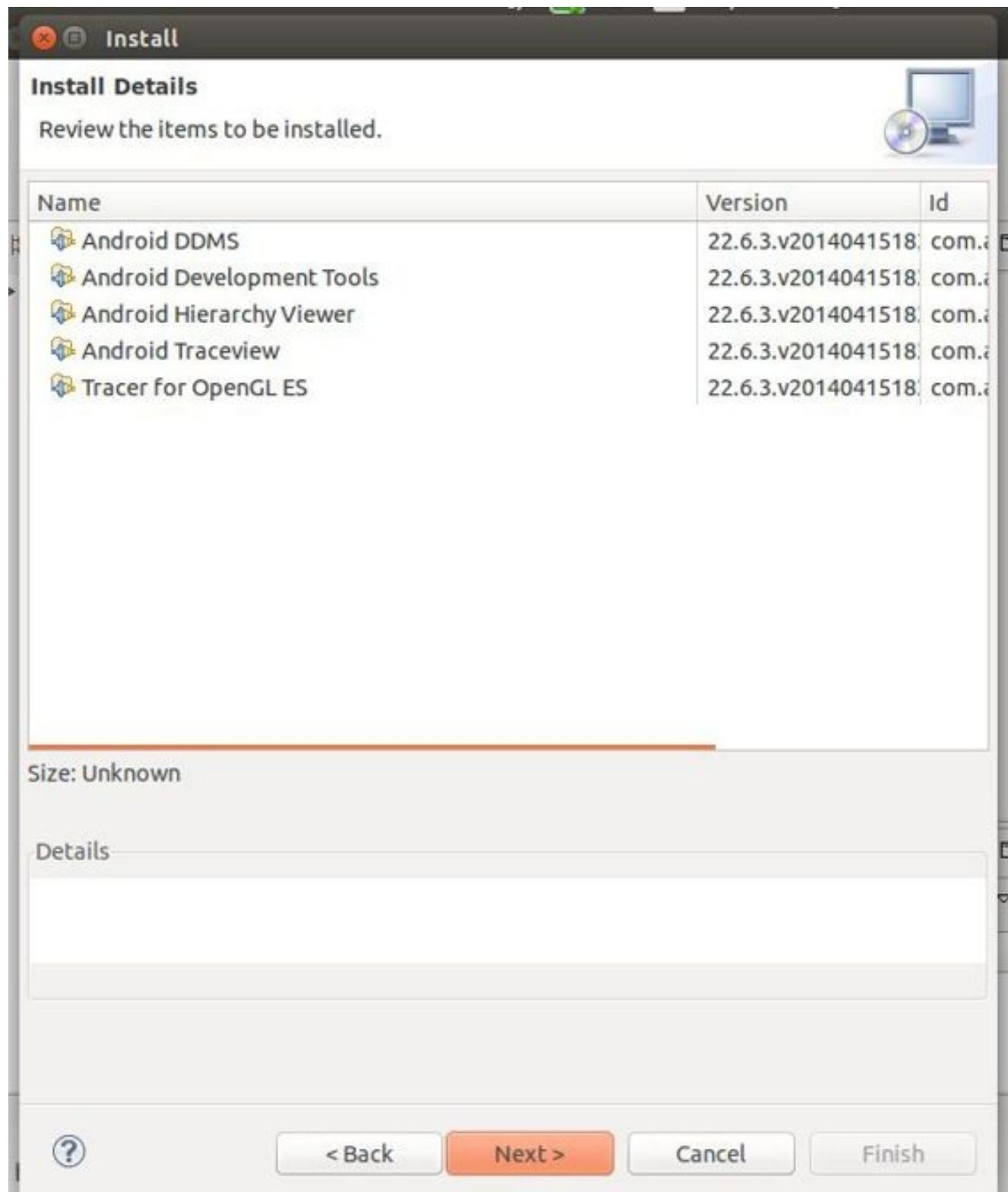
|  |
|--|
| Name : ADT Plugin  |
| Location : <a href="https://dl-ssl.google.com/android/eclipse/">https://dl-ssl.google.com/android/eclipse/</a> |



- Tick the checkbox of Developer Tools and then click Next>.



- Click Next>.



- Click “I accept the...” and click Finish.

**Install**

### Review Licenses

Licenses must be reviewed and accepted before the software can be installed.



**Licenses:**

- ▶ Apache License
- ▶ Note: jcommon-1.0.12.jar is under the BSD license
- ▶ Note: kxml2-2.3.0.jar is under the BSD license

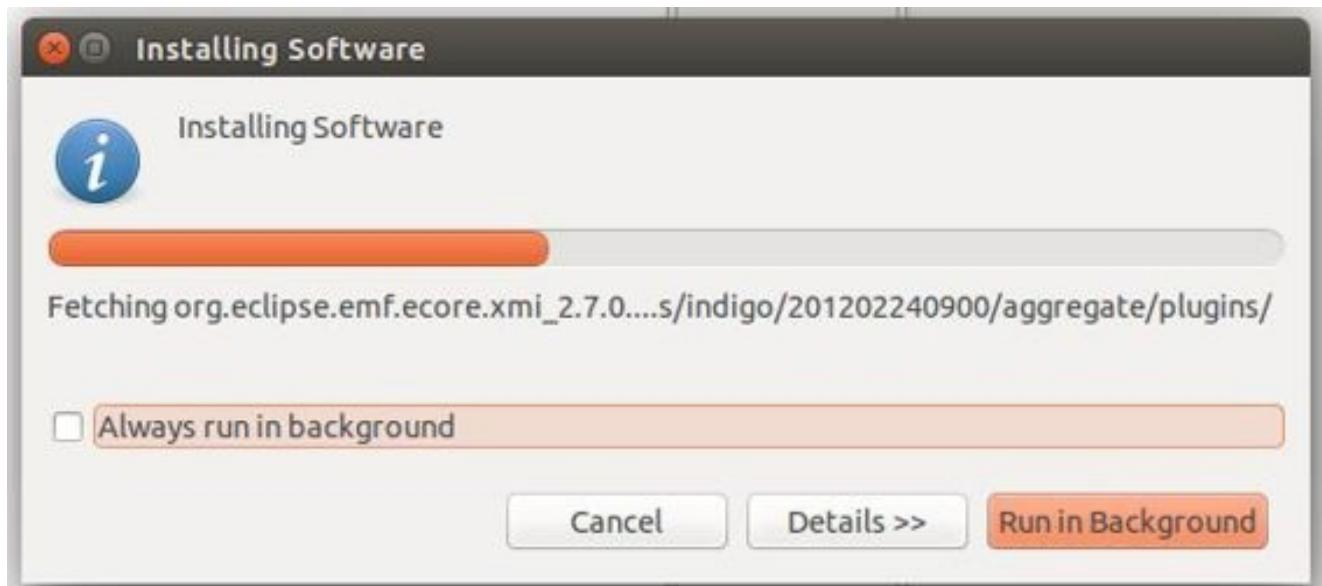
**License text:**

To apply the Apache License to your work, follow the steps below:  
1. Copy the boilerplate notice, with the fields enclosed in brackets "[]", and replace them with your own identifying information.  
(Don't include the brackets!) The text should be enclosed in appropriate comment syntax for the file format. We recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice.  
2. Identify the copyright owner.  
Copyright [yyyy] [name of copyright owner]  
3. Licensed under the Apache License, Version 2.0 (the "License");  
you may not use this file except in compliance with the License.  
You may obtain a copy of the License at  
<http://www.apache.org/licenses/LICENSE-2.0>

I accept the terms of the license agreement.  
 I do not accept the terms of the license agreement.

 [? < Back](#) [Next >](#) [Cancel](#) [Finish](#)

- Wait for the installation process.



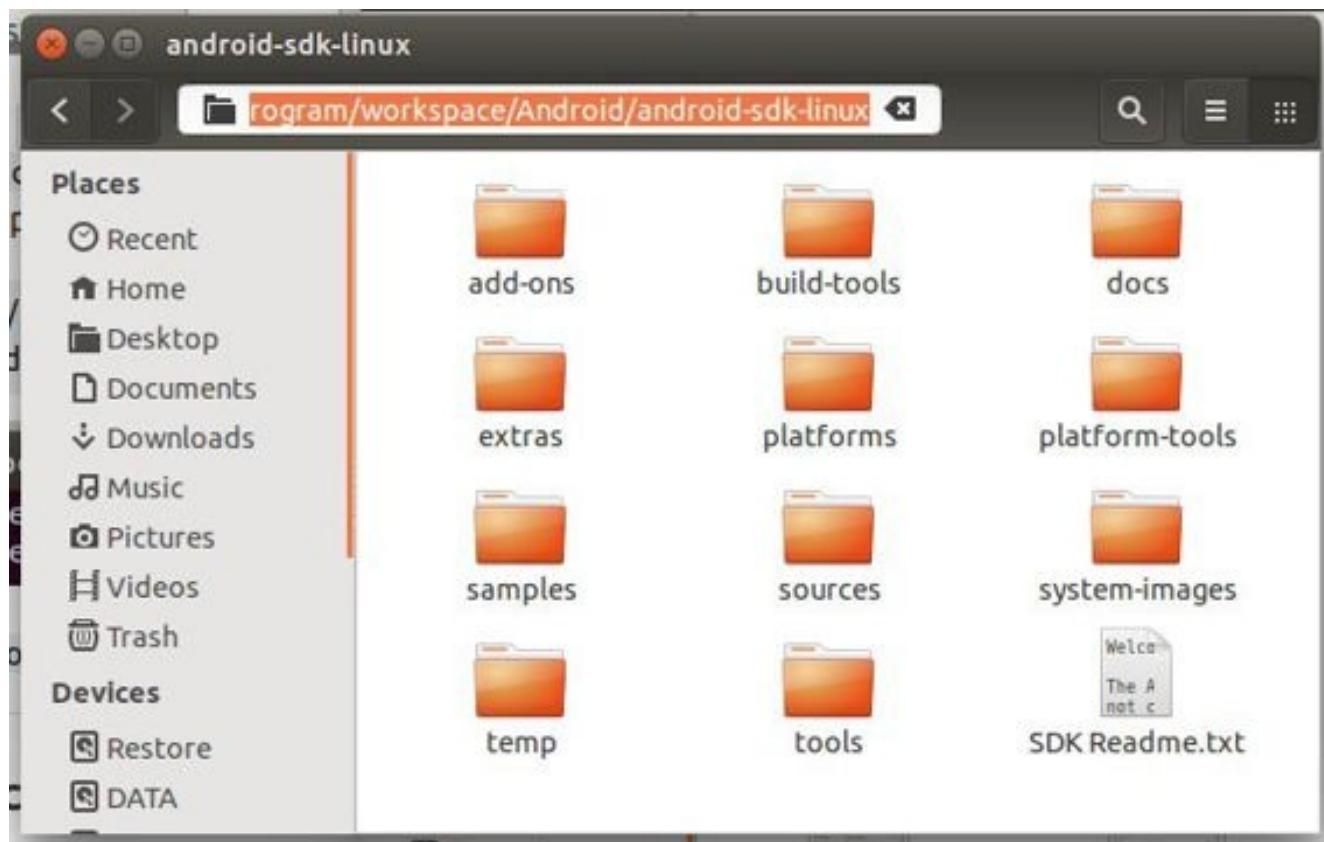
- Restart eclipse.



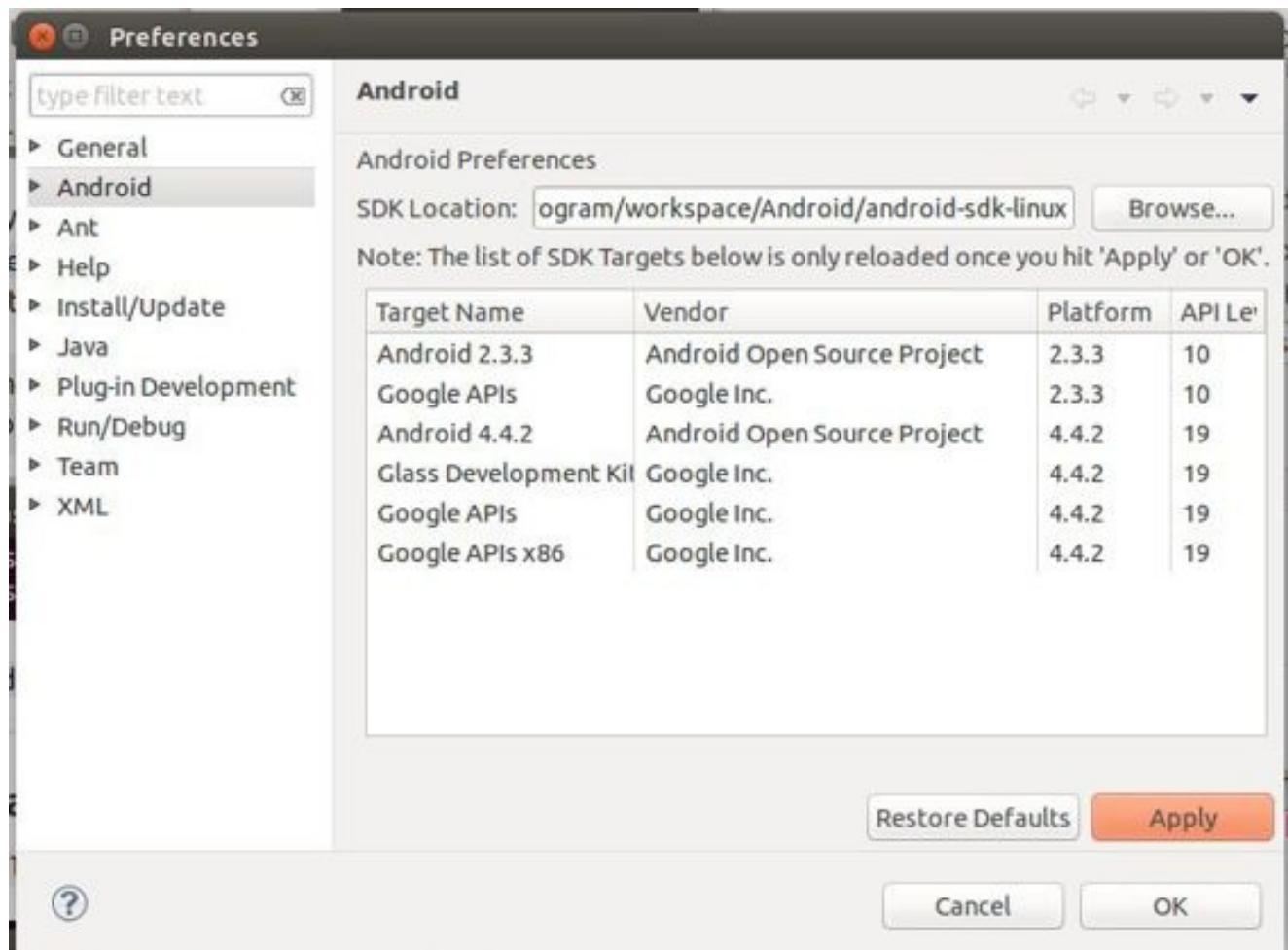
- Click Open Preferences.



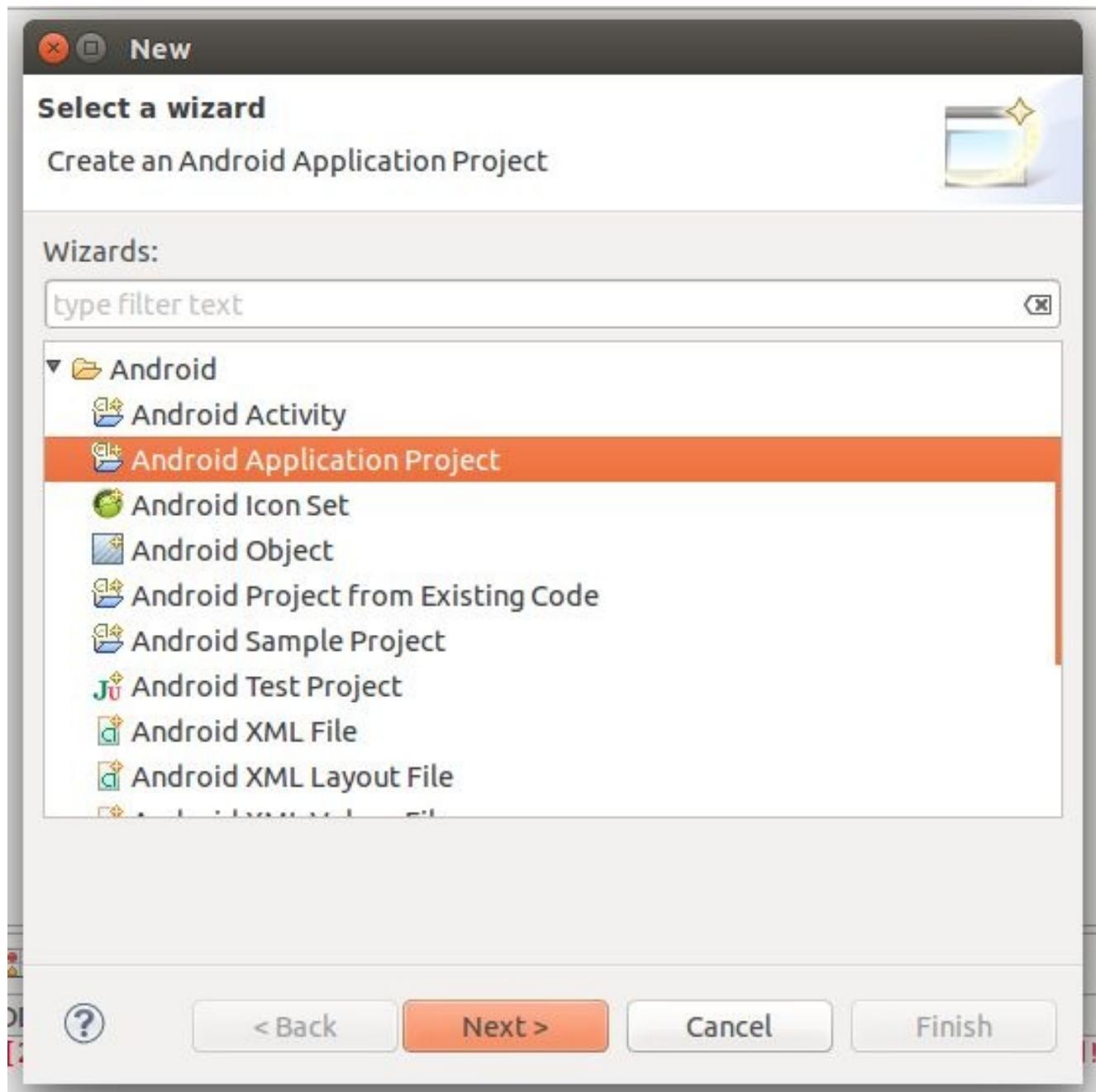
- Copy your own SDK location (The location of the file android-sdk-linux).



- Paste to the SDK Location: textbox and then click Apply and OK.



- Enjoy to create any android application with your Ubuntu.



---

Tags: [software-installation](#) ([Next Q](#))

---

## **Q: Installed Teamviewer using a 64-bits system, but I get a dependency error**

Tags: [software-installation](#) ([Next Q](#)), [apt](#) ([Next Q](#)), [dpkg](#) ([Next Q](#))

I was trying to install Teamviewer, but I was getting a dependency error. I tried to install them, but with no luck.

I'm getting this error:

[Skip code block](#)

```
Unpacking teamviewer (from teamviewer_linux_x64.deb) ...
dpkg: dependency problems prevent configuration of teamviewer:
 teamviewer depends on lib32asound2; however:
```

```
Package lib32asound2 is not installed.  
teamviewer depends on lib32z1; however:  
  Package lib32z1 is not installed.  
teamviewer depends on ia32-libs; however:  
  Package ia32-libs is not installed.  
  
dpkg: error processing teamviewer (--install):  
 dependency problems - leaving unconfigured  
Errors were encountered while processing:  
teamviewer
```

I tried

```
sudo apt-get -f install
```

Getting

#### Skip code block

```
Package ia32-libs is not available, but is referred to by another package.  
This may mean that the package is missing, has been obsoleted, or  
is only available from another source  
However the following packages replace it:  
  lib32z1 lib32ncurses5 lib32bz2-1.0  
  
Package lib32asound2 is not available, but is referred to by another package.  
This may mean that the package is missing, has been obsoleted, or  
is only available from another source  
  
E: Package 'lib32asound2' has no installation candidate  
E: Package 'ia32-libs' has no installation candidate
```

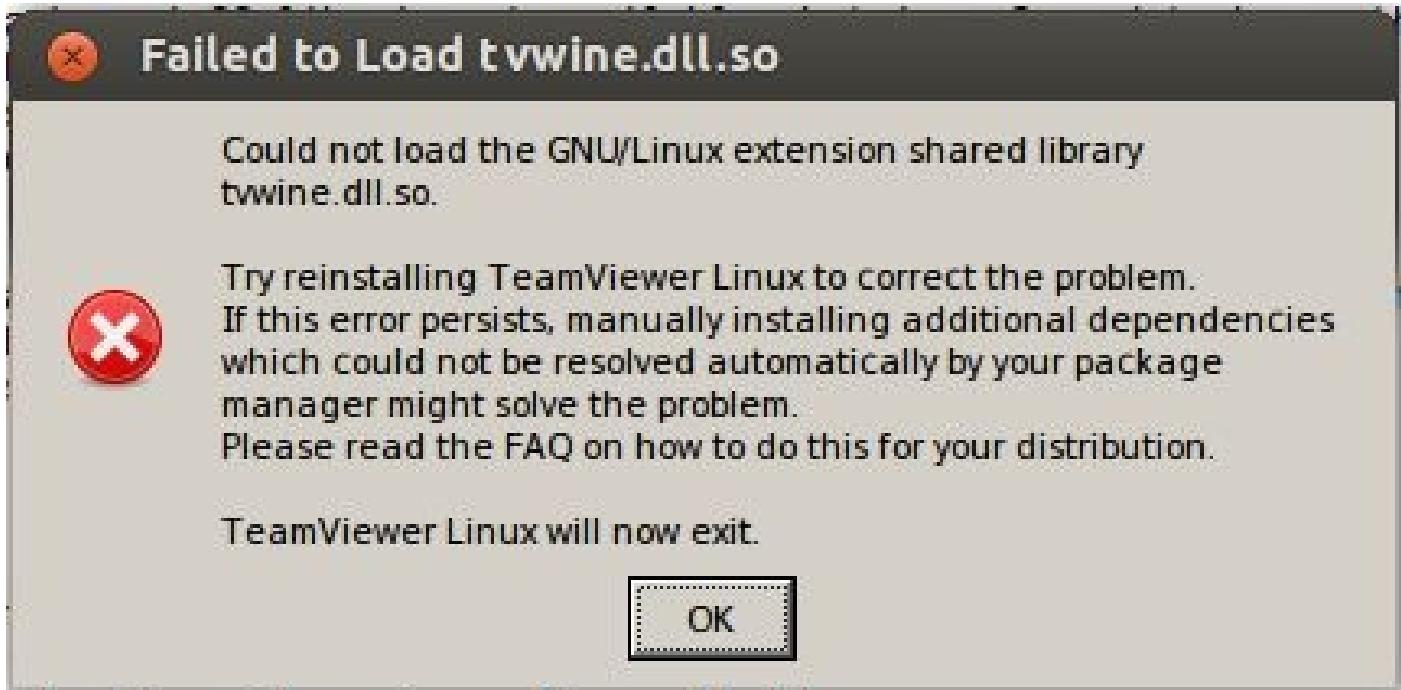
I can't even get to the

```
sudo dpkg -i teamviewer_linux_x64.deb
```

If I force installation

```
sudo dpkg --force-depends -i teamviewer_linux_x64.deb
```

Although it's "Setting up Teamviewer" it gives me this:



How can I fix this problem?

**Tags:** [software-installation](#) ([Next Q](#)), [apt](#) ([Next Q](#)), [dpkg](#) ([Next Q](#))

User: [the-mini-john](#)

---

[Answer](#) by [braiam](#)

The problem is that the `teamviewer_linux_x64.deb` has dependencies problems. Isn't recommended for distributions using multiarch (Ubuntu 12.04 and later). For said distributions the `teamviewer_linux.deb` package should be used.

This is noted in the [help page](#) of Teamviewer:

**Notes to Multiarch:**

On newer 64-bit DEB-systems with Multiarch-support (Debian 7) `teamviewer_linux_x64.deb` cannot be installed because the package `ia32-libs` is not available anymore on these systems. In this case you can use `teamviewer_linux.deb` instead.

# So, how to install it?

First, download it:

```
 wget http://www.teamviewer.com/download/teamviewer_linux.deb
```

Now you have 2 options. You can use gdebi (recommended) to solve the dependencies, or you can solve them yourself.

## Gdebi method:

First, install gdebi:

```
 sudo dpkg --add-architecture i386  
 sudo apt-get update  
 sudo apt-get install gdebi
```

In the same directory you downloaded the .deb file just run:

```
 sudo gdebi teamviewer_linux.deb
```

It will list the dependencies and install it with a y.

## Manual method:

Here you need to do everything manual. First, query the package dependencies so you can install them first:

```
 dpkg-deb -I teamviewer_linux.deb | grep Depends
```

It will return something like this:

```
 Depends: libc6 (>= 2.4), libgcc1, libasound2, libfreetype6, zlib1g, libsm6, libxdamage1, libxext6,  
 libxfixes3, libxrender1, libxtst6
```

Just installing such dependencies with :i386 should be enough:

```
 sudo apt-get install libc6:i386 libgcc1:i386 libasound2:i386 libfreetype6:i386 zlib1g:i386  
 libsm6:i386 libxdamage1:i386 libxext6:i386 libxfixes3:i386 libxrender1:i386 libxtst6:i386  
 libxrandr2:i386
```

Then installing Teamviewer as normal:

```
 sudo dpkg -i teamviewer_linux.deb
```

That should be all:

```
 dpkg --no-act -i Downloads/teamviewer_linux.deb  
 dpkg: could not open log '/var/log/dpkg.log': Permission denied  
 Selecting previously unselected package teamviewer.  
 (Reading database ... 210950 files and directories currently installed.)  
 Unpacking teamviewer (from Downloads/teamviewer_linux.deb) ...
```

**Tags:** [software-installation](#) ([Next Q](#)), [apt](#) ([Next Q](#)), [dpkg](#) ([Next Q](#))

**Q: Is FFmpeg missing from the official repositories in 14.04? **

**Tags:** [software-installation](#) ([Next Q](#))

I tried to install ffmpeg in trusty/Ubuntu 14.04 and got the following message:

```
$sudo apt-get install ffmpeg  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
Package ffmpeg is not available, but is referred to by another package.  
This may mean that the package is missing, has been obsoleted, or  
is only available from another source  
E: Package 'ffmpeg' has no installation candidate
```

Why isn't the package available?

**Tags:** [software-installation](#) ([Next Q](#))

**User:** [user254877](#)

---

[Answer](#)  by [livewirebt](#)

# FFmpeg and libav

## libav from the Ubuntu repositories

Ubuntu started shipping the [libav](#) fork instead of FFmpeg in recent releases. If you installed the [ffmpeg package](#), then you actually installed the [libav-tools package](#) and a program that told you to use avconv instead of ffmpeg in the future, giving the impression that ffmpeg is deprecated, which it is not.

The transitional ffmpeg package seems to have been removed from trusty/Ubuntu 14.04 (compare the *package files* listing for saucy and trusty of [the source package](#)).

So one option is to install the libav-tools package and use avconv instead (NB that this is not “mainline” FFmpeg but a prominent fork instead).

# FFmpeg from a PPA on Launchpad

Another option is to use a PPA that provides FFmpeg. Please have a look at the [FFmpeg download](#) page for details of possible PPA's.

## Related questions:

- [Are PPA's safe to add to my system and what are some “red flags” to watch out for?](#)

## **Install from source**

Another option is to install FFmpeg dependency packages, then manually compile+install it from source.

---

The following is what I could find, when researching this topic. I haven't been following the development of both projects closely and it is not my intention to blame anyone. You as a reader shouldn't do either.

# **How did the fork happen?**

Wikipedia states that the forked project as well as the initial release were announced on March 13th 2011, however there is a bit more that was going on.

# Digging through Git commits

- **18 Jan 2011** - commit [f4f5cab94e0881cd30965b28f3d78d9c63d6918e](#) 

The FFmpeg project leader Michael Niedermayer is removed from the `MAINTAINERS` file.

- **27 Jul 2011** - commit [6291d7e41605c0b1e9debfae8a2b1d4cf7b0e0b3](#) 

avconv is introduced:

Make a copy of ffmpeg under a new name — avconv.

It will be further developed with a few incompatible changes.

`ffmpeg.c` will stay as is for some time, so any scripts using it won't be broken.

- **27 Jul 2011** - commit [791a86c37a03b94207bc2d0ad4cbe7f39d7e495a](#) 

A warning is added to the forked version of `ffmpeg.c` source code, that may be misleading to users who haven't noticed about the fork and that they are not using FFmpeg anymore.

- **12 Jan 2012** - commit [0fec2cb15cc6ff1fcc724c774ec36abadcb7b6ad](#) 

`ffmpeg.c` is removed from the source code.

# **Official announcements on libav.org**

The following posts are from the news section (with the oldest in last):

# August 09 2011

Updated on 12.09.2011.

For consistency with our new name we have renamed **ffplay** to **avplay**, **ffserver** to **avserver** and **ffprobe** to **avprobe**. Their behavior is the same, just the names were changed.

With **ffmpeg** (the command line tool) we decided to use this opportunity to fix some longstanding usability problems, which involves breaking compatibility. Therefore we have added a new tool named **avconv** which is based on **ffmpeg**, but has a different (hopefully more powerful and easier to use) syntax for some options. **ffmpeg** will be kept in its current state for some time, so no scripts or frontends using it will break. However it will not be developed further.

Differences between **avconv** and **ffmpeg** are:

[...]

Note that the **avconv** interface is not considered stable yet. More incompatible changes may come in the following weeks. We will announce here when **avconv** is stable.

And earlier in 2011:

# Mar 18, 2011

We have just pushed another point release from our 0.6 release branch: [Libav 0.6.2](#). This is another maintenance-only release addressing two security issues.

From now on, we will be using our new project name **libav**. But don't worry, compared to the preceding release 0.6.1, the only functional changes are the two security fixes for the VC1 and APE decoders. This means that libav provides a painless drop-in replacement for existing FFmpeg installations.

Moreover, we are proud to accompany this source release with executables and libraries for the [win32 platform](#). These binaries include H.264 encoding using the bundled x264 library. Enjoy!

Distributors and system integrators are encouraged to update and share their patches against our release branches.

# Mar 17, 2011

We have just pushed another point release from our 0.5 release branch: [FFmpeg 0.5.4](#). This is another maintenance-only release that addresses a number of security issues.

Distributors and system integrators are encouraged to update and share their patches against our release branches.

# March 13, 2011

We, as a group of FFmpeg developers, have decided to continue developing FFmpeg under the name Libav. All existing infrastructure will be transferred to the libav.org domain.

- Website: <http://www.libav.org/> [link]
- Git: git://git.libav.org/libav.git (see <http://libav.org/download.html> [link])
- FATE: <http://fate.libav.org/> [link]
- Roundup: <https://roundup.libav.org/> [link]
- Patchwork: <http://patches.libav.org/> [link]
- Mailinglists: <http://lists.libav.org/> [link] (developer list: libav-devel@libav.org)

You can update your git repository using the following command:

```
git remote set-url origin 'git://git.libav.org/libav'
```

For now we are still reachable over FFmpeg's mailing lists and IRC channels but we will migrate to libav.org counterparts. For a transition period both the website and source might still contain references to FFmpeg. These will disappear over time, except where historically relevant.

# February 24, 2011

FFmpeg development has moved to Git, and the SVN repository is no longer updated. The SVN repository may be removed in a near future, so you're recommended to use a [Git repository](#) instead.

The last revision committed to SVN was r26402 on 2011-01-19 and replaced the svn:external libswscale with a standalone copy.

Note that FFmpeg development has in fact moved to a Git repository by now and that there are two Git repositories. See the corresponding projects download page.

---

[Answer](#) by [rutrus](#)

ffmpeg was replaced in previous releases by the avconv program from the libav project.

To install avconv you need to install the libav-tools package:

```
sudo apt-get install libav-tools
```

avconv is very similar to ffmpeg, but they also have some differences in syntax.

---

[Answer](#) by [guillaume](#)

You can also use this PPA: [ppa:jon-severinsson/ffmpeg](#)

```
sudo apt-add-repository ppa:jon-severinsson/ffmpeg
sudo apt-get update
sudo apt-get install ffmpeg
```

---

**Tags:** [software-installation](#) ([Next Q](#))

---

## [Q: Can sudo be reinstalled after being removed?](#)

**Tags:** [software-installation](#) ([Next Q](#)), [sudo](#) ([Next Q](#))

This seems to be a chicken-egg problem. The most common task using sudo is installing and removing software.

```
sudo apt-get purge <appname>
```

But sudo itself can be removed.

```
sudo apt-get purge sudo # Do not run this command on production computers!
```

This is where the fun comes

```
ubuntu@ubuntu:~$ sudo
bash: /usr/bin/sudo: No such file or directory
```

Although it's obvious that no person in his right mind will purge sudo (other than me),

**someone can be fooled** to run this command (not directly, in its hex mode, or whatever it's called) or **a person could SSH in** disguised as tech guru **and do the mess.**

So is there a way of reinstalling sudo?

**Tags:** [software-installation](#) ([Next Q](#)), [sudo](#) ([Next Q](#))

**User:** [registered-user](#)

---

[Answer](#)  by [radu-r&fdeanu](#)

I can install applications using:

```
pkexec apt-get install <appname>
```

From man pkexec:

```
pkexec allows an authorized user to execute PROGRAM as another user. If
username is not specified, then the program will be executed as the
administrative super user, root.
```

So, I suppose that `pkexec apt-get install sudo` should work as well.

---

**Edit:** now I can confirm: yes, sudo can be installed using using `pkexec apt-get install sudo`:

```
radu@Radu: ~ → sudo apt-get purge sudo
[sudo] password for radu:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages will be REMOVED:
 gksu* sudo* ubuntu-minimal* ubuntu-tweak*
0 upgraded, 0 newly installed, 4 to remove and 0 not upgraded.
After this operation, 5.527 kB disk space will be freed.
Do you want to continue [Y/n]? y
(Reading database ... 268717 files and directories currently installed.)
Removing ubuntu-tweak ...
Purging configuration files for ubuntu-tweak ...
Removing gksu ...
Purging configuration files for gksu ...
Removing ubuntu-minimal ...
Removing sudo ...
Purging configuration files for sudo ...
Processing triggers for desktop-file-utils ...
Processing triggers for gnome-menus ...
Processing triggers for bamfdaemon ...
Rebuilding /usr/share/applications/bamf-2.index...
Processing triggers for mime-support ...
Processing triggers for libgbz.0-0:i386 ...
Processing triggers for libgbz.0-0:amd64 ...
Processing triggers for gconf2 ...
Processing triggers for hicolor-icon-theme ...
Processing triggers for man-db ...
Processing triggers for ureadahead ...
ureadahead will be reprofiled on next reboot
radu@Radu: ~ → sudo apt-get install sudo
bash: /usr/bin/sudo: No such file or directory
radu@Radu: ~ → pkexec apt-get install sudo
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following package was automatically installed and is no longer required:
 libgksu2-0
Use 'apt-get autoremove' to remove it.
The following NEW packages will be installed:
 sudo
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 0 B/388 kB of archives.
After this operation, 1.286 kB of additional disk space will be used.
Selecting previously unselected package sudo.
(Reading database ... 268261 files and directories currently installed.)
Unpacking sudo (from .../sudo_1.8.6p3-0ubuntu3.1_amd64.deb) ...
Processing triggers for man-db ...
processing triggers for ureadahead ...
Setting up sudo (1.8.6p3-0ubuntu3.1) ...
Processing triggers for ureadahead ...
radu@Radu: ~ → sudo apt-get install gksu* sudo* ubuntu-minimal* ubuntu-tweak* #these app must to be reinstalled again
[sudo] password for radu:
```

(click to enlarge 

---

[Answer](#)  by [vojtech-trefny](#)

You can always boot into [Recovery Mode](#) , drop to root shell and install it without sudo.

---

[Answer](#)  by [avinash-raj](#)

Yes, reinstalling sudo package would be possible via **chroot** method.

- First boot from Ubuntu live disk.
- Mount the previously installed Ubuntu partition into whatever directory you want. In my case, i mounted it in /media/ubuntu.

```
sudo mkdir /media/ubuntu
sudo mount /dev/sdaX /media/ubuntu    # /dev/sdaX - previously installed Ubuntu partition.
```

- By default you didn't able to get internet connection after chrooted into a partition. So run the below command to make it work.

```
for d in dev sys run proc; do sudo mount --bind /$d /media/ubuntu/$d ; done
```

Thanks to @Oli for [this](#) wonderful piece of code .

- Now chroot into that mounted directory,

```
$ sudo chroot /media/ubuntu  
# apt-get update
```

- Install sudo package by running,

```
# apt-get install sudo
```

- Now exit out of chrooted environment.

```
exit
```

- Finally boot up your Ubuntu OS.Now test your sudo command, it will surely works.

---

**Tags:** [software-installation](#) ([Next Q](#)), [sudo](#) ([Next Q](#))

---

## **Q: How to install Skype 4.3?**

**Tags:** [software-installation](#) [skype](#) ([Next Q](#))

Skype 4.3 is just released with considerable improvements. As a regular Skype user I want to use the latest Skype on my Ubuntu 14.04, but there is no updates from Update Manager. Even in Skype website only Skype 4.3 is available only for Ubuntu 12.04. Is there anyway to use this latest Skype on Ubuntu 14.04 or how much we have to wait for the update?

**Tags:** [software-installation](#) [skype](#) ([Next Q](#))

**User:** [tuxtu](#)

---

[Answer](#)  by [kasiya](#)

## **Step 1: Remove previous version.**

```
sudo apt-get remove skype skype-bin:i386 skype:i386  
sudo apt-get install sni-qt:i386
```

**It is Important if you installed older version of Skype on your Ubuntu, Clear the old Skype folder before installing latest version. Then clear that by using:**

```
rm -rf ~/Skype
```

## **Step 2: Preparing to Installing Skype.**

- Users of 64-bit Ubuntu, should enable [MultiArch](#) if it isn't already enabled by running the command

```
sudo dpkg --add-architecture i386
```

- Update repositories and “updates” list:

```
sudo apt-get update  
sudo apt-get install gdebi #(read Why you need to install gdebi...)
```

## Step 3: Installing Skype

### Method 1: Download and install from file

```
wget download.skype.com/linux/skype-ubuntu-precise_4.3.0.37-1_i386.deb  
sudo gdebi skype-ubuntu-precise_4.3.0.37-1_i386.deb
```

### Method 2: Install Skype from [Canonical Partner Repository](#)

So add the Canonical Partner Repository to “updates” list by following the command:

```
sudo add-apt-repository "deb http://archive.canonical.com/ $(lsb_release -sc) partner"
```

Then install Skype via the [Software-Center](#) or via the Terminal.

```
sudo apt-get update && sudo apt-get install skype
```

[source](#)

### Why you need to install gdebi instead of using dpkg or Ubuntu software center.

**dpkg** (for Debian package) is a software tool from the command line is responsible for installing, creating, deleting, and managing Debian (packets deb), the type of packets processed by Ubuntu. It also allows the Debian package management from sources outside the apt repositories.

To install packages, dpkg has a graphical interface, **gdebi**, you can use if you prefer to avoid the command line.

**gdebi** is an application installation and management of Debian (.deb) packages. This is a utility that works both in graphic mode console and allow the installation of packages outside of APT deposits : from a website, CD-ROM, portable media, etc. It has the same functionality as apt-get or Ubuntu Software Center : it ensures that the package to be installed is compatible with the version and architecture of the Ubuntu system in which you try to install it, and also ensures that all dependencies required by the package are satisfied. Otherwise, the dependencies are downloaded from the Internet. Using tabs, gdebi also provides access to important information such as folder paths in which to install the various files from .deb package.

Finally gdebi is a lightweight deb packages installer which was the default in Ubuntu Desktop. Now Ubuntu uses Ubuntu Software Center which is slow and sometimes you get The package is of bad quality error.

## **Read more about GDebi:**

To install a package you have downloaded from a website, rather than from a software repository. These packages are called .deb files. Because they may have been created for a different Linux distribution, you might find that there's dependency issues with Ubuntu, meaning that they may be uninstallable.

gdebi is a simple tool to install .deb files. It has a graphical user interface but can also be used in your terminal. It lets you install local deb packages **resolving and installing its dependencies.. It automatically checks packages for their dependencies and will try to download them from the Ubuntu software repositories if possible**. You may first need to install gdebi - simply install the gdebi package using one of the package managers like dkpg, Synaptic or open a Terminal and type `sudo apt-get install gdebi`. Once you have installed gdebi, use the File Browser to find the package you want to install.

Double-click the package to open it with gdebi. If all dependencies have been met for the selected package, simply click the `Install` package button to install it. **gdebi will warn you if there are unmet dependencies, which means that there's dependencies that aren't resolved in the repositories that you're using.**

---

[Answer](#)  by [warrior64](#)

# Install From Ubuntu Software Center

As of August 2, 2014, you can now install Skype 4.3 directly from the Ubuntu Software Center.

To do this, you must first enable the Canonical Partner Repository, using the following steps (based on steps provided by OMG! Ubuntu; see [source](#)):

- Search for and open Software Sources or ‘Software & Updates’ in the Unity Dash
- Select the Other Software tab
- Check/tick the boxes next to the two entries headed Canonical Partners
- Exit, and hit Ok on the software reload prompt

Then search for Skype in the Ubuntu Software Center and install it as you would any other software.

([Source](#))

# Install From Skype's Website

You can download the latest version of Skype as a .deb package [directly from its website](#). Choose the 12.04 (multiarch) version if you're running Ubuntu 12.04 LTS or newer; it'll still work if you're on i.e. 14.04 LTS, because that's just what Microsoft lists as the minimum Ubuntu version.

Once you have it, run the following commands to ensure your system is clear of any previous installations:

```
sudo apt-get remove skype skype-bin:i386 skype:i386
```

Then double-click on the downloaded .deb file to open it in the Ubuntu Software Center and install it like any other software.

Afterwards, also run the following command in the terminal to ensure that support for the indicator menu is available:

```
sudo apt-get install sni-qt:i386
```

Now you can find Skype in the dash, run it and enjoy it!

(Source: [WebUpd8](#))

---

**Tags:** [software-installation](#) [skype](#) ([Next Q](#))

---

[Q: How do I install Adobe Flash player?](#)

---

[Q: What's the easiest way to set up a LAMP stack?](#)

---

[Q: What is the best place to install user apps?](#)

---

[Q: How do I install the latest stable version of Firefox?](#)

---

[Q: How can I accept the Microsoft EULA agreement for ttf-mscorefonts-installer?](#)

---

[Q: How do I install and use the latest version of GNOME?](#)

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[Q: How do I install a .tar.gz \(or .tar.bz2\) file?](#)

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[Q: How to install Eclipse?](#)

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[Q: How do I install a .deb file via the command line?](#)

---

[Q: How do I install the latest version of node.js?](#)

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[Q: How to automatically fetch missing dependencies when installing software from .deb?](#)

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[Q: How to install Chrome browser properly via command line?](#)

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[Q: How would I install Picasa 3.9?](#)

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[Q: How can I install Adobe AIR?](#)

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[Q: How do I install the Cinnamon Desktop?](#)

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[Q: What is the correct way to install proprietary ATI Catalyst Video Drivers \(fglrx\) directly from AMD?](#)

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[Q: How do I resolve unmet dependencies?](#)

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[Q: How do I install the latest TeX Live 2012?](#)

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[Q: How do I install Sublime Text 2/3?](#)

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[Q: How do I update Oracle Java 7 \(JDK and JRE\)](#)

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[Q: How to install Internet Explorer \(multiple versions\)?](#)

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[Q: How to add “Open terminal here” to Nautilus’ context menu?](#)

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[Q: How do I install LibreOffice 4?](#)

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[Q: How to install gcc-4.8](#)

---

[Q: How can I install and use powerline plugin?](#)

---

[Q: How to install Wine](#)

---

[Q: Complete Installation Guide for Android SDK / ADT Bundle on Ubuntu](#)

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[Q: Installed Teamviewer using a 64-bits system, but I get a dependency error](#)

---

[Q: Is FFmpeg missing from the official repositories in 14.04?](#)

---

[Q: Can sudo be reinstalled after being removed?](#)

---

[Q: How to install Skype 4.3?](#)

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# APT

[Skip to questions](#), Wiki by user [olli](#)

APT uses dpkg (Debian package management system) as a backend. APT downloads the package list, keeps track of all packages installed, solves dependencies and removes unnecessary packages. It also allows you to query the cache, upgrade packages, manage packages from multiple repositories, etc.

Any question about the APT itself or its tools should use this tag, this include:

- apt-config: to manage APT configuration.
- apt: command-line interface of apt, available from apt 1.0 (Ubuntu 14.04). Plans to replace several utilities.
- apt-key: manage the different GPG keys for repositories
- apt-cdrom: manage CD-ROM entries
- apt-cache: query the apt cache
- apt-mark: to mark specific packages as automatically or manually installed
- apt-get: the default package handling utility

Questions about editing or configuring APT itself using the files in the directory /etc/apt (e.g. pinning) and questions about other directories that are also related to APT, and the usage of the different APT APIs, calls and libraries, like python-apt should all be tagged with [apt](#).

There are other front ends for most of the functions of the tools included in the apt package, like aptitude, wajig and dselect.

[The Debian wiki page for apt](#).

---

# Questions

## [Q: How can PPAs be removed?](#)

**Tags:** [apt](#) ([Next Q](#)), [ppa](#) ([Next Q](#))

I've added many PPAs using the add-apt-repository command. Is there a simple way to remove these PPAs? I've checked in /etc/apt/sources.list for the appropriate deb lines but they aren't there.

This is on a server system so a command line solution would be great!

**Tags:** [apt](#) ([Next Q](#)), [ppa](#) ([Next Q](#))

**User:** [david-ashford](#)

---

[Answer](#)  by [giorgi-jvaridze](#)

Use the --remove flag, similar to how the PPA was added:

```
sudo add-apt-repository --remove ppa:whatever/ppa
```

You can also remove PPAs by deleting the .list files from /etc/apt/sources.list.d directory.

---

[Answer](#)  by [izx](#)

Simply run *apt-add-repository* again with the --remove option to remove a PPA added via the command-line, for example:

```
sudo apt-add-repository --remove ppa:kernel-ppa/ppa
```

Then update with:

```
sudo apt-get update
```

---

[Answer](#)  by [kone4040](#)

You can use the

```
sudo ppa-purge ppa:repository-name/subdirectory
```

command in a terminal.

You will first need to install ppa-purge to use this command. To do so, use sudo apt-get install ppa-purge or click this button:

# Missing Image

Find out more about it [here](#).

---

**Tags:** [apt](#) ([Next Q](#)), [ppa](#) ([Next Q](#))

---

## **Q: How can I see all versions of a package that are available in the archive?**

---

**Tags:** [apt](#) ([Next Q](#)), [package-management](#) ([Next Q](#))

Is there a way I can see all the versions that are in the archives that I have configured in sources.list. I can see the last version of each archive with “apt-get policy”, but how can I see all?

Is there any way that this can also include ppa and anything in sources.list.d?

**Tags:** [apt](#) ([Next Q](#)), [package-management](#) ([Next Q](#))

**User:** [txwikinger](#)

---

[Answer](#) by [li-lo](#)

As far as I understand your requirements, the madison option for apt-cache does what you want:

madison /[ pkg(s) ]

apt-cache's madison command attempts to mimic the output format and a subset of the functionality of the Debian archive management tool, madison. It displays available versions of a package in a tabular format. Unlike the original madison, it can only display information for the architecture for which APT has retrieved package lists (APT::Architecture).

On my computer:

```
$ apt-cache madison f-spot
  f-spot | 0.7.2-1~ppa~lucid0 | http://ppa.launchpad.net/f-spot/f-spot-ppa/ubuntu/ lucid/main
  Packages
  f-spot | 0.6.1.5-2ubuntu7 | http://ro.archive.ubuntu.com/ubuntu/ lucid-updates/main Packages
  f-spot | 0.6.1.5-2ubuntu6 | http://ro.archive.ubuntu.com/ubuntu/ lucid/main Packages
  f-spot | 0.6.1.5-2ubuntu6 | http://ro.archive.ubuntu.com/ubuntu/ lucid/main Sources
  f-spot | 0.6.1.5-2ubuntu7 | http://ro.archive.ubuntu.com/ubuntu/ lucid-updates/main Sources
```

I hope this is what you need. It also includes the ppas.

---

[Answer](#) by [lfaraone](#)

The rmadison program from the devscripts package will remotely query the Ubuntu archive and give you the status of a package in all supported releases, not only those you have locally installed. This is slightly more than what you want, but should get the job done easily.

Example:

[Skip code block](#)

```
lfaraone@stone:~$ rmadison sudo
sudo | 1.6.8p12-1ubuntu6 | dapper | source, amd64, i386, powerpc
sudo | 1.6.8p12-1ubuntu6.3 | dapper-security | source, amd64, i386, powerpc
sudo | 1.6.8p12-1ubuntu6.3 | dapper-updates | source, amd64, i386, powerpc
sudo | 1.6.9p10-1ubuntu3 | hardy | source, amd64, i386
sudo | 1.6.9p10-1ubuntu3.8 | hardy-security | source, amd64, i386
sudo | 1.6.9p10-1ubuntu3.8 | hardy-updates | source, amd64, i386
sudo | 1.6.9p17-1ubuntu3 | jaunty | source, amd64, i386
sudo | 1.6.9p17-1ubuntu3.3 | jaunty-security | source, amd64, i386
sudo | 1.6.9p17-1ubuntu3.3 | jaunty-updates | source, amd64, i386
sudo | 1.7.0-1ubuntu2 | karmic | source, amd64, i386
sudo | 1.7.0-1ubuntu2.4 | karmic-security | source, amd64, i386
sudo | 1.7.0-1ubuntu2.4 | karmic-updates | source, amd64, i386
sudo | 1.7.2p1-1ubuntu5 | lucid | source, amd64, i386
sudo | 1.7.2p1-1ubuntu5.1 | lucid-security | source, amd64, i386
sudo | 1.7.2p1-1ubuntu5.1 | lucid-updates | source, amd64, i386
sudo | 1.7.2p7-1ubuntu1 | maverick | source, amd64, i386
```

**Tags:** [apt](#) ([Next Q](#)), [package-management](#) ([Next Q](#))

## **Q: “The following packages have been kept back:” Why and how do I solve it?**

**Tags:** [apt](#) ([Next Q](#)), [package-management](#) ([Next Q](#))

I just added a PPA repository for the development version of the GIMP, but I get this error

```
The following packages have been kept back:
gimp gimp-data libgegl-0.0-0 libgimp2.0
```

Why and how can I solve it so that I can use the latest version instead of the one I have now?

**Tags:** [apt](#) ([Next Q](#)), [package-management](#) ([Next Q](#))

**User:** [jfoucher](#)

**Answer**  by [mac9416](#)

According to [an article on debian-administration.org](#) ,

If the dependencies have changed on one of the packages you have installed so that a new package must be installed to perform the upgrade then that will be listed as “kept-back”.

That article says `sudo apt-get dist-upgrade` will force the installation of those newer packages.

### **Note:**

`dist-upgrade` will install *all* pending updates, with their new dependencies. If for some reason, you don’t want to do that, you should use `apt-get install package-name dependency-package-name` instead.

---

[Answer](#)  by mudy

apt-get dist-upgrade is dangerous for stable environment,

1. wrong source.list setting and you end up with broken ubuntu.
2. you might get entire application upgraded to version you dont want.

Use case: kernel upgrade kept back, you just want to upgrade the kernel, dont want to upgrade entire distribution.

Better way to handle kept back package:

```
sudo aptitude
```

If you have kept back package you should see Upgradable Packages on top of the list.

- Hit + on that list
- Hit g twice
- Answer debconf stuff if asked
- Press return to continue
- Press Q
- Press yes

Your kept back package installed.

---

[Answer](#)  by [user88285](#)

Whenever you receive from the command apt-get upgrade the message

```
The following packages have been kept back:
```

then to upgrade one or all of the kept-back packages, without doing a distribution upgrade (this is what dist-upgrade does, if I remember correctly) is to issue the command:

```
apt-get install <list of packages kept back>
```

this will resolve the kept-back issues and will ask to install additional packages, etc. as was explained by other answers.

---

**Tags:** [apt \(Next Q\)](#), [package-management \(Next Q\)](#)

---

## [\*\*Q: Is aptitude still considered superior to apt-get?\*\*](#)

**Tags:** [apt \(Next Q\)](#), [package-management \(Next Q\)](#)

When I first started with Ubuntu using aptitude was the ‘in-thing’, with some stated improvements over apt-get. Am I correct in saying that apt-get has now ‘caught up’ with aptitude, and it makes little difference which is used (although it is preferable to choose one or the other, and stick with it)?

Moreover, with aptitude set to be removed from a default Ubuntu install, should

everyone revert to apt-get, especially when guiding new users interested in the CLI?

**Tags:** [apt](#) ([Next Q](#)), [package-management](#) ([Next Q](#))

**User:** [8128](#)

---

[Answer](#)  by [riccardo-murri](#)

As far as I can see, in 10.04, the main differences between aptitude and apt-get are:

1. aptitude adds explicit per-package flags, indicating whether a package was automatically installed to satisfy a dependency: you can manipulate those flags (`aptitude markauto` or `aptitude unmarkauto`) to change the way aptitude treats the package.  
apt-get keeps track of the same information, but will not show it explicitly. `apt-mark` can be used for manipulating the flags.
2. aptitude will offer to remove unused packages each time you remove an installed package, whereas apt-get will only do that if explicitly asked to with `apt-get autoremove` or specify `--auto-remove`.
3. aptitude acts as a single command-line front-end to most of the functionalities in both apt-get and apt-cache.
4. In contrast to apt-cache's "search", aptitude's "search" output also shows the installed/removed/purged status of a package (plus aptitude's own status flags). Also, the "install" output marks which packages are being installed to satisfy a dependency, and which are being removed because unused.
5. aptitude has a (text-only) interactive UI.

I personally use only aptitude for my command-line package management (and I never use the text UI); I find its output more readable than apt-get/apt-cache.

However, if aptitude will be no longer standard on Ubuntu, there's no other choice than use apt-get in instructions and how-to documents.

(Personally, I'm rather disappointed to see it go away in 10.10; especially since the improvements of aptitude over apt-get are mostly on the usability side. I guess they deemed that those conversant with the command-line know how to get aptitude back, and those who don't use the command-line will not care...)

---

[Answer](#)  by [itsadok](#)

I guess it's a matter of personal choice by now. I find typing `aptitude search` makes more sense to me than `apt-cache search`, and I like that it tells me which packages I have installed right there in the search output, instead of having to run `dpkg -l`.

---

**Tags:** [apt](#) ([Next Q](#)), [package-management](#) ([Next Q](#))

---

## [Q: What is the easiest way to resolve apt-get BADSIG GPG errors?](#)

**Tags:** [apt](#) ([Next Q](#))

I frequently cross this issue, and always have to google for an answer. Does anyone have a permanent fix for BADSIG errors from apt - get?

W: GPG error: <http://download.virtualbox.org> lucid Release: The following signatures were invalid: **BADSIG 54422A4B98AB5139 Oracle Corporation (VirtualBox archive signing key)**

**Tags:** [apt](#) ([Next Q](#))

**User:** [casey](#)

---

[Answer](#) by [qbi](#)

The important part of your error message is the following in **bold**:

W: GPG error: <http://download.virtualbox.org> lucid Release: The following signatures were invalid: **BADSIG 54422A4B98AB5139 Oracle Corporation (VirtualBox archive signing key)**

Copy the stuff in **bold** and then open a terminal and type:

```
sudo apt-key adv --recv-keys --keyserver keyserver.ubuntu.com 54422A4B98AB5139
```

i.e. paste using SHIFT + INS the number you have copied - **54422A4B98AB5139**

You'll have to enter your password, the key will be downloaded and integrated.

---

[Answer](#) by [srinivas-gollapudi](#)

Here's the (easiest) solution:

Type the following commands in the Terminal:

```
$ sudo -i  
# apt-get clean  
# cd /var/lib/apt  
# mv lists lists.old  
# mkdir -p lists/partial  
# apt-get clean  
# apt-get update
```

[Credits: ubuntugeek.com](#)

**Edit:**

If the error occurs again (maybe after a few days/months), open Nautilus as root > navigate to var/lib/apt > delete the “lists.old” folder > then open the “lists” folder and delete the “partial” folder. Now, execute the aforementioned commands again.

---

[Answer](#) by [portablejim](#)

Try deleting the key

```
sudo apt-key del 16126D3A3E5C1192
```

then updating the repository

```
sudo apt-get update
```

You should get a NO\_PUBKEY error instead of a BADSIG error and

```
sudo apt-key finger
```

should **not** find the key (called “Ubuntu Extras Archive Automatic Signing Key”)

Now add the key

```
sudo apt-key adv --recv-keys --keyserver keyserver.ubuntu.com 16126D3A3E5C1192
```

The result of apt-key finger should have

```
pub 1024D/3E5C1192 2010-09-20
      Key fingerprint = C474 15DF F48C 0964 5B78 6094 1612 6D3A 3E5C 1192
uid          Ubuntu Extras Archive Automatic Signing Key <ftpmaster@ubuntu.com>
```

If that does not work, try

```
apt-get clean          # Remove cached packages
cd /var/lib/apt
mv lists lists.old    # Backup mirror info
mkdir -p lists/partial # Recreate directory structure
apt-get clean
apt-get update         # Fetch mirror info
```

Source: [this](#)  ubuntu forums thread

Tags: [apt](#) ([Next Q](#))

## Q: How do I fix the GPG error “NO\_PUBKEY”?

Tags: [apt](#) ([Next Q](#))

I added some extra repositories with the Software Sources program. But when I reload the package database, I get an error like the following:

GPG error [...] NO\_PUBKEY [...]

I know I can fix it using apt-key in a terminal, according to the official Ubuntu documentation. But I would have liked to do it graphically. Is there a mean not to open a terminal?

Tags: [apt](#) ([Next Q](#))

User: [agmenor](#)

Answer  by [monotasker](#)

By far the simplest way to handle this now is with Y-PPA-Manager (which now integrates

the `launchpad-getkeys` script with a graphical interface).

1. To install it, first add the `webupd8` repository for this program:

```
sudo add-apt-repository ppa:webupd8team/y-ppa-manager
```

2. Update your software list and install `Y-PPA-Manager`:

```
sudo apt-get update  
sudo apt-get install y-ppa-manager
```

3. Run `y-ppa-manager` (from the dash if you like).

4. When the main `y-ppa-manager` window appears, click on “Advanced.”

5. From the list of advanced tasks, select “Try to import all missing GPG keys” and click OK.

You’re done! As the warning dialog says when you start the operation, it may take quite a while (about 2 minutes for me) depending on how many PPA’s you have and the speed of your connection.

---

[Answer](#)  by [karthick87](#)

Execute the following commands in terminal

```
sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys 8BAF9A6F
```

and then update

```
sudo apt-get update
```

---

[Answer](#)  by [htorque](#)

You need to get and import the key.

To get the key from a PPA, visit the PPA’s Launchpad page. On every PPA page at Launchpad you will find this link (2), after clicking on ‘Technical details about this PPA’ (1):

# Missing Image

Follow it and click on the key ID link (3):

# Missing Image

Save the page, this is your key file.

---

Now it's time to import it:

- Applications > Software Center,
- Edit > Software sources...,
- Enter your password,
- Go to the Authentication tab and click on Import Key File..., finally
- Select the saved key file and click on OK.

That's it.

---

**Tags:** [apt](#) ([Next Q](#))

---

## **Q: How to list all installed packages?**

**Tags:** [apt](#) ([Next Q](#)), [packages](#) ([Next Q](#))

I'd like to output a list of all installed packages into a text file, so that I can review it and bulk-install on another system. How to do this?

**Tags:** [apt](#) ([Next Q](#)), [packages](#) ([Next Q](#))

**User:** [ivan](#)

---

[Answer](#)  by [sabacon](#)

To get a list of packages installed locally do this in your terminal:

```
dpkg --get-selections | grep -v deinstall
```

To save that list to a text file called packages on your desktop do this in your terminal:

```
dpkg --get-selections | grep -v deinstall > ~/Desktop/packages
```

(you don't need to run this as the superuser, so no sudo necessary here)

---

[Answer](#)  by [gogaman](#)

## **Create a backup of what packages are currently installed:**

```
dpkg --get-selections > list.txt
```

## **Then (on another system) restore installations from that list:**

```
dpkg --clear-selections  
sudo dpkg --set-selections < list.txt
```

## **To get rid of stale packages**

```
sudo apt-get autoremove
```

## To get installed like at backup time (i.e. to install packages set by dpkg --set-selections)

```
sudo apt-get dselect-upgrade
```

[Answer](#)  by [intuited](#)

To get just the packages which were expressly installed (not just installed as dependencies), you can run

```
aptitude search '~i!~M'
```

This will also include a brief description, which you may want. If not, use the option -F '%p', as mentioned by karthick87.

~~caveat: as pointed out by gertvdijk in the comments, aptitude is not currently (as of 2013-01-11) considered reliable. This applies to releases starting with 11.10. Our not-thoroughly-informed consensus seems to be that it will most likely work properly for the purposes of this question, but that you should nonetheless be wary until the fix works its way into active Ubuntu releases.~~ As pointed by another gertvdijk comment, this problem was fixed and the method is reliable yet again.

Yet another option seems to be to copy the file /var/lib/apt/extended\_states, which is a text file database in this format:

```
Package: grub-common
Architecture: amd64
Auto-Installed: 0

Package: linux-headers-2.6.35-22-generic
Architecture: amd64
Auto-Installed: 1
```

Auto-Installed: 0 indicates that the package was expressly installed and is not just a dependency.

**Tags:** [apt](#) ([Next Q](#)), [packages](#) ([Next Q](#))

## [Q: How do I get the source code of packages installed through apt-get?](#)

**Tags:** [apt](#) ([Next Q](#))

I am assuming that all application installed through apt-get are open source; but for those that are available in that manner, where can I get the source code for these applications as well as update them?

I have a couple applications I use regularly that aren't being actively developed any longer

and I would like to add features. Where would I go to get the rights to update these applications?

In this case specifically, I am referring to the **hellanzb** package

**Tags:** [apt](#) ([Next Q](#))

**User:** [myusuf3](#)

---

**Answer**  by [alvin-row](#)

Use the command `apt-get source <package>` (don't use sudo with it) to download the source of a package.

From `man apt-get`:

[Skip code block](#)

```
source
    source causes apt-get to fetch source packages. APT will examine the
    available packages to decide which source package to fetch. It will then
    find and download into the current directory the newest available version of
    that source package while respect the default release, set with the option
    APT::Default-Release, the -t option or per package with the pkg/release
    syntax, if possible.

    Source packages are tracked separately from binary packages via deb-src type
    lines in the sources.list(5) file. This means that you will need to add such
    a line for each repository you want to get sources from. If you don't do
    this you will properly get another (newer, older or none) source version
    than the one you have installed or could install.

    If the --compile option is specified then the package will be compiled to a
    binary .deb using dpkg-buildpackage, if --download-only is specified then
    the source package will not be unpacked.

    A specific source version can be retrieved by postfixing the source name
    with an equals and then the version to fetch, similar to the mechanism used
    for the package files. This enables exact matching of the source package
    name and version, implicitly enabling the APT::Get::Only-Source option.

    Note that source packages are not tracked like binary packages, they exist
    only in the current directory and are similar to downloading source tar
    balls.
```

To build a package from source, first install the build dependencies:

```
sudo apt-get build-dep <package>
```

Then use `dpkg-buildpackage` to create a .deb file. From [APT and Dpkg Quick Reference Sheet](#) :

**dpkg-buildpackage** Builds a Debian package from a Debian source tree. You must be in the main directory of the source tree for this to work. Sample usage:

```
dpkg-buildpackage -rfakeroot -uc -b
```

Where `-rfakeroot` instructs it to use the fakeroot program to simulate root privileges (for ownership purposes), `-uc` stands for “Don’t cryptographically sign the changelog”, and `-b` stands for “Build the binary package only”

In a terminal, `cd` into the directory containing the package source (e.g `~/code/hellanzb-0.13`) and run the following command:

```
dpkg-buildpackage -rfakeroot -uc -b
```

If the build is successful, there will be a .deb file located in the parent directory (e.g ~/code/hellanzb\_0.13-6.1\_all.deb).

**Tags:** [apt](#) ([Next Q](#))

## **Q: How do I fix a “Problem with MergeList” or “status file could not be parsed” error when trying to do an update?**

**Tags:** [apt](#) ([Next Q](#))

The computer gave me this output in a window:

```
E: Encountered a section with no Package: header
E: Problem with MergeList /var/lib/apt/lists/archive.ubuntu.com_ubuntu_dists_natty_main_binary-i386_Packages
E: The package lists or status file could not be parsed or opened.
```

How can I fix this?

**Tags:** [apt](#) ([Next Q](#))

**User:** user12250

[Answer](#)  by [allan](#)

These terminal commands should solve your problem:

First remove the Merge List by opening a terminal (Press **Ctrl+Alt+T** to launch) and run this command:

```
sudo rm /var/lib/apt/lists/* -vf
```

Next, generate a new one by running a simple update:

```
sudo apt-get update
```

Here is the [bug report](#)  (and [another](#) ) for this problem, which is now fixed so it shouldn't create new malformed files, however if you already have the malformed files you need to remove them as explained in this post.

[Answer](#)  by [tommyk](#)

Open a Terminal and run the following commands one at a time:

```
sudo rm /var/lib/apt/lists/* -vf
sudo apt-get update
```

See also:

- <https://help.ubuntu.com/community/PackageManagerTroubleshootingProcedure> 

[Answer](#)  by [gilles](#)

You screwed up when you edited `/var/lib/dpkg/status`. Restore it from the backup that you made before editing it. Of course, you made a backup, right?

Since you didn't make a backup, edit it again, *carefully*. Try not to cause more damage.

You can use `/var/lib/dpkg/status.old` as a reference point. This is a backup of the status file from before the last time dpkg was run. Run

```
diff /var/lib/dpkg/status.old /var/lib/dpkg/status
```

to see the differences. Undo the changes that you made manually, and keep the changes that were made by the last dpkg run.

If you really can't manage to repair the file, copy `/var/lib/dpkg/status.old` over `/var/lib/dpkg/status`. You will get a well-formed, but out-of-date package database.

You never need to edit `/var/lib/dpkg/status` in normal operation. Even when things go seriously wrong, `/var/lib/dpkg/status` is not something that tends to require administrator intervention. Whatever your problems with crossplatformui were, there is probably a better way of solving them. The only time I've ever needed to edit `/var/lib/dpkg/status` was when an upstream Packages file was broken.

---

Tags: [apt](#) ([Next Q](#))

---

## [Q: How can I get apt to use a mirror close to me, or choose a faster mirror?](#)

Tags: [apt](#) ([Next Q](#))

Downloading from the main Ubuntu archive is slow even when it's not release day, how can I get apt-get to automatically use a mirror that is close to me?

Tags: [apt](#) ([Next Q](#))

User: [ajmitch](#)

---

[Answer](#)  by [ajmitch](#)

apt-get [now supports](#)  a 'mirror' method that will automatically select a good mirror based on your location. Putting:

```
deb mirror://mirrors.ubuntu.com/mirrors.txt precise main restricted universe multiverse
deb mirror://mirrors.ubuntu.com/mirrors.txt precise-updates main restricted universe multiverse
deb mirror://mirrors.ubuntu.com/mirrors.txt precise-backports main restricted universe multiverse
deb mirror://mirrors.ubuntu.com/mirrors.txt precise-security main restricted universe multiverse
```

on the top in your `/etc/apt/sources.list` file should be all that is needed to make it automatically pick a mirror for you based on your geographical location.

Lucid (10.04), Maverick (10.10), Natty (11.04), And Oneiric (11.10) users can replace `precise` with the appropriate name.

---

[Answer](#)  by [sean-fitzpatrick](#)

I've always gone with the 'select best server' GUI tool: from Ubuntu Software Center, go to Edit -> Software Sources in the menu. (You can also do this from the Preferences for Synaptic or the Update Manager.)

Under the Ubuntu Software tab there's a drop-down next to "Download from:" If you select "Other..." you'll get a button that says "Select Best Server"; clicking on it gets Ubuntu to run some tests to see what mirror will give the best download speed.

I can't comment on whether this is better or worse than the method you found for yourself. Perhaps someone with some expertise on the issue can comment!

---

**Here are some screenshots** for the graphical method, as Jorge suggested:

1. Open the Ubuntu Software Center, click on Edit in the global menu, and go to 'Software Sources...'
2. Click on the drop-down menu next to 'Download From' and select 'Other...'
3. Click on Select Best Server
4. The best server is highlighted. Click choose Server and you're done!

## STEP 01



## STEP 02



## STEP 03



## STEP 04



Answer by [jorge-castro](#)

You can also use mirrors hosted on Amazon's S3 service, which has a bunch of capacity and should be fast for users where an Amazon region is close:

You can use whichever region is closest to you, you can either manually add these to `/etc/apt/sources.list/` or paste them into the custom URL field of the software sources application. I am including the updates and security sections too for completeness.

- East Coast US (this is the default mirror for the US east mirrors):

```
deb http://us-east-1.ec2.archive.ubuntu.com/ubuntu/ precise main restricted universe  
multiverse  
deb http://us-east-1.ec2.archive.ubuntu.com/ubuntu/ precise-updates main restricted universe  
multiverse  
deb http://us-east-1.ec2.archive.ubuntu.com/ubuntu/ precise-security main restricted universe  
multiverse
```

- West Coast US (California):

```
deb http://us-west-1.ec2.archive.ubuntu.com/ubuntu/ precise main restricted universe  
multiverse  
deb http://us-west-1.ec2.archive.ubuntu.com/ubuntu/ precise-updates main restricted universe  
multiverse  
deb http://us-west-1.ec2.archive.ubuntu.com/ubuntu/ precise-security main restricted universe  
multiverse
```

- West Coast US (Oregon)

```
deb http://us-west-2.ec2.archive.ubuntu.com/ubuntu/ precise main restricted universe  
multiverse  
deb http://us-west-2.ec2.archive.ubuntu.com/ubuntu/ precise-updates main restricted universe  
multiverse  
deb http://us-west-2.ec2.archive.ubuntu.com/ubuntu/ precise-security main restricted universe  
multiverse
```

- South America (So Paulo, Brazil)

```
deb http://sa-east-1.ec2.archive.ubuntu.com/ubuntu/ precise main restricted universe  
multiverse  
deb http://sa-east-1.ec2.archive.ubuntu.com/ubuntu/ precise-updates main restricted universe  
multiverse  
deb http://sa-east-1.ec2.archive.ubuntu.com/ubuntu/ precise-security main restricted universe  
multiverse
```

- Western Europe (Dublin, Ireland)

```
deb http://eu-west-1.ec2.archive.ubuntu.com/ubuntu/ precise main restricted universe  
multiverse  
deb http://eu-west-1.ec2.archive.ubuntu.com/ubuntu/ precise-updates main restricted universe  
multiverse  
deb http://eu-west-1.ec2.archive.ubuntu.com/ubuntu/ precise-security main restricted universe  
multiverse
```

- SouthEast Asia (Singapore)

```
deb http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu/ precise main restricted universe  
multiverse  
deb http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu/ precise-updates main restricted  
universe multiverse  
deb http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu/ precise-security main restricted  
universe multiverse
```

- NorthEast Asia (Tokyo)

```
deb http://ap-northeast-1.ec2.archive.ubuntu.com/ubuntu/ precise main restricted universe  
multiverse  
deb http://ap-northeast-1.ec2.archive.ubuntu.com/ubuntu/ precise-updates main restricted  
universe multiverse  
deb http://ap-northeast-1.ec2.archive.ubuntu.com/ubuntu/ precise-security main restricted  
universe multiverse
```

**Note:** Unlike most other Ubuntu mirrors, the Amazon S3 mirrors *do not* provide HTTP directory listings; e.g. if you try to access <http://us-east-1.ec2.archive.ubuntu.com/ubuntu/>, you will get an “[access denied](#)”  page. This is normal, and apt-get will not be affected.

**Please NOTE:** Due to a bug with S3 in every region except east-1, users may have problems with download packages. Amazon has fixed this in east-1 and fixes for the other regions are pending.

In the meantime, the maintainers strongly suggests that you put the following in /etc/apt/apt.conf.d/90-apt-no-pipelining.conf if you are outside of east-1:

```
Acquire::http::Pipeline-Depth "0";
```

Alternatively, you may use the following command:

```
sudo apt-get -o Acquire::http::Pipeline-Depth=0 ....
```

If you get odd message failure messages try either of these options.

**Tags:** [apt](#) ([Next Q](#))

## **Q: How to upgrade a single package using apt-get?**

**Tags:** [apt](#) ([Next Q](#)), [upgrade](#) ([Next Q](#))

How do I update a single package? As far as `man apt-get` says `apt-get upgrade` doesn't take a package/list of packages as parameter:

### **upgrade**

`upgrade` is used to install the newest versions of all packages currently installed on the system from the sources enumerated in `/etc/apt/sources.list`. Packages currently installed with new versions available are retrieved and upgraded; under no circumstances are currently installed packages removed, or packages not already installed retrieved and installed. New versions of currently installed packages that cannot be upgraded without changing the install status of another package will be left at their current version. An update must be performed first so that `apt-get` knows that new versions of packages are available.

**Tags:** [apt](#) ([Next Q](#)), [upgrade](#) ([Next Q](#))

**User:** [lurscher](#)

[Answer](#)  by [josh](#)

You just need to do `apt-get install --only-upgrade <packagename>`. This will upgrade only that single package, and only if it is installed.

If you wish to install the package if it doesn't exist, or upgrade it if it does, you may leave out `--only-upgrade`.

[Answer](#)  by [ian](#)

In order to update a single package using the CLI:

```
sudo apt-get --only-upgrade install <packagename>
```

e.g., `sudo apt-get --only-upgrade install ack`

```
Reading package lists... Done
Building dependency tree
Reading state information... Done
Skipping **ack**, it is not installed and only upgrades are requested.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
```

[Answer](#) by [binarylife](#)

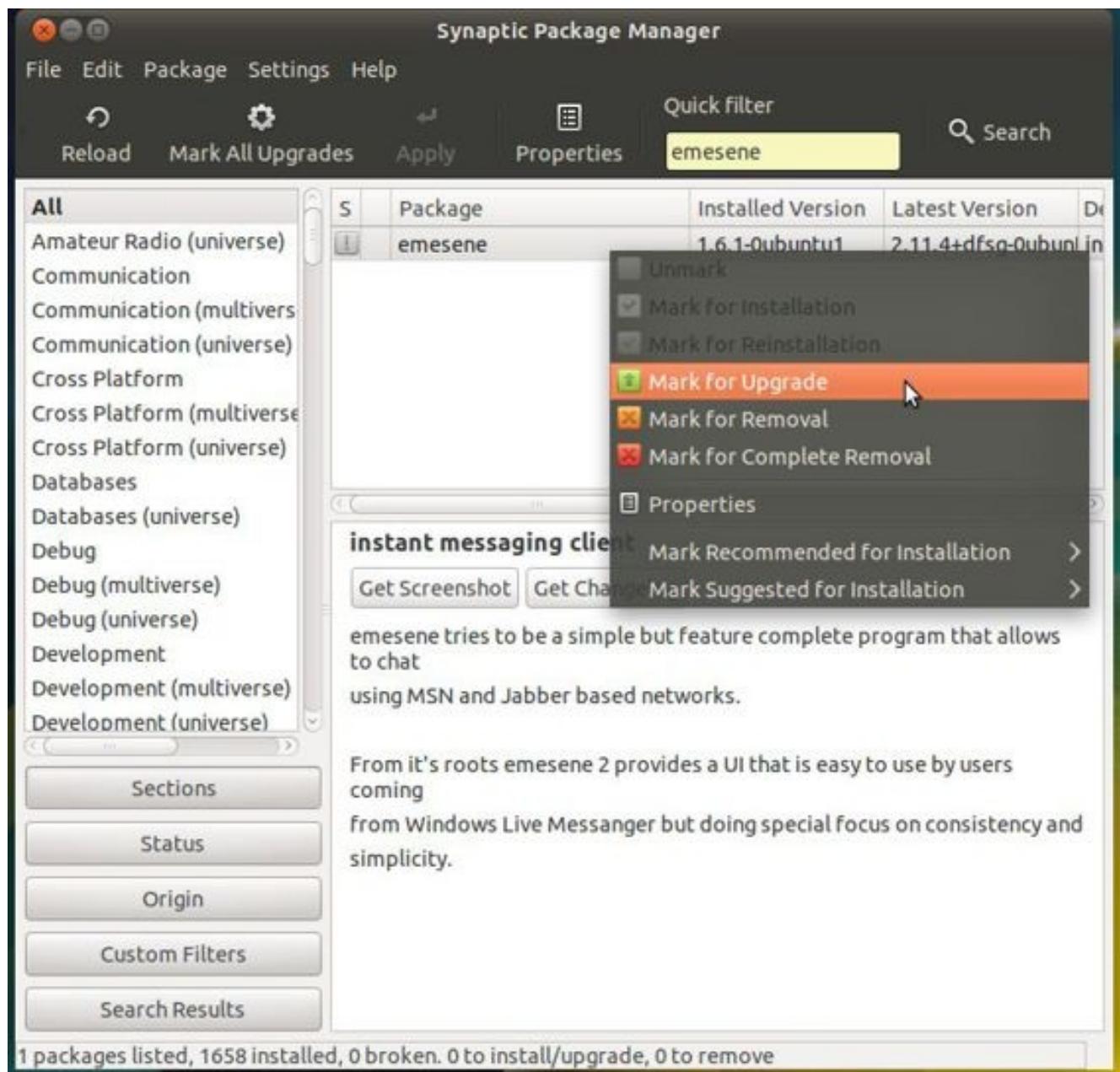
There are two possible ways I can think of:

1. sudo apt-get install nameofpackage

**This will upgrade the package even if it is already installed:**

```
~$ sudo apt-get install emesene
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages will be upgraded:
  emesene
1 upgraded, 0 newly installed, 0 to remove and 5 not upgraded.
Need to get 1,486 kB of archives.
After this operation, 696 kB disk space will be freed.
Get:1 http://il.archive.ubuntu.com/ubuntu/ natty-updates/universe emesene all 2.11.4+dfsg-0ubuntu1 [1,486 kB]
```

2. Using Synaptic Package Manager: Right click Mark for upgrade:



**Note:** Sometimes it may ask for additional packages or dependencies, it is normal.

**Tags:** [apt](#) ([Next Q](#)), [upgrade](#) ([Next Q](#))

---

## **Q: What is “dist-upgrade” and why does it upgrade more than “upgrade”?**

**Tags:** [apt](#) ([Next Q](#)), [upgrade](#) ([Next Q](#))

I was wondering why upgrade sometimes doesn't want to upgrade certain parts of the system, while dist-upgrade does. Here's an example after running update:

apt-get upgrade:

```
rimmer@rimmer-Lenovo-IdeaPad-S10-2:~$ sudo apt-get upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages have been kept back:
  linux-generic linux-headers-generic linux-image-generic
0 upgraded, 0 newly installed, 0 to remove and 3 not upgraded.
```

versus apt-get dist-upgrade:

[Skip code block](#)

```
rimmer@rimmer-Lenovo-IdeaPad-S10-2:~$ sudo apt-get dist-upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
The following NEW packages will be installed:
  linux-headers-3.0.0-13 linux-headers-3.0.0-13-generic
  linux-image-3.0.0-13-generic
The following packages will be upgraded:
  linux-generic linux-headers-generic linux-image-generic
3 upgraded, 3 newly installed, 0 to remove and 0 not upgraded.
Need to get 48.5 MB of archives.
After this operation, 215 MB of additional disk space will be used.
Do you want to continue [Y/n]?
```

In other words, why can't this be performed by upgrade?

**Tags:** [apt](#) ([Next Q](#)), [upgrade](#) ([Next Q](#))

**User:** [richard-rodriguez](#)

---

[Answer](#)  by [jcollado](#)

From apt-get manual:

[Skip code block](#)

```
upgrade
upgrade is used to install the newest versions of all packages currently installed on the system from the sources enumerated in /etc/apt/sources.list. Packages currently installed with new versions available are retrieved and upgraded; under no circumstances are currently installed packages removed, or packages not already installed retrieved and installed. New versions of currently installed packages that cannot be upgraded without changing the install status of another package will be left at their current version. An update must be performed first so that apt-get knows that new versions of packages are available.

dist-upgrade
dist-upgrade in addition to performing the function of upgrade,
```

also intelligently handles changing dependencies [with new versions](#) of packages; `apt-get` has a "smart" conflict resolution system, and it will attempt to upgrade the most important packages at the expense of less important ones [if necessary](#). So, `dist-upgrade` command may remove some packages. The `/etc/apt/sources.list` file contains a list of locations [from which](#) to retrieve desired package files. See also `apt_preferences(5)` for a mechanism for overriding the general settings [for individual packages](#).

In your particular case, I see, for example, that `linux-headers` is a virtual package that is provided by both `linux-headers-3.0.0-12` and `linux-headers-3.0.0-13` and that sounds like the kind of package installation and removal handled by `dist-upgrade`, but not by `upgrade`.

---

[Answer](#)  by [pablomme](#)

`apt-get upgrade` is restricted to the case where packages are to be replaced by newer versions, but no package needs to be added or removed. A new version of Firefox, for instance, should be installable with `apt-get upgrade`.

However `apt-get upgrade` will refuse to work when there are additions or removals required by the updated versions. For example, when you have kernel `linux-image-3.2.0-10-generic` installed and `linux-image-3.2.0-11-generic` appears, the `linux-image-generic` package gets updated to depend on the newer version. In order to install the new kernel, you need to run `apt-get dist-upgrade`.

Notice how an `apt-get upgrade` will say that the kernel packages have been held back. That's the cue for using `apt-get dist-upgrade`.

---

[Answer](#)  by [psusi](#)

Basically `upgrade` will only upgrade existing packages from one version to another. It will not install or remove packages, even if doing so is required to upgrade others. In the case of kernel updates, upgrading the `linux-generic` package requires installing the new `linux-3.0.0-13-generic` package, and since `upgrade` refuses to install or remove packages, it refuses to upgrade `linux-generic`.

Sometimes various incompatibilities between packages will require some packages to be removed in order to upgrade others, and that will also require `dist-upgrade`. Kernel updates will always require `dist-upgrade` because of how they are handled. Rather than have a kernel package that gets updated, an entirely new kernel package is created each time, and the kernel metapackage is updated to depend on the new kernel package instead of the old. This was done so that you keep the old kernel versions around so that in case there is a problem with booting the new kernel, you can choose the old one from the boot menu and recover.

---

**Tags:** [apt](#) ([Next Q](#)), [upgrade](#) ([Next Q](#))

---

**Q: What is the difference between `apt-get update` and `upgrade`?** 

**Tags:** [apt](#) ([Next Q](#))

What is the difference between apt-get update and apt-get upgrade?

Which should I run first?

Do any of them automatically run the other?

**Tags:** [apt](#) ([Next Q](#))

**User:** [tom-brito](#)

---

[Answer](#)  by [timo-kluck](#)

You should first run update, then upgrade. Neither of them automatically runs the other.

- apt-get update updates the list of available packages and their versions, but it does not install or upgrade any packages.
  - apt-get upgrade actually installs newer versions of the packages you have. After updating the lists, the package manager knows about available updates for the software you have installed. This is why you first want to update.
- 

**Tags:** [apt](#) ([Next Q](#))

---

## [Q: How to Downgrade a Package via apt-get?](#)

**Tags:** [apt packages](#) ([Next Q](#))

How to downgrade a package to an older version via apt-get?!

Another tools are also accepted but apt-get is preferred.

**Tags:** [apt packages](#) ([Next Q](#))

**User:** user61928

---

[Answer](#)  by [mahesh](#)

If you have the version number, or the target release, apt-get supports choosing a particular version or target release. More details can be found on [manual page of apt-get](#) . It can also be accessed from terminal by typing `man apt-get`

```
sudo apt-get install <package-name>=<package-version-number> OR  
sudo apt-get -t=<target release> install <package-name>
```

is the command to be run. This can be used to down-grade a package to a specific version.

---

[Answer](#)  by user91632

**USE**

```
apt-get install pkg=version
```

**OR**

sudo aptitude install pkg=version.

---

**Tags:** [apt packages](#) ([Next Q](#))

---

[Q: How can PPAs be removed?](#)

---

[Q: How can I see all versions of a package that are available in the archive?](#)

---

[Q: “The following packages have been kept back:” Why and how do I solve it?](#)

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[Q: Is aptitude still considered superior to apt-get?](#)

---

[Q: What is the easiest way to resolve apt-get BADSIG GPG errors?](#)

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[Q: How do I fix the GPG error “NO\\_PUBKEY”?](#)

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[Q: How can I accept the Microsoft EULA agreement for ttf-mscorefonts-installer?](#)

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[Q: How to list all installed packages?](#)

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[Q: How do I get the source code of packages installed through apt-get?](#)

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[Q: How do I fix a “Problem with MergeList” or “status file could not be parsed” error when trying to do an update?](#)

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[Q: How can I get apt to use a mirror close to me, or choose a faster mirror?](#)

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[Q: How do you select the fastest mirror from the command line?](#)

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[Q: How to upgrade a single package using apt-get?](#)

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[Q: What is “dist-upgrade” and why does it upgrade more than “upgrade”?](#)

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[Q: What is the difference between apt-get update and upgrade?](#)

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[Q: How to Downgrade a Package via apt-get?](#)

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[Q: How do I resolve unmet dependencies?](#)

---

[Q: What does “sudo apt-get update” do?](#)

---

[Q: Installed Teamviewer using a 64-bits system, but I get a dependency error](#)

---

# Software Recommendation

## Questions

### [Q: How to make my own Dropbox / Ubuntu One server at home?](#)

**Tags:** [software-recommendation](#) ([Next Q](#))

Does anybody know of any resources that can show me how to make my own “Dropbox, Ubuntu One” server at home?

I really like the idea of these services, but I don’t want to put my ‘stuff’ in the clouds. Ideally, it should have a client that runs on Linux and Windows.

I tried to setup iFolder on my Ubuntu 10.04, but without any success so far.

**Tags:** [software-recommendation](#) ([Next Q](#))

**User:** [user1978](#)

---

[Answer](#)  by [rick](#)

Currently there’s not a great open source alternative that’s going to work out of the box. The best thing to keep an eye on is the sparkleshare project:

<http://www.sparkleshare.org/> 

Hopefully that will grow into a great, do it yourself, alternative.

---

[Answer](#)  by [henrik](#)

There are actually lots of them.

---

- [SparkleShare](#)  (deps: git/subversion, mono, python) at [github](#)  GUI-based sync software.
  - a. Versioning: through a source control system, hence it’s mutex-based on a central server through a version number.
  - b. State: under development

c. Pros: OSS, mono-based so easily modifiable, Cons: user-level process, GC-dependent, ineffective sharing protocol by orders of magnitude as git is primarily for small text files, fairly hard to compile (I tried). Using high-level tools.
- [lipsync](#)  (deps: Unison, rsync) Command-line service-based software.
  - a. Versioning: through the [rsync delta algorithm](#) . I assume programmer must choose conflict resolution.

- b. State: I can't find its source code, so I have no idea. The only things in his git repo are binaries.
- c. Pros: nice setup, using middle-level tools.
- [iFolder](#) - Novell's Dropbox. I haven't studied its source yet. I just want to get this edit over with and if people are interested I'll add more.
  - a. Versioning:
  - b. State: Problematic getting it to even compile on Ubuntu, let alone packages. [Here's a detailed install guide](#).
  - c. Pros: Windows X64 client, mature, AD-integration with ACLs, features no other project has started to implement. I think this might be a good starting point. Cons: Novell might not use its public svn repo as the primary repo and only do code-drops. I don't know exactly about this though. Might be too coupled to openSUSE to easily install on Ubuntu. To check out its algorithms.
- scp/rcp - deprecated in favor of rsync
- [DRDB](#) - block device mirroring tools for distributed RAID-1, i.e. a server-variant of dropbox. I haven't checked out its source code yet, but it's linux only. The actual algorithm would probably be easy to combine with the source code in my musings below this software-listing.
  - a. Versioning: internal message format over LAN/WAN
  - b. State: seems mature enough
  - c. Pros: stable enough for linux, Cons: no other operating systems are supported

---

Right now I'm investigating improving compile-times on a Virtualized Windows 7, where the compile-times on a Windows 7 on metal is 40 s, but virtualized approx 3m 20s. I'm thinking of writing an ioctl driver that is a write-through cache that looks like a ram-disk for selected folders on NTFS.

Using the above software, I think a week's worth of 2-3-person full-time development would produce a usable Alpha that doesn't lose you files by combining the above softwares.

---

On my system then, the general idea would be;

1. Mount a virtual drive \?{GUID}, that is the ram-disk and RW-cache. The software creating this virtual drive takes two input parameters (that are vital):
  - a. The target folder; this is the SMB folder, so I will be letting the operating system's network stack handle the actual IO. In my case this is in turn the VMWare virtual folder, that has in itself a target on an ext4 drive, but it could easily be your file server using SAMBA/SMB.
  - b. The path of the folder to be mounted, e.g. C:\ramdisk

This code for creating virtual volumes be taken from [TrueCrypt's code](#), in

/Driver/DriverFilter.c (among other files)

2. The drive uses SMB/the VMWare/network protocol to fetch data when it starts; it fetches with a low task priority, asynchronously from the network and fills its cache. It could use a simple compacting algorithm and have 1 thread that uses message-box type continuation passing to get great performance. On Windows it could use the normal async IO calls, and on linux it could use the [epoll](#)/[inotify](#) implementation and take code from [nginx](#).
3. My service that is the ram-disk mounts the unnamed ramdisk drive as an NTFS folder. All programs can continue writing to C:\ramdisk, or whatever I call it.
4. Async copy from network still going on. With a read-rate of approx 100 MiB/s and 2 GiB ramdisk, it would be 20.5 s to read all data.

Each call to read would perform an in-CPU calculation of the index into a fixed n:ulong GiB max sized array. It would require conflict resolving though or read-write locks. If we'd implement a conflict-resolve algorithm like those available through Microsoft Sync, we could pass each chunk that conflicts as a message to another conflict resolve-process. Dropbox solves it by creating a new file and naming it "PrevFileName Username's Conflicted Copy (yyyy-MM-dd).ext". Perhaps this could be altered through a small widget, if one is compiling against that single source — the widget would detect outstanding changes as messages/events and choose the conflict resolution protocol. As such, when programming against a folder in exclusive-mode, the Windows VM could set the widget to 'exclusive'.

This would have these PROs

- It would be non-blocking / async
- It would make the assumption but not require that one computer will be writing mostly to the files.
- It would work for arbitrarily large files
- It would work on \*nix and Windows by tying together the mentioned projects.
- It would work when high read-performance is needed (i.e. the files are physically located on disk)
- When the conflicting events are reached, one could provide a user interface app that allows the user to write/download plugins that act sanely for different sorts of events — i.e. different sorts of files. E.g. a text file could be brought up with Kompare/WinDiff, while a binary would be duplicated and saved as another file.

---

[Answer](#) by [dinesh](#)

[OwnCloud](#)! sounds like something you're looking for.

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**Tags:** [software-recommendation](#) ([Next Q](#))

---

**Q: How to create a screencast?**

**Tags:** [software-recommendation](#) ([Next Q](#)), [screencast](#) ([Next Q](#))

How can I create a screencast on Ubuntu?

The app I'm looking for has ideally all of these features:

1. Can record in a format that can be played back easily on any platform and/or accepted by youtube or another popular video site
2. Can record just a window (instead of the whole screen), possibly selecting it with a mouse click
3. Can start recording after a configurable delay (e.g., I launch the app and have time to do arrangements to my desktop/window before actual recording starts)

**Tags:** [software-recommendation](#) ([Next Q](#)), [screencast](#) ([Next Q](#))

**User:** [riccardo-murri](#)

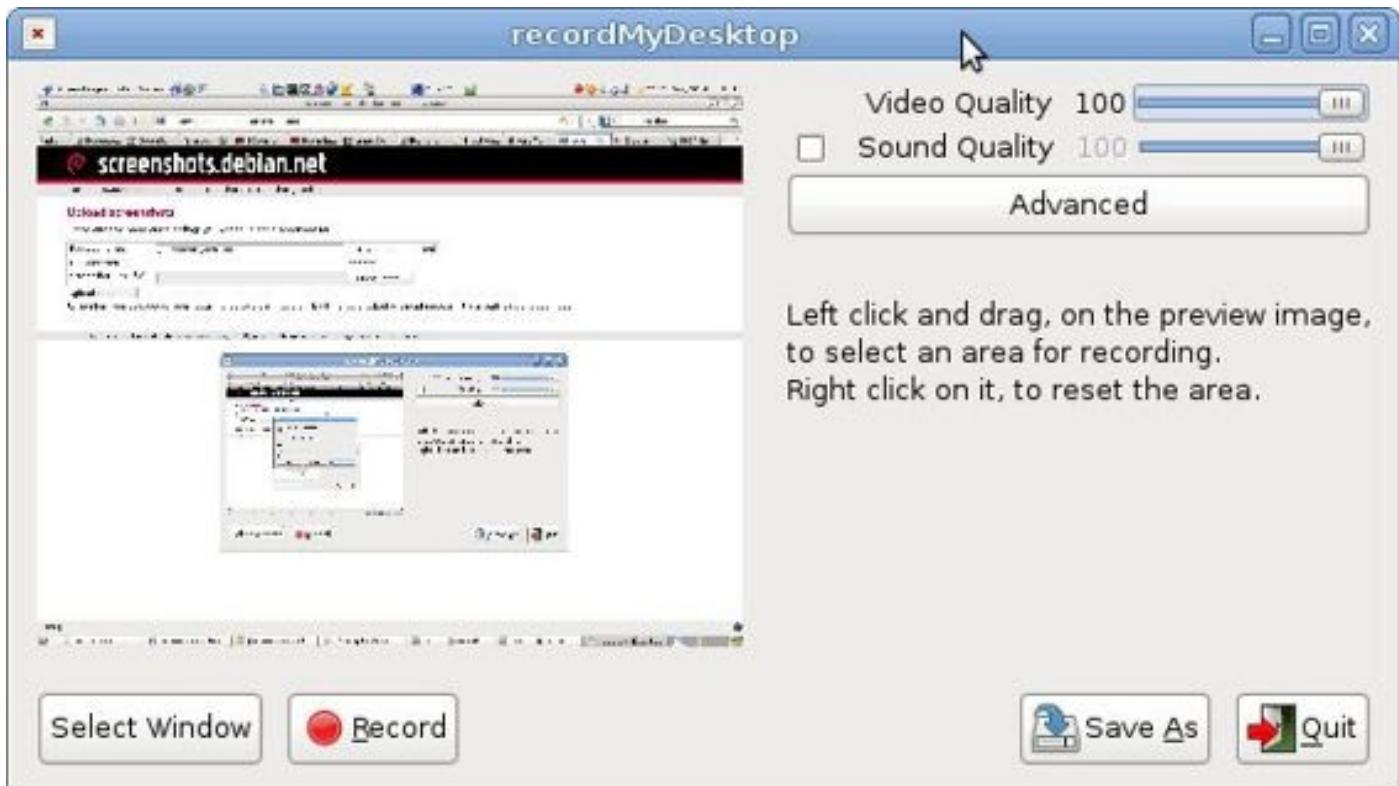
---

[Answer](#)  by [sagarchalise](#)

# gtk-recordmydesktop



Adds an easy to use graphical icon on the GNOME toolbar to make a pleasure use and configure the audio and video capture and screencast application recordMyDesktop.



# xvidcap



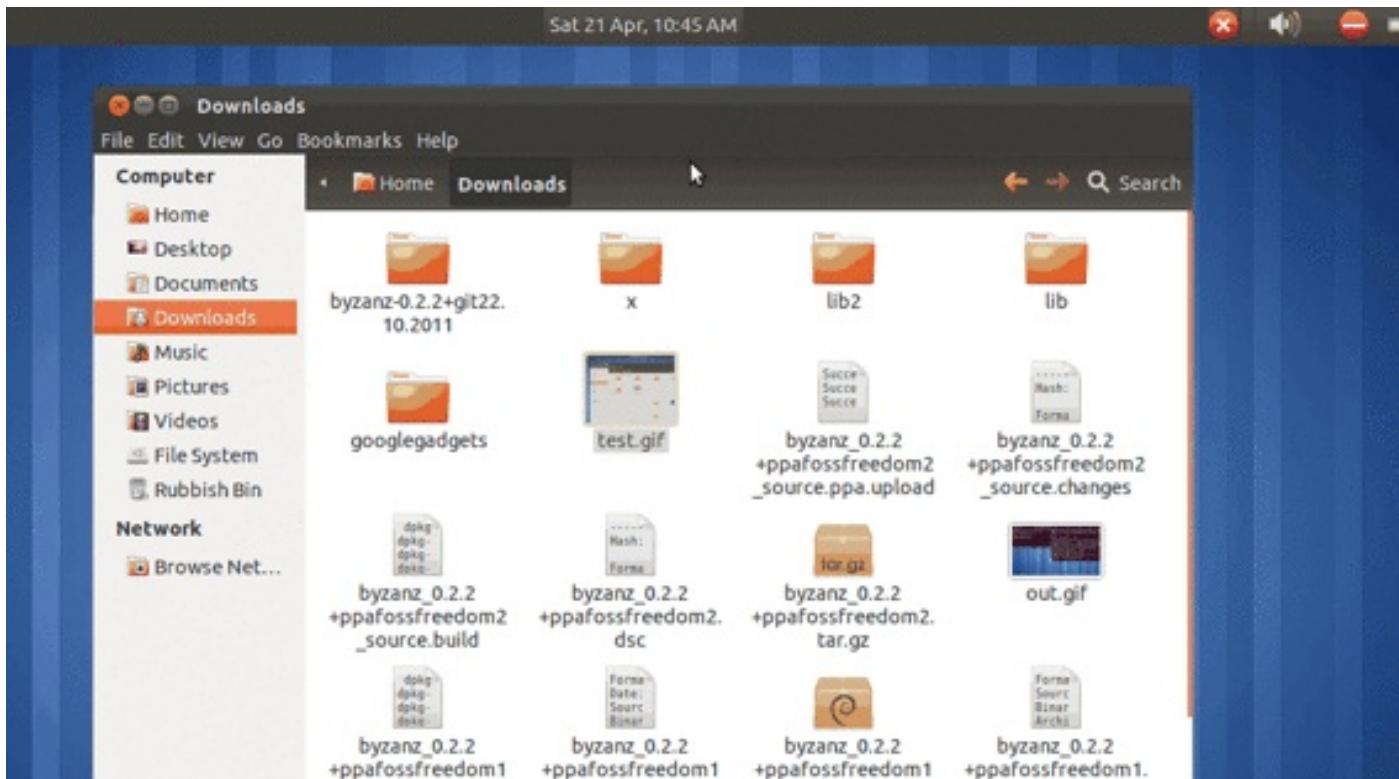
A screen capture enabling you to capture videos off your X-Window desktop for illustration or documentation purposes. It is intended to be a standards-based alternative to tools like Lotus ScreenCam.

Video can be saved in MPEG or AVI files format.

---

[Answer](#)  by [cassidy-james](#)

I like Byzanz; it records your activity as a GIF file.



It's pretty light and works well, especially for putting a shorter screencast on a webpage or in an email.

```
sudo add-apt-repository ppa:fossfreedom/byzanz  
sudo apt-get update && sudo apt-get install byzanz
```

For further information:

[How to create animated GIF images of a screencast?](#)

[Answer](#) by [jorge-castro](#)

This is what I use to make screencasts, the cli command that comes with recordmydesktop

```
recordmydesktop --width 1920 --height 1200 --full-shots --fps 15 --channels 1 --device hw:1,0 --  
delay 10
```

The delay 10 gives me 10 seconds to “prepare” my desktop before it starts recording. When I’m done I hit **ctrl+c**, then it starts encoding the file.

I have a dual display, and the width/height argument lets me focus recording on one of my monitors. By adjusting this value I can also record onto my second monitor.

Other pointers:

- Install [screenkey](#)

# Missing Image

for a slick overview for screencasts.

- Ubuntu [Screencast Team](#)

---

**Tags:** [software-recommendation](#) ([Next Q](#)), [screencast](#) ([Next Q](#))

---

## **Q: Nautilus Git integration**

**Tags:** [software-recommendation](#) ([Next Q](#)), [nautilus](#) ([Next Q](#))

Is there any equivalent to TortoiseSVN but for Ubuntu / Git? I'd like to integrate Git commands to Nautilus.

**Tags:** [software-recommendation](#) ([Next Q](#)), [nautilus](#) ([Next Q](#))

**User:** [olivier-lalonde](#)

---

[Answer](#)  by [jelmer](#)

[RabbitVCS](#)  integrates Git into Nautilus. It is available for Ubuntu from a PPA.

```
sudo add-apt-repository ppa:rabbitvcs/ppa  
sudo apt-get update
```

For 11.04 and earlier:

```
sudo apt-get install rabbitvcs-nautilus
```

For 11.10 and later:

```
sudo apt-get install rabbitvcs-nautilus3
```

You should reload Nautilus after!

---

[Answer](#)  by [riccardo-murri](#)

This has been proposed already on [Ubuntu brainstrom](#)  and on [GNOME-Look.org](#)  but no code seems to be available at the moment.

There is however a GNOME GUI front-end for Git called [Giggle](#)  which is available in the Ubuntu 10.04 repositories (pre-packaged for other distributions as well, see the [web page](#) ): apt-get install giggle.

---

**Tags:** [software-recommendation](#) ([Next Q](#)), [nautilus](#) ([Next Q](#))

---

## **Q: What developer text editors are available for Ubuntu?**

**Tags:** [software-recommendation](#) ([Next Q](#))

I'm looking for a text editor for programming in Python, preferably one which is easy to learn for beginners.

**Tags:** [software-recommendation](#) ([Next Q](#))

**User:** [thex](#)

---

[Answer](#)  by [dv3500ea](#)



# Missing Image

Geany is a lightweight IDE that supports python.

Some features that I have found particularly useful include:

- Syntax highlighting
- Automatic indenting - especially useful for python
- Code folding, allowing you to hide parts of your code
- Inbuilt syntax checking and execution
- Symbol browser
- Embedded terminal
- Find and replace with regexp support

The screenshot shows the Geany IDE interface with the following details:

- File Menu:** File, Edit, Search, View, Document, Project, Build, Tools, Help.
- Symbols View:** Shows a tree view of symbols across three files: `la_vida.py`, `game_app_3d.py`, and `lavida_gui.py`. Symbols listed include `__init__`, `HealthIndicator`, `LaVidaMenu`, `LaVidaAction`, `LaVidaDash`, `LaVidaGame`, `LaVidaHelp`, `SetVisible`, `SetupIcons`, and various methods like `__init__`, `allocate`, `render`, `move`.
- Code Editor:** Displays the `lavida_gui.py` file content. The code uses the Soya framework for OpenGL rendering. It includes imports for `soya`, `soya.gui`, `math`, `system`, and `activities`. It defines a class `LaVidaMenuItem` that inherits from `soya.gui.style.Style`. The constructor initializes materials for button backgrounds, selected states, window titles, and window title backgrounds.
- Status Bar:** Shows the status bar with the message "Line 22 / 195 Col 14" and other system information.

[Answer](#) by [drkenobi](#)



# Missing Image

I think Vim is amazing!

Vim is a highly configurable text editor built to enable efficient text editing. It is an improved version of the vi editor distributed with most UNIX systems.

Although Vim was originally released for the Amiga, Vim has since been developed to be **cross-platform**, supporting many other platforms. It is the most popular editor amongst [Linux Journal](#)  readers.

Vim is free and open source software and is released under a license which includes some charityware clauses, encouraging users who enjoy the software to consider donating to children in Uganda. The license is compatible with the GNU General Public License.

Answer  by dv3500ea



# Missing Image

Gedit is a simple but useful text editor that supports syntax highlighting for python. It doesn't have many features out of the box, but is very simple to use. It can be extended with plugins. There is a set of plugins that can be installed from the [gedit-plugins](#) package.

A screenshot of the Gedit text editor interface. The menu bar includes File, Edit, View, Search, Tools, Documents, and Help. The toolbar contains icons for Open, Save, Undo, and others. The title bar shows three tabs: 'la\_vida.py', 'game\_app\_3d.py', and 'lavida\_gui.py'. The main window displays a Python script with syntax highlighting. The code defines a class 'LaVidaMenuItem' that inherits from 'soya.gui.style.Style'. It sets various diffuse colors for different states like button background, selected items, and window titles. It also defines corner colors and line colors for windows. The status bar at the bottom shows 'Python' and other settings.

```
File Edit View Search Tools Documents Help
Open Save Undo
la_vida.py game_app_3d.py lavida_gui.py
import soya, soya.gui
from soya.gui import Group, Widget, HighlightableWidget, Button
import soya.opengl as opengl
from logger import *
from angle import Angle
from math import cos, sin
from system import ActionEvent, AvatarAction
from activities import Activity

class LaVidaMenuItem(soya.gui.style.Style):
    def __init__(self):
        soya.gui.style.Style.__init__(self)

        self.materials[0].diffuse = (0.5, 0.5, 0.8, 1.0) # Button background
        self.materials[1].diffuse = (0.5, 0.5, 0.9, 1.0) # Selected
        self.materials[3].diffuse = (1.0, 1.0, 0.8, 1.0) # Selected window title

        self.materials[2].diffuse = (0.4, 0.4, 0.8, 1.0) # Window title background
        self.materials[3].diffuse = (0.5, 0.5, 0.8, 1.0) # Selected window title
        self.materials[4].diffuse = (1.0, 1.0, 1.0, 0.9) # Window background
        b = (0.0, 0.6, 0.8, 1.0)
        b2 = (0.0, 0.5, 0.8, 1.0)
        self.corner_colors = [
            b, # Base
            b, # Selected
            b2, # Window title
            b2, # Selected window title
            (0.4, 0.9, 1.0, 0.9), # Window background
        ]
        self.line_colors = [
            b, # Base
            b, # Selected
            b2, # Window title
        ]
    
```

Tags: [software-recommendation](#) ([Next Q](#))

## Q: File and directory comparison tool?

Tags: [software-recommendation](#) ([Next Q](#))

I'm looking for something that will compare directories and files like Beyond Compare does for windows.

Its mainly for use of source control, but I need to use it for deployment as well.

Tags: [software-recommendation](#) ([Next Q](#))

User: [developingchris](#)

---

[Answer](#)  by [dv3500ea](#)

Meld 

# Missing Image

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Meld is a tool that can compare and merge files and directories. It is a GUI analog to the standard `diff`

# Missing Image

---

and `patch`

# Missing Image

---

command line tools. (See [man diff](#) and [man patch](#) for more details on those)

# Missing Image

---

Also, lots of source control systems (such as `bzr`

# Missing Image

---

or `git`

# Missing Image

---

) have the ability to create diffs between versions.

---

[Answer](#) by [richm](#)

Diff is your friend.

---

```
diff -ur path1 path2
```

This will compare all files that are common between path1 and path2.

If you change -ur to -urN then that will also show the contents of files that are only present in one of the paths.

---

[Answer](#) by [aneeshep](#)

‘Beyond Compare’ is available for Linux too.

Check their download url: <http://www.scootersoftware.com/download.php>

---

**Tags:** [software-recommendation](#) ([Next Q](#))

---

## **Q: What software can I use to view epub documents?**

**Tags:** [software-recommendation](#) ([Next Q](#))

What software can I use to view .epub documents?

**Tags:** [software-recommendation](#) ([Next Q](#))

**User:** [olivier-lalonde](#)

---

[Answer](#) by [karthick87](#)

You can use calibre software for viewing .epub documents.

To install calibre from terminal:

```
sudo apt-get install calibre
```

Or click the icon below.



# Missing Image

---

If you don't want to launch the full calibre client just to view your ebook files you can add a .desktop launcher to calibre's inbuilt ebook viewer:

1. Create a new .desktop file in ~/.local/share/applications:

```
gedit ~/.local/share/applications/calibre-ebook-viewer.desktop
```

2. Copy and paste the following passage into the file:

```
#!/usr/bin/env xdg-open  
  
[Desktop Entry]  
Version=1.0  
Type=Application  
Terminal=false  
Icon=calibre  
Exec=ebook-viewer  
Name=Calibre Ebook Viewer  
Comment=Display .epub files and other ebook formats  
MimeType=application/x-mobipocket-ebook;application/epub+zip;  
StartupWMClass=calibre-ebook-viewer
```

3. Save the file. You should now be able to launch Calibre's inbuilt ebook viewer both from the dash and through the right click "Open with" menu.
- 

[Answer](#) by [samizdata](#)

I recommend fbreader. Small, fast, single key page turning. Quite pleasant.

[fbreader](#) 

# Missing Image

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[Answer](#)  by [sabacon](#)

Another useful option, try this in Firefox; <https://addons.mozilla.org/en-US/firefox/addon/45281/> , a fairly good extension for the Firefox web browser that lets you read .epubs from the browser, especially good since on Ubuntu you are likely to be using Firefox and it is usually kept open when you are using your computer.

---

**Tags:** [software-recommendation](#) ([Next Q](#))

---

## [Q: Which PDF Viewer would you recommend?](#)

**Tags:** [software-recommendation](#) ([Next Q](#)), [pdf](#) ([Next Q](#))

Which PDF-Viewer would you recommend to use in Ubuntu?

At the moment I use the standard document viewer (Evince) but I'm missing features like stageless continuous zooming.

**Tags:** [software-recommendation](#) ([Next Q](#)), [pdf](#) ([Next Q](#))

**User:** [nes](#)

---

[Answer](#)  by [karthick87](#)

Here are some good **PDF** readers:

- [acroread](#) 

# Missing Image

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- [xpdf](#) 

# Missing Image

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- [evince](#)

# Missing Image

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- [kpdf](#)

# Missing Image

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- [gv](#)

# Missing Image

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- [okular](#)

# Missing Image

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---

[Answer](#) by [rolandixor](#)

Try [okular](#)

# Missing Image

---

. It's a KDE/Qt application, and it has some of the most awesome features of any reader.

---

[Answer](#) by [frabjous](#)

I'm going to mention some lesser-known options: [MuPDF](#) and [Zathura](#).

These are not feature rich, but they are super-fast, lightweight, and keyboard-driven. It's hard to believe how fast MuPDF is.

---

**Tags:** [software-recommendation](#) ([Next Q](#)), [pdf](#) ([Next Q](#))

---

**Q: What Application Indicators are available?**

**Tags:** [software-recommendation](#) ([Next Q](#)), [indicator](#) ([Next Q](#))

This question exists because it has historical significance, but **it is not considered a good, on-topic question for this site**, so please do not use it as evidence that you can ask similar questions here. While you are encouraged to help maintain its answers, please understand that “big list” questions are not generally allowed on Ask Ubuntu and will be closed per the [help center](#).

---

I installed Ubuntu 11.04 on one of my systems and I am using the Unity interface. Unity is working quite well so far but I really miss panel applets for net speed, cpu temp, and system monitor.

These applets are useful for viewing quick info. Unlike 10.10, there is no other way to get this info onto the panel or unity launcher. There are solutions like screenlets and conky but they don't feel appropriate for a clean desktop look.

If you know one then please list out any third party indicators with links so that they can be found.

**Tags:** [software-recommendation](#) ([Next Q](#)), [indicator](#) ([Next Q](#))

**User:** [user8592](#)

---

[Answer](#) by [cas](#)

# StackApplet

## **Category:** *Other*

StackApplet is a GNOME panel applet that monitors your activity on any StackExchange site.



## Accounts

Stack Overflow / 101

Super User / 101

Home Improvement / 101

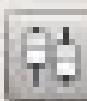
Ask Ubuntu / 412

Meta Stack Overflow / 101

## Tools



Refresh



Preferences



About



Quit

[stackapplet](#)

# Missing Image

in Ubuntu Software Center

## Update:

As indicated in comments, the version of StackApplet in the Ubuntu Software Center is old and broken. To install it, use instead [this ppa](#) .

The first time the application is used, run

```
python /usr/share/stackapplet/stackapplet.py &
```

from a terminal.

---

---

# For Ubuntu 14.04:

1.5.1 is available on [universe repositories](#)

So after enabling universe repositories, It can be installed by following command:

```
sudo apt-get update  
sudo apt-get install stackapplet
```

But it has bug with adding account so upgrade to 1.5.2 as follows:

```
sudo add-apt-repository ppa:stackapplet-dev/stackapplet  
sudo apt-get update  
sudo apt-get install stackapplet
```

---

[Answer](#) by [rapazp](#)

## System Load Indicator

**Category:** *System Information*

Network, memory and cpu usage indicator; this is a port of the original System Monitor GNOME Panel applet (gnome-system-monitor applet).



In Preferences you can customize the output to fit it to your desktop theme:

**Missing Image**

## To install:

You can install it through the Ubuntu Software Centre by clicking this button:



or through the command line:

```
sudo apt-get install indicator-multiload
```

If you want the latest updates, you can install it from the PPA with these commands:

```
sudo add-apt-repository ppa:indicator-multiload/stable-daily  
sudo apt-get update  
sudo apt-get install indicator-multiload
```

[Answer](#)  by [cas](#)

# Weather Indicator

**Category:** *Weather Forecasting*

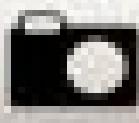
**Warning.** This indicator is not being updated anymore and will probably not work in current versions of Ubuntu.

**UPDATE ! Development continues!** <https://launchpad.net/weather-indicator/+announcement/11516> 

Displays the current/extended weather, multiple locations and notifications support.



11 °C



G



Edinburgh

Partly Cloudy

Temperature: 11 °C

Humidity: 82%

Wind: NE at 20 mph

Sunrise: 05:53:37

Sunset: 18:00:26

Refresh (just now)

Forecast

Preferences...

About...



Quit

## [indicator-weather](#)



in Ubuntu Software Centre

or project's PPA: [ppa:weather-indicator-team/ppa](#)

**Please note!** The latest builds of Weather Indicator *require* updated versions of pywapi, Python Weather API: [ppa:pywapi-devel/ppa](#)

---

**Tags:** [software-recommendation](#) ([Next Q](#)), [indicator](#) ([Next Q](#))

---

## [Q: What FLOSS skype alternatives are available?](#)

**Tags:** [software-recommendation](#) ([Next Q](#)), [skype](#) ([Next Q](#))

Given Skype's slow development speed for the GNU/Linux version and its recent acquisition by Microsoft, I am looking for alternative softwares.

What [FLOSS \(free/libre/open-source software\)](#)  Skype alternatives are available?

**Tags:** [software-recommendation](#) ([Next Q](#)), [skype](#) ([Next Q](#))

**User:** [alaukik](#)

---

[Answer](#)  by [alaukik](#)

# SIP Clients

These all are SIP clients which means they all can be used to call each other and they just need a SIP address (like your mobile number). You can get a SIP address for free from many providers ([Ekiga](#), [jit.si](#), [iptel](#)), some of which ([sip2sip.info](#), [ippi.com](#), [localphone.com](#), [nonoh.net](#)) also have PSTN gateways into the normal phone network which allows you to make and receive regular calls from/to your SIP client (for a fee). For various reasons some clients may not work with some providers (for example, for Nonoh and Iptel, Blink works but Jitsi, Ekiga, and Linphone don't).

[Ekiga](#) (available in the software center)

[Here is First use documentation](#) for ekiga .

[Here is documentation](#) on how to use the PC to Phone feature in ekiga .

Ekiga (formely known as GnomeMeeting) is an open source SoftPhone, Video Conferencing and Instant Messenger application over the Internet.

[SFLphone](#) (available in the software center)

SFLphone is a robust standards-compliant enterprise softphone, for desktop and embedded systems. It is designed to handle several hundreds of calls a day. SFLphone is available under the GNU GPL license, version 3.

[Twinkle](#) (available in the software center)

Twinkle is a softphone for your voice over IP and instant messaging communications using the SIP protocol. You can use it for direct IP phone to IP phone communication or in a network using a SIP proxy to route your calls and messages.

[Yate VoIP](#) (available in the software center)

YATE is a telephony engine aimed at creating a telephony server that performs well enough to deal with PBX requirements and also flexible enough for complex Gateway and IVR solutions.

YateClient uses the same telephony code to produce a software desktop VoIP (SIP, H.323, IAX2) phone. yate-qt4 uses this to provide such a telephony

[QuteCom](#) (available in the software center)

QuteCom is a community of enthusiasts and developers, creating free software products related to communication over IP. The flagship product of the QuteCom project is a softphone which allows you to make free PC to PC video and voice calls, and to integrate all your IM contacts in one place.

## [Linphone](#) (available in the software center)

Linphone is an internet phone or Voice Over IP phone (VoIP). With linphone you can communicate freely with people over the internet, with voice, video, and text instant messaging. Linphone makes use of the SIP protocol , an open standard for internet telephony. You can use Linphone with any SIP VoIP operator, including our free SIP audio/video service

## [Jitsi](#)

Jitsi - Open Source Video Calls and Chat Secure video calls, conferencing, chat, desktop sharing, file transfer, support for your favorite OS, and IM network. All this, and more, in Jitsi - the most complete and advanced open source communicator. Implemented in Java.

## [Blink](#)

A state of the art, easy to use SIP client Available for Mac, Windows and Linux. Comprehensive controls over the details of the protocol. Blink is the end-result of cumulated knowledge built over many years by its developers who worked on the development of popular open-source SIP infrastructure software and attended relevant IETF and SIPIT events where SIP protocol has been developed and tested [18](#) . Implemented using Qt.

---

## [Answer](#) by [user4124](#)

You can use Empathy (pre-installed in Ubuntu) instead of Skype.

For users of Windows, OS/X, you can ask them to install Google Voice and Video chat, <http://www.google.com/chat/video> 

Empathy and Google Voice and Video chat are compatible with each other, so you can have voice and video chats!

There is an option for VoIP (SIP) support in Empathy. You install the `telepathy-sofiasip` package to add SIP support. It might not be excellent yet, however you can get the work done.

In addition, with Empathy you have many additional options (not found in basic Skype), including

- you have the option for remote desktop to your IM contacts (pre-installed)
- you can SSH to the computer of your contacts (requires package to install)
- you can collaborate with your contacts in writing a document with gedit (see `gedit-collaborate`).

---

**Tags:** [software-recommendation](#) ([Next Q](#)), [skype](#) ([Next Q](#))

---

## [Q: What IDEs are available for Ubuntu?](#)

**Tags:** [software-recommendation](#) ([Next Q](#))

This question exists because it has historical significance, but it is not considered a good, on-topic question for this site, so please do not use it as evidence that you can ask similar questions here. See [the FAQ](#)  for more information.

This is a community wiki for IDEs available on Ubuntu. Please post one IDE per answer (including more than just a screenshot or a link, please at least put a short description).

In your answer, tell us what the IDE is for (which language(s) or if it is RAD capable).

**Tags:** [software-recommendation](#) ([Next Q](#))

**User:** [rolandixor](#)

---

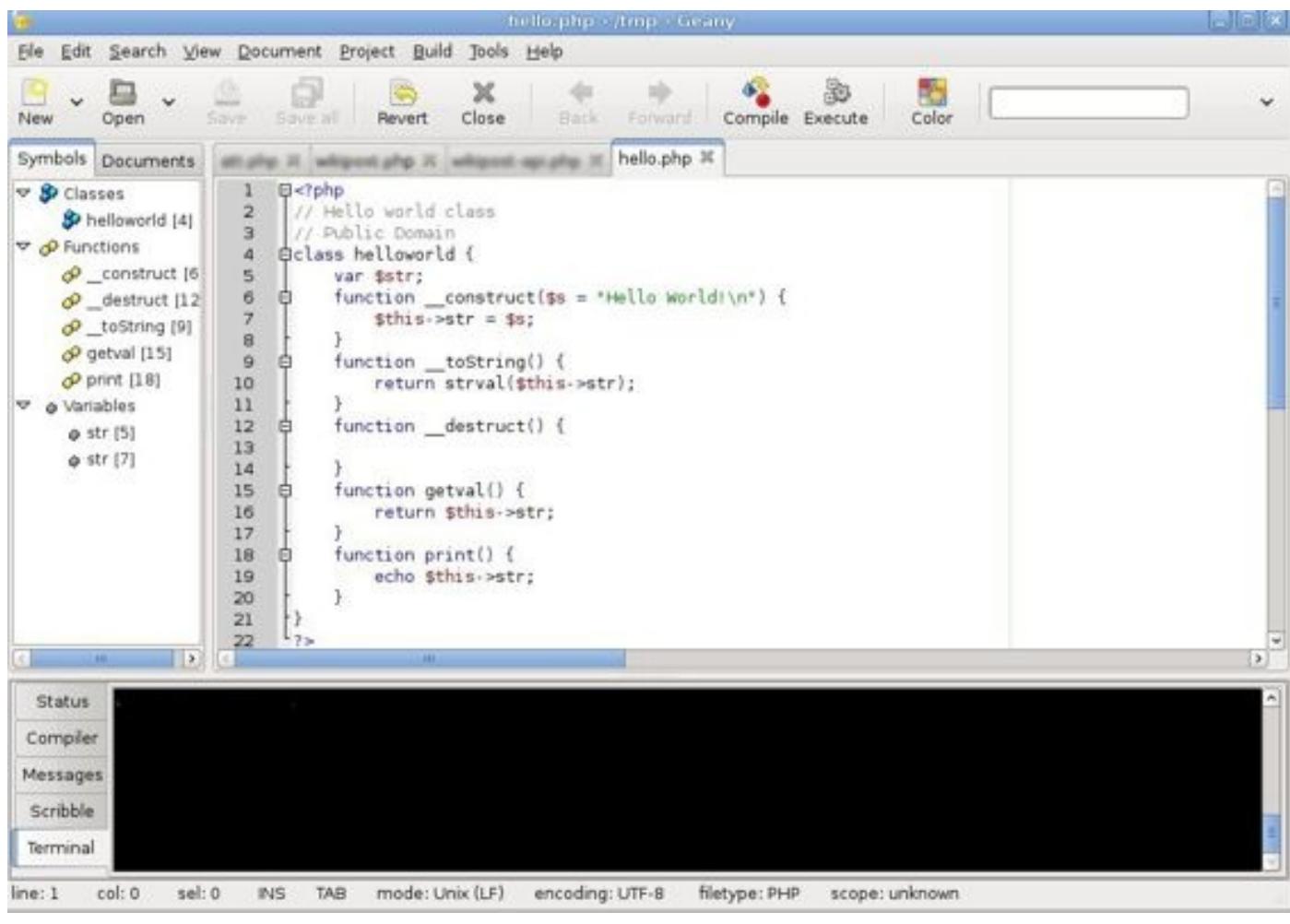
[Answer](#)  by [wojox](#)



# Missing Image

[Geany] is a text editor using the GTK2 toolkit with basic features of an integrated development environment. It was developed to provide a small and fast IDE, which has only a few dependencies from other packages. It supports many filetypes and has some nice features. My favorite so far.

## Supported File Types



[Answer](#) by db42

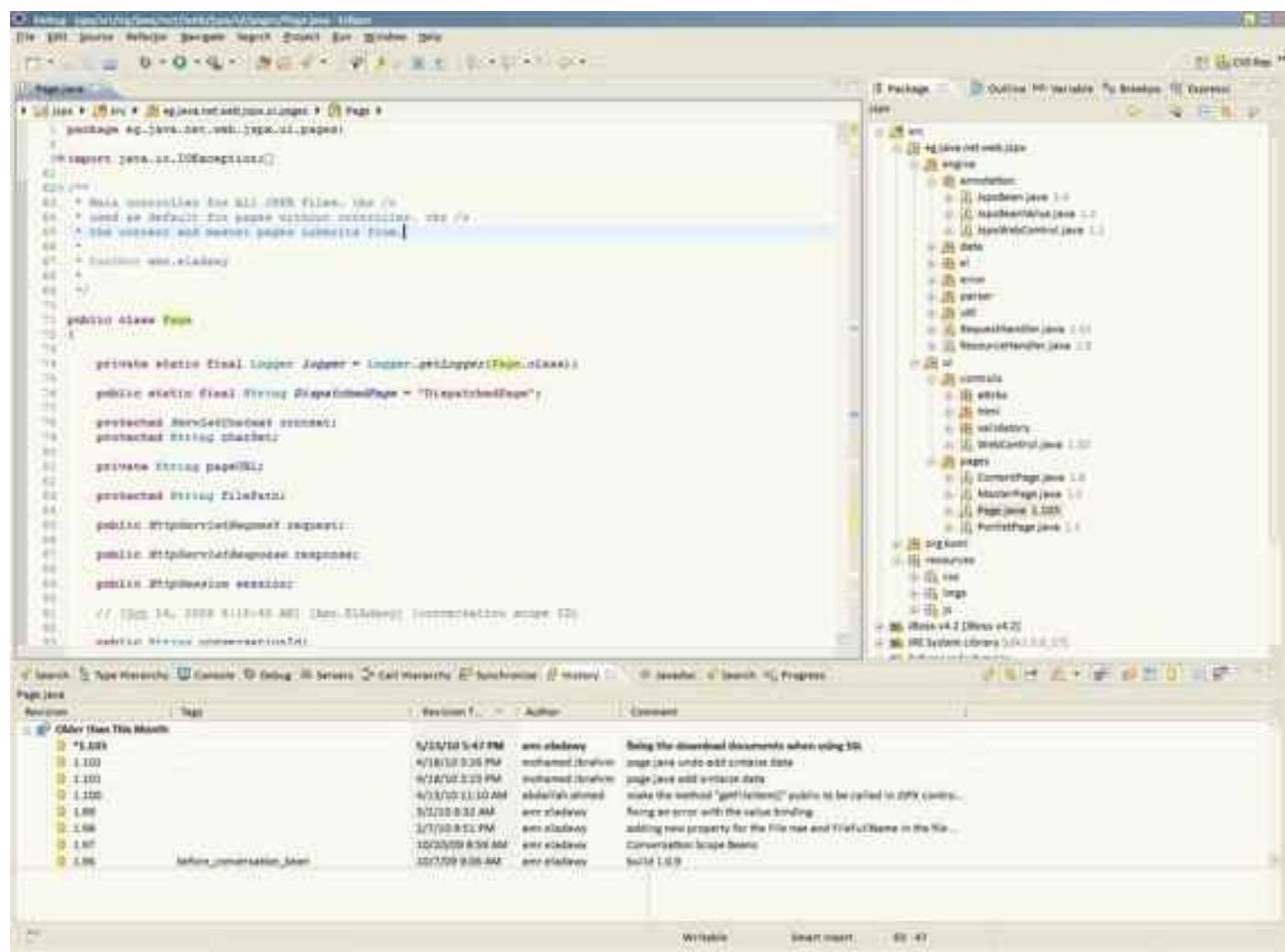
# Eclipse

# Missing Image

I am surprised that no one mentioned [Eclipse](#)  Personally, I use it for Java, C and python.

[Quoting from wikipedia:](#) 

It is written mostly in Java and can be used to develop applications in Java and, by means of various plug-ins, other programming languages including Ada, C, C++, COBOL, Perl, PHP, Python, R, Ruby (including Ruby on Rails framework), Scala, Clojure, and Scheme. It can also be used to develop packages for the software Mathematica. The IDE is often called Eclipse ADT (Ada Development Toolkit) for Ada, Eclipse CDT for C/C++, Eclipse JDT for Java, and Eclipse PDT for PHP.



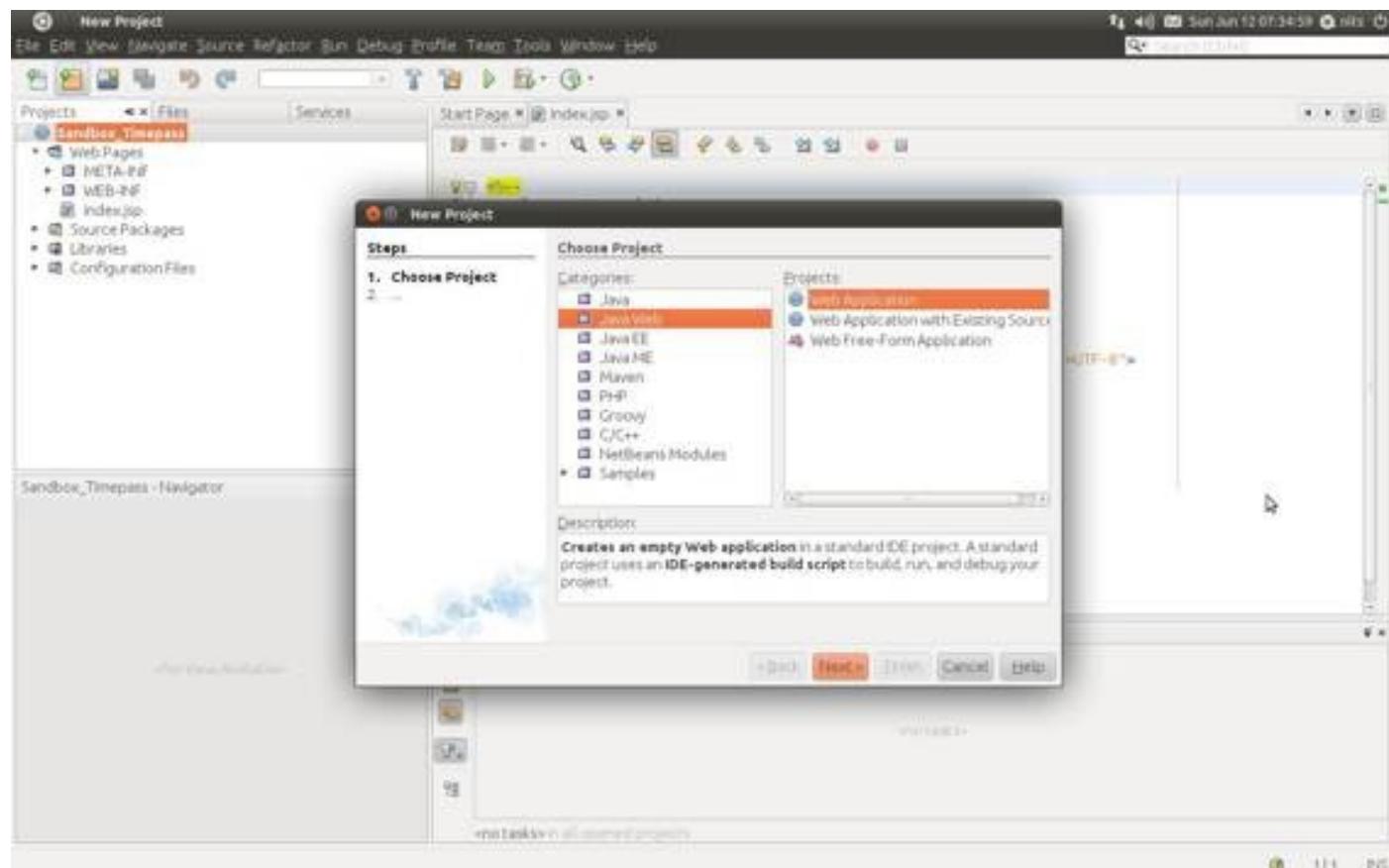
[Answer](#)  by [nitstorm](#)

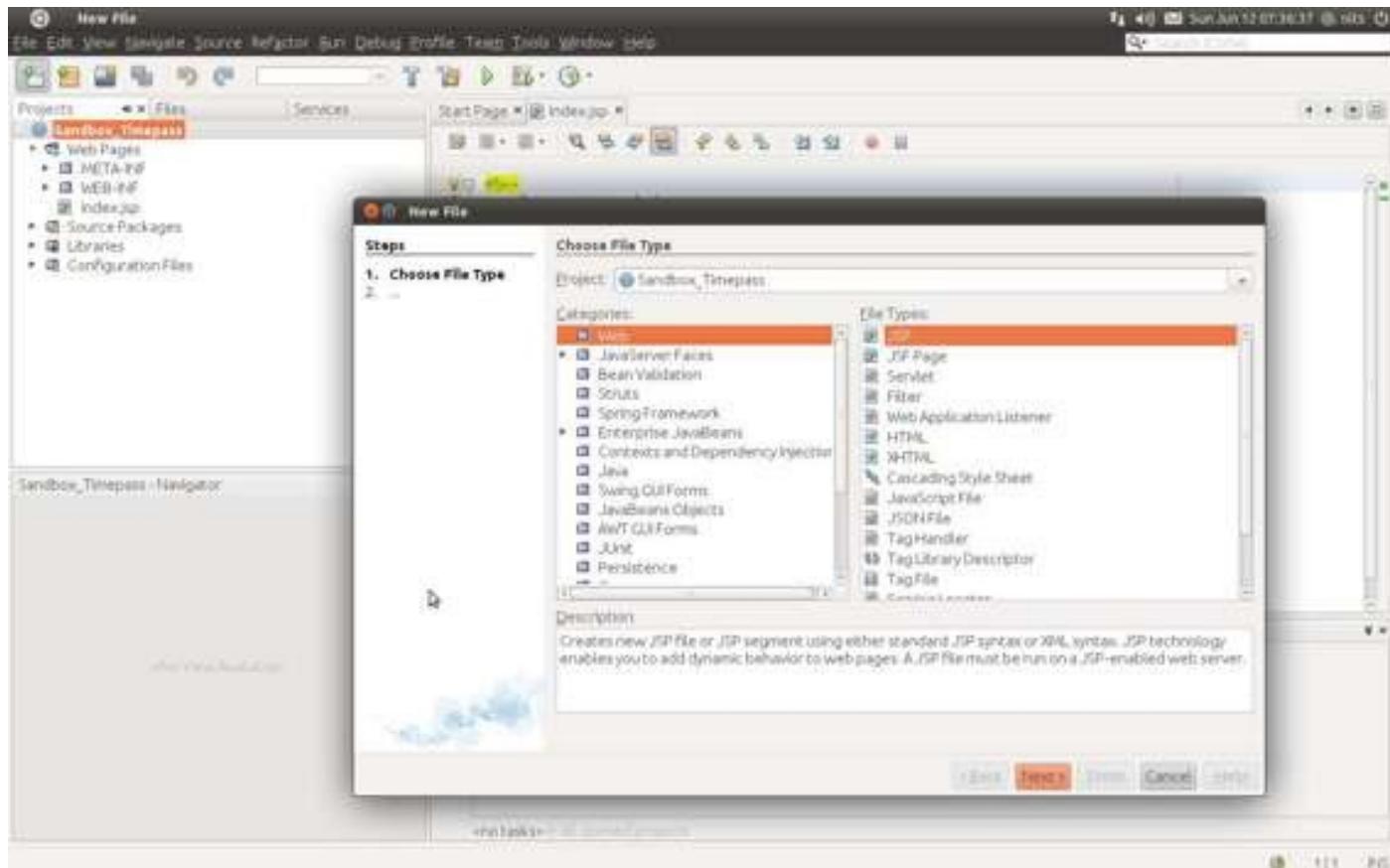


[Netbeans](#) 

# Missing Image

The latest version is Netbeans 7.2.1





It supports quite a few languages, web services and databases. RAD is definitely supported for Swing components. Just gotta draw the boxes required and then double click on a segment to write its code. The interface is easy to use and is pretty intuitive. Nothing that puzzles you or anything. Also there are a lotta plugins you can choose from too. It's a power-packed IDE and it's more fun when you use it. Loads of cool features which you just can't type it out, but have to try it out to experience the fun :)

## Supported Technologies:

### [Skip code block](#)

```
Java EE 6, Java EE 5 and J2EE 1.4
Java ME SDK 3.0
Java Card 3 SDK
Struts 1.3.8
Spring 3.0, 2.5
Hibernate 3.2.5
Java API for RESTful Web Services (JAX-RS) 1.1
Java Wireless Toolkit 2.5.2 for CLDC
Issue Tracking
    Bugzilla 3.4 and earlier
    Jira 3.4 and earlier
C/C++/Fortran
```

```
PHP 5.3, 5.2, 5.1
Groovy 1.6.4
Grails 1.1
Apache Ant 1.8.1
Apache Maven 2.2.1 or later
VCS
    CVS: 1.11.x, 1.12.x
    Subversion: 1.5.x, 1.6.x
    Mercurial: 1.5
    ClearCase V7.0
    Git 1.7.
```

## Tested application servers:

GlassFish Server Open Source Edition 3.1  
WebLogic 11g PS3 (10.3.4)

## Known to run application servers:

GlassFish Enterprise Server v2.1.1  
Tomcat 7.0.11  
JBoss 6.0

**Tags:** [software-recommendation](#) ([Next Q](#))

## Q: How do I download a YouTube video?

**Tags:** [software-recommendation](#) ([Next Q](#))

For a school project I need to download three youtube videos and save them to a CD. I am running Ubuntu 10.10; can anybody provide instructions on how to do this? I'm fairly new to Ubuntu so the more detail the better.

**Tags:** [software-recommendation](#) ([Next Q](#))

**User:** [cathy](#)

[Answer](#)  by [pedram](#)

## For Firefox Users:

You can install Video DownloadHelper addon on firefox and download any embedded object including Youtube videos.



<https://addons.mozilla.org/en-US/firefox/addon/video-downloadhelper/>

[Answer](#) by [shekhar-raut](#)

Run

```
sudo apt-get install youtube-dl
```

to install command line mode downloader for YouTube.

Then run

```
youtube-dl YouTube-video-link
```

so it will download the video.

[Answer](#) by [uri-herrera](#)

Why did no one mention [Minitube](#)

# Missing Image

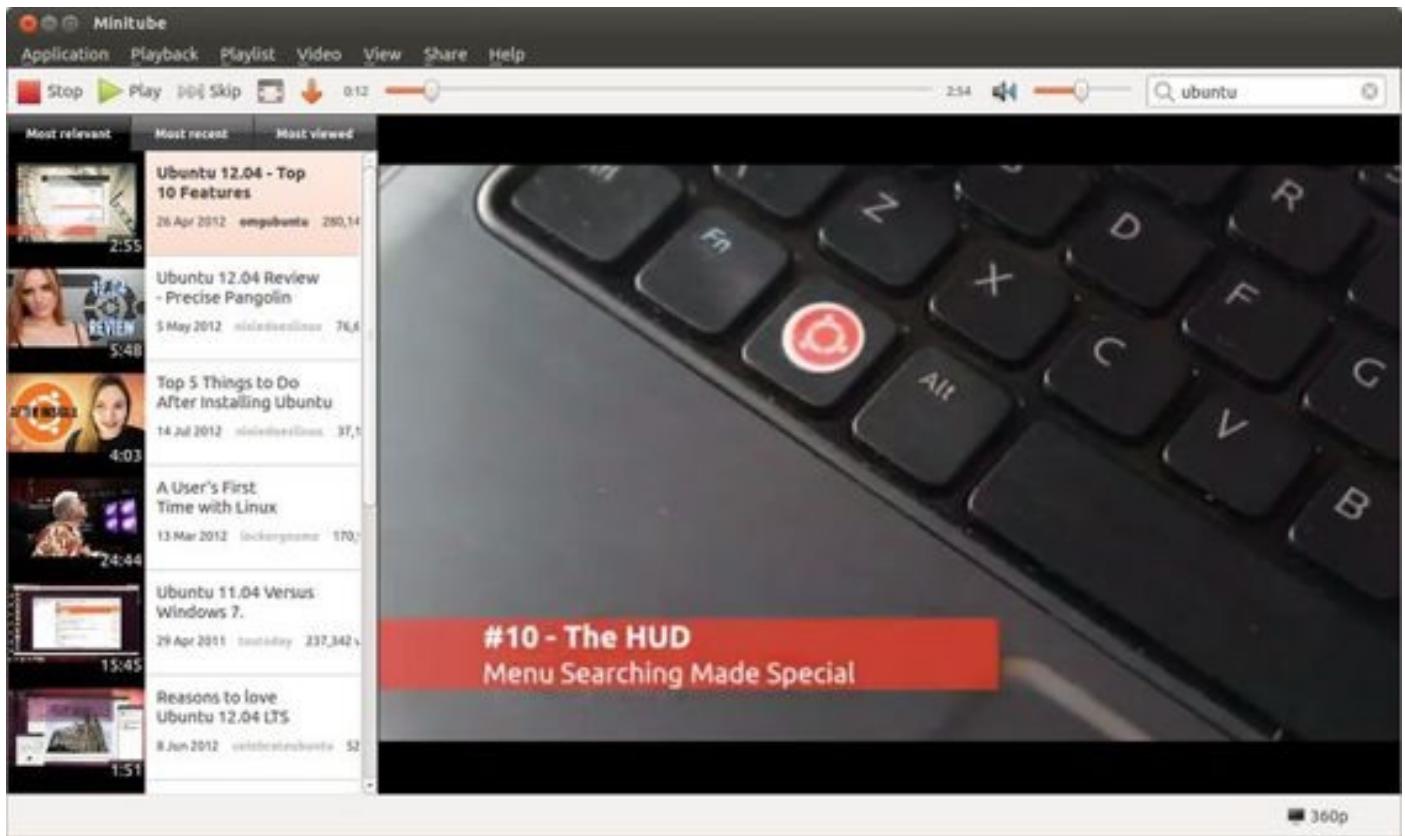
?

Minitube is a YouTube desktop application. With it you can watch YouTube videos in a new way: you type a keyword, Minitube gives you an endless video stream.

Minitube is not about cloning the original YouTube web interface, it aims to create a new TV-like experience.

It does not require the Flash Player. From this application you can *watch* and *download* videos.





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Tags: [software-recommendation](#) ([Next Q](#))

---

## Q: Is there a Google Drive client available?

Tags: [software-recommendation](#) ([Next Q](#))

I'd like to install a [Google Drive](#)  client for Xubuntu (12.04).

I'm getting non-English Google results, and I didn't find [grive](#)  in the Xubuntu repositories.

Does anyone know of a client that works well for Ubuntu or it's supported derivates (or installation instructions for grive?)

Tags: [software-recommendation](#) ([Next Q](#))

User: [eyal](#)

---

Answer  by [eyal](#)

Apparently [grive](#)  exists on a ppa - I installed it and it works reasonably well. This is preferable in my opinion over the [google-docs-fs](#)  solution, since that doesn't put your files permanently on your drive, and grive does. Also, grive isn't a commercial venture like InSync - which is described as "free during beta".

The PPA for grive can be found on webupd8's site using these instructions:

<http://www.webupd8.org/2012/05/grive-open-source-google-drive-client.html> 

One limitation that the current version of grive has is that it doesn't automatically sync

your drive directory. But I found [this blog post describing a script to fix this](#) and make grive sync whenever a file in the drive directory is changed.

(This answer is originally based on @uri's comment, which has since disappeared)

---

[Answer](#) by [hexafraction](#)

# **Unfortunately, Not with an official client. An unofficial driver exists online.**

Note that there is no 12.04 PPA. I've contacted the maintainer asking for one to be made.

There is currently no official Linux client supported by Google.

For Linux

Google Drive isn't currently available for the Linux operating system. Linux users can still access Google Drive on the web [drive.google.com](http://drive.google.com) New Window or through the Google Drive mobile app.

Refer to <http://support.google.com/drive/bin/answer.py?hl=en&answer=2375082> 

There is an unofficial Gdrive FS in a PPA:

1. execute `sudo add-apt-repository ppa:invernizzi/google-docs-fs` to add the PPA.
2. once the command finishes, run `sudo apt-get update && sudo apt-get install google-docs-fs` to install GdriveFS. Please be patient as this step may take a while.
3. Create a folder within your home folder called "Drive".
4. Execute: `gmount Drive username@gmail.com`, replacing your username as necessary, to mount your Google Drive. This must be run in a terminal. Test show that this application works fine, and is filemanager-independent, being an FS driver.

---

[Answer](#)  by [orangelux](#)

OmgUbuntu [posted](#)  an article about Google Drive and Ubuntu recently.

## **InSync**

Note: as of time of answering, this app is still in beta.

- Download the [Insync.tar.gz](#) 
- Extract to your Home folder
- Open a new terminal and navigate into the extracted Insync folder using the `cd >` command (e.g. `cd insync/`)
- Run: `sudo ./insync-installer` Follow any on-screen prompts

After installing there are a few other things to note: After installation

- Insync must be started from the Terminal by running `insync`
- The app doesn't auto-start by default, and there is no in-app way to enable > this

# Update

There is a Ubuntu package from the [Download page](#) which installs (via software centre by default), configures an update repository, optionally installs file browser integration and starts InSync.

## google-docs-fs

This app mounts your drive so you can thread it like a file system. Instructions come from [OmgUbuntu](#).

- sudo add-apt-repository ppa:invernizzi/google-docs-fs
- sudo apt-get update && sudo apt-get install google-docs-fs

Once everything that's needed has been installed log out and back in.

- Open Nautilus
- Create a new folder in your Home folder titled Drive
- Open a Terminal and run: -
- gmount Drive username@gmail.com
- Input your password

Your Google Drive is now mounted in the Drive folder

---

**Tags:** [software-recommendation](#) ([Next Q](#))

---

## Q: Slap me when I stop working

**Tags:** [software-recommendation](#) ([Next Q](#))

On Mac OS X I have [an app](#) that plays a sound when I enter certain sites. I want a similar software to use on Linux. Does anybody know one?

**Tags:** [software-recommendation](#) ([Next Q](#))

**User:** [ademar111190](#)

---

[Answer](#) by [medigeek](#)

Here's a workaround:

```
sudo apt-get install mpg321 wmcctrl
while [ 1 ]; do z=$(wmcctrl -l -p | grep -i 'facebook\|miniclip'); if [ -n "$z" ]; then mpg321 myfile.mp3; fi; sleep 5; done
```

This will play myfile.mp3 if any open current window title matches "facebook" or "miniclip".

---

**Tags:** [software-recommendation](#) ([Next Q](#))

---

## **Q: Is there a power saving application similar to Jupiter?**

**Tags:** [software-recommendation](#) [power-management](#) ([Next Q](#))

I have installed the 13.04 final release and so far I am loving it more 12.10. I'm trying to install the Jupiter power settings app but, I read it is no longer compatible with the new kernel. Is there a similar program or a way to manage the power settings on 13.04?

**Tags:** [software-recommendation](#) [power-management](#) ([Next Q](#))

**User:** [michael-scott](#)

---

[Answer](#)  by [qasim](#)

# Improve Power Usage / Battery Life In Linux With TLP



---

# Overview

TLP brings you the benefits of advanced power management for Linux without the need to understand every technical detail. TLP comes with a default configuration already optimized for battery life, so you may just install and forget it. Nevertheless TLP is highly customizable to fulfil your specific requirements.

# Features

## [Skip code block](#)

```
Kernel laptop mode and dirty buffer timeouts
Processor frequency scaling including "turbo boost" / "turbo core"
Power aware process scheduler for multi-core/hyper-threading
Hard disk advanced power management level and spin down timeout (per disk)
SATA aggressive link power management (ALPM)
PCI Express active state power management (PCIe ASPM) Linux 2.6.35 and above
Runtime power management for PCI(e) bus devices Linux 2.6.35 and above
Radeon KMS power management Linux 2.6.35 and above, not fglrx
Radeon dynamic power management Kernel 3.11 and above, not fglrx
Wifi power saving mode depending on kernel/driver
Power off optical drive in drive bay (on battery)
Audio power saving mode hda_intel, ac97
```

## [Also Check Additional functions](#)

# Installation

[Also Check Prerequisites](#) 

```
sudo add-apt-repository ppa:linrunner/tlp
sudo apt-get update
sudo apt-get install tlp tlp-rdw smartmontools ethtool
```

## ThinkPads

```
sudo apt-get install tp-smapi-dkms acpi-call-tools tlp tlp-rdw smartmontools ethtool
```

**tlp-rdw** Radio Device Wizard - Need to enable/disable & Power saving (Wifi / Bluetooth )

**smartmontools** - needed by tlp-stat to display disk drive S.M.A.R.T. data

**ethtool** - needed to disable wake on lan

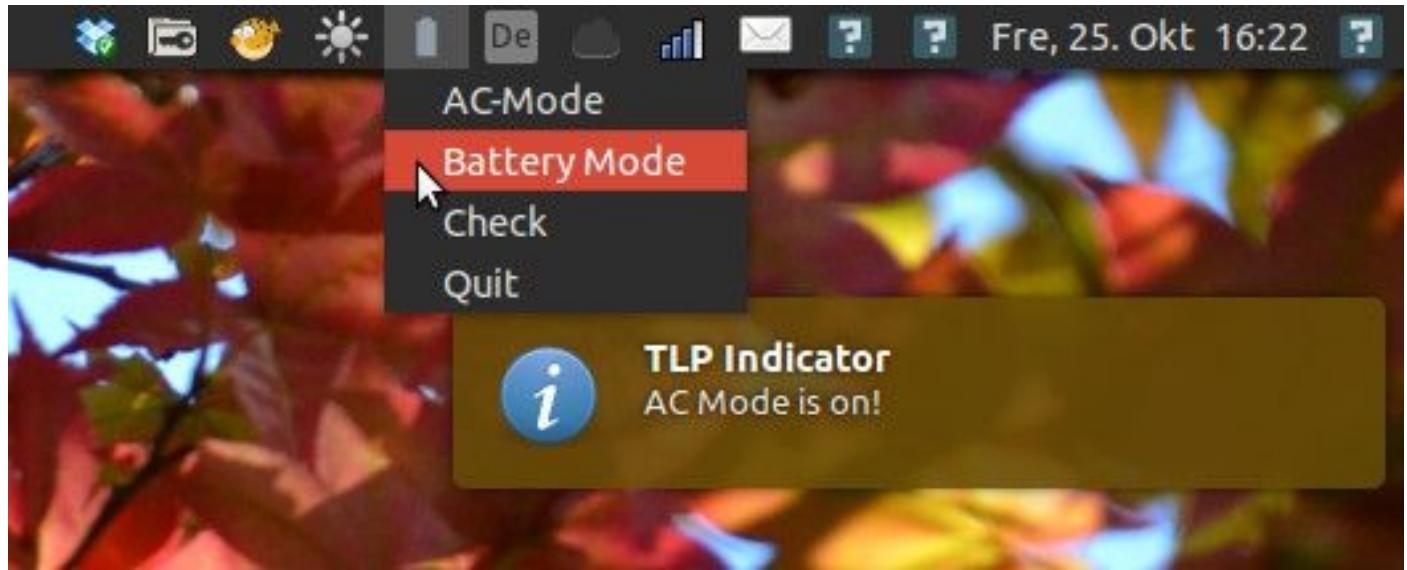
**tp-smapi-dkms** ThinkPad only, tp-smapi is needed for battery charge thresholds and ThinkPad specific status output of tlp-stat

**acpi-call-tools** ThinkPad only, acpi-call is needed for battery charge thresholds on Sandy Bridge and newer models

---

# Additional

**TLP Indicator for Unity** A Unity Indicator created to comfortably switch between AC and BAT Modes. Use it at your own risk. Download here: [indicator-TLP.py](#)



# Configuration

Removing default Ubuntu cpu frequency config

```
sudo update-rc.d -f ondemand remove
```

## TLP Developer

( This is not a general prerequisite for TLP but is only needed **if the user decides** to change the default governor. If a user issues the command **without changing the TLP setting** too, he ends up with “perfomance”, which is quite bad for battery life.), Apply to section 3.) Processor and Frequency Scaling

The main config file of TLP is at /etc/default/tlp

```
sudo -i gedit /etc/default/tlp
```

# Parameters

## General hints:

1. Parameters ending on \_AC are effective with the power supply connected
  2. Parameters ending on \_BAT are effective when running on battery
  3. Parameters containing blanks must be enclosed in double quotes like this: ""
  4. Some parameters are inactive by default; remove the leading '#' to activate
- 

## 0.) General

```
TLP_ENABLE=1
```

Set to 0 to disable TLP (Reboot needed), It should be enabled so leave the default value

## 1.) File System

```
DISK_IDLE_SECS_ON_AC=0  
DISK_IDLE_SECS_ON_BAT=2
```

DISK\_IDLE\_SECS\_ON\_BAT=2 = You can either leave the default value (2) or you can edit it as 5, By default Ubuntu uses 5, its up to you, read the gives below help

```
cat /usr/lib/pm-utils/power.d/laptop-mode
```

This controls how aggressive the system is at trying to avoid writing to disk. The longer the disk is idle, the more power you can save.

This is only active on battery power, and it restores these values to kernel defaults when on AC power.

**Defaults 5**, which enables laptop mode and forces the system to **wait 5 seconds** whenever something asks to write to disk to flush out as much data as we can.

## 2.) Dirty page values

```
MAX_LOST_WORK_SECS_ON_AC=15  
MAX_LOST_WORK_SECS_ON_BAT=60
```

Leave the default value

Defaults 60, which means that the kernel will not start forcing process to write out file information that has been changed but not saved until 60% of usable system memory is filled with dirty information.

## 3.) Processor and Frequency Scaling

```
CPU_SCALING_GOVERNOR_ON_AC=ondemand  
CPU_SCALING_GOVERNOR_ON_BAT=powersave
```

Remove the hash and edit it as conservative.

Its up to you what you want, you can also use **ON\_BAT=powersave**

Select a cpu frequency scaling governor: ondemand/powersave/performance/conservative  
**Governor ??**

The governor decides what frequency should be used.

Module Description:

|              |  |
|--------------|--|
| ondemand     | Dynamically switch between CPU(s) available if at 95% cpu load |
| performance  | Run the cpu at max frequency                                   |
| conservative | Dynamically switch between CPU(s) available if at 75% load     |
| powersave    | Run the cpu at the minimum frequency                           |

## TLP Developer

To use “conservative” over “powersave especially on AC should not be a general recommendation but only an option for hardware that produces excessive heat or fan noise.

### 4.) Min/Max frequency

```
#CPU_SCALING_MIN_FREQ_ON_AC=0
#CPU_SCALING_MAX_FREQ_ON_AC=0
#CPU_SCALING_MIN_FREQ_ON_BAT=0
#CPU_SCALING_MAX_FREQ_ON_BAT=0
```

Set the min/max frequency available for the scaling governor. Possible values strongly depend on your cpu. For available frequencies see tlp-stat output, Section “+++ Processor”.

**Hint:** Parameters are disabled by default, remove the leading # to enable them, otherwise kernel default values are used.

### 5.) Turbo Boost

```
CPU_BOOST_ON_AC=1
CPU_BOOST_ON_BAT=0
```

Set the cpu “turbo boost” feature: 0=disable / 1=allow ,Requires an Intel Core i processor and kernel 3.7 or later.

**Important:** This may conflict with your distribution’s governor settings, A value of 1 does *not* activate boosting, it just allows it

### 6.) Cpu Cores/Hyper-Threads

```
SCHED_POWERSAVE_ON_AC=0
SCHED_POWERSAVE_ON_BAT=1
```

Minimize number of used cpu cores/hyper-threads under light load conditions

### 7.) Kernel

```
NMI_WATCHDOG=0
```

Activate kernel NMI watchdog timer (0 = disabled/save power, 1=enabled). A value of 1 is relevant for kernel debugging only.

## 8.) Hard disk advanced power management level

```
DISK_APM_LEVEL_ON_AC="254 254"  
DISK_APM_LEVEL_ON_BAT="128 128"
```

Set the “Advanced Power Management Level”. Possible values range between 1 and 255:

```
1 max power saving / minimum performance
```

Important: this setting may lead to increased disk drive wear and tear because of excessive read-write head unloading (recognizable from the clicking noises)

```
128 compromise between power saving and wear (TLP standard setting on battery)  
192 prevents excessive head unloading of some HDDs  
254 minimum power saving / max performance (TLP standard setting on ac)  
255 disable APM (not supported by some disk models)
```

Different values for multiple disks are separated with blanks.

## 9.) Disk I/O Scheduler

```
#DISK_IOSCHED="cfq cfq"
```

Select io scheduler for the disk devices: noop/deadline/cfq (Default: cfq) Separate values for multiple devices with spaces.

**noop** is often the best choice for memory-backed block devices (e.g. ramdisks) and other non-rotational media (flash) where trying to reschedule I/O is a waste of resources

**deadline** is a lightweight scheduler which tries to put a hard limit on latency

**cfq** tries to maintain system-wide fairness of I/O bandwidth

## 10.) SATA aggressive link power management (ALPM):

min\_power/medium\_power/max\_performance

```
SATA_LINKPWR_ON_AC=max_performance  
SATA_LINKPWR_ON_BAT=min_power
```

**ALPM** Aggressive Link Power Management (ALPM) is a mechanism where a SATA AHCI controller can put the SATA link that connects to the disk into a very low power mode during periods of zero I/O activity and into an active power state when work needs to be done. Tests show that this can save around 0.5-1.5 Watts of power on a typical system. ( For more check ” Sources and additional help “ )

## 11.) PCI Express Active State Power Management (PCIe ASPM):

( default/performance/powersave )

**Hint:** needs kernel boot option pcie\_aspm=force on some machines

```
PCIE_ASPM_ON_AC=performance  
PCIE_ASPM_ON_BAT=powersave
```

## 12.) Radeon graphics clock speed

(profile method): low/mid/high/auto/default

auto = mid on BAT, high on AC; default = use hardware defaults (Kernel >= 2.6.35 only, not with fglrx driver!)

```
#RADEON_POWER_PROFILE_ON_AC=high  
#RADEON_POWER_PROFILE_ON_BAT=low
```

## 13.) WiFi power saving mode

1=disable/5=enable

(Linux 2.6.32 and later, some adapters only!)

```
WIFI_PWR_ON_AC=1  
WIFI_PWR_ON_BAT=5
```

## 14.) Disable wake on lan

Y = Yes , N = No

```
WOL_DISABLE=Y
```

## 15.) Audio power saving for Intel HDA

Enable audio power saving for Intel HDA, AC97 devices (timeout in secs). A value of 0 disables / >=1 enables power save.

```
SOUND_POWER_SAVE=1
```

Disable controller too (HDA only): Y/N

```
SOUND_POWER_SAVE_CONTROLLER=Y
```

## 16.) Power off optical drive in UltraBay >> (ThinkPads only)

Set to 1 to power off optical drive in UltraBay (ThinkPads only), when running on battery. A value of 0 disables this Feature (Default). Drive can be powered on again by releasing (and reinserting) the eject lever or by pressing the disc eject button on newer models.  
**Note:** an UltraBay hard disk is never powered off.

```
BAY_POWEROFF_ON_BAT=1
```

Optical drive device to power off (default sr0)

```
BAY_DEVICE="sr0"
```

## 17.) Runtime Power Management for pci(e) bus devices

```
RUNTIME_PM_ON_AC=on  
RUNTIME_PM_ON_BAT=auto
```

## Runtime PM for all pci(e) bus devices

```
RUNTIME_PM_ALL=1
```

Runtime PM for *all* pci(e) bus devices: 0=disable / 1=enable, Warning: experimental option, could cause system instabilities

Some times my usb mouse dongle didn't work when i plug it in usb 3 port, work fine when i plug it in usb 2 port, and all my usb 3 devices are working properly no issue.

## 18.) Usb autosuspend

Set to 0 to disable/1 to enable usb autosuspend feature

```
USB_AUTOSUSPEND=1
```

## 19.) System Start and Shutdown

```
RESTORE_DEVICE_STATE_ON_STARTUP=0
```

Restores radio device state (builtin bluetooth, wifi, wwan) from previous shutdown on system startup:

0 disable, 1 enable

```
DEVICES_TO_DISABLE_ON_STARTUP="bluetooth wifi wwan"
```

Disables builtin radio devices upon system start:

```
bluetooth  
wifi Wireless LAN  
wwan Wireless Wide Area Network (UMTS)
```

Multiple devices are separated with blanks.

I have an error that my **Blue tooth** device is not Disabled on start up, so if you face this problem just do the following config

```
sudo nano /etc/rc.local
```

And add the following line before exit 0

```
rfkill block bluetooth
```

**Save & Exit & Reboot**

# Working with TLP

After installation TLP will be automatically activated upon system start.

To start it immediately without reboot or to apply changed settings use:

```
sudo tlp start
```

Use the tlp-stat terminal command to check if TLP is working properly

```
sudo tlp-stat
```

Check Your system temperature

```
sudo tlp-stat -t
```

Show battery information only:

```
sudo tlp-stat -b  
sudo tlp-stat --battery
```

Show configuration only:

```
tlp-stat -c  
tlp-stat --config
```

Show radio devices switch state only:

```
tlp-stat -r  
tlp-stat --rfkill
```

Show temperatures and fan speed only:

```
tlp-stat -t
```

Apply Battery Settings (ignoring the actual power source):

```
sudo tlp bat
```

Apply AC Settings (ignoring the actual power source):

```
sudo tlp ac
```

You can check Which I/O you are using.

```
sudo tlp-stat # Check the section +++ Storage Devices
```

## Trace Mode

To examine suspected problems in TLP more closely, activate trace mode in /etc/default/tlp:

```
TLP_DEBUG="lock nm path pm rf run sysfs udev usb"
```

Add above mentioned line in the end /etc/default/tlp , The accumulated trace data may be read at any time with

```
tlp-stat -T
```

Or

```
grep "t1p" /var/log/debug
```

In case the trace output is missing, you have to modify your rsyslogd configuration. Create the file /etc/rsyslog.d/90-debug.conf containing

```
*.=debug;\nauth,authpriv.none;\nnews.none;mail.none -/var/log/debug
```

And restart the daemon

```
sudo /etc/init.d/rsyslog restart
```

# Sources and additional help

[There is very good support at TLP Website](#) 

[Useful Config Link 1](#) 

[TLP Settings](#) 

[ALPM](#) 

---

# **Optional tweaks**

# Tweak your CPU frequency with indicator-cpufreq

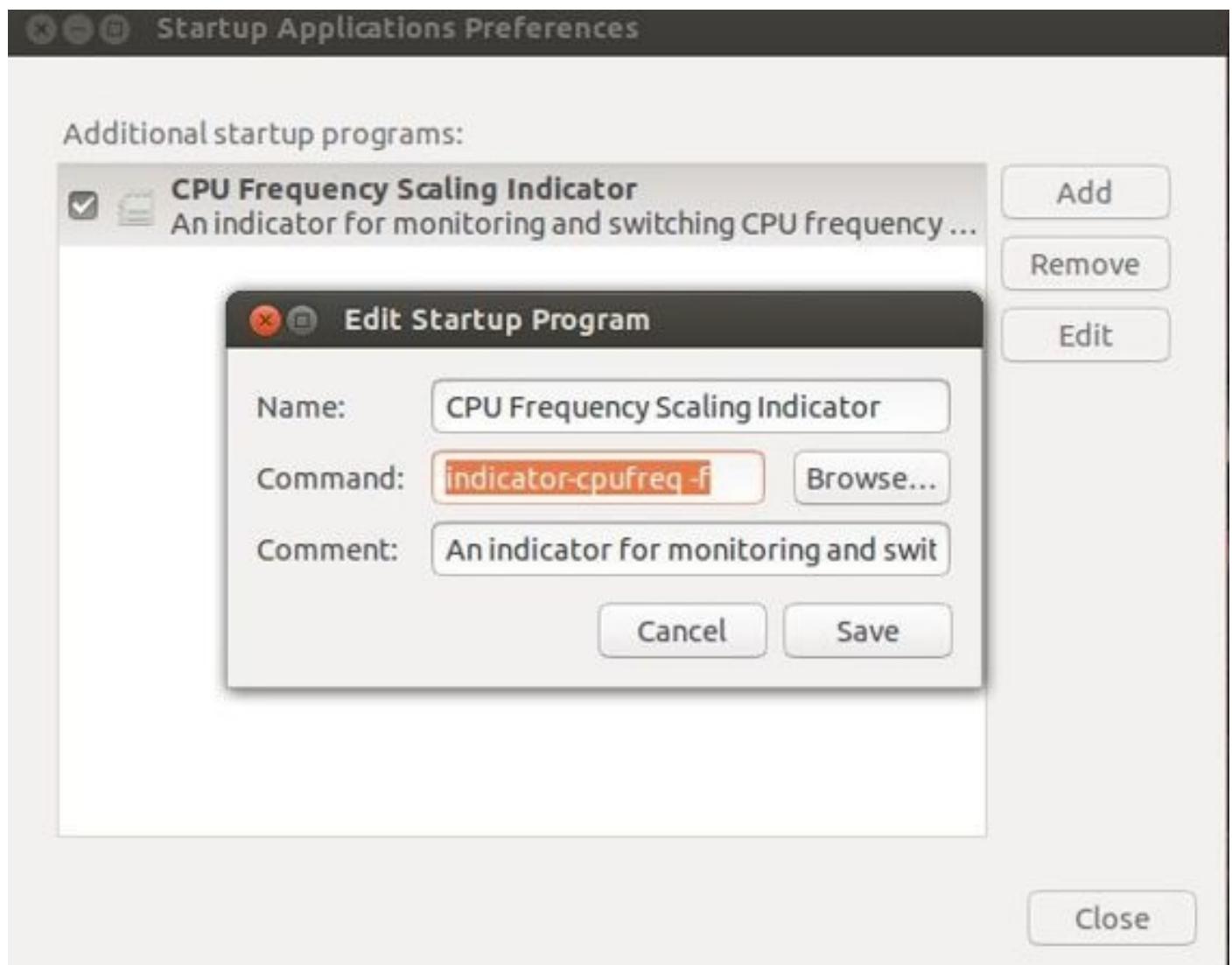
## Installation

indicator-cpufreq will help you change your CPU frequency on the go:

```
sudo apt-get install indicator-cpufreq
```

Go to *Dash > search for Startup > edit indicator-cpufreq add -f* or copy paste the following command:

```
indicator-cpufreq -f
```



## Screenshot



With the indicator you will be able to monitor your current CPU frequency & can change CPU frequency

### **Changing CPU frequency**

Click on indicator

**2.20 GHz (turbo mode)**

**2.20 GHz**

**2.00 GHz**

**1.90 GHz**

**1.80 GHz**

**1.70 GHz**

**1.60 GHz**

**1.50 GHz**

**1.40 GHz**

**1.30 GHz**

**1.20 GHz**

**1.10 GHz**

**1.00 GHz**

**0.90 GHz**

**0.80 GHz**

**Conservative**

**Ondemand**

• **Powersave**

**Performance**



## **Additional Advice**

**VA-API (Hardware Acceleration For Intel / AMD GPUs)**

# Overview

The main motivation for VA-API (Video Acceleration API) is to enable hardware accelerated video decode/encode at various entry-points (VLD, IDCT, Motion Compensation etc.) for the prevailing coding standards today (MPEG-2, MPEG-4 ASP/H.263, MPEG-4 AVC/H.264, and VC-1/WMV3). Extending XvMC was considered, but due to its original design for MPEG-2 MotionComp only, it made more sense to design an interface from scratch that can fully expose the video decode capabilities in today's GPUs.

Help full Links

[webupd8](#) 

[Official Intel Drivers are using VA-API](#) 

[Support video codecs](#) 

# **Install Intel / AMD VA-API drivers in Ubuntu**

**for Intel GPUs (for Intel HD Graphics as well as G45 and later):**

```
sudo apt-get install i965-virtual-drv libva-intel-vaapi-driver vainfo
```

**for AMD Radeon GPUs (you also need the proprietary drivers!):**

```
sudo apt-get install xvba-va-driver vainfo
```

## **Install MPlayer with VA-API support in Ubuntu**

By default, the MPlayer version available in the official Ubuntu repositories doesn't support VA-API, but you can use a PPA which provides custom MPlayer builds with VA-API support.

```
sudo add-apt-repository ppa:sander-vangrieken/vaapi
sudo apt-get update
sudo apt-get install mplayer-vaapi
```

Now you need to install **smplayer or vlc**

```
sudo add-apt-repository ppa:rvm/smplayer
sudo apt-get update
sudo apt-get install smplayer
```

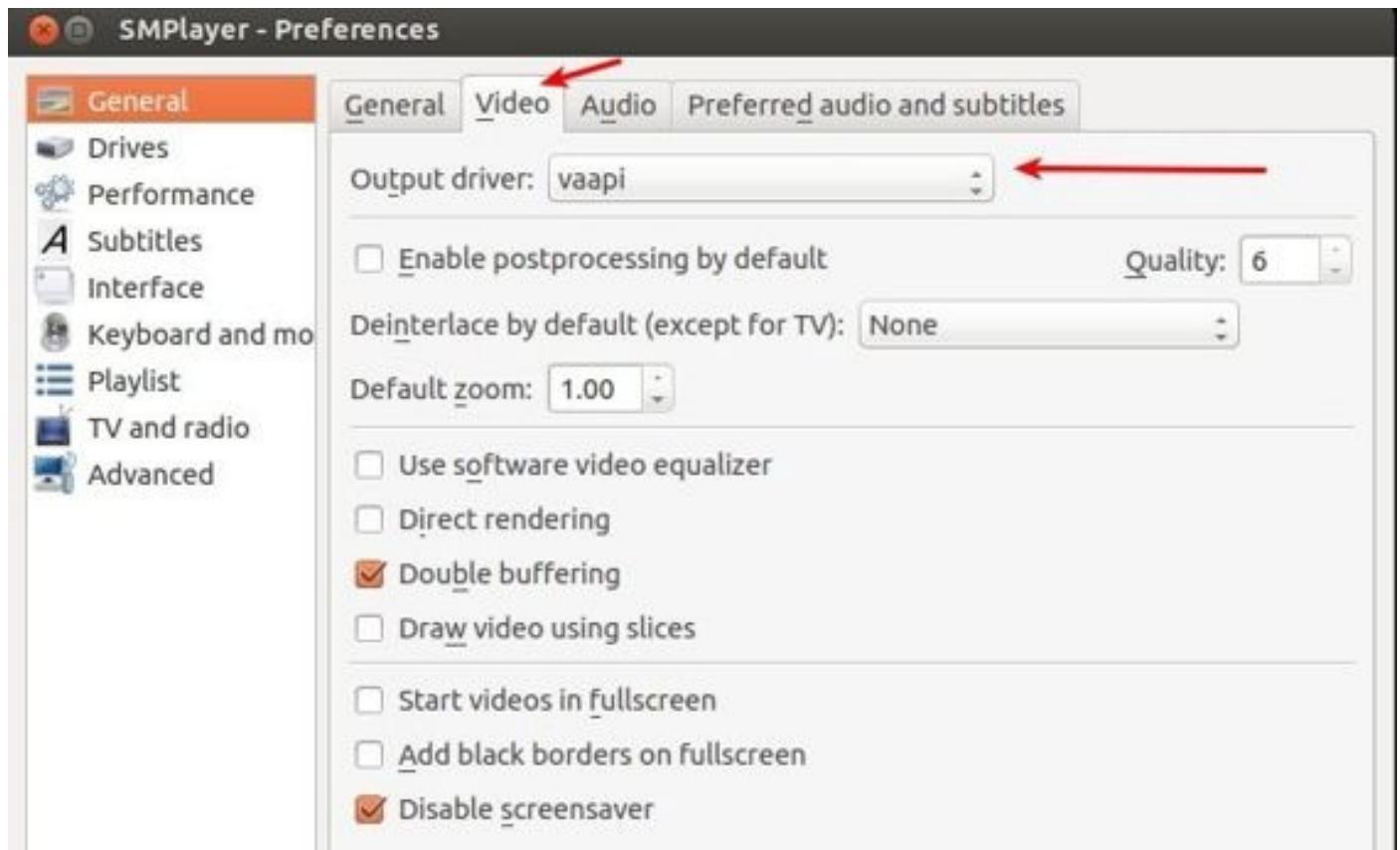
**OR**

```
sudo apt-get install vlc
```

# Configuration

## SMPLAYER

Its in **Option tab** > Preferences, on the Video tab > General Video > Output driver set the video output driver to “vaapi”:



## VLC

Its in Tools > Preferences > Input & Codecs > Enable **Use GPU Accelerated decoding**

Preferences

## Input & Codecs Settings

Interface

Codecs

Use GPU accelerated decoding

Video quality post-processing level

Skip H.264 in-loop deblocking filter

x264 preset and tuning selection

x264 profile and level selection

Optical drive

Default optical device

Files

Record directory or filename

**Input & Codecs**

### Helpful Links

[How to correctly enable/test VA-API on Intel Sandy Bridge ?](#)

[Command line flag for mplayer to use hardware acceleration?](#)

# PowerSavingTweaks for Intel Graphics

```
sudo nano /etc/default/grub
```

change:

```
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash"
```

to:

```
GRUB_CMDLINE_LINUX_DEFAULT=""quiet splash intel_pstate=disable i915.lvds_downclock=1  
drm.vblankoffdelay=1 i915.semaphores=1 i915_enable_rc6=1 i915_enable_fbc=1"
```

and run:

```
sudo update-grub
```

Helpful Links

[3x+ battery life](#) 

**Tags:** [software-recommendation](#) [power-management](#) ([Next Q](#))

[Q: Coolest looking terminal IRC client](#)

[Q: How to make my own Dropbox / Ubuntu One server at home?](#)

[Q: How to create a screencast?](#)

[Q: Nautilus Git integration](#)

[Q: What developer text editors are available for Ubuntu?](#)

[Q: File and directory comparison tool?](#)

[Q: What software can I use to view epub documents?](#)

[Q: Which PDF Viewer would you recommend?](#)

[Q: Torrent client for the command-line?](#)

[Q: What Application Indicators are available?](#)

[Q: What FLOSS skype alternatives are available?](#)

[Q: What IDEs are available for Ubuntu?](#)

[Q: How do I download a YouTube video?](#)

[Q: What is the equivalent of Windows System Properties or Device Manager?](#)

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[Q: Is there a Google Drive client available?](#)

---

[Q: Slap me when I stop working](#)

---

[Q: Is there a power saving application similar to Jupiter?](#)

---

[Q: Any command line calculator for Ubuntu?](#)

---

# Package Management

## Questions

### [Q: What's the difference between package managers?](#)

Tags: [package-management](#) ([Next Q](#))

I know Ubuntu/Kubuntu has several programs that can be used to install packages, such as apt-get, aptitude, and synaptic (and perhaps others). What are the differences between them, and which one is the recommended choice for normal day-to-day package management?

This is a basic question, but I think it'd be good information to have on the site, and besides I am relatively new to Ubuntu so I could use an expert explanation.

Tags: [package-management](#) ([Next Q](#))

User: [david-z](#)

---

[Answer](#)  by [mac9416](#)

Probably the most popular package managers are apt-get, aptitude, synaptic, and Software Center. There are others (Linux Mint has its own, and there are some designed for KDE), but these are the ones you'll run into most often.

**apt-get** is a simple command-line tool. It's handy if you know the exact package name of what you want to install and don't want to spend time clicking through a GUI to get it.

**aptitude** is very similar to apt-get, and I've heard that it deals better with crazy dependency situations. Which one is really better is debatable.

**synaptic** is a low-level GUI. This is a good choice if you are a fairly advanced user but are not comfortable with command-line utilities.

**Software Center** is a very high-level, new-user-friendly GUI. Software is nicely categorized so that, if you're not exactly sure what app you want, you can find what you need quickly. The Software Center also stands out in that it is the only package manager in this list that allows you to purchase commercial applications.

**dpkg** is a lesser-used, low-level package manager standard for most Debian-based systems. In reality, apt-get, aptitude, synaptic, and the Ubuntu Software Center are all just front-ends to either dpkg or apt, which is in itself a front-end to dpkg.

In answer to your question, "which one is the recommended choice for normal day-to-day package management", I would say that Software Center is recommended for most uses. But as you gain more experience, you will find some of the features of lower-level package managers useful.

---

[Answer](#) by [lfaraone](#)

The [Debian FAQ](#) has a pretty good explanation of the different package managers.  
(dpkg, apt-get, aptitude, tasksel, synaptic)

---

[Answer](#) by [david-z](#)

As an addition to [mac9416's excellent answer](#), Kubuntu offers the same command-line tools as Ubuntu, namely dpkg, apt-get, and aptitude. There are also two graphical package managers:

**Adept** is a straightforward GUI for apt-get, which lets you edit the source lists, browse packages by category or by name, see their status, and install/uninstall them.

**KPackageKit** is a simple GUI for PackageKit, which is a newer, cross-distribution package management system that uses apt-get behind the scenes. It lets you search for programs by various criteria, install and uninstall programs, make routine upgrades, and edit the source lists.

---

**Tags:** [package-management](#) ([Next Q](#))

---

## **Q: How can I install just security updates from the command line?**

**Tags:** [package-management](#) ([Next Q](#)), [security](#) ([Next Q](#)), [updates](#) ([Next Q](#))

sudo apt-get upgrade installs all updates, not just security updates. I know that I can use Update Manager to select only important security updates, but is there a way to do this from the command line?

**Tags:** [package-management](#) ([Next Q](#)), [security](#) ([Next Q](#)), [updates](#) ([Next Q](#))

**User:** [mac9416](#)

---

[Answer](#) by [blueeyed](#)

The package [unattended-upgrades](#) provides functionality to install security updates automatically.

You could use this, but instead of configuring the automatic part you could call it manually. For this case, the following should do it:

```
sudo unattended-upgrade
```

This assumes that the package is installed by default, which it probably is. If not, just do:

```
sudo apt-get install unattended-upgrades
```

(watch out: the package is with final “s”, the first command, not)

See also /usr/share/doc/unattended-upgrades/README.

---

[Answer](#) by [ressu](#)

replace /etc/apt/preferences with the following:

```
Package: *
Pin: release a=lucid-security
Pin-Priority: 500

Package: *
Pin: release o=Ubuntu
Pin-Priority: 50
```

now a simple apt-get upgrade will upgrade all security updates only.

Why (and how) this works: The preferences file will pin all packages from ubuntu distribution to priority 50, which will make them less desirable than already installed packages. Files originating from security repository are given the default (500) priority so they are considered for installation. This means that only packages that are considered more desirable than currently installed ones are security updates. More information about pinning in the [apt\\_preferences manpage](#).

You can temporarily promote a certain distribution for updates with the —target-release option that works with apt-get and aptitude (at least) which will allow you pin certain releases so that they are eligible for upgrade.

If you wish to use this for scripts only and not make it default for the system, you can place the rules in to some other location and use this instead:

```
apt-get -o Dir::Etc::Preferences=/path/to/preferences_file upgrade
```

This will make apt look for the preferences file from a non-default location.

The preferences file given as an example doesn't apply to third party repositories, if you wish to pin those too you can use apt-cache policy to easily determine the required keys for pinning.

---

[Answer](#) by [iliv](#)

# A Few Tips On How To Manage Updates

This applies both to Debian and Ubuntu, but more specific instructions for Ubuntu follow.

Show security updates only:

```
apt-get -s dist-upgrade | grep '^Inst' | grep -i securi  
or  
unattended-upgrade --dry-run -d  
or  
/usr/lib/update-notifier/apt-check -p
```

Show all upgradeable packages

```
apt-get -s dist-upgrade | grep '^Inst'
```

Install security updates only

```
apt-get -s dist-upgrade | grep '^Inst' | grep -i securi | awk -F " "  
{'print $2'} | xargs apt-get install
```

Check what services need to be restarted after package upgrades. Figure out what packages you are going to upgrade beforehand and schedule your restarts/reboots. The problem here is that unless you restart a service it still may be using an older version of a library (most common reason) that's been loaded into memory before you installed new package which fixes a security vulnerability or whatever.

```
checkrestart -v
```

However, keep in mind that checkrestart may list processes that shouldn't necessarily be restarted. For example, PostgreSQL service may be keeping in its memory reference to an already deleted xlog file, which isn't a valid reason to restart the service.

Therefore, another, more reliable, way to check this using standard utils is the following little bash script that I shamelessly stole from <https://localost.net/?p=233>

It checks if running processes on a system are still using deleted libraries by virtue of keeping copies of those in active memory.

```
ps xh -o pid \  
| while read PROCID; do  
    grep 'so.* (deleted)$' /proc/$PROCID/maps 2> /dev/null  
    if [ $? -eq 0 ]; then  
        CMDLINE=$(sed -e 's/\x00/ /g' < /proc/$PROCID/cmdline)  
        echo -e "\tPID $PROCID $CMDLINE\n"  
    fi  
done
```

Sometimes Ubuntu shows security updates as if they're coming from \$release-updates repository. This is so, I'm told, because Ubuntu developers push security updates to \$release-updates repository as well to expedite their availability.

If that's the case, you could do the following to deal with security updates only:

```
sudo sh -c 'grep ^deb /etc/apt/sources.list |grep securi >>
```

```
/etc/apt/sources.security.repos.only.list'  
apt-get -s dist-upgrade -o  
Dir::Etc::SourceList=/etc/apt/sources.security.repos.only.list |grep  
"^Inst" | awk -F " " '{print $2}' | xarg apt-get install
```

---

Tags: [package-management](#) ([Next Q](#)), [security](#) ([Next Q](#)), [updates](#) ([Next Q](#))

---

## **Q: How do I find the package that provides a file?**

Tags: [package-management](#) ([Next Q](#))

Simple enough question: is there some shell command (or GUI method) I can use that, given the path to a file on my system, tells me what package put it there? Assuming the file did in fact come from a package, that is.

Bonus question: what if it's a file that isn't installed on my system? Is there, say, a website that will let me look up a file and see what packages, if any, provide it?

Tags: [package-management](#) ([Next Q](#))

User: [david-z](#)

---

[Answer](#)  by [ressu](#)

You can use dpkg command to find out which package owns a file:

```
dpkg -S /bin/ls
```

You can either search with a full path or with just the filename.

If you wish to search for files not yet installed on your computer, you can use the [Ubuntu Packages Search](#) 

---

[Answer](#)  by [jbowtie](#)

The [apt-file](#)  command can do this for you from the command line. I use it frequently when building packages from source. For files provided by packages that are already installed on your system, [apt-cache](#)  is another choice.

However a much friendlier way is to use the [Ubuntu Packages Search](#)  website. They have an option to “search the contents of packages” for a specific filename.

---

Tags: [package-management](#) ([Next Q](#))

---

## **Q: How can I install software or packages without Internet (offline)?**

Tags: [package-management](#) ([Next Q](#))

I have a friend who has got a computer that is not connected to the Internet. Is there any way to install software offline easily?

**Tags:** [package-management](#) ([Next Q](#))

**User:** [akshatj](#)

---

[Answer](#) by [javier-rivera](#)

Check out [Keryx](#), it's an offline repository manager.

**How does it work?** It lets you download updates and new programs (with dependencies) to your **flash drive**.

Its interface is similar to synaptic but **it works from a pendrive** (it doesn't need installation). Unfortunately, the GUI needs wxwidgets, which don't come preinstalled on Ubuntu (they're cross-platform and installable from [here](#) and ubuntu repository [here](#)). It can only install software in a Ubuntu system, but you can download the updates or new packages in any Linux, Windows or OS/X.

Here you can find a [tutorial](#).

Another detailed step-by-step tutorial in [this answer](#).

Launchpad also hosts [downloadable files](#).

**A screenshot:**



[Answer](#) by [jr0cket](#)

# A quick hack

A quick hack is to copy all the packages you downloaded for your install to his machine. The .deb files are stored in `/var/cache/apt/archives`, then in the other computer launch **Synaptic** and select **File -> Add Package Downloaded** and search the folder were you put the files and open it, accept all.

## NOTE:

This assumes that your package manager is not setup to delete the packages straight after install. It also assumes that you are running the same version of Ubuntu (*10.10, 12.04, etc*) and architecture version (*32b or 64b*).

---

## A DVD repository

If you want the latest bug fixes and security patches available then have a look at [this tutorial](#), which covers creating your own DVD repository.

---

[Answer](#) by [jr0cket](#)

## A USB repository

If you have a decent sized USB stick - assuming around 4-8Gb (or external hard drive) you can set up a custom copy of the Ubuntu repository and configure that as a local repository as covered in [AptGet/Offline/Repository](#) on help.ubuntu.com.

To get the actual package files (the .deb files), I suggest using `apt-mirror`.

The `apt-mirror` package will help you create a custom mirror which should be smaller than the 30Gb of the full repository. Install the package:

```
sudo apt-get install apt-mirror
```

and edit its configuration file

```
gksudo gedit /etc/apt-mirror/mirror.list
```

Only include the repository sections you want. Here is a simple example that copies the binary .deb files from all 4 sections (main, restricted, universe and multiverse) as well as the latest bug fixes.

### [Skip code block](#)

```
# apt-mirror configuration file
##
## The default configuration options (uncomment and change to override)
##
#
set base_path    /tmp/ubuntumirror
#
## Repositories to copy from -
## use a mirror so you don't overload the main server!!!
#
# Lucid binaries - no source files
deb http://archive.ubuntu.com/ubuntu lucid main restricted universe multiverse
deb http://archive.ubuntu.com/ubuntu lucid-updates main restricted universe multiverse
```

```
## Clean up older .deb files no longer in the archive  
clean http://archive.ubuntu.com/ubuntu
```

It is guesstimated that you will need around 15Gb of space for all 4 sections, without the source.

I have put the path for all the .deb files to be /tmp, make sure you have enough space so your hard drive does not fill up (if your hard drive does fill up and your computer freezes, /tmp should be cleared with a reboot).

If you just want the main files, remove the restricted, universe and multiverse names from the configuration file.

If you are using a different architecture (you have 64bit, but your friend has 32 bit) then add the following at the start of the **mirror.list** configuration file:

```
set defaultarch i386
```

Once you have the apt-mirror configuration you want, run apt-mirror and go do something fun or life changing as it will take hours or days to get the repository (depending on your connection and the Ubuntu mirror you are using).

Once you have the .deb files, copy the files to your USB memory stick (or external hard drive) and set up the local repository as per the article mentioned previously.

Test it works before taking it to your friend!

---

**Tags:** [package-management](#) ([Next Q](#))

---

## [Q: What is the difference between upstream and downstream when referring to who to go to as a developer?](#)



**Tags:** [package-management](#) ([Next Q](#))

What is the difference between **upstream** and **downstream** when referring to who (or where) to go to as a developer or packager?

**Tags:** [package-management](#) ([Next Q](#))

**User:** [deinerson1](#)

---

[Answer](#)  by [jorge-castro](#)

Think of it as a great river, with the people who write the software as the source of the river. They would be the upstream, futher downstream would be your distribution, and at the end of the river would be the user. Ubuntu is in the middle of the river.

*Upstream* would be the software that Ubuntu packages and ships to users. Things like GNOME, Firefox, X.org, the Linux kernel, and many more applications. This is the bulk

of the things that are in the archive, as they represent a collection of upstream projects.

Ubuntu has one special upstream, Debian, which Ubuntu derives from. So, they are Ubuntu's upstream for many packages, though for some packages, like the kernel, Ubuntu packages directly from the upstream project, though for the majority of packages Debian is the upstream to Ubuntu, and the project that is packaged is upstream to Debian.

*Downstreams* of Ubuntu would be Ubuntu derived distributions, like Linux Mint.

Examples of usage of this term depends on the context. So for example if you have a bug with Firefox that Ubuntu didn't introduce then you might hear the term "Make sure you're reporting that bug upstream". The person means reporting the bug directly to Firefox in this case.

In the case of Ubuntu, getting the right feedback from users to the upstream developers is an important thing we do. Here are some links of what we do:

- [Upstream](#) information for application developers. I maintain this namespace as a landing page for upstream application developers who want to understand how to work with Ubuntu.
- [Reporting bugs upstream](#), see [the report](#).
- Ensuring patches from users [get back upstream](#) so they can be integrated. Remember that every patch carried in a distro has an engineering cost AND improving the software for everyone is a goal.
- [Our work](#) with Debian.

To better answer your question here are some examples of how someone would tell you to talk to an upstream:

- "I want to make a multimedia application for Ubuntu" - You would use the upstream gstreamer framework.
- "I want my app to talk to other apps over the internet" - You would use the upstream telepathy framework.
- "I want to add a feature to Firefox." - You would go talk to Firefox directly and do all that work upstream.
- "I want to add an Ubuntu specific feature to Firefox" - You would talk to Ubuntu as it's likely upstream wouldn't want or care about the feature. A maintainer will let you know.
- Likewise, if you were to report a bug to an upstream app (like Firefox) that was caused by something in Ubuntu, not Firefox, they would refer you to report the bug downstream. (thanks [tj111](#))

---

Tags: [package-management](#) ([Next Q](#))

---

**[Q: How to prevent updating of a specific package?](#)** 

Tags: [package-management](#) ([Next Q](#)), [updates](#) ([Next Q](#))

Because of [bug #693758](#) I'd like to prevent apt-get upgrade and Update Manager from updating the "libgtk2.0-0" package.

How can this be achieved?

**Tags:** [package-management](#) (Next Q), [updates](#) (Next Q)

**User:** [ivan](#)

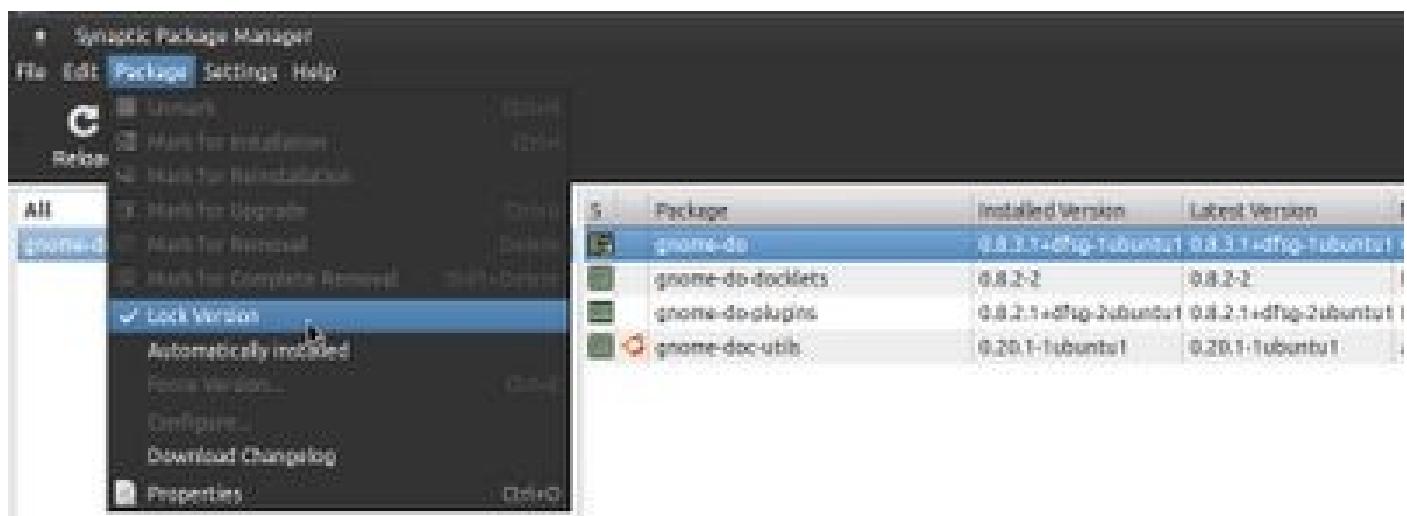
---

**Answer** by [hhlp](#)

Now go to **Synaptic Package Manager** (System > Administration > Synaptic Package Manager)

Click search button and type package name.

When you find package select it and go to **Package** (in menu) and click **Lock Version**.



and you are done, now that package will not show in update manager and it will not be updated.

There are four ways of holding back packages, with dpkg, apt, aptitude or with dselect.

## Using dpkg

*Put a package on hold*

```
echo "package hold" | sudo dpkg --set-selections
```

*Remove the hold*

```
echo "package install" | sudo dpkg --set-selections
```

*Displaying the status of your packages*

```
dpkg --get-selections
```

*Displaying the status of a single package*

```
dpkg --get-selections | grep "package"
```

## Using apt

*you can hold a package using*

```
sudo apt-mark hold package_name
```

*and remove the hold with*

```
sudo apt-mark unhold package_name
```

## Using aptitude

*you can hold a package using*

```
sudo aptitude hold package_name
```

*and remove the hold with*

```
sudo aptitude unhold package_name
```

## Using dselect

With dselect, you just have to enter the [S]elect screen, find the package you wish to hold in its present state, and press = or H. The changes will go live immediately after you exit the [S]elect screen.

---

[Answer](#)  by [bodhi.zazen](#)

I am even older school =)

To put a package “foo” on hold echo foo hold | dpkg --set-selections In your case we are going to put wine on hold:

```
sudo -i  
echo wine hold | dpkg --set-selections
```

To remove hold

```
sudo -i  
echo wine install | dpkg --set-selections
```

---

[Answer](#)  by [hbdgaf](#)

Preventing a package from being installed is called “package holding” and it is very simple to do:

```
echo package_name hold | dpkg --set-selections
```

...where \*package\_name\* is the name of the package you want to prevent from installation.

**Note:** the above command assumes root privileges. In other words, you will probably need to type sudo su before running it.

---

**Tags:** [package-management](#) ([Next Q](#)), [updates](#) ([Next Q](#))

---

## [Q: Why can't I update applications without upgrading the whole OS?](#)

---

**Tags:** [package-management](#) ([Next Q](#)), [updates](#) ([Next Q](#))

In Ubuntu, once a release is out the software one has installed receives security updates only. In Windows, I can get new versions of programs with new features. How can Windows do this and why can't Ubuntu?

**Tags:** [package-management](#) (Next Q), [updates](#) (Next Q)

**User:** [thelaststud](#)

---

[Answer](#) by [jacob-johan-edwards](#)

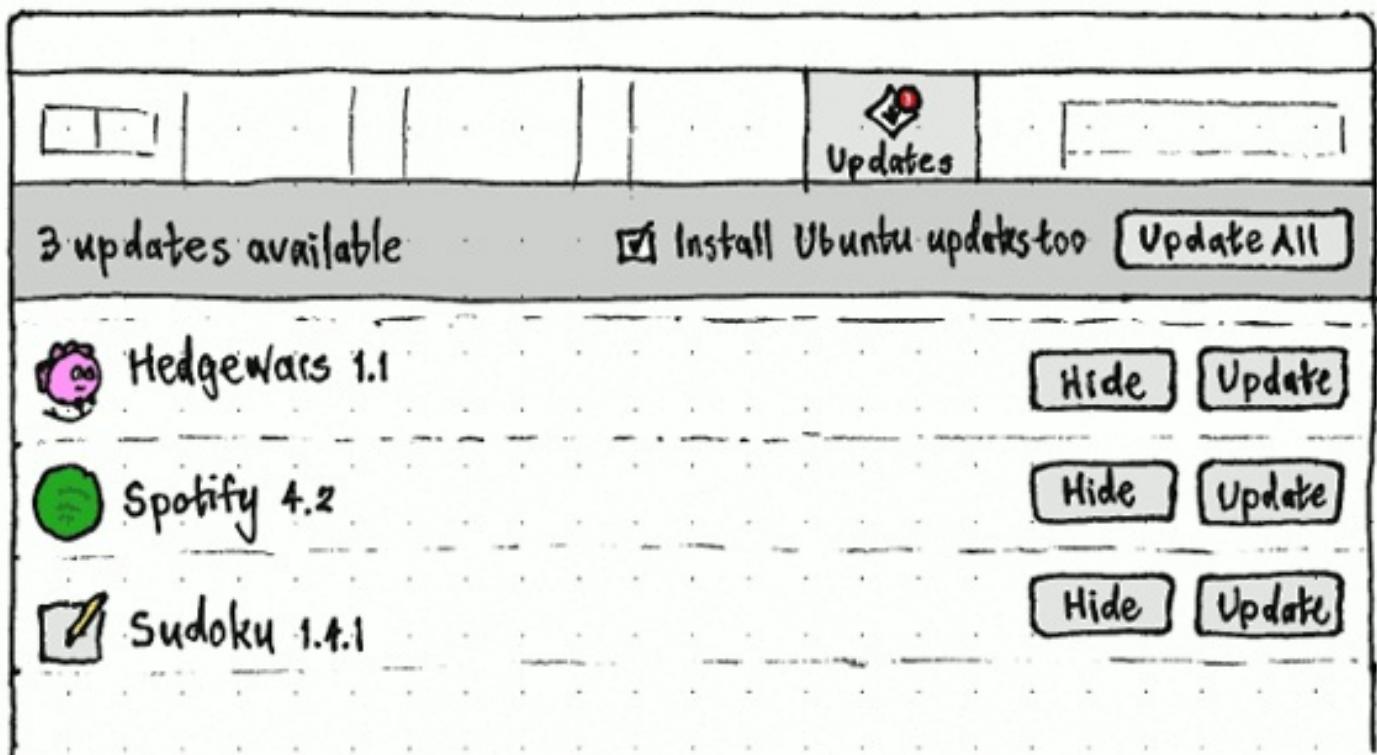
[This is a problem](#) that the Ubuntu Software Center team is in the progress of solving.

The problem is that Ubuntu traditionally draws most of its applications from the in-development branch of [Debian GNU/Linux](#) another free operating system and then “freezes” a snapshot of it for inclusion in a release. This body of community-maintained software called “the universe” consists of 80,000 software packages; Ubuntu developers couldn’t possibly provide major updates for all this software, on every supported release, while still maintaining the same level of quality.

In order to resolve this issue, Ubuntu has created the [MyApps developer portal](#). Now that Ubuntu is a large platform with over twenty million users, it is hoped that developers will be interested in submitting apps directly to Ubuntu, and release periodic updates to their software across Ubuntu releases.

For “the universe” which the Software Center team hopes to eventually be a small fraction of available software the “backports” system of optional software upgrades (which already exists at a half-functional level) will be scaled up.

The Software Center interface for major software updates [has been designed by a Canonical UI employee](#), but is not yet implemented:



If you are interested in the future of application delivery in Ubuntu, I recommend watching [Ubuntu Software Center and the Future of the Universe](#).

---

[Answer](#)  by rafał,-cieślak

# This is actually a *feature* of Ubuntu.

There is no problem with updating the software with its latest version, and Ubuntu developers might do it easily. And, actually, it is done in several other Linux distributions, including Arch.

As you have noticed, Ubuntu software is updated only with **security updates** and **critical bug fixes**. All features are “frozen”, and after a Ubuntu release no software is updated to a new major version. Although it seems like a *disadvantage* of Ubuntu, in fact it’s one of its pros.

**Why freeze applications’ versions and not update the features?** There are several reasons.

- New versions are frequently less stable than older ones. Using a slightly older version ensures it has been well tested.
- One can trust that Ubuntu will not significantly change within a particular version. This is very important e.g. for large companies, that want to be able to rely — if they use Ubuntu 10.04 — on it always working the same way, and its containing the same features all the time.
  - That also means that Ubuntu 10.04 is always 10.04, as opposed to Windows, where Service Packs change a lot in your system, and you need to take care of them.
- Ubuntu developers take special care to provide you with the most stable software available. On Windows it’s usually a third party’s decision when to release an update. This means some may want you to use the latest version, with new cool features, and others may release features only when they have been tested for a longer time. That means you never really know what’s going on with the updates there.
- This makes it easier for Ubuntu developers to manage releases. Ubuntu is released each 6 months, and during that period Ubuntu developers prepare the new version for release, packing it with tons of new features and newer software. They add it only to the version that is currently in development, and not to all supported (older) Ubuntu versions: this requires less work.
  - For example, if they wanted to update GNOME in 10.04 to version 3, that would mean hundreds of other applications’ completely breaking, and would require reorganizing the system.
- The updates are provided by Canonical and Ubuntu developers, and not by software’s developers, as it’s done in Windows. Personally, I trust Ubuntu developers much more than developers of software ABC, and can be sure that the new version provided by Ubuntu will do no (even accidental) harm to my computer.

All of the above are one of the main parts of **Ubuntu quality**. You get the best quality software and OS, and to balance it out you use not the newest, but just a few months older software.

Also, remember that when you update to a newer Ubuntu release, all software is again in

the newest version (but stays at it until the next release), so it's not a major issue that the software does not contain the newest features. And as others suggest, you can use PPAs to fetch newer software from other sources, if you need to.

---

[Answer](#)  by [fossfreedom](#)

Canonical (the main sponsors behind ubuntu) decided from the start (v4) that Ubuntu will be distributed on a 6 month cycle. Every 6 months, the latest/most stable software would be included in the repositories mainly from the unstable/testing branch of debian.

Outside that cycle you could get the most cutting edge software by compiling software or including additional repositories called PPAs - personal package archives.

Windows has decided on a different strategy - new features are often (but not always) released with service packs. It gets worse under windows - it is left to individual software vendors to decide if their software should be automatically updated or not. IMHO - its a messy strategy and I have often had to rebuild windows due to rogue updates by one software or another.

Other linux distros have different release strategies. For example, you could use a rolling-release distro such as Arch. As and when newer software is released, the maintainers push out the software into their *repositories* if it is deemed of good enough quality. Potentially this could lead to potential conflicts between different software since not a full testing suite would have been done. In practise, the maintainers have done a good job and stability issues I've read are rarely an issue.

Debian has taken the other route - constantly refining and using a distro based on the most stable packages. Often much older than in distros such as Ubuntu.

Thus - its for you to decide - (mostly) stability or potential instability.

---

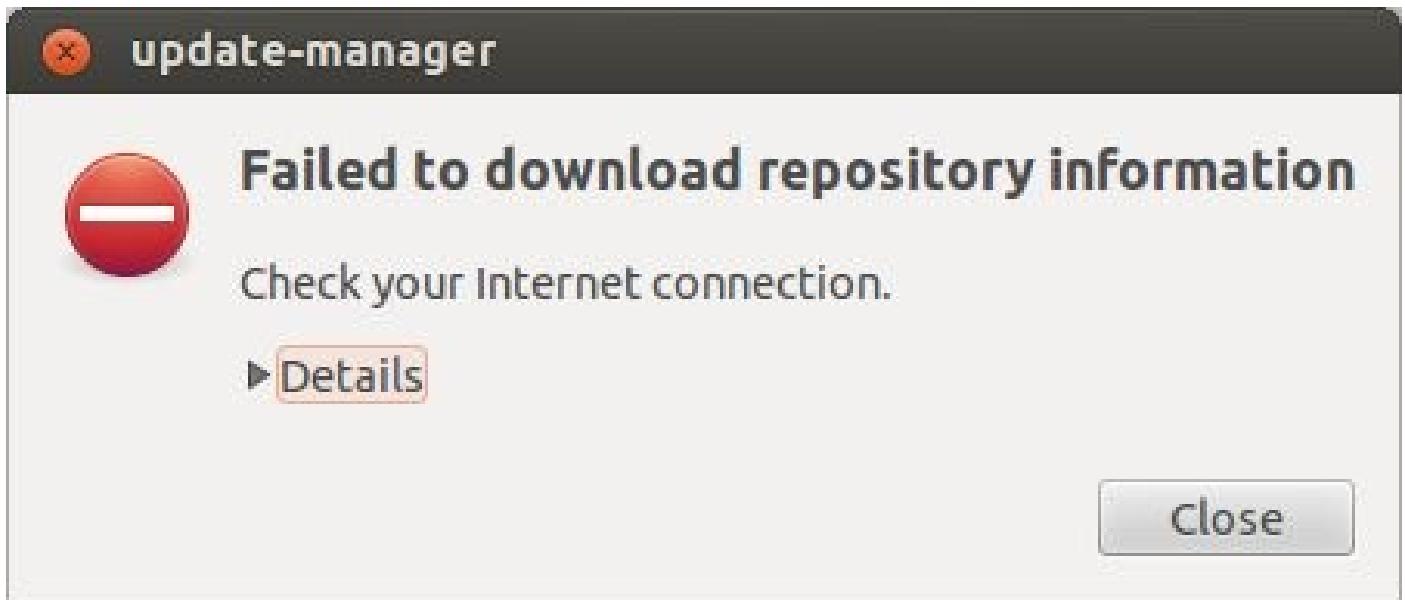
**Tags:** [package-management](#) ([Next Q](#)), [updates](#) ([Next Q](#))

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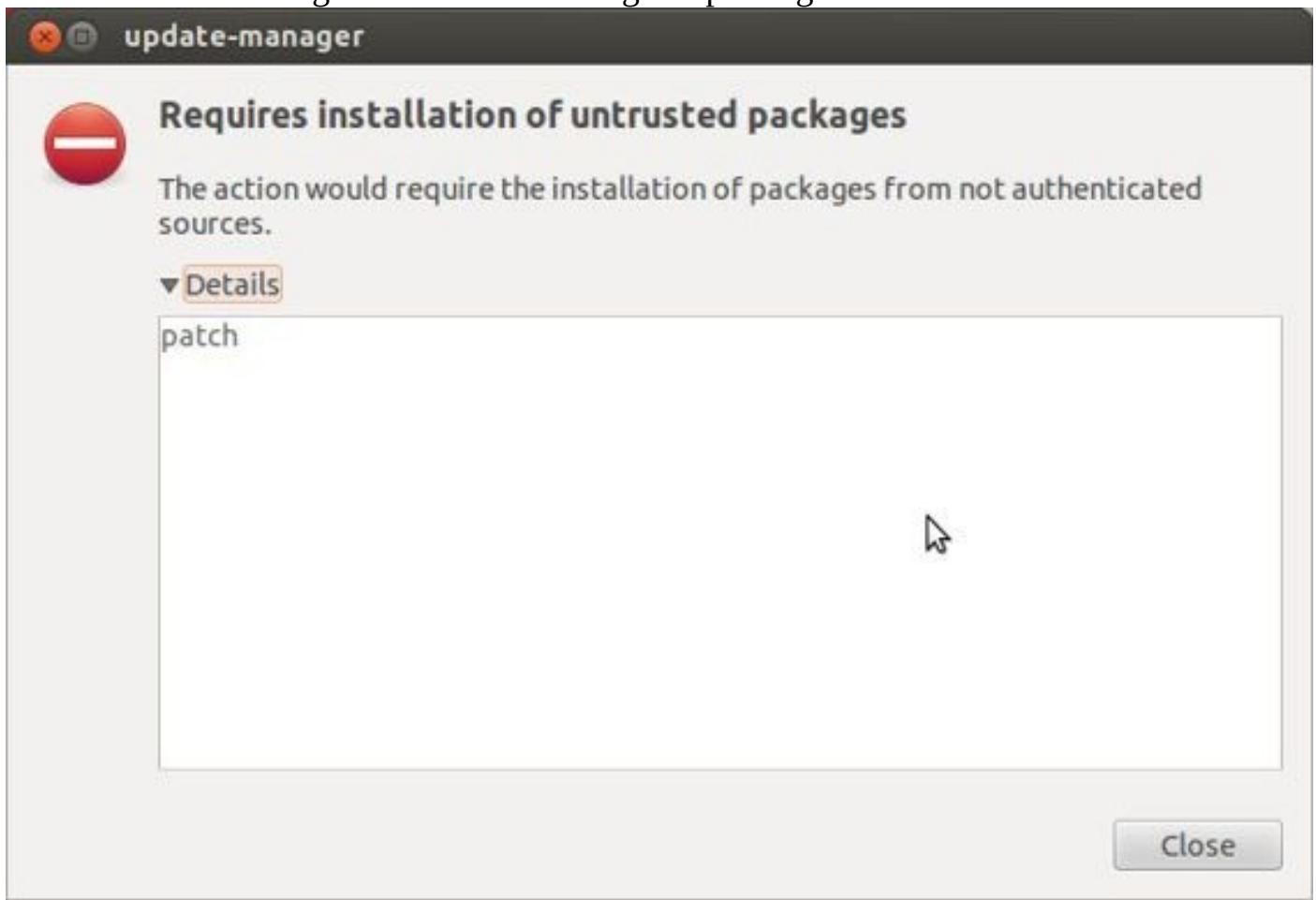
## [Q: Requires installation of untrusted packages?](#)

**Tags:** [package-management](#) [packages](#) ([Next Q](#))

I tried installing VLC Player yesterday, and I got the `Requires installation of untrusted packages` error. I searched for hours for a solution to this problem, and finally came upon a suggestion that said to change servers for downloading updates from. I did this, and it gave me a 404 error when I clicked on "Check" in the Update Manager. I tried switching my server back to the main one (and after that, several other ones), but I am now still getting a 404 error:



And the other error I get when downloading or updating:



Edit: Output of cat /etc/apt/sources.list:

[Skip code block](#)

```
deb-src http://us.archive.ubuntu.com/ubuntu/ precise main restricted #Added by software-properties
# See http://help.ubuntu.com/community/UpgradeNotes for how to upgrade to
# newer versions of the distribution.
deb http://us.archive.ubuntu.com/ubuntu/ precise main restricted multiverse
deb-src http://us.archive.ubuntu.com/ubuntu/ precise multiverse universe #Added by software-
properties
## Major bug fix updates produced after the final release of the
## distribution.
deb http://us.archive.ubuntu.com/ubuntu/ precise-updates main restricted multiverse
```

```

deb-src http://us.archive.ubuntu.com/ubuntu/ precise-updates restricted main multiverse universe
#Added by software-properties

## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu
## team. Also, please note that software in universe WILL NOT receive any
## review or updates from the Ubuntu security team.
deb http://us.archive.ubuntu.com/ubuntu/ precise universe
deb http://us.archive.ubuntu.com/ubuntu/ precise-updates universe

## N.B. software from this repository is ENTIRELY UNSUPPORTED by the Ubuntu
## team, and may not be under a free licence. Please satisfy yourself as to
## your rights to use the software. Also, please note that software in
## multiverse WILL NOT receive any review or updates from the Ubuntu
## security team.

## N.B. software from this repository may not have been tested as
## extensively as that contained in the main release, although it includes
## newer versions of some applications which may provide useful features.
## Also, please note that software in backports WILL NOT receive any review
## or updates from the Ubuntu security team.
deb http://us.archive.ubuntu.com/ubuntu/ precise-backports main restricted universe multiverse
deb-src http://us.archive.ubuntu.com/ubuntu/ precise-backports main restricted universe multiverse
#Added by software-properties

deb http://us.archive.ubuntu.com/ubuntu/ precise-security main restricted multiverse
deb-src http://us.archive.ubuntu.com/ubuntu/ precise-security restricted main multiverse universe
#Added by software-properties
deb http://us.archive.ubuntu.com/ubuntu/ precise-security universe

## Uncomment the following two lines to add software from Canonical's
## 'partner' repository.
## This software is not part of Ubuntu, but is offered by Canonical and the
## respective vendors as a service to Ubuntu users.
deb http://archive.canonical.com/ubuntu precise partner
deb-src http://archive.canonical.com/ubuntu precise partner

## This software is not part of Ubuntu, but is offered by third-party
## developers who want to ship their latest software.

```

**Tags:** [package-management](#) [packages](#) ([Next Q](#))

**User:** [isaiah-bugarin](#)

---

[Answer](#) by [saji89](#)

Based on the errors you pasted in the comments section of my previous answer, I have another possible solution:

```

sudo apt-get clean
cd /var/lib/apt
sudo mv lists lists.old
sudo mkdir -p lists/partial
sudo apt-get clean
sudo apt-get update

```

This will rebuild the cache.

**Courtesy:** [#8](http://ubuntuforums.org/showthread.php?t=1983220)

---

[Answer](#) by [jorge-m.-treviÃ±o](#)

[This link may help](#). It addresses a very similar problem.

Basically, you open a terminal and type sudo apt-get update && sudo apt-get upgrade. That did it for me.

---

**Tags:** [package-management](#) [packages](#) ([Next Q](#))

[Q: What's the difference between package managers?](#)

---

[Q: How can I tell, from the command line, whether the machine requires a reboot?](#)

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[Q: How can I install just security updates from the command line?](#)

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[Q: How can I see all versions of a package that are available in the archive?](#)

---

[Q: How do I find the package that provides a file?](#)

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[Q: "The following packages have been kept back:" Why and how do I solve it?](#)

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[Q: How can I install software or packages without Internet \(offline\)?](#)

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[Q: Is aptitude still considered superior to apt-get?](#)

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[Q: What is the difference between upstream and downstream when referring to who to go to as a developer?](#)

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[Q: How to prevent updating of a specific package?](#)

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[Q: Why can't I update applications without upgrading the whole OS?](#)

---

[Q: How do I resolve unmet dependencies?](#)

---

[Q: Requires installation of untrusted packages?](#)

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# SSH

[Skip to questions](#), Wiki by user [gilles](#)

Ubuntu installs an SSH client ([openssh-client](#)) by default. If you want to be able to log in remotely into your machine, you need the server package, [openssh-server](#)

# Missing Image

- . There are SSH clients for Windows as well, such as [PuTTY](#).

## Troubleshooting

If public key authentication doesn't work: make sure that on the server side, your home directory (~), the ~/.ssh directory, and the ~/.ssh/authorized\_keys file, are all writable *only by their owner*. In particular, none of them must be writable by the group (even if the user is alone in the group). chmod 755 or chmod 700 is ok, chmod 770 is not.

What to check when something is wrong:

- Run ssh -vvv to see a lot of debugging output. If you post a question asking why you can't connect with ssh, include this output (you may want to anonymize host and user names).
- If you can, check the server logs, typically in /var/log/daemon.log or /var/log/auth.log or similar.
- If public key authentication isn't working, check the permissions again, especially the group bit (see above).

## See also

- [Ubuntu community documentation](#)
  - [ssh tag wiki on Unix & Linux Stack Exchange](#)
-

# Questions

## Q: How to harden an SSH server?

**Tags:** [ssh](#) ([Next Q](#)), [security](#) ([Next Q](#))

What measures can/should I take to make sure that security around my SSH server is absolutely impermeable?

This will be community wiki from the start, so lets see what people does to secure their servers.

**Tags:** [ssh](#) ([Next Q](#)), [security](#) ([Next Q](#))

**User:** [source-lab](#)

---

[Answer](#)  by [asa-ayers](#)

Use public/private key pairs for authentication instead of passwords.

1. Generate a passphrase-protected SSH key for every computer that needs to access the server:

`ssh-keygen`

2. Permit public-key SSH access from the allowed computers:

Copy the contents of `~/.ssh/id_rsa.pub` from each computer into individual lines of `~/.ssh/authorized_keys` on the server, or run `ssh-copy-id [server IP address]` on every computer to which you are granting access (you'll have to enter the server password at the prompt.)

3. Disable password SSH access:

Open `/etc/ssh/sshd_config`, find the line that says `#PasswordAuthentication yes`, and change it to `PasswordAuthentication no`. Restart the SSH server daemon to apply the change (`sudo service ssh restart`.)

Now, the only possible way to SSH into the server is to use a key that matches a line in `~/.ssh/authorized_keys`. Using this method, I don't care about brute force attacks because even if they guess my password, it will be rejected. [Brute-forcing a public/private key pair is impossible](#)  with today's technology.

---

[Answer](#)  by [mark-davidson](#)

I would suggest using [fail2ban](#)  to prevent brute force login attempts.

Disabling logging in as root via SSH. This means an attacker had to figure out both the username and the password making an attack more difficult.

Add `PermitRootLogin no` to your `/etc/ssh/sshd_config`

Limiting the users that can SSH to the server. Either by group or just specific users.

Add `AllowGroups group1 group2` or `AllowUsers user1 user2` to limit who can SSH to the server.

---

[Answer](#)  by [source-lab](#)

Make the sshd block client IP's that have failed to supply correct login information “[DenyHsts](#) 

This will make sure that brute force-attacks on the sshd wont be effective, but remember! this way you can end up locking your self out if you forget you password. This can be a problem on a remote server that you don't have access to.

---

**Tags:** [ssh](#) ([Next Q](#)), [security](#) ([Next Q](#))

---

## **Q: Easiest way to copy ssh keys to another machine?**

**Tags:** [ssh](#) ([Next Q](#))

I am lazy at home and use password authentication for my home machines. I am ready to move to key based authentication. There are many options on the web on how to do this, including catting then sshing the key over, scping the key over directly, etc.

I am looking for the easiest and recommended way to copy a key over, hopefully there is a convenience wrapper somewhere in the Ubuntu ssh package?

I'm already aware on [how to shut off password logins](#) .

**Tags:** [ssh](#) ([Next Q](#))

**User:** [jorge-castro](#)

---

[Answer](#)  by [marcel-stimberg](#)

The `ssh-copy-id` command (in the **openssh-client** package and installed by default) does exactly this:

```
ssh-copy-id user@hostname.example.com
```

copies the public key of your default identity (use `-i identity_file` for other identities) to the remote host.

The default identity is your “standard” ssh key. It consists of two files (public and private key) in your `~/.ssh` directory, normally named `identity`, `id_rsa` or `id_dsa` (and the same with `.pub`), depending on the type of key. If you did not create more than one ssh key, you do not have to worry about specifying the identity, `ssh-copy-id` will just pick it automatically.

---

[Answer](#)  by [huygens](#)

I like the answer from Marcel. I did not know this command. I've always been using what I had found on a [SUN web site](#):

```
cat ~/.ssh/id_rsa.pub | ssh <user>@<hostname> 'cat >> .ssh/authorized_keys && echo "Key copied"'
```

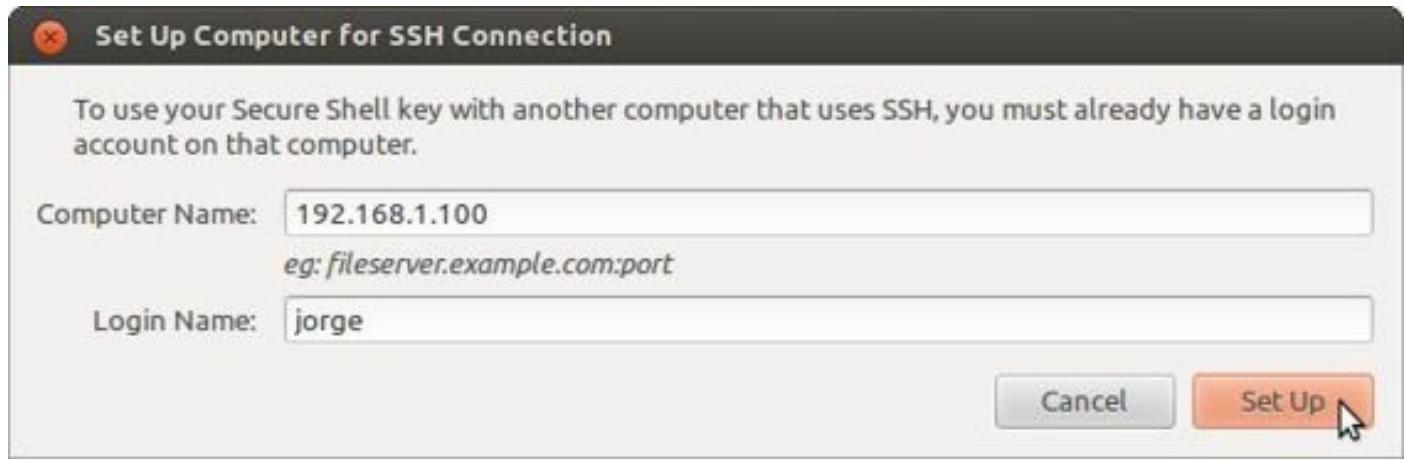
I thought to post it here still, because it is a good illustration of what can be achieved in *shell code* with the power of ssh. But using the ssh-copy-id is definitively a safer way to do it properly!

---

[Answer](#) by [Andrék](#)

# Graphical method

1. Open **Applications Passwords and Keys My Personal Keys**.
2. Select your key and then click **Remote Configure Key for Secure Shell**.



Tags: [ssh](#) ([Next Q](#))

## [Q: How to keep processes running after ending ssh session?](#)

Tags: [ssh](#) ([Next Q](#))

Let's say I launch a bunch of processes from a ssh session. Is it possible to terminate the ssh session while keeping those processes running on the remote machine?

Tags: [ssh](#) ([Next Q](#))

User: [olivier-lalonde](#)

[Answer](#)  by [fotomonster](#)

As screen is not maintained anymore you should look for modern alternatives like tmux. tmux is superior for many reasons, here are just some examples:

- Windows can be moved between session and even linked to multiple sessions
- Windows can be split horizontally and vertically into panes
- Support for UTF-8 and 256 colour terminals
- Sessions can be controlled from the shell without the need to enter a session

# Basic Functionality

To get the same functionality as explained in the post with the most votes you would need to do the following:

- ssh into the remote machine
- start tmux by typing tmux into the shell
- start the process you want inside the started tmux session
- leave/detach the tmux session by typing Ctrl-B and then D

You can now safely logoff from the remote machine, your process will keep running inside tmux. When you come back again and want to check the status of your process you can use tmux attach to attach to your tmux session.

If you want to have multiple session running side-by-side you should name each session using Ctrl-B and \$. You can get a list of the currently running sessions using tmux list-sessions.

tmux can do much more advanced things then handle a single window in a single session. For more information have a look in man tmux or <http://tmux.sourceforge.net/>. A FAQ about the main differences between screen and tmux is available [here](#).

---

[Answer](#) by [lincoln](#)

You could do that by using screen. Type man screen to find out more or follow this [link](#).

Simple scenario:

- ssh into your remote box. type screen Then start the process you want.
  - Press Ctrl-A then Ctrl-D. This will “detach” your screen session but leave your processes running. You can now log out of the remote box.
  - If you want to come back later, log on again and type screen -r This will “resume” your screen session, and you can see the output of your process.
- 

[Answer](#) by [bassgey](#)

Screen and nohup is the better way, but if you have to detach a process already running without screen or nohup you can run disown command. With disown you can close the terminal and get the process running on the machine.

---

Tags: [ssh](#) ([Next Q](#))

---

**Q: Download a file over an active SSH session** [!\[\]\(c65e3b223c3c09880d58bd768e80f85f\_img.jpg\)](#)

**Tags:** [ssh](#) ([Next Q](#))

So I'm SSHed into my Ubuntu server from my Ubuntu desktop. I'm at a certain path and I want to download a file to my local filesystem (preferably the path I was at before I entered the SSH session).

I could mount SSH and pull the file across by mouse but what if I was trying to get a root file and logging in by root directly is disallowed? Even if that wasn't the case (it isn't now), surely there must be a simple way of pulling back a file over an active SSH connection.

**Surely!**

**Tags:** [ssh](#) ([Next Q](#))

**User:** [oli](#)

---

[Answer](#)  by [spamaps](#)

You may want to check out [zssh](#) , which is available in universe, and therefore available with

```
sudo apt-get install zssh
```

You need it on your ubuntu server and on your client, but basically when logged in with zssh, you just hit 'ctrl-@' and it brings up the "File transfer mode" which allows you to send files back down the pipe to your client machine, or upload them from client to server.

However, you don't have to re-auth or open a new window to scp.

If you're using ssh keys, and an ssh agent, you can quite easily do:

```
[enter]~[ctrl]Z
```

Which will background ssh, and then just `scp $!:/whatever/whatever .'`

Once the file is transferred, fg to get ssh back.

If you aren't using ssh keys, you can still use the "ControlMaster" and "ControlPath" options added to recent OpenSSh versions, but that gets tricky, check man ssh\_config

---

[Answer](#)  by [gilles](#)

Assuming you're running an ssh server on your desktop (there are ways around this, but I think they all add complexity, and possibly have security problems), you can set up a reverse ssh tunnel. See [SSH easily copy file to local system.](#)  over at [unix.SE](#) .

- Type Enter ~C Enter -R 22042:localhost:22 Enter to create a reverse port forwarding from your server to your desktop (22042 can be any port number between 1024 and 65534 that's not in use).
- Then `scp -P 22042 foo localhost:` will copy the file `foo` in your current directory on the server to your home on the desktop.
- Now move the file into your current directory on the desktop by typing `Enter ~ Ctrl+Z mv ~/foo . Enter fg Enter.`

[Ssh escape sequences](#) begin with ~; the tilde is only recognized after a newline. ~ctrl+z puts ssh into the background. ~c enters a command line where you can create or remove a forwarding.

---

**Tags:** [ssh](#) ([Next Q](#))

---

## [Q: Is it possible to remove a particular host key from SSH's known\\_hosts file?](#)

**Tags:** [ssh](#) ([Next Q](#))

Is it possible to remove a particular host key from SSH's known\_hosts file?

I usually end up deleting the entire known\_hosts file, which I have no problems with doing, but just out of curiosity, is it possible to remove just a single entry?

I opened the known\_hosts file, but I am struggling to understand its contents.

Below is the message I faced, which led me to ask this question:

```
Add correct host key in /home/wissen16/.ssh/known_hosts to get rid of this message.  
Offending key in /home/wissen16/.ssh/known_hosts:1  
RSA host key for foo.com has changed and you have requested strict checking.  
Host key verification failed.
```

**Tags:** [ssh](#) ([Next Q](#))

**User:** [thetuxracer](#)

---

[Answer](#)  by [takkat](#)

Use this command to remove entries from known\_hosts:

```
ssh-keygen -R hostname
```

[Answer](#)  by [mike-scott](#)

Yes, you can remove just one key. Just open it in an editor and delete the offending line. The number after the colon in the error message is the line number, so that's the line to delete — line 1 in your example..

---

**Tags:** [ssh](#) ([Next Q](#))

---

## [Q: How can I break out of ssh when it locks?](#)

**Tags:** [ssh](#) ([Next Q](#))

I frequently ssh into my box at home from school, but usually when I change classes and my computer suspends, the pipe will be broken. However, ssh simply locks up - Ctrl+c, Ctrl+z and Ctrl+d have no effect.

It's annoying to have to restart my terminal, and even more annoying to have to close and re-create a new screen window.

So my question, is there an easy way to make ssh die properly (i.e. when the pipe fails "normally" it will exit with a message about a broken pipe)? Or do I have to figure out what the PID is and manually kill it?

**Tags:** [ssh](#) ([Next Q](#))

**User:** [wayne-werner](#)

---

[Answer](#)  by [geekosaurus](#)

Normal keys are forwarded over the ssh session, so none of those will work. Instead, use the escape sequences. To kill the current session hit subsequently `Enter` , `~`, ..

More of these escape sequences can be listed with `Enter` , `~`, `?:`

```
Supported escape sequences:  
~. - terminate session  
~B - send a BREAK to the remote system  
~R - Request rekey (SSH protocol 2 only)  
~# - list forwarded connections  
~? - this message  
~~ - send the escape character by typing it twice  
(Note that escapes are only recognized immediately after newline.)
```

[Answer](#)  by [scottl](#)

As noted in geekosaurus's answer, the escape sequence `~.` will terminate the connection.

The full list of escape sequences and what they do can be displayed by typing `~?:`

[Skip code block](#)

```
Supported escape sequences:  
~. - terminate connection (and any multiplexed sessions)  
~B - send a BREAK to the remote system  
~C - open a command line  
~R - Request rekey (SSH protocol 2 only)  
~^Z - suspend ssh  
~# - list forwarded connections  
~& - background ssh (when waiting for connections to terminate)  
~? - this message  
~~ - send the escape character by typing it twice  
(Note that escapes are only recognized immediately after newline.)
```

[Answer](#)  by [ulidtko](#)

You may also want to setup application-level keep-alives for ssh to **prevent** SSH from freezing on connection issues. My `~/.ssh/config` contains this:

```
Host *  
ServerAliveInterval 15
```

This makes ssh client send application-level keep-alives every 15 seconds. Whenever three of them fail consecutively (configurable using `ServerAliveCountMax`), the client considers the connection as hung and closes it.

Opposed to the other option `TCPKeepAlive`, this is checked within the encrypted channel and is not spoofable.

---

It is being noted that those keep-alives also help to, uhm, keep *long-idling* connections alive, i.e. prevent you from having [half-closed](#)  tcp sessions hanging for hours untouched.

I highly recommend turning this feature on if you run into this regularly, but you should also know about the slight security risk it may impose. A [known-plaintext attack](#)  might become easier if the attacker knows the interval and contents of an idle connection. This might be the reasons for why it isn't enabled by default.

---

**Tags:** [ssh](#) ([Next Q](#))

---

## [Q: How do I change my username?](#)

**Tags:** [ssh](#) ([Next Q](#)), [permissions](#) ([Next Q](#)), [keyrings](#) ([Next Q](#))

Some time ago when I installed Ubuntu I chose a rather stupid username for my account that I do not want to use anymore.

How do I change this (including the name of my home directory) without loosing settings for applications? How do I keep permissions and my keys for various authentification (e.g. email, SSH, GPG and more)? What settings could possibly get lost if I changed my username?

Both, command-line and graphical solutions are appreciated.

**Tags:** [ssh](#) ([Next Q](#)), [permissions](#) ([Next Q](#)), [keyrings](#) ([Next Q](#))

**User:** [takkat](#)

---

[Answer](#)  by [egil](#)

Unix(-like) operative systems decouples the user name from its user identity, so you may safely change the first without changing the other. All permissions, files etc are tied to your identity (uid), not your username.

To manage every aspect of the user database, you use the `usermod` tool.

To change username (it is probably best to do this without being logged in):

```
usermod -l newUsername oldUsername
```

This however, doesn't rename the home folder.

To change home-folder, use

```
usermod -d /home/newHomeDir -m newUsername
```

after you changed the username.

For instance, you could logout, drop to a console (`Ctrl+Alt+F1`), and `sudo su -` to become true root (as opposed to `sudo -s`, where `$HOME` is still `/home/yourname`.) Maybe you also have to kill some still running processes from this user first. To do so, enter `ps -u username`, look for the matching PID and kill them by `kill PID-number`.

Update: as arrange mentioned, some files may reference your old home directory. You can either keep a symlink for backward compatibility, e.g. `ln -s /home/oldname /home/oldname` or you can change the file contents with `sed -i.bak 's/*oldname*/*newname*/g' *list of files*`. It creates a backup for each file with a `.bak` extension.

Some additional information for not so experienced users like me:

As I only have ONE user account (administrator), it would not let me change the username (“you are already logged in” was the response in TTY1 (`Ctrl+Alt+F1`). I found some information to get around this:

1. Add a new user, e.g. “temporary”. If you are still in TTY1:

```
sudo adduser temporary
```

set the password and just type `exit`. This should bring you to the original login prompt, if not type `exit` again.

2. Change the account type of your new temporary user to administrator:

In `tty7` (`Ctrl+Alt+F7`, “normal” desktop) login in to your usual account. Change his privileges through the gui: System settings > users account. Click `Unlock` then change account type to “administrator”.

3. Log out again.

4. Return to `tty1`: Login with the ‘temporary’ user account and password. Change your username and folder as mentioned above. `exit` (until you get the login prompt)

5. Go back to `TTY7` (`Ctrl+Alt+F7`) to login on the GUI/normal desktop screen and see if this works.

6. Delete temporary user and folder:

```
sudo deluser temporary  
sudo rm -r /home/temporary
```

---

[Answer](#)  by [valentin-uveges](#)

To put it all together:

1. At the start screen press `Ctrl+ALT+F1`.

2. Log in using your username and password.

3. Set a password for the “root” account.

```
sudo passwd root
```

4. Log out.

```
exit
```

5. Log in using the “root” account and the password you have previously set.

6. Change the username and the home folder to the new name that you want.

```
usermod -l <newname> -d /home/<newname> -m <oldname>
```

7. Change the group name to the new name that you want.

```
groupmod -n <newgroup> <oldgroup>
```

8. Look the “root” account.

```
passwd -l root
```

9. If you were using ecryptfs (encrypted home directory). Mount your encrypted directory using ecryptfs-recover-private and edit <mountpoint>/ecryptfs/Private.mnt to reflect your new home directory.
10. Log out.  
exit
11. press Ctrl+ALT+F7.

And now you can log in using your new username.

---

[Answer](#)  by [karthick87](#)

Restart in recovery mode and go to the root prompt shell (“Drop to root shell prompt”)

First remount the root

```
mount -o remount,rw /
```

To change the username and home folder name,

```
usermod -l <newname> -d /home/<newname> -m <oldname>
```

For group name,

```
groupmod -n <newgroup> <oldgroup>
```

---

**Tags:** [ssh \(Next Q\)](#), [permissions \(Next Q\)](#), [keyrings \(Next Q\)](#)

---

## [Q: How can I set up password-less SSH login?](#)

**Tags:** [ssh \(Next Q\)](#)

I want to be able to login to a remote via ssh without having to enter the password all the time.

- How do I set it up?
- Is a different command required to execute a password-less session?

**Tags:** [ssh \(Next Q\)](#)

**User:** [oxwivi](#)

---

[Answer](#)  by [rinzwind](#)

**Answer**

Execute these two commands:

```
ssh-keygen
```

[Then you'll need to copy the new key to your server.](#)

After the key is copied, ssh into the machine as normal

```
ssh user@host
```

You can now login without entering a password from the particular machine you executed the commands at.

## Example

### Skip code block

```
not-marco@rinzwind-desktop:~$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/not-marco/.ssh/id_rsa):
Created directory '/home/not-marco/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/not-marco/.ssh/id_rsa.
Your public key has been saved in /home/not-marco/.ssh/id_rsa.pub.
The key fingerprint is:
b1:25:04:21:1a:38:73:38:3c:e9:e4:5b:81:e9:ac:0f not-marco@rinzwind-desktop
The key's randomart image is:
+--[ RSA 2048]----+
| .o= . oo.
| *B.+ .
| *=o . o .
| = . =
| . o S
| E.
| o
| .
+-----+
not-marco@rinzwind-desktop:~$ ssh-copy-id not-marco@127.0.0.1
not-marco@127.0.0.1's password:
Now try logging into the machine, with "ssh 'not-marco@127.0.0.1'", and check in:
~/ssh/authorized_keys
to make sure we haven't added extra keys that you weren't expecting.
```

## Explanation

This assumes you already have successfully connected to your server via SSH.

You'll need to generate an SSH Keypair which will allow you to identify you as yourself without using a password. You can opt to protect keys with a passcode if you wish, but this can be left blank allowing totally password-less SSH access.

First create your SSH Keypair by running `ssh-keygen` this will create an `id_rsa` and `id_rsa.pub` file. The pub file is what goes on the servers, the private key (`id_rsa`) is what stays with you and is how you identify yourself.

Next copy the public key to your server with `ssh-copy-id user@server` replacing user with your remote user and server with the machine DNS name or IP address. It'll prompt for your SSH password, enter it and if all completes successfully you'll be able to access the machine via `ssh user@server` without needing a password.

## References

- <https://help.ubuntu.com/community/SSH/OpenSSH/Keys> 

---

[Answer](#)  by [bruno-pereira](#)

I normally use `sshpass` for that, install it with `sudo apt-get install sshpass` and use it like this

```
sshpass -p 'password' ssh your_username@your_server
```

---

**Tags:** [ssh](#) ([Next Q](#))

---

## **Q: How do I retrieve the public key from a SSH private key?**



**Tags:** [ssh](#) ([Next Q](#))

A SSH private key as generated by ssh-keygen contains a public key part. How do I retrieve this public key from the private key? I've lost my public key and need to put the contents of this public key in the servers authorized\_keys file and do not want to create a new key pair.

Alternatively phrased: how do I create the `id_rsa.pub` file from a `id_rsa` file?

**Tags:** [ssh](#) ([Next Q](#))

**User:** [lekensteyn](#)

---

**Answer**  by [lekensteyn](#)

I've found the answer on Serverfault: [Create a public SSH key from the private key?](#) 

The option `-y` outputs the public key:

```
ssh-keygen -y -f ~/.ssh/id_rsa > ~/.ssh/id_rsa.pub
```

As a side note, the comment of the public key is lost. I've had a site which required the comment (Launchpad?), so you need to edit `~/.ssh/id_rsa.pub` and append a comment to the first line with a space between the comment and key data. An example public key is shown truncated below.

```
ssh-rsa AAAA....VqDjts5 ubuntu@ubuntu
```

---

**Tags:** [ssh](#) ([Next Q](#))

---

## **Q: Locale variables have no effect in remote shell (perl: warning: Setting locale failed.)**



**Tags:** [ssh](#) ([Next Q](#))

I have a fresh ubuntu 12.04 installation. When i connect to my remote server i got errors like this:

[Skip code block](#)

```
~$ ssh example.com sudo aptitude upgrade
...
Traceback (most recent call last):
  File "/usr/bin/apt-listchanges", line 33, in <module>
    from ALChacks import *
  File "/usr/share/apt-listchanges/ALChacks.py", line 32, in <module>
    sys.stderr.write(_("Can't set locale; make sure $LC_* and $LANG are correct!\n"))
```

```

NameError: name '_' is not defined
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
LANGUAGE = (unset),
LC_ALL = (unset),
LC_TIME = "de_DE.UTF-8",
LC_MONETARY = "de_DE.UTF-8",
LC_ADDRESS = "de_DE.UTF-8",
LC_TELEPHONE = "de_DE.UTF-8",
LC_NAME = "de_DE.UTF-8",
LC_MEASUREMENT = "de_DE.UTF-8",
LC_IDENTIFICATION = "de_DE.UTF-8",
LC_NUMERIC = "de_DE.UTF-8",
LC_PAPER = "de_DE.UTF-8",
LANG = "en_US.UTF-8"
are supported and installed on your system.
perl: warning: Falling back to the standard locale ("C").
locale: Cannot set LC_ALL to default locale: No such file or directory
No packages will be installed, upgraded, or removed.
0 packages upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
Need to get 0 B of archives. After unpacking 0 B will be used.
...

```

I don't have this problem when i connect from an older ubuntu installation. This is output from my ubuntu 12.04 installation, LANG and LANGUAGE are set

#### [Skip code block](#)

```

$ locale
LANG=de_DE.UTF-8
LANGUAGE=de_DE:en_GB:en
LC_CTYPE="de_DE.UTF-8"
LC_NUMERIC=de_DE.UTF-8
LC_TIME=de_DE.UTF-8
LC_COLLATE="de_DE.UTF-8"
LC_MONETARY=de_DE.UTF-8
LC_MESSAGES="de_DE.UTF-8"
LC_PAPER=de_DE.UTF-8
LC_NAME=de_DE.UTF-8
LC_ADDRESS=de_DE.UTF-8
LC_TELEPHONE=de_DE.UTF-8
LC_MEASUREMENT=de_DE.UTF-8
LC_IDENTIFICATION=de_DE.UTF-8
LC_ALL=

```

Does anybody know what has changed in ubuntu to get this error message on remote servers?

**Tags:** [ssh](#) ([Next Q](#))

**User:** [janning](#)

[Answer](#)  by [david-planella](#)

That's because your locale in your local machine is set to German, which SSH forwards to and tries to use on the server, but your server does not have it installed.

You've got several options:

- **Generate the locale.** Generate the German locale on the server with `sudo locale-gen de`.
- **Stop forwarding locale from the client.** Do not forward the locale environment variable from your local machine to the server. You can comment out the `SendEnv LANG LC_*` line in the `local /etc/ssh/ssh_config` file.
- **Stop accepting locale on the server.** Do not accept the locale environment variable

from your local machine to the server. You can comment out the `AcceptEnv LANG LC_*` line in the *remote* `/etc/ssh/sshd_config` file.

- **Set the server locale to English.** Explicitly set the locale to English on the server. As an example, you can add the following lines to your remote `~/.bashrc` or `~/.profile` files:

```
export LANGUAGE="en"
export LANG="C"
export LC_MESSAGES="C"
```

If you don't have root access to the server, the *Stop forwarding locale from the client* option might be the best (and only) way to go.

---

[Answer](#)  by [izx](#)

This can happen sometimes on fresh minimal/alternate installs or in other situations. The fix is pretty simple. Try these, in the following order, testing after each to see if the situation is fixed:

## 1. Reconfigure locales

- `sudo dpkg-reconfigure locales`
  - if that doesn't work,

## 2. Reinstall locale language-pack

- `sudo apt-get --reinstall install language-pack-de`
  - if that doesn't work,

## 3. Manually force locale settings (persistent)

- `sudo update-locale LC_ALL=de_DE.UTF-8 LANG=de_DE.UTF-8`
- 

Tags: [ssh](#) ([Next Q](#))

---

## [Q: How can I use a passcode generator for authentication for remote logins?](#)

Tags: [ssh](#) ([Next Q](#)), [security](#) ([Next Q](#))

I would like to strengthen the authentication of my SSH logins by adding another factor: a passcode generator device, or a passcode generation application on my mobile phone. The only obvious options in the default setup are a fixed password and key pair. How can I do

this?

(If I use a password plus a passcode generator, this provides [two-factor authentication](#) (2FA): the password is what I know, and the passcode is what I have.)

**Tags:** [ssh](#) ([Next Q](#)), [security](#) ([Next Q](#))

**User:** [jorge-castro](#)

---

[Answer](#) by [jorge-castro](#)

One way to do this is with a tool provided by Google called [Google Authenticator](#).

1. Install [libpam-google-authenticator](#)



- or just `sudo apt-get install libpam-google-authenticator`

2. Edit `/etc/pam.d/sshd` to include the module:

- `sudoedit /etc/pam.d/sshd` and then include this line at the bottom and save:
  - `auth required pam_google_authenticator.so`

3. Edit your SSH config file to turn on the challenge:

- `sudoedit /etc/ssh/sshd_config` and then change the response authentication from:
  - `ChallengeResponseAuthentication no` to
  - `ChallengeResponseAuthentication yes` and then save the file.

4. `sudo restart ssh` to restart SSH

5. Run `google-authenticator`

- This will give you your secret key, verification code, and emergency scratch codes. It will also ask you some rate limiting questions.

## Mobile Applications:

You'll need one of these to receive the authentication code on another device.

- [Android App](#)
- [iPhone App](#)

## Related and Useful:

- Most of this answer is derived from [this blogpost](#) by Jean-Francois Theroux but updated.
- [Google Authenticator Wiki](#)
- <http://guides.webbynoder.com/articles/security/ubuntu-google-authenticator.html>

- <http://www.mnxsolutions.com/security/two-factor-ssh-with-google-authenticator.html>
- It is my understanding that if you're using passwordless logins via SSH keys that you can only do one or the other, see this question: [How can I set up password-less SSH login?](#)
- And if you're using Puppet, there's a puppet module here: <https://github.com/camp to camp/puppet-googleauthenticator>

Note that combining a password with single-use passcodes is two-factor authentication: it combines what you know (a password) with what you have (the passcode generator device). On the other hand, if you combine single-use passcodes with an SSH key pair, it's all about what you have. When two authentication factors are of the same type, you do not have two-factor authentication; this is sometimes called one-and-a-half-factor authentication.

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[Answer](#) by [nowen](#)

Google Authenticator is fine for your personal servers but you might find that it doesn't tie in well with your existing identity infrastructure. If you want to explore other options think about using RADIUS as an authentication protocol and the pam-radius plugin. All the enterprise-oriented two-factor authentication systems support radius. We have written a doc on how to add [WiKID two-factor authentication via pam-radius to Ubuntu](#).

Using radius allows you to tie in other systems besides SSH to the same authentication server. You can also route auth requests through freeradius to LDAP and then to your 2FA server to separate authorization from authentication. You can do the same with AD btw.

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**Tags:** [ssh](#) ([Next Q](#)), [security](#) ([Next Q](#))

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## **Q: How do I keep track of failed SSH log-in attempts?** [Answer](#)

**Tags:** [ssh](#) [security](#) ([Next Q](#))

I'd like to see if somebody has been trying to log-in by brute-force into my Ubuntu 12.04 server over SSH. How can I see if such activities have been taking place?

**Tags:** [ssh](#) [security](#) ([Next Q](#))

**User:** [ivan](#)

---

[Answer](#) by [izx](#)

All login attempts are logged to `/var/log/auth.log`.

### **1. Filter for brute-force interactive SSH logins**

Open a terminal, and type the below; if it's longer than 1 page you will be able to scroll up

and down; type q to exit:

```
grep sshd.*Failed /var/log/auth.log | less
```

- Here's a real example from one of my VPSs:

```
Aug 18 11:00:57 izxvps sshd[5657]: Failed password for root from 95.58.255.62 port 38980 ssh2
Aug 18 23:08:26 izxvps sshd[5768]: Failed password for root from 91.205.189.15 port 38156 ssh2
Aug 18 23:08:30 izxvps sshd[5770]: Failed password for nobody from 91.205.189.15 port 38556
ssh2
Aug 18 23:08:34 izxvps sshd[5772]: Failed password for invalid user asterisk from
91.205.189.15 port 38864 ssh2
Aug 18 23:08:38 izxvps sshd[5774]: Failed password for invalid user sjobeck from 91.205.189.15
port 39157 ssh2
Aug 18 23:08:42 izxvps sshd[5776]: Failed password for root from 91.205.189.15 port 39467 ssh2
```

## 2. Look for failed *connections* (i.e. no login attempted, could be a port scanner, etc.):

Use this command:

```
grep sshd.*Did /var/log/auth.log | less
```

- Example:

```
Aug  5 22:19:10 izxvps sshd[7748]: Did not receive identification string from 70.91.222.121
Aug 10 19:39:49 izxvps sshd[1919]: Did not receive identification string from 50.57.168.154
Aug 13 23:08:04 izxvps sshd[3562]: Did not receive identification string from 87.216.241.19
Aug 17 15:49:07 izxvps sshd[5350]: Did not receive identification string from 211.22.67.238
Aug 19 06:28:43 izxvps sshd[5838]: Did not receive identification string from 59.151.37.10
```

## How to reduce failed/brute-force login attempts

- Try switching your SSH to a non-standard port from the default 22
- Or install an auto-ban script such as [fail2ban](#)

Missing Image

---

[Answer](#) by [oli](#)

I would argue that monitoring logs is a weak solution especially if you have a weak password on an account. Brute attempts often try at least hundreds of keys per minute. Even if you have a cron job set to email you of brute attempts, it could be hours before you get to your server.

**If you have a public-facing SSH server, you *need* a solution that kicks in long before you can be hacked.**

I would strongly recommend fail2ban. [Their wiki](#) says what it does better than I can.

Fail2ban scans log files (e.g. `/var/log/apache/error_log`) and bans IPs that show the malicious signs — too many password failures, seeking for exploits, etc.

Generally Fail2Ban then used to update firewall rules to reject the IP addresses for a specified amount of time, although any arbitrary other action (e.g. sending an email, or ejecting CD-ROM tray) could also be configured. Out of the box Fail2Ban comes with filters for various services (apache, curier, ssh, etc).

Getting protection from it is as simple as `sudo apt-get install fail2ban`.

By default as soon as somebody has three failed attempts, their IP gets a five minute ban. That sort of delay essentially halts a SSH brute force attempt but it's not going to ruin your day if you forget your password (but you should be using keys anyway!)

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**Tags:** [ssh](#) [security](#) ([Next Q](#))

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[Q: How to harden an SSH server?](#)

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[Q: Easiest way to copy ssh keys to another machine?](#)

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[Q: How to keep processes running after ending ssh session?](#)

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[Q: Download a file over an active SSH session](#)

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[Q: Is it possible to remove a particular host key from SSH's known\\_hosts file?](#)

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[Q: How can I break out of ssh when it locks?](#)

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[Q: How do I change my username?](#)

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[Q: How can I set up password-less SSH login?](#)

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[Q: How do I retrieve the public key from a SSH private key?](#)

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[Q: Locale variables have no effect in remote shell \(perl: warning: Setting locale failed.\)](#)

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[Q: How can I use a passcode generator for authentication for remote logins?](#)

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[Q: How do I keep track of failed SSH log-in attempts?](#)

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# Security

[Skip to questions](#), Wiki by user [kees-cook](#)

Ubuntu has many [Security Features](#), and a [Security Team](#) dedicated to keeping users safe and up to date. Please feel free to [get involved](#), or read through the [Ubuntu Security FAQ](#).

---

# Questions

## [Q: What is the difference between “gksudo nautilus” and “sudo nautilus”?](#)

**Tags:** [security](#) ([Next Q](#)), [sudo](#) ([Next Q](#)), [gksu](#) ([Next Q](#))

I've been using gksudo nautilus and sudo nautilus through Alt+F2.

What's the difference? They look very similar!

**Tags:** [security](#) ([Next Q](#)), [sudo](#) ([Next Q](#)), [gksu](#) ([Next Q](#))

**User:** [drkenobi](#)

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[Answer](#)  by [chris-wilson](#)

Taken from [here](#) :

You should **never** use normal sudo to start graphical applications as root. You should use gksudo (kdesudo on Kubuntu) to run such programs. gksudo sets HOME=/root, and copies .Xauthority to a tmp directory. This prevents files in your home directory becoming owned by root.

Please note that this is primarily about *configuration files*. If you run Nautilus as root, even with gksu/gksudo, and you create a file or folder anywhere with it (including in your home directory), that file or folder will be owned by root. But if you run Nautilus (or most other graphical applications) as root with sudo, they may save their *configuration files* in your home directory (rather than root's home directory). Those configuration files may be owned by root and inaccessible when you're not running as root, which can severely mess up your settings, and may even keep some applications from working altogether.

The solution, once you have made this mistake, is to find the configuration files and delete them or [chown](#)  them back to belonging your non-root user. Many such files start with a . or are contained in a directory that starts with a .. Some are located inside the .config folder in your home directory. To see files and folders that start with a . in Nautilus, press **ctrl+H** (this shows *hidden files*.) To see them with [ls](#) , use the -a (or -A) flag.

To find if there are files not owned by you in your home directory, you can use the following command in a terminal:

```
find $HOME -not -user $USER -exec ls -lad {} \;
```

which will list all files under the home directory not owned by the user.

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**Tags:** [security](#) ([Next Q](#)), [sudo](#) ([Next Q](#)), [gksu](#) ([Next Q](#))

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## Q: Why is it bad to login as root?

**Tags:** [security](#) ([Next Q](#)), [users](#) ([Next Q](#))

I've often come across posts on forums or other websites where you see people joking in such a manner about running/logging in as root as if it's something awful and *everyone* ought to know about it. However, there isn't much that a search reveals on the matter. It maybe widely known to Linux experts, but I really don't know why. I remember always running as root when I first tried Linux years ago (Redhat and Mandrake) and don't remember running into any problems because of that. There are actually some distros that have a bright red background with alert signs all over it as wallpaper for the root user (Suse?). I still use the "Administrator" account for regular use on my Windows installation and haven't ever run into any problems either.

**Tags:** [security](#) ([Next Q](#)), [users](#) ([Next Q](#))

**User:** [mussnoon](#)

---

[Answer](#)  by [lazypower](#)

It defeats the security model that's been in place for years. Applications are meant to be run with non-administrative security (or as mere mortals) so you have to elevate their privileges to modify the underlying system. For example you wouldn't want that recent crash of Rhythmbox to wipe out your entire /usr directory due to a bug. Or that vulnerability that was just posted in ProFTPD to allow an attacker to gain a ROOT shell.

Its just good practice on any operating system to run your applications on a user level and leave administrative tasks to the root user, and only on a per-need basis.

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[Answer](#)  by [vojtech-trefny](#)

Just one word: security.

1. You're logged as root = all applications are running with root privileges — every vulnerability in Firefox, Flash, OpenOffice etc. now can destroy your system, because possible viruses now have access everywhere. Yes, there are only few viruses for Ubuntu/Linux, but it's also because of good security and default unprivileged user.
  2. It's not only about viruses — small bug in an application could erase some system files or...
  3. When you're logged as root, you can do everything — the system won't ask! Do you want to format this disk? Ok, just one click and it's done, because you're root and you know what you're doing...
- 

[Answer](#)  by [marlon](#)

Running as root is bad because:

1. **Stupidity:** Nothing prevents you from doing something stupid. If you try to change

the system in anyway that could be harmful you need to do sudo which pretty much guarantees a pause while you are entering the password for you to realize that you are about to make a possible big/costly change.

2. **Security:** It has been mentioned already quite a few times in this question but basically it's the same thing, harder to hack if you dont know the admin user's login account. root means you already have one half of the working set of admin credentials.
3. **You don't really need it:** If you need to run several commands as root and you are annoyed by having to enter your password several times when sudo has expired all you need to do is sudo su or sudo bash or whatever your fav shell is and you are now root. Want to run some commands using pipes? Then use sudo sh -c "comand1 | command2".
4. **You can always use it in the recovery console:** The recovery console allows you to try and recover from doing something stupid or fixing a problem caused by an app (which you still had to run as sudo :)) Ubuntu doesn't have a password for the root account in this case but you can search online for changing that, this will make it harder for anyone that has physical access to your box to be able to do harm.

The reason why you couldn't find information about why it's bad is because, well, there is way too much data in the internet :) and that a lot of people that have been using Linux for a long time think like you do. This way of thinking about the root account is fairly new (a decade maybe?) and a lot of people still get annoyed by having to use sudo. Especially if they are working on a server which means they went in with the intention to make system changes. Probably brought on from previous bad experiences and security standards most sysadmins know better but they still don't like it :).

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**Tags:** [security](#) ([Next Q](#)), [users](#) ([Next Q](#))

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## [Q: Are PPA's safe to add to my system and what are some “red flags” to watch out for?](#)

**Tags:** [security](#) ([Next Q](#)), [ppa](#) ([Next Q](#))

I see a lot of interesting programs out there that can only be obtained by adding a “PPA” to the system but, if I’m understanding correctly, we should stay within the official “repositories” for adding software to our system. Is there any way for a novice to know if a “PPA” is safe or if it should be avoided?. What tips should the user know about when dealing with a PPA in the first place.

**Tags:** [security](#) ([Next Q](#)), [ppa](#) ([Next Q](#))

**User:** [rob](#)

---

[Answer](#)  by [luis-alvarado](#)

PPA ([Personal Package Archive](#) ) are used to include a specific software to your Ubuntu,

Kubuntu or any other PPA compatible distro. The “**safeness**” of a PPA depends mostly on 3 things:

1. **Who made the PPA** - An official PPA from WINE or LibreOffice like **ppa:libreoffice/ppa** and a PPA that I created myself are not the same. You do not know me as a PPA maintainer, so the trust issue and safety is VERY low for me (Since I could have made a corrupted package, incompatible package or anything else bad), but for LibreOffice and the PPA they offer in their website, THAT gives a certain safety net to it. So depending on who made the PPA, how long he or she has been making and maintaining the PPA will influence a little bit on how safe the PPA is for you. PPA's as mentioned above in the comments are not certified by Canonical.
2. **How many users have used the PPA** - For example, I have a PPA from <http://winehq.org> in my personal PPA. Would you trust ME with 10 users that confirm using my PPA having 6 of them saying it sucks than to the one Scott Ritchie offers as **ppa:ubuntu-wine/ppa** in the official winehq website. It has thousands of users (including me) that use his PPA and trust his work. This is work that has several years behind it.
3. **How updated the PPA is** - Let us say you are using Ubuntu 10.04 or 10.10, and you want to use THAT special PPA. You find out that the last update to that PPA was 20 years ago.. O.o. The chances you have on using THAT PPA are null. Why?. Because the package dependencies that PPA needs are very old and maybe the updated ones change so much code that they wont work with the PPA and possibly break your system if you install any of the packages of that PPA to your system.

How updated a PPA influences the decision to use it if he/she wants to use THAT PPA. If not they would rather go look for another one more up to date. You do not want Banshee 0.1 or Wine 0.0.0.1 or OpenOffice 0.1 Beta Alpha Omega Thundercat Edition with the latest Ubuntu. What you want is a PPA that is updated to your current Ubuntu. Remember that a PPA mentions for what Ubuntu version is made for or multiple Ubuntu versions was made for.

As an example of this here is an image of the versions that are supported in the Wine PPA:

# Overview of published

Published in:

Any series ▾

Filter

Any series

1 → 38 of 38

Precise

Oneiric

Natty

Maverick

Lucid

Karmic

Jaunty

Intrepid

Hardy

Gutsy

Feisty

Edgy

Dapper

## Package

gnome-ex

gnome-ex

gnome-ex

ia32-libs

ia32-libs

wine

wine

Here you can see that this PPA is supported since Dinosaurs.

One BAD thing about how updated a PPA is, if the PPA maintainer tends to push into the PPA the latest, greatest and cutting edge version of a specific package. The down side of this is that if you are going to test the latest of something, you ARE going to find some bugs. Try to stick with PPAs that are updated to a stable version and not a unstable, testing or dev version since it might/will contain bugs. The idea of having the latest is also to TEST and say what problems were found and solve them. An example of this are the daily Xorg PPAs and Daily Mozilla PPAs. You will get about 3 daily updates for X.org or Firefox if you get the dailies. This is because of the work they put in there and if you are using their daily PPAs it means you want to help with bug hunting or development and NOT for a production environment.

Basically stick with this 3 and you will be safe. Always look for the maker/maintainer of the PPA. Always see if many users have used it and always see how updated the PPA is. Places like [OMGUbuntu](#), [Phoronix](#), [Slashdot](#), [The H](#), [WebUp8](#) and even here in AskUbuntu are good sources to find many users and articles talking about and recommending some PPAs that they have tested.

**Stable PPA Examples** - LibreOffice, OpenOffice, Banshee, Wine, Kubuntu, Ubuntu, Xubuntu, PlayDeb, GetDeb, VLC are good and safe PPAs from MY experience.

**Semi Stable PPA** - X-Swat PPA is a in the middle PPA between bleeding edge and stable.

**Bleeding Edge PPA** - Xorg-Edgers is a bleeding edge PPA although I should mention that after 12.04, this PPA has become more and more stable. I would still mark it as bleeding edge but it is stable enough for end users.

**Selectable PPA** - Handbrake offers [here](#) a way for the user to choose, do you want a stable version or do you want the bleeding edge (Also referred to as Snapshot) version. In this case you can select what you want to use.

Note that in the case of using for example the X-Swat ppa with the Xorg-Edgers PPA, you will get a mixed between the two (With priority towards Xorg-Edgers). This is because both are trying to include almost the same packages, so they will overwrite each other and only the most updated one will show in your repositories (Except if you manually tell it to grab the package from X-Swat).

Some PPAs might update some of your packages when you add them to your repository because they will overwrite with their own version a certain package to make the PPA software work on your system correctly. This might be some code packages, python versions, etc.. Other like the LibreOffice PPA will remove all existence of the OpenOffice from your system to install the LibreOffice packages there. Basically read what other users have commented about a specific package and also read if the package is compatible with your Ubuntu version.

As the comment below suggest by Jeremy Bicha, some bleeding edge (PPAs that stay very up to date including adding Alpha, Beta or RC quality software in the PPA) could potentially damage your whole system (In the worst case). Jeremy mentions an example of many.

To develop PPA's on launchpad, the contributor must have signed the [ubuntu code of conduct](#). This signifies the developer must abide to a minimum set of standards.

Usually people should then consult the ubuntuforums to see who has used particular ppa's and if they could cause any issues.

For a "novice" or "noob" - my best advice is to steer clear of PPA's until you feel confident that you understand a few things about the command line, potential error messages and a few things how to diagnose issues.

To remove ppa's causing issues, you can most of the time use "[ppa\\_purge](#)"

If you are feeling nervous, then consider an image backup of your computer with a tool like [clonezilla](#). That way, if things go wrong and you can't resolve it, at least you have a quick means to restore your computer back to the way it was before you started playing.

Having said all that, ppa's are extremely useful to get the latest versions of software - especially for those that don't try to upgrade every 6 months and stick with the LTS version of ubuntu.

---

[Answer](#) by [kelley](#)

It isn't just a matter of malware, as has already been said. It is also that some of the software might really still be in the testing stage and not ready for production use. If you install it and rely upon it to get work done, you might find that it is buggy, unreliable, and can crash - leaving you without the work you have done.

Some of it might also not get along well with other aspects of Ubuntu, such as Unity or Gnome, causing problems that are difficult to trace, and perhaps even making your system unstable.

This is not because the software is bad, but because it has perhaps not yet been fully tested, or because it was made available so that people could test it, but not yet intended to be generally released as production software. So you should use caution, although some of it is really quite good.

A number of months ago I installed a recommended package from a particular PPA, and it trashed my system enough that I had to reinstall Ubuntu. I was a new user and didn't know what else to do; with a bit more knowledge I might have been able to solve the problem and restore it without doing a reinstall (although that, too, was useful to me in learning Ubuntu, but if I had worked saved on my machine I would have lost it).

So be careful, ask questions, make frequent backups (!!!), and know that malware is unlikely (though not impossible).

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**Tags:** [security](#) ([Next Q](#)), [ppa](#) ([Next Q](#))

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**Q: How to delete file(s) in secure manner?** 

**Tags:** [security](#) ([Next Q](#))

Is there a way to make sure that a deleted file can not be recovered?

As you know, deleting a file by pressing shift-del or using trash doesn't mean that file is gone forever. It resides somewhere in the computer.

In day to day life, law enforcement or thieves use recovery programs to reveal our private data or something else.

They can recover all data that resides on hard disk, in RAM, and even USB.

To protect us from these people, what should one do? Which program should one use?

Note: I don't want an answer like first use a recovery program then erase that file with shred. With just one program, I want to erase all unused/deleted files on my computer.

**Tags:** [security](#) ([Next Q](#))

**User:** user20296

---

[Answer](#)  by [takkat](#)

## Shred

This command line tool is already installed from core utilities in Ubuntu to securely erase and overwrite single files by using the [Gutman method](#) .

## Fast shredding

```
shred -vzn 0 /dev/sdc1
```

erases whole partitions by overwriting everything with 0s in a single iteration. If no legal aspects require another procedure doing so is most probably safe to securely delete your private data [Craig Wright Lecture Notes in Computer Science, 2008, 5352, 243-257](#) .

## Secure shredding

```
shred -vzn 3 /dev/sdc1
```

erases the whole partition using 3 iterations with random numbers. In addition (option -z) writes zeros to hide the shredding process at the end. This will take 4 times longer than the fast method.

**NOTE:** By shredding a partition we will overwrite this partition with 0 or random numbers. It therefore efficiently deletes everything including file system caches on that partition forever. This can also be used to remove unwanted remnants of deleted files.

**Files we want to keep will have to be backed up before shredding.**

---

## Wipe

# Missing Image

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[More options](#) and the possibility to erase directories in addition to a single file is offered by this command line utility.

---

## Additional notes on journaling file systems and SSD:

- Please read the notes in the linked manpages on security issues arising from still recoverable backups in journaling file systems when erasing single files. Overwriting whole partitions rather than single files will effectively erase all data even when using a journaling file system.
- Erasing data on a solid state disk (SSD) can if at all only be done by overwriting **the whole drive** (not only single partitions) with several iterations. Some SSDs may have an inbuilt feature to erase data but this may not always be efficient (see [this link](#) from comment). At present there is no general recommendation on the wiping processes or number of erase iterations needed to securely remove all data remnants on all SSDs available.

*These options can be added in the context menu of Nautilus and Thunar.*

- In Thunar, open “Edit” then “Configure Custom Actions”

Add (the plus sign)

Name “Shred File”

Description whatever you like

Action “shred -u %f”

Similarly for wipe.

- For Nautilus see [this question](#) and those related

Select “Appearance Conditions” and select “Other Files”

---

[Answer](#) by [flamsmark](#)

There isn't one command that you can run which will easily clean up all the already-deleted files for you. However, there are a number of things you can do to reduce your vulnerability to this sort of attack in future.

As others have said, using tools like shred or [srm](#) allows you to delete a specific file by actually overwriting it, rather than just removing it from the filesystem. If you're feeling

**bold**, you can replace the `rm` command with `shred` or `srm` to securely delete files going forward. That means that whenever you (or another program) tries to delete something using `rm`, the secure delete command will run instead.

However, if you're using a solid state disk, or even some newer mechanical disks, `shred` and other overwriting-based methods may not be effective, since the disk may not actually write where you think it's writing ([source](#)).

---

# Full-Disk Encryption

A more convenient option is full-disk encryption. If you use the [alternate installer](#) , Ubuntu can automatically set up a fully-encrypted disk for you, but you can also customize and configure the settings yourself. Once installed, the encryption is almost invisible to you: after you enter the passphrase (be sure to pick a good, long one) when the computer starts up, everything looks and feels just like normal Ubuntu.

You can also encrypt external media like USB drives using Ubuntu's Disk Utility. Setting up an encrypted external disk is as simple as checking the "encrypt underlying filesystem" box when formatting the disk. You can even store the passphrase on your (encrypted) keyring, so that you don't need to enter the phrase every time you plug that disk into your computer.

If your whole disk — and all your removable media — is encrypted, there's much less to worry about. A thief or police officer would need to swipe your computer while it's on, (or within a minute or two of turning it off if they're [very good](#) ) in order to access your data. If you hibernate (rather than suspend) your computer when it's not in use, then you should be pretty safe.

If you ever need to completely destroy all your data, you don't need to do a [Gutmann wipe](#)  of your whole disk. Simply overwrite the very beginning of the disk, to destroy the headers for the encrypted volume. Unlike with a regular filesystem, this will actually make it impossible to recover the data.

---

So, how do you go from your current setup to a safely encrypted disk? It's quite a challenge to retrofit a currently-installed operating system to use an encrypted disk. The easiest approach is to backup all your data and settings, then reinstall with an encrypted disk. When backing up, make sure to back up your data to an encrypted external drive, but don't save the passphrase in your keyring.

After you've backed everything up, you may want to [aggressively wipe](#)  your hard drive, to make sure that none of your existing data can be recovered in the future. If you're using an SSD, the process is even more challenging, so depending how much you want to invest in the process, it might be worth destroying your current disk ([a challenging proposition](#) ) and starting with a new one.

When reinstalling the OS, if you haven't aggressively wiped the disk already, you should make sure to completely fill the new encrypted partition, which will overwrite all your old data. Once you've restored your backup, you may want to aggressively wipe the start of the backup disk, to destroy the encryption header, so that it can't be recovered again.

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**Tags:** [security](#) ([Next Q](#))

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**Q: What is the best way to restrict access to adult**

## [content?](#)

**Tags:** [security](#) ([Next Q](#))

I bought my kids a PC and installed 12.04 (Unity) on it. The bottom line is, I want my children to use the computer unsupervised while I have confidence they cannot access anything inappropriate.

### **What I have looked at:**

I was looking at **Scrubit** a tool which allows me configure my wifi router to block content and this solution would also protect my other PC and mobile devices. This may be overkill as I just want the solution to work on one PC.

I also did some Google searches and came across the application called [Nanny \(it seems to look the part\)](#) . My experience of OSS is that the best solutions frequently never appear first on a Google search list and in this case I need to trust the methods therefore my question is very specific.

I want to leverage your **knowledge and experience** to understand What is **the best way** to restrict adult content on 12.04 LTS as this is important to me. It maybe a combination of things so please don't answer this question "try this or that", then give me some PPA unless you can share your experience of how good it is and of course if there are any constraints.

**Tags:** [security](#) ([Next Q](#))

**User:** [stephen-myall](#)

---

[Answer](#)  by [bruno-pereira](#)

One easy and great way of doing it is going straight to the source and use DNS filtering for that purpose.

Lets face it, you cannot protect your children all the time from all the internet risks, but using some sort of filtering you can at least force it in your home.

One of the advantages of filtering using DNS is that even if you have a smart ass kid that knows he can bypass blocking software installed in his system using the Ubuntu LiveCD, DNS usage can be enforced in the system that use DHCP via your router.

Have a look at the [OpenDNS parental controls option](#)  for an example on how a DNS filter would work for your computers at home. Many other DNS servers will allow you to do it, OpenDNS is just one that I use normally.

Setup an account, make the changes in your router to use the DNS servers from OpenDNS, activate parental filtering and no matter what OS your kids are using that obtain an IP via the router will be blocked from accessing issue sites.

Of course if your kids are smart enough and know how to spoof that it will be easy for them to bypass it, that again, as said before, you wont be able to protect your children all the time from all the dangers the internet presents.

---

## The Internet is not a safe place for kids.

We all know of content we don't want our kids to be exposed to, be it either accidentally or on purpose. We therefore have to do something about it. There are different approaches to gain some security but all fail when it comes to the details. Let me explain why:

- **Whitelists**

Whitelists securely block unwanted content and can be generated by a variety of browser plugins or parental control software but they will not last for long. We want our kids to discover the world, to learn how to operate the Internet, to learn how to find information, and to learn how to play games that are safe for them. They will not learn how to do this if they only have access to a small list of sites granted by Daddy where the next click on a button leads to the “*BANNED*” page. Only very young kids may be happy for some months with a whitelist.

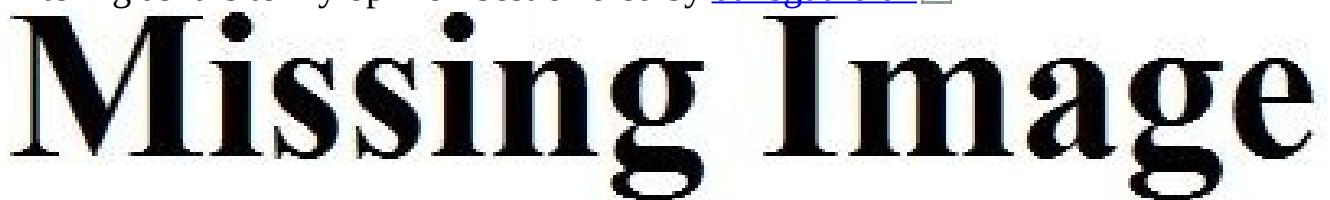
- **Blacklists**

Blacklists such as offered e.g. by DNS services are meant to contain all known bad sites and block them. This task is ridiculous. We can not possibly know of all bad sites. They pop up everyday in thousands. The makers of [Dansguardian](#) put it like that:

The web is a fast changing place and even large web search engines such as Google or Altavista or Yahoo don't even know of half of it. This makes filtering by web address (URL) difficult as sites change and new ones come up all the time.

- **Content Filters**

To overcome limitations of a blacklist we additionally need some sort of content filtering as it is to my opinion best offered by [dansguardian](#)



that also involves setting up a proxy based on **Squid3**. Still, its tedious to maintain the filters. This may be good for schools when a full time employee does all the work but it is unlikely we find the time at home to do so. Using pre-made filters is likely a bad idea as the bad sites know about them and avoid those suspicious phrases to appear on their pages (look at the spam mail you get and you have an idea on how they do it).

- **Smart Kids**

As already mentioned kids become smart, and we desperately want them to become so. Unfortunately then they will also learn how to overcome most of our filters. They will (yes, they will, no matter what we do) gain access to anything they want by the

time they are smart. All our blocking efforts will fail by then. Before that however they may not be interested in all that adult stuff at all. So there would in reality not be a need to block anything. By the time they are smart they need to be smart enough to know what is a bad site, and they should be smart enough to be interested in other things rather than visits on adult pages.

- **Smart Parents**

We all are or will be smart parents. We want to teach our kids how to operate Ubuntu and how to discover the Internet. Smart parents **watch** what their kids do and they **talk** to them about what they do. We should provide them with the knowledge on what to do when they come to sites that are different or may be harmful. We want our kids to **tell us** what they do. Smart parents spent the time they would need to set up and maintain a parental control rather with their kids. We also should not leave the kids alone. Put the computer to a place where you can pass by and have a short look what is displayed on the screen.

In summary the “best” way to refrain our kids from visiting unwanted sites is to become a smart parent educating their kids to become smart. But I know from my own experience that this also may fail, has inconsistencies, and may likely not achieve 100% safety. It still is the best.

---

**Tags:** [security](#) ([Next Q](#))

---

## [\*\*Q: What is apparmor?\*\*](#)

**Tags:** [security](#) ([Next Q](#))

I hear a lot of talk about apparmor, I want to know the following:

- What is apparmor?
- How does apparmor work?

**Tags:** [security](#) ([Next Q](#))

**User:** [alvar](#)

---

[Answer](#)  by [seth](#)

# What it is

Apparmor is a Mandatory Access Control (or MAC) system. It uses LSM kernel enhancements to restrict programs to certain resources. AppArmor does this with profiles loaded into the kernel when the system starts. Apparmor has two types of profile modes, enforcement and complain. Profiles in enforcement mode *enforce* that profile's rules and report violation attempts in syslog or auditd. Profiles in complain mode don't enforce any profile rules, just log violation attempts.

In Ubuntu Apparmor is installed by default. It confines applications to profiles to determine what files and permissions that a program needs access to. Some applications will come with their own properties and more can be found in the apparmor-profiles package.

You can install apparmor-profiles by running `sudo apt-get install apparmor-profiles`.

I found a good example of Apparmor on the Ubuntu forums that I rewrote for this post.

Apparmor is a security framework that prevents applications from turning evil. For example: If I run Firefox and visit a bad site that tries to install malware that will delete my home folder, Apparmor has limits on Firefox though preventing it from doing anything I don't want (like accessing my music, documents, etc). This way even if your application is compromised, no harm can be done.

# How it works

The apparmor-utils package contains command line tools for configuring Apparmor. Using it you can change Apparmor's execution mode, find the status of a profile create new profiles, etc.

These are the most common commands:

**NOTE:** Profiles are stored in /etc/apparmor.d/

- You can check Apparmor's status with `sudo apparmor_status`. You will get a list of all profiles \* loaded, all profiles in enforce mode, all profiles in complain mode, what processes are defined in enforce/complain, etc.
- To put a profile in *complain* mode you use `sudo aa-complain /path/to/bin`, where `/path/to/bin` is the programs bin folder. For example, running: `sudo aa-complain /usr/bin/firefox` will put Firefox in complain mode.
- You use `sudo aa-enforce /path/to/bin` to enforce a programs profile.
- You can load *all* profiles into complain/enforce modes with `sudo aa-complain /etc/apparmor.d/*` and `sudo aa-enforce.d/*` respectively.

To load a profile into the kernel you would use `apparmor_parser`. You can reload profiles using the `-r` parameter.

- To load a profile use: `cat /etc/apparmor.d/profile.name | sudo apparmor_parser -a`, which effectively prints the contents of `profile.name` into Apparmor's parser.
- To reload a profile you use the `-r` parameter, like so: `cat /etc/apparmor.d/profile.name | sudo apparmor_parser -r`
- To reload all of Apparmor's profiles use: `sudo service apparmor reload`

To disable a profile you *link* it to `/etc/apparmor.d/disable/` using `ln` like this: `sudo ln -s /etc/apparmor.d/profile.name /etc/apparmor.d/disable/` then run: `sudo apparmor_parser -R /etc/apparmor.d/profile.name`.

**NOTE:** Do not confuse `apparmor_parser -r` with `apparmor_parser -R` THEY ARE NOT THE SAME THING!

- To re-enable a profile, remove the symbolic link to it in `/etc/apparmor.d/disable/` then load it using the `-a` parameter. `sudo rm /etc/apparmor.d/disable/profile.name cat /etc/apparmor.d/profile.name | sudo apparmor_parser -a`
- You can disable Apparmor with `sudo service apparmor stop` and remove the kernel module using `sudo update-rc.d -f apparmor defaults`

- Start Apparmor with `sudo service apparmor start` and load kernel modules with `sudo update-rc.d apparmor defaults`

# Profiles

Profiles are stored in `/etc/apparmor.d/` and are named after the full path to the executable they profile, replacing ‘/’ with ‘.’. For example `/etc/apparmor.d/bin.ping` is the profile for ping in `/bin`.

There are two main types of entries used in profiles:

1. *Path Entries* determine what files an application can access.
2. *Capability* entries determine what privileges a process can use.

Lets look at the profile for ping, located in `etc/apparmor.d/bin.ping`, as an example.

## Skip code block

```
#include <tunables/global>
/bin/ping flags=(complain) {
    #include <abstractions/base>
    #include <abstractions/consoles>
    #include <abstractions/nameservice>

    capability net_raw,
    capability setuid,
    network inet raw,

    /bin/ping mixr,
    /etc/modules.conf r,
}
```

`#include <tunables/global>` Includes the file `global` in the directory `tunables`, this allows statements pertaining to multiple applications to be placed in a common file.

`/bin/ping flags=(complain)` sets the path to the profiled program and sets the mode to complain.

`capability net_raw` allows the application access to the `CAP_NET_RAW` Posix.1e capability.

`/bin/ping mixr` allows the application read and execute access to the file.

`/etc/modules.conf r`, The `r` gives the application *read* privileges for `/etc/modules.conf`

**NOTE:** After creating/editing a profile, you need to reload the profile for changes to take effect.

Here is a list of permissions you can use:

- `r` - read
- `w` - write
- `ux` - Unconstrained Execute
- `Ux` - Unconstrained Execute — scrub the environment
- `px` - Discrete profile execute

- Px - Discrete profile execute — scrub the environment
- ix - Inherit execute
- m - allow PROT\_EXEC with mmap(2) calls
- l - link

# SOURCES:

<http://ubuntuforums.org/showthread.php?t=1606499> 

<http://ubuntuforums.org/showthread.php?t=1008906> 

<https://wiki.ubuntu.com/AppArmor> 

<https://help.ubuntu.com/12.10/serverguide/apparmor.html> 

---

Tags: [security](#) ([Next Q](#))

---

## [Q: How to patch the Heartbleed bug \(CVE-2014-0160\) in OpenSSL?](#)

Tags: [security](#)

As of today, a [bug in OpenSSL](#)  has been found affecting versions 1.0.1 through 1.0.1f (inclusive) and 1.0.2-beta.

Since Ubuntu 12.04, we are all vulnerable to this bug. In order to patch this vulnerability, affected users should update to OpenSSL 1.0.1g.

How can every affected user apply this update *now*?

Tags: [security](#)

User: [lucio](#)

---

[Answer](#)  by [florian-diesch](#)

Security updates are available for 12.04, 12.10, 13.10 [and 14.04](#)  see [Ubuntu Security Notice USN-2165-1](#) .

So first you need to apply the available security updates, for example by running

```
sudo apt-get update  
sudo apt-get upgrade
```

from the command line.

Do not forget to **restart** the services (HTTP, SMTP, etc.) that use the affected OpenSSL version, otherwise you are still vulnerable. See also [Heartbleed: What is it and what are options to mitigate it?](#)  on Serverfault.com.

The following command shows (after an upgrade) all services that need to be restarted:

```
sudo find /proc -maxdepth 2 -name maps -exec grep -HE '/libssl\.so.* \(\deleted\)' {} \; | cut -d/ -f3 | sort -u | xargs --no-run-if-empty ps uwfp
```

After that, [you need to regenerate all server SSL keys](#) , then evaluate whether your keys may have leaked, in which case attackers may have retrieved confidential

information from your servers.

---

[Answer](#) by [gilles](#)

The bug is known as [Heartbleed](#).

# Am I vulnerable?

Generally, you're affected if you run some server that you generated an SSL key for at some point. Most end-users are not (directly) affected; at least Firefox and Chrome don't use OpenSSL. SSH is not affected. The distribution of Ubuntu packages isn't affected (it relies on GPG signatures).

You are vulnerable if you run any kind of server that uses OpenSSL versions 1.01.0.1f. The affected Ubuntu versions are 11.10 oneiric through 14.04 trusty pre-releases. It's an implementation bug, not a flaw in the protocol, so only programs that use the OpenSSL library are affected. If you have a program linked against the old 0.9.x version of OpenSSL, it isn't affected. Only programs that use the OpenSSL library to implement the SSL protocol are affected; programs that use OpenSSL for other things are not affected.

If you ran a vulnerable server exposed to the Internet, consider it compromised unless your logs show no connection since the announcement on 2014-04-07. (This assumes that the vulnerability wasn't exploited before its announcement.) If your server was only exposed internally, whether you need to change the keys will depend on what other security measures are in place.

# What is the impact?

The bug allows **any client** who can connect to your SSL server to retrieve about 64kB of memory from the server. The client doesn't need to be authenticated in any way. By repeating the attack, the client can dump different parts of the memory in successive attempts.

One of the critical pieces of data that the attacker may be able to retrieve is the server's SSL private key. With this data, the attacker can impersonate your server.

# How do I recover on a server?

1. **Take all affected servers offline.** As long as they're running, they're potentially leaking critical data.
2. **Upgrade the `libssl1.0.0` package**, and make sure that all affected servers are restarted.  
You can check if affected processes are still running with `grep 'libssl.\* (deleted)' /proc/\*maps`
3. **Generate new keys.** This is necessary because the bug might have allowed an attacker to obtain the old private key. Follow the same procedure you used initially.
  - If you use certificates signed by a certification authority, submit your new public keys to your CA. When you get the new certificate, install it on your server.
  - If you use self-signed certificates, install it on your server.
  - Either way, move the old keys and certificates out of the way (but don't delete them, just ensure they aren't getting used any more).
4. Now that you have new uncompromised keys, you can **bring your server back online**.
5. **Revoke** the old certificates.
6. **Damage assessment:** any data that has been in the memory of a process serving SSL connections may potentially have been leaked. This can include user passwords and other confidential data. You need to evaluate what this data may have been.
  - If you're running a service that allows password authentication, then the passwords of users who connected since a little before the vulnerability was announced should be considered compromised. (A little before, because the password may have remained unused in memory for a while.) Check your logs and change the passwords of any affected user.
  - Also invalidate all session cookies, as they may have been compromised.
  - Client certificates are not compromised.
  - Any data that was exchanged since a little before the vulnerability may have remained in the memory of the server and so may have been leaked to an attacker.
  - If someone has recorded an old SSL connection and retrieved your server's keys, they can now decrypt their transcript. (Unless [PFS](#) was ensured if you don't know, it wasn't.)

# How do I recover on a client?

There are only few situations in which client applications are affected. The problem on the server side is that anyone can connect to a server and exploit the bug. In order to exploit a client, three conditions must be met:

- The client program used a buggy version the OpenSSL library to implement the SSL protocol.
- The client connected to a malicious server. (So for example, if you connected to an email provider, this isn't a concern.) This had to happen after the server owner became aware of the vulnerability, so presumably after 2014-04-07.
- The client process had confidential data in memory that wasn't shared with the server. (So if you just ran `wget` to download a file, there was no data to leak.)

If you did that between 2014-04-07 evening UTC and upgrading your OpenSSL library, consider any data that was in the client process's memory to be compromised.

# References

- [The Heartbleed Bug](#) (by one of the two teams who independently discovered the bug)
  - [How exactly does the OpenSSL TLS heartbeat \(Heartbleed\) exploit work?](#)
  - [Does Heartbleed mean new certificates for every SSL server?](#)
  - [Heartbleed: What is it and what are options to mitigate it?](#)
- 

[Answer](#) by [crimi](#)

To see which OpenSSL version is installed on Ubuntu run:

```
dpkg -l | grep openssl
```

If you see the following version output, patch for CVE-2014-0160 should be included.

```
ii  openssl      1.0.1-4ubuntu5.12      Secure Socket Layer (SSL)...
```

Looking at <https://launchpad.net/ubuntu/+source/openssl/1.0.1-4ubuntu5.12>, it shows which kind of bugs are fixed:

```
...
SECURITY UPDATE: memory disclosure in TLS heartbeat extension
- debian/patches/CVE-2014-0160.patch: use correct lengths in
  ssl/d1_both.c, ssl/t1_lib.c.
- CVE-2014-0160
-- Marc Deslauriers <email address hidden> Mon, 07 Apr 2014 15:45:14 -0400
...
```

---

**Tags:** [security](#)

---

[Q: How can I install just security updates from the command line?](#)

---

[Q: How to harden an SSH server?](#)

---

[Q: What is the difference between “gksudo nautilus” and “sudo nautilus”?](#)

---

[Q: Why is it bad to login as root?](#)

---

[Q: How to protect Ubuntu from fork bomb](#)

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[Q: Are PPA's safe to add to my system and what are some “red flags” to watch out for?](#)

---

[Q: How to delete file\(s\) in secure manner?](#)

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[Q: What is the best way to restrict access to adult content?](#)

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[Q: How can I use a passcode generator for authentication for remote logins?](#)

---

[Q: How do I keep track of failed SSH log-in attempts?](#)

---

[Q: What is apparmor?](#)

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[Q: How to patch the Heartbleed bug \(CVE-2014-0160\) in OpenSSL?](#)

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# **Server**

[Skip to questions](#), Wiki by user [jrg](#)

# What Questions Should Have This Tag?:

- Questions related to [Ubuntu Server](#) (As opposed to [Ubuntu Desktop](#)), and the Ubuntu Server core.
  - Any questions related to installing services and programs on Ubuntu Server
-

## **Some Basic Definitions:**

Server - A device on a network which provides “services” to other devices (most commonly file sharing, mail, printing, or shared disk space)

Ubuntu Server - An Operating System (OS) which (through software/hardware) allows the device(s) to perform server functions.

---

# **Brief Introduction to the Subject:**

Packages and programs that are included in the Ubuntu Server core include web servers, databases, DNS, etc. Some of these programs include:

- Apache 2 web server
- MySQL Database
- Postgre SQL Database
- PHP 5
- Bind 9 DNS Server

These programs can be set up and installed separately from the Ubuntu Server Core, but questions regarding those programs should be tagged with that program's tag.

---

# Important Links for Learning More:

- [Ubuntu Server Official Documentation](#) 
  - [How do I set up an email server?](#)
  - [How do you run Ubuntu Server with a GUI?](#) 
-

# Questions

## [Q: Chkconfig alternative for Ubuntu Server?](#)

**Tags:** [server](#) ([Next Q](#)), [services](#) ([Next Q](#))

I've become very accustomed to managing service startups on Redhat/RHEL platforms using chkconfig though that doesn't appear to be the Debian/Ubuntu way - How do I update runlevel information for system services on Ubuntu?

Ultimately looking for the equivalents of:

```
chkconfig --add <service>
chkconfig --level 345 <service> on
chkconfig --del <service>
```

**Tags:** [server](#) ([Next Q](#)), [services](#) ([Next Q](#))

**User:** [marco-ceppi](#)

---

[Answer](#)  by [richard-holloway](#)

The equivalent to chkconfig is update-rc.d

The equivalents you seek are

```
update-rc.d <service> defaults
update-rc.d <service> start 20 3 4 5
update-rc.d -f <service> remove
```

---

See [this useful page](#)  for more information or check out man update-rc.d

---

[Answer](#)  by [jokerulez](#)

Best alternative IMHO is sysv-rc-conf To install just need to run the command:

```
sudo apt-get install sysv-rc-conf
```

Once installed run the command:

```
sudo sysv-rc-conf
```

You can check or uncheck the options to start a service on any level of execution and may even stop or start the services from this console. It is an indispensable tool to enable or disable applications on an permanently way to boot your ubuntu If you need a quick change, then you can use the CLI interface:

For example to stop ssh at levels 3 and 5 of execution:

```
sysv-rc-conf-off level 35 ssh
```

Atd to start in runlevels 2,3,4 and 5:

```
sysv-rc-conf on atd
```

If you want to know more:

```
man sysv-rc-conf
```

---

**Tags:** [server](#) ([Next Q](#)), [services](#) ([Next Q](#))

---

## [Q: What is LVM and what is it used for?](#)

**Tags:** [server](#) ([Next Q](#)), [partitioning](#) ([Next Q](#))

As a Linux/Ubuntu newbie, what is LVM and what is it used for?

In terms of a web server installation, what benefits does it provide?

Would you recommend using it?

**Tags:** [server](#) ([Next Q](#)), [partitioning](#) ([Next Q](#))

**User:** [matthew-blackford](#)

---

[Answer](#)  by [riccardo-murri](#)

# Benefits

You can think of LVM as “dynamic partitions”, meaning that you can create/resize/delete LVM “partitions” (they’re called “Logical Volumes” in LVM-speak) from the command line *while your Linux system is running*: no need to reboot the system to make the kernel aware of the newly-created or resized partitions.

Other nice features that LVM “Logical Volumes” provide are:

1. If you have more than one hard-disk, Logical Volumes can extend over more than one disk: i.e., they are not limited by the size of one single disk, rather by the total aggregate size.
2. You can set up “striped” LVs, so that I/O can be distributed to all disks hosting the LV in parallel. (Similar to RAID-0, but a bit easier to set-up.)
3. You can create a (read-only) snapshot of any LV. You can revert the original LV to the snapshot at a later time, or delete the snapshot if you no longer need it. This is handy for server backups for instance (you cannot stop all your applications from writing, so you create a snapshot and backup the snapshot LV), but can also be used to provide a “safety net” before a critical system upgrade (clone the root partition, upgrade, revert if something went wrong).

While being most useful on server systems, I think that features 1. and 3., combined with LVM’s ability to create/resize/delete LVs on the fly, are quite handy on desktop systems as well. (Especially if you experiment a lot with the system.)

# Downsides

Of course, all of this comes at a price: the initial set-up of LVM is more complex than just partitioning a disk, and you will definitely need to understand the LVM terminology and model (Logical Volumes, Physical Volumes, Volume Groups) before you can *start* using it. (Once it is set up, using it is much easier, though.)

Also if you use LVM across hard drives you may lose all your data when only one drive fails.

# Recommendation

Reccommend reading the [LVM HOW-TO from The Linux Documentation Project.](#) 

---

**Tags:** [server \(Next Q\)](#), [partitioning \(Next Q\)](#)

---

## Q: How do I free up disk space?

**Tags:** [server \(Next Q\)](#)

My Ubuntu cloud server has left only 900MB of disk space.

I'll just empty the directory /tmp and wondering if there is any other location to clean up.

**Tags:** [server \(Next Q\)](#)

**User:** [user3215](#)

---

[Answer](#)  by [oli](#)

```
sudo apt-get autoremove
```

That can clean out a lot of guff (old kernels, etc) that have been replaced. You can do a similar thing in Synaptic (load it up and select the status button and then the Auto-removeable option).

---

[Answer](#)  by [drkenobi](#)

To delete downloaded packages (.deb) already installed (and no longer needed)

```
sudo apt-get clean
```

To remove all stored archives in your cache for packages that can not be downloaded anymore (thus packages that are no longer in the repository or that have a newer version in the repository).

```
sudo apt-get autoclean
```

To remove unnecessary packages (After uninstalling an app there could be packages you don't need anymore)

```
sudo apt-get autoremove
```

To delete old kernel versions

```
sudo apt-get remove --purge linux-image-X.X.XX-XX-generic
```

If you don't know which kernel version to remove

```
dpkg --get-selections | grep linux-image
```

**Source:** [Limpiando Ubuntu: comandos y programas \(actualizacin\)](#) 

---

[Answer](#)  by [jet](#)

- show top 10 biggest subdirs in the current dir.

```
du -sk * | sort -nr | head -10
```

- use filelight or kDirStat to see where the disk space is going visually
- check if you have old kernels for deletion

```
ls -lh /boot
```

- cleaning packages

```
sudo apt-get autoremove
```

```
sudo apt-get autoclean
```

see list of all installed packages, sorted by size. If you see something big and don't use it - uninstall it

```
dpkg-query -W --showformat='${Installed-Size} ${Package}\n' | sort -nr | less
```

- clean unused language files with translations (there are tons of them)

```
sudo apt-get install localespurge
```

- check content of /var/tmp/

```
du -sh /var/tmp/
```

- check also

```
man deborphan
```

- Search for big files:

```
find / -type f -size +1024k
```

or

```
find / -size +50000 -exec ls -lahg {} \;
```

---

**Tags:** [server](#) ([Next Q](#))

---

## [Q: How do you restart Apache?](#)

**Tags:** [server](#) ([Next Q](#)), [services](#) ([Next Q](#)), [apache2](#) ([Next Q](#))

I switched from SLES to Ubuntu and now I want to restart my local server. In SLES I used :

```
rcaapache2 restart
```

but this somehow seems not to work in Ubuntu. :(

## How do i restart my Apache?

**Tags:** [server](#) ([Next Q](#)), [services](#) ([Next Q](#)), [apache2](#) ([Next Q](#))

**User:** [jai-puri](#)

---

[Answer](#) by [maco](#)

Or sudo service apache2 restart for the way that's borrowed from Red Hat. Or sudo restart apache2 for the shiny new Upstart way.

---

[Answer](#) by [riccardo-murri](#)

The recommended way under Ubuntu to start/stop services (not just Apache) is to use the start/stop/reload commands (which really are symbolic links to the [initctl](#) program, part of [upstart](#)).

For services that use the legacy /etc/init.d scripts, the corresponding script will be called with the correct parameters; for services that use the upstart infrastructure, the appropriate event transition will be signaled to the [upstart](#) daemon via [initctl](#).

So, to start/stop/reload/restart apache on Ubuntu, you can use:

```
sudo start apache2  
sudo stop apache2  
sudo reload apache2  
sudo restart apache2
```

---

[Answer](#) by [marius-gedminas](#)

Do you want to *restart* Apache, or do you want to [\*gracefully reload\*](#) its configuration?

Everyone was answering the first question; you can do the second with

```
sudo apache2ctl graceful
```

or

```
sudo /etc/init.d/apache2 reload
```

Gracefully reloading is a bit faster, and there's no downtime. There's one caveat: if your apache config files contain an error, the server will silently exit without printing any error messages to the console.

---

**Tags:** [server](#) ([Next Q](#)), [services](#) ([Next Q](#)), [apache2](#) ([Next Q](#))

---

## [Q: Setting up a git server](#)

**Tags:** [server](#) ([Next Q](#))

I've recently set up ubuntu-server on Amazon EC2. I would like to use it as my git server,

so I could store my repos there.

So, where can I find some detailed instructions of how to setup git on ubuntu server? All these SSH keys and stuff like that, multiple users, etc.

**Tags:** [server](#) ([Next Q](#))

**User:** [pawel-karpiński](#)

---

[Answer](#)  by [huygens](#)

You can use the [tutorial to install a Git server as aking1012 proposed](#) you or you could just install SSH server on your EC2 instance (probably it would be wise to secure it and change the default port).

Git can be server-less you init your repository and then you access it from remote via SSH. So instructions like this on the Ubuntu Server should do it:

```
GIT_DIR=project.git git init  
cd project.git  
git --bare update-server-info  
cp hooks/post-update.sample hooks/post-update
```

Finally install SSH on your server:

```
sudo apt-get install ssh-server
```

Now, you should configure SSH to secure it.

It's time to put your project online (the data you already have on your development machine):

```
git push ssh://<username>@<remote-git-hostname>/path/to/project.git master
```

And now you can start cloning around. You go on your development machine:

```
git clone ssh://<username>@<remote-git-hostname>/path/to/dir.git
```

Check this [excellent resource on Git](#) .

And for generating your ssh keys for safer authentication, you can read this article about [SSH authentication](#) .

---

[Answer](#)  by [finley](#)

I recommend a book (free ebook download)

Pro Git by Scott Chacon

Chapter 4 deals with setting up a Git server.

<http://git-scm.com/book/en/Git-on-the-Server> 

---

[Answer](#)  by [marco-ceppi](#)

For all my Git server setups I use [Gitolite](#)  which allows for a security granularity of “per-branch” access. Setup is pretty straight forward if you’re doing it on a remote server it’s as easy as running an interactive script. In addition to this “easy-to-setup” nature it

also has a package in Natty and Maverick

# Missing Image

---

This won't provide a web frontend like Github, or Gitweb - but you can easily configure and install those on top of something like Gitolite.

---

**Tags:** [server](#) ([Next Q](#))

---

## [Q: Debian Stable vs Ubuntu LTS for Server?](#)

**Tags:** [server](#) ([Next Q](#))

Which is a better platform for a professional use server?

Debian Stable or Ubuntu LTS?

The third party software we plan to use, works on both. Which one is better on its own merits?

Take into account things like the kernel (Ubuntu for example has its own custom kernel for servers), and other Ubuntu specific customizations.

I keep switching back and forth, and I need to decide so I can recommend one or the other to a client. Right now, I think I am going to choose Debian Stable.

---

Recently, I have had Ubuntu Server Edition 10.04.1 have a few strange issues...

I have Ubuntu setup to do automatic updates via a simple script, and every few months or so, libapache2-mod-php5 gets removed because of conflicting packages... Thereby causing me to lose the php function of the web server.

Debian Stable has not done anything like this.

**Tags:** [server](#) ([Next Q](#))

**User:** [soviero](#)

---

[Answer](#)  by [oli](#)

Well I don't see why people are making a fuss about the quality of the question. It's clearly a decision that lots of developers will want to weigh up before deploying. And there are clearly some differences that are very relevant to deploying each.

---

I think the prime consideration and comparison between debian stable and an Ubuntu LTS is security and general package updates.

Debian "stable" releases are supported for a year after the next stable release. So if a stable

comes out every two years, and you started on a stable release right at its launch, you get three years of updates:

The security team tries to support a stable distribution for about one year after the next stable distribution has been released, except when another stable distribution is released within this year. It is not possible to support three distributions; supporting two simultaneously is already difficult enough.

You should note that the debian cadence is not guaranteed. Stable releases come out when they're ready. This could mean you get anywhere from 18 months to 18 years of support. This makes it very unpredictable as you won't know when you need to upgrade until you know when the next stable will be finalised.

Compare that to a [Ubuntu LTS release](#) , desktop updates are very similar but for the server applications and kernel, you get a mammoth 5 years of support, regardless of any new LTS releases in that time:

A new LTS version is usually released every 2 years. With the v12.04 Long Term Support (LTS) version you get 5 years support for both the Ubuntu Desktop and the Ubuntu Server. There is no extra fee for the LTS version; we make our very best work available to everyone on the same free terms.

This means you should be able to deploy the latest LTS on a box and not have to worry about it not getting security updates (for supported packages) for years and years. When you have more than a handful of servers, or just some applications that can't afford any downtime for testing upgrades, or just don't have the time to spend a day/week testing upgrades, Ubuntu has a large advantage over debian.

---

[Answer](#)  by [jkrider](#)

To answer your question about Professional/Production use I think there are several key elements that have been addressed but there is one point I feel that is extremely crucial.

## Packages and Package Management

This is a key difference between Debian stable and Ubuntu LTS especially if you concerned about longevity, uptime, stability etc.

Ubuntu is released every six months and is based off of the Debian unstable branch which generally means overall newer and more up to date software but at the same time having the disadvantage of being considered basically "unstable" at least in an enterprise context.

Now the LTS release is based mostly on Debian Testing which in Debian terms "represents the state of the upcoming stable release before it is actually considered stable" and although Ubuntu puts a lot of time and effort into making regular and LTS versions as stable as possible after the packages have been pulled from their respective Debian branches, LTS is still based on the Testing branch which in turn is still considered by Debian in its own branch to be not quite ready for Production use or anything approaching mission critical.

And Ubuntu's community of developers simply cannot compete on the same scope or

level of Debian which is possibly the largest communal based software ever created.

In basic terms this means Ubuntu LTS being based upon the Debian Testing branch and even with Ubuntus attempts to stabilize and polish their testing packages after they're pulled, does not equal the immense development and maturity of Debian stable and the packages thereof. Debian stable truly is the Golden Standard for rock solid stability.

---

[Answer](#)  by [bytecode](#)

I stumbled upon this thread whilst googling “ubuntu server stability issues” - searching for answers to my own concerns regarding the stability of Ubuntu server.

I have to admit that I’m a long term Ubuntu fan, particularly on the desktop (Since Breezy).

## **Box 1: “Fred”**

I first deployed Ubuntu server 8.04 on a production machine that has low usage requirements; it's predominantly a “brochure-ware” level webserver with about 4/5 websites, which also acts as an offsite backup repository. Primary packages are Apache2, Mysql, Postgresql, PHP.

It's dual core, has 2 GB RAM, 2x 1GB HDD configured with mdadm as RAID1. Stability wise, it has been great except that it seems to die every 3-6 months for no obvious reason, despite combining through log after log.

I've kept this machine on 8.04, performing occasional updates.

## **Box 2: “Charlie”**

Charlie has been running for a similar lifetime as Fred, and is used as an office based backup and media storage machine, office server monitoring node, network gateway for remote logins, wiki and virtualbox host. Primary packages are: Apache2, postgresql, mysql, PHP, webmin, samba and Virtual box - Non OSE (We needed the headless feature back when that wasn't supported in the OSE).

Hardware wise, Charlie is Quad core, with 8GB RAM, has about 10TB of storage, distributed across a number of sata and ide drives, some of the sata drives comprise a soft RAID5 array, we have a drobo connected over firewire, two external usb drives and another drobo due to be attached.

Charlie started on Ubuntu 8.04, has been upgraded periodically via dist-upgrade and is currently at 10.04.

Sadly, Charlie is as stable as drunk in a brawl.

Charlie has frequent kernel panics, OOM's and requires a reboot every 2-3 weeks. Combing through logs has me scratching my head.

# To Summarise

I love Ubuntu server, it's familiar, relatively well laid out, I love aptitude (Which should be the default package manager IMHO, packages/apps such as UFW, Fail2Ban, Denyhosts, logwatch, logrotate etc make administration relatively simple.

But *both* Ubuntu server boxes have uptimes measured in weeks or months, if we're lucky, and yes, during that time we've changed the hardware and re-installed from scratch, tested the disks, tested the RAM.

By comparison, I have clusters of HP DL360 G5's, DL380 G5's, DL380 G6's where uptime is measured in years, sometimes, 1000's of days.

These are running CentOS - and it doesn't float my boat like UBuntu Server, but it seems so much more stable, yet I don't know whether that's the Hardware or the OS.

Just my two-pence worth.

---

**Tags:** [server](#) ([Next Q](#))

---

## [Q: Disable autostart for a service without uninstalling?](#)

**Tags:** [server](#) ([Next Q](#)), [services](#) ([Next Q](#))

How can I disable autostart for a service without uninstalling? For example, I'd like to leave tomcat installed, but I don't want it turning on every time I restart.

**Tags:** [server](#) ([Next Q](#)), [services](#) ([Next Q](#))

**User:** [c.-ross](#)

---

[Answer](#)  by [hhlp](#)

This should do the trick :

Open terminal (CTRL + ALT + t) and type into

```
sudo update-rc.d tomcat disable
```

Basically update-rc.d will modify existing runlevel links for the script /etc/init.d/tomcat by renaming start links to stop links.

---

[Answer](#)  by [riceball-lee](#)

The disable|enable API is not stable and might change in the future. I suggest you use the following command to remove all the symlinks in /etc/rc?.d/:

```
update-rc.d -f tomcat remove
```

---

**Tags:** [server](#) ([Next Q](#)), [services](#) ([Next Q](#))

## Q: How to add a PPA on a server?

**Tags:** [server](#) ([Next Q](#)), [ppa](#) ([Next Q](#))

The Server version of Ubuntu does not have the add-apt-repository command. How can i add a PPA to the server without this command?

**Tags:** [server](#) ([Next Q](#)), [ppa](#) ([Next Q](#))

**User:** [luis-alvarado](#)

[Answer](#) by [mark-russell](#)

You can simply add the add-apt-repository command. It's part of the python-software-properties package.

```
sudo apt-get install python-software-properties
```

Side note: in 11.04 they added a symlink to add-apt-repository so it can be run as apt-add-repository which totally makes more sense to me. Everything else apt starts with "apt".

Second side note: (Tested on 13.10) As the comments below indicated, this may also be necessary:

```
sudo apt-get install software-properties-common
```

[Answer](#) by [jo-erlend-schinstad](#)

Let me teach you how to fish. apt-file enables you to find out which package provides a given file. dpkg -S does the same thing, but only for installed packages. apt-file works whether or not the package has been installed.

So, first you install apt-file: sudo apt-get install apt-file. You then need to update its information, just as you have to with apt-get: sudo apt-file update. Now it's ready for use:

```
jo-erlend@jedesktop:~$ apt-file search add-apt-repository
python-software-properties: /usr/bin/add-apt-repository
python-software-properties: /usr/share/man/man1/add-apt-repository.1.gz
jo-erlend@jedesktop:~$
```

So, in this case the next thing to do would be to install python-software-properties.

[Answer](#) by [broam](#)

Not necessarily the best answer, but will function: the old-fashioned way (pre Ubuntu 9.10, they call it) of editing /etc/apt/sources.list still works. You will also need to get the GPG key on the system manually.

See this page: <https://launchpad.net/+help/soyuz/ppa-sources-list.html>

**Copied here because this eventually will disappear.**

## On older (pre 9.10) Ubuntu systems

Step 1: Visit the PPA's overview page in Launchpad. Look for the heading that reads Adding this PPA to your system and click the Technical details about this PPA link.

Step 2: Use the Display sources.list entries drop-down box to select the version of Ubuntu you're using.

Step 3: You'll see that the text-box directly below reads something like this:

```
deb http://ppa.launchpad.net/gwibber-daily/ppa/ubuntu jaunty main deb-src  
http://ppa.launchpad.net/gwibber-daily/ppa/ubuntu jaunty main
```

Copy those lines.

Step 4: Open a terminal and type:

```
sudo gedit /etc/apt/sources.list
```

This will open a text editor containing the list of archives that your system is currently using. Scroll to the bottom of the file and paste the lines you copied in the step above.

Save the file and exit the text editor.

Step 5: Back on the PPA's overview page, look for the Signing key heading. You'll see something like:

1024R/72D340A3 (What is this?)

Copy the portion after the slash but not including the help link; e.g. just 72D340A3.

Step 6: Now you need to add that key to your system so Ubuntu can verify the packages from the PPA. In your terminal, enter:

```
sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys 72D340A3
```

(Replace 72D340A3 with whatever you copied in the step 5.)

This will now pull down the PPA's key and add it to your system.

Step 7: Now, as a one-off, you should tell your system to pull down the latest list of software from each archive it knows about, including the PPA you just added:

```
sudo apt-get update
```

Now you're ready to start installing software from the PPA!

---

**Tags:** [server](#) ([Next Q](#)), [ppa](#) ([Next Q](#))

---

## [Q: How do I set up an email server?](#)

**Tags:** [server](#) ([Next Q](#))

My VPS is running Ubuntu, and I'd like to be able to receive email to my domain.

How do I easily set up a mail server to do this?

**Tags:** [server](#) ([Next Q](#))

**User:** [stefano-palazzo](#)

---

[Answer](#)  by [marco-ceppi](#)

This is how I've setup mail on our production machines. These are the criteria that we needed:

- Email Accounts
- Email Aliases (Forwarders)
- IMAP, POP3, and SMTP

# “Easy” (tl;dr)

First, I want to address what would appear to be the *easiest* solution.

```
sudo tasksel install mail-server
```

Several issues with this occurred when we tried this: First it installs Dovecot, which is fine for most, but we've deemed Courier to be the better of the two for *our* needs. Second, it utilizes Postfix which is great but we also need Exim as it's a more powerful MTA/SMTP server. Third, it installs MySQL - in the configuration I utilize we prefer flat files for configuration as it's one less breaking point. Think what would happen if MySQL crashed for some unknown reason. Otherwise the rest of the packages is pretty straight forward and easy to maintain for a small mail service (think 1-2 email domains total).

# Our Configuration

## Directory Structure

We stray slightly outside the path of normal configurations but it makes for easier management.

All of our mail is stored in `/var/mail/virtual/<domain>/<user>/mail` So for future examples I'll be using `email@example.com`, `fwd@example.com`, `foo@example.com` to represent an email address, a forwarder to go to `example@gmail.com`, and a bad address respectively. In the above example it would be  
`/var/mail/virtual/example.com/email/mail`.

I also maintain a list of all the domains on the server in `/etc/valiases` but more about that later.

# **Postfix**

This is more or less the easy part of the setup. Just install the `postfix` package.

# Exim

Install Exim with `apt-get install exim4 exim4-base exim4-config exim4-daemon-heavy` Once installed you'll need to edit the exim default configuration to replace or add the following values:

```
domainlist local_domains = @:localhost:dsearch;/etc/valiases:dsearch;/var/mail/virtual  
daemon_smtp_ports = smtp : 587 : 465  
MAIN_TLS_ENABLE = yes
```

(These lines will appear in different parts of the file, replace each accordingly)

Once that's complete rebuild the exim configuration with `update-exim4.conf` This concludes the changes required for Exim

# Courier

Install Courier with `courier-base` this should install `courier-authdaemon`, `courier-authlib*`, `courier-imap*`, `courier-pop*`, `courieruserinfo`, `courier-ssl`

There honestly isn't much configuration outside the standard. You'll just need to create a user database.

# Accounts

Exim and Courier check a few places to see if a login or an incoming email are valid. Exim checks if the domain is listed as a local hostname, or if the domain is in /var/mail/virtual or if the domain is in /etc/valiases.

## Creating Email Accounts

I eventually created several tools to streamline this process - but adding a new user goes to the tune of:

```
mkdir -p /var/mail/virtual/example.com/email  
chown -R mail.mail /var/mail/virtual/example.com/  
maildirmake /var/mail/virtual/example.com/email/mail  
chown -R mail.mail /var/mail/virtual/example.com/
```

Then add the address to courier userdb - so they can log in

```
userdb email@example.com set uid=8 gid=8 home=/var/mail/virtual/example.com/email  
mail=/var/mail/virtual/example.com/email/mail
```

Make sure to replace the values where appropriate. Also - uid and gid *need* to be the numerical user/group ids for the mail user.

```
userdbpw -md5 | userdb email@example.com set systempw
```

This will prompt you for a password, enter the one you wish to use for the account.

```
makeuserdb
```

Finally, generate the userdb hash/shadow files. Restart Courier and test if your changes work:

```
authtest email@example.com
```

Should produce something similar to

```
Authentication succeeded.  
  
Authenticated: email@example.com (uid 8, gid 8)  
Home Directory: /var/mail/virtual/example.com/email  
Maildir: /var/mail/virtual/example.com/email/mail  
Quota: (none)  
Encrypted Password: $1$LOLCATS$THISWILLBEAHASH.  
Cleartext Password: (none)  
Options: (none)
```

If you see “Authentication FAILED: Operation not permitted” instead edit /etc/courier/authdaemonrc and add authuserdb to the authmodulelist line.

After all tests have been confirmed, restart the various services involved (courier-authdaemon, exim4), open the ports 143, 25, 586, 495, 110 and setup the accounts in your favorite mail client.

## Creating email aliases

For each domain you should create a file in /etc/valiases (create if it doesn't exist) with at least the following line:

```
*: :fail: No user at this address.
```

What this says: If the incoming mail doesn't match any email account I have on file - then the mail should be failed and bounced with a message: "No user at this address". So all mail sent to say: foo@example.com would be bounced as a failure.

However, we have a few email address we wish to maintain elsewhere - say example@gmail.com - in order to do so we need to create /etc/valiases/example.com and the contents of the file should be as follows:

```
fwd: example@gmail.com
*: :fail: No user at this address.
```

That way, even though fwd@example.com doesn't match any email accounts on the server, it matches in the /etc/valiases file and the mail will be forwarded to example@gmail.com - However, foo@example.com will still fail with a "No user at this address" message.

---

[Answer](#)  by [jo-erlend-schinstad](#)

The easiest way is to run sudo tasksel install mail-server. That will give you an email server with sane defaults. All you have to do, is to answer a few questions. Obviously, you're still able to do manual configurations afterwards if that's necessary, but in most cases it won't be. Just follow the on-screen directions and you should be fine.

Reading up on email services administration is absolutely recommendable though.

Official References:

- <https://help.ubuntu.com/10.04/serverguide/C/email-services.html> 

---

**Tags:** [server](#) ([Next Q](#))

---

## [Q: How do I fix my locale issue?](#)

**Tags:** [server](#)

I am getting this message everytime I do something like starting or stopping a service.

[Skip code block](#)

```
perl: warning: Setting locale failed.
perl: warning: Please check that your locale settings:
    LANGUAGE = "en_US:en",
    LC_ALL = (unset),
    LC_MESSAGES = "en_US.UTF-8",
    LANG = "en_US.UTF-8"
        are supported and installed on your system.
perl: warning: Falling back to the standard locale ("C").
locale: Cannot set LC_CTYPE to default locale: No such file or directory
locale: Cannot set LC_MESSAGES to default locale: No such file or directory
locale: Cannot set LC_ALL to default locale: No such file or directory
(Reading database ... 21173 files and directories currently installed.)
```

```
Removing bind9 ...
 * Stopping domain name service... bind9
[ OK ]
Processing triggers for man-db ...
locale: Cannot set LC_CTYPE to default locale: No such file or directory
locale: Cannot set LC_MESSAGES to default locale: No such file or directory
locale: Cannot set LC_ALL to default locale: No such file or directory
```

How do I fix this error ?

**Tags:** [server](#)

**User:** [hacktohell](#)

---

[Answer](#)  by [otto-kek](#)  

First run `locale` to list what locales you are supposed to have:

[Skip code block](#)

```
$ locale
LANG=C
LANGUAGE=
LC_CTYPE=fi_FI.UTF-8
LC_NUMERIC="C"
LC_TIME="C"
LC_COLLATE=fi_FI.UTF-8
LC_MONETARY="C"
LC_MESSAGES=fi_FI.UTF-8
LC_PAPER="C"
LC_NAME="C"
LC_ADDRESS="C"
LC_TELEPHONE="C"
LC_MEASUREMENT="C"
LC_IDENTIFICATION="C"
LC_ALL=
```

The generate the missing locale and reconfigure locales to take notice:

```
$ sudo locale-gen fi_FI.UTF-8
Generating locales...
 fi_FI.UTF-8... done
Generation complete.

$ sudo dpkg-reconfigure locales
Generating locales...
 en_US.UTF-8... done
 fi_FI.UTF-8... up-to-date
Generation complete.
```

Now you will not see any errors anymore!

---

[Answer](#)  by [marcin](#)

Nothing suggested above worked in my case (Ubuntu Server 12.04LTS). What finally helped was putting to the file `/etc/environment`:

```
LC_ALL=en_US.UTF-8
LANG=en_US.UTF-8
```

For some reason it was missing. The outputs for `locale` and other commands appeared like the variables were properly defined. In other words don't take for granted all the basic stuff is declared where it should be declared.

---

[Answer](#)  by [rinzwind](#)

They should disappear after issuing:

```
sudo locale-gen en_US en_US.UTF-8  
dpkg-reconfigure locales
```

---

dpkg-reconfigure reconfigures packages after they have already been installed. Pass it the names of a package or packages to reconfigure. It will ask configuration questions, much like when the package was first installed.

---

**Tags:** [server](#)

---

[Q: Chkconfig alternative for Ubuntu Server?](#)

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[Q: What is LVM and what is it used for?](#)

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[Q: How do I free up disk space?](#)

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[Q: How do you restart Apache?](#)

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[Q: Setting up a git server](#)

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[Q: Debian Stable vs Ubuntu LTS for Server?](#)

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[Q: How do I fix my locale issue?](#)

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# Sudo

[Skip to questions](#), Wiki by user [braiam](#)

sudo which is a short for “super user do”, is the recommended way to do administrative tasks in Ubuntu. Its usage is more granulated and configurable than its counterpart su.

This command allows to:

- Run a specific command as some user.
- Execute an interactive shell as some user.
- Elevate privileges of certain commands.

The sudo binary is included in the sudo package, along with other tools such as visudo and sudoedit. The first is the recommended way to edit the sudoers file which includes the way sudo behaves, and sudoedit opens the default editor with super user privileges.

This command can be configured using the /etc/sudoers file. It follows a specific syntax so it is recommended to always use visudo to prevent errors.

---

# Questions

## Q: How do I add a user to the “sudo” group?

Tags: [sudo](#) ([Next Q](#))

In /etc/sudoers I see this:

```
# Allow members of group sudo to execute any command after they have
# provided their password
# (Note that later entries override this, so you might need to move
# it further down)
%sudo ALL=(ALL) ALL
```

So how do I add a user to that sudo group?

Tags: [sudo](#) ([Next Q](#))

User: [coffee-grinder](#)

---

Answer  by [maco](#)

```
sudo usermod -aG sudo <username>
```

The a is very important. Without it they'll be removed from all other groups. You will need to either restart your shell/terminal or log out and back in for this to take effect.

See also:

- [How can I add a new user as sudoer using the command line?](#)
- 

Answer  by [txwikinger](#)

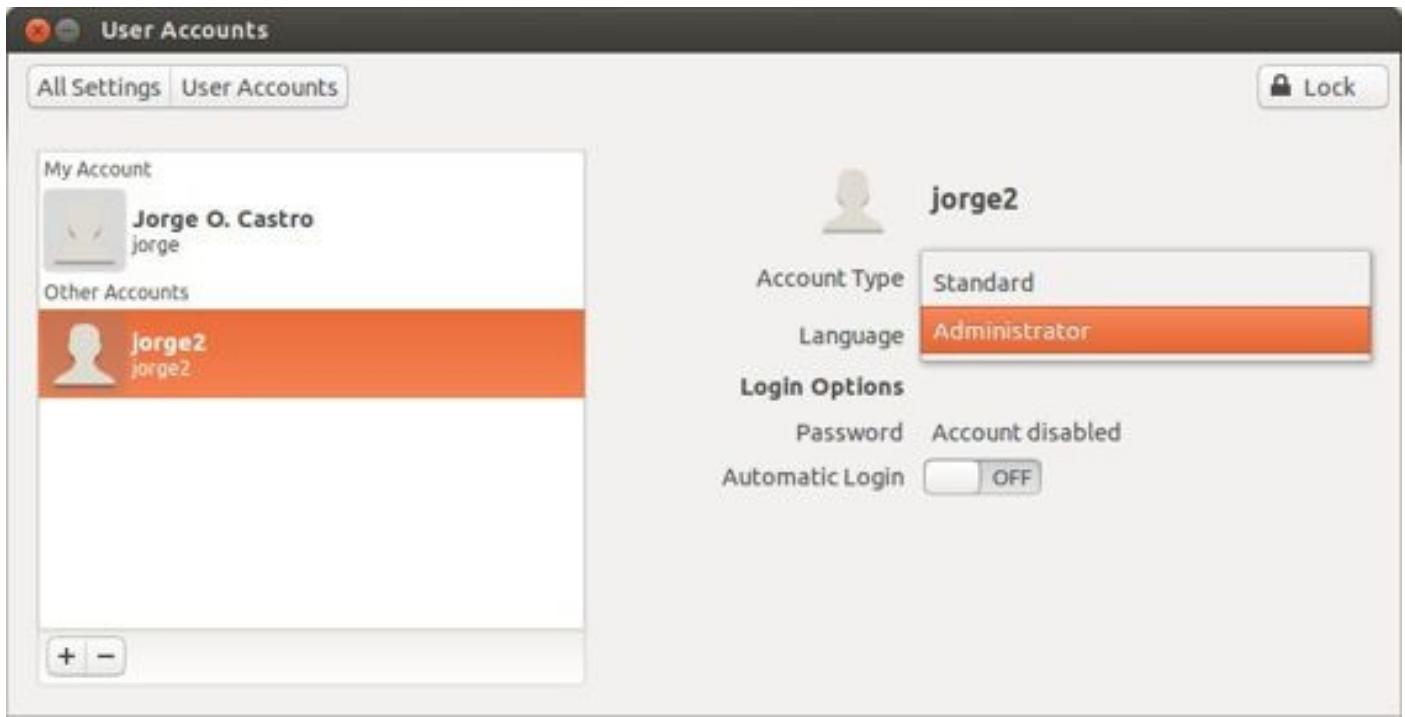
You can either use the user management GUI for it (same place where you create users), or use sudo adduser <username> sudo in the command line.

---

Answer  by [qbi](#)

You can also use a graphical interface. Click on the gear on the top right of the panel, then select “System Settings” and then “User Accounts”

You need to click the little unlock button to be able to edit things in this window. Then click on the person's account and select the proper dropdown for “Account Type”



Tags: [sudo](#) ([Next Q](#))

## [Q: How to avoid using sudo when working in /var/www?](#)

Tags: [sudo](#) ([Next Q](#))

I want to stop having to use sudo everytime I work in /var/www. How can I do that? I simply want to put all of my sites into this directory and work with them without too much pain.

Tags: [sudo](#) ([Next Q](#))

User: [taylorotwell](#)

Answer  by [lekensteyn](#)

Most answers here are not written with security in mind. It's good to get a feeling that running sudo each time is not very wise. If you make a typo (e.g. (**do not execute**) sudo rm -rf / var/www/dir), you might trash your system.

Bad ideas:

- chmod 777 (sagarchalise) - this allows anyone with access to your system write into the directories and files and thereby allowing the intruder to execute any code under the www-data user
- chgrp -R www-data \$HOME (cob) - this allows www-data to read or write any files in the home directory. This is not keeping the Least Privilege rule in mind
- chown -R \$USER:\$USER /var/www (kv1dr) - unless the world has read permissions on /var/www, the webserver running under www-data will not be able to read (serve) the files. If the file is a public-accessible plain HTML document, it might not be an

issue if the world can read the file. But if the file is a PHP file containing passwords, it is.

**NOTE:** in the below solutions, I've granted `www-data` write privileges. However, `/usr/share/doc/base-passwd/users-and-groups.txt.gz` states:

`www-data`

Some web servers run as `www-data`. Web content should not be owned by this user, or a compromised web server would be able to rewrite a web site. Data written out by web servers will be owned by `www-data`.

Where possible, do **not** grant write permissions to the `www-data` group. `www-data` only needs to be able to **read** the files so the webserver can serve it. The only case where `www-data` needs write permissions is for directories storing uploads and other locations which needs to be written.

## Solution 1

Add yourself to the `www-data` group and set the setgid bit on the `/var/www` directory such that all newly created files inherit this group as well.

```
sudo gpasswd -a "$USER" www-data
```

Correct previously created files (assuming you to be the only user of `/var/www`):

```
sudo chown -R "$USER":www-data /var/www
find /var/www -type f -exec chmod 0660 {} \;
sudo find /var/www -type d -exec chmod 2770 {} \;
```

(even safer: use 640 or 2750 and manually `chmod g+w file-or-dir` that needs to be writable by the webserver)

## Solution 2

Create a symlink for each project to your home directory. Say your project is located at `~/projects/foo` and you want to have it located at `/var/www/foo`, run:

```
sudo ln -ST ~/projects/foo /var/www/foo
```

If your home directory has no execute bit (descend) set for other (for security reasons), change the group of it to `www-data`, but **set the execute bit only** (no read/write). Do the same for the `~/projects` folder as it may contain other projects than www. (You don't need sudo if you have previously added your user to the `www-data` group.)

```
sudo chgrp www-data ~ ~/projects
chmod 710 ~ ~/projects
```

Set the group to `www-data` on `~/projects/foo` and allow the webserver to read and write to files and files+directories and descend into directories:

```
sudo chgrp www-data ~/projects/foo
```

```
find ~/projects/foo -type f -exec chmod 660 {} \;
find ~/projects/foo -type d -exec chmod 2770 {} \;
```

Even safer: use 640 and 2750 by default and manually chmod files and directories that need to be writable by the webserver user. The setgid bit should be added only if you want every newly created file in ~/projects/foo to be accessible by the group.

From now on, you can access your site at `http://localhost/foo` and edit your project files in ~/projects/foo.

## See also

- [Permissions issue: how can Apache access files in my Home directory?](#) 
- [Reasons why /var/www should not have chmod 777](#) 

---

**Tags:** [sudo](#) ([Next Q](#))

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## [Q: Error message when I run sudo: unable to resolve host \(none\)](#)

**Tags:** [sudo](#) ([Next Q](#)), [error-handling](#) ([Next Q](#))

I have this issue on AWS on some servers. Whenever I run sudo the terminal is stuck doing seemingly nothing, until it finally spits out this error message. My terminal looks like this:

```
ubuntu@(none):~$ sudo true
sudo: unable to resolve host (none)
```

What can I do to solve it?

**Tags:** [sudo](#) ([Next Q](#)), [error-handling](#) ([Next Q](#))

**User:** [kit-sunde](#)

---

[Answer](#)  by [jeremy-kerr](#)

Two things to check (assuming your machine is called `my-machine`, you can change this as appropriate):

1. That the `/etc/hostname` file contains just the name of the machine.
2. That `/etc/hosts` has an entry for `localhost`. It should have something like:

```
127.0.0.1      localhost.localdomain localhost
127.0.1.1      my-machine
```

If either of these files aren't correct (since you can't sudo), you may have to reboot the machine into recovery mode and make the modifications, then reboot to your usual environment.

---

[Answer](#) by [lekensteyn](#)

[Edit](#) /etc/hosts and add your new host name to the 127.0.0.1 line.

Mine looks like:

```
127.0.0.1      localhost
192.168.2.2    penguin

# The following lines are desirable for IPv6 capable hosts
::1      ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
```

Replace “penguin” in the above example by your new hostname as stated in the /etc/hostname file.

---

[Answer](#) by [thor](#)

**Note, this is an answer to [this question](#) which has been merged with this one.**

Your hostname (dave00-G31M-ES2L) is not represented in /etc/hosts. Add an L to this line:

```
127.0.1.1      dave00-G31M-ES2
```

So it becomes:

```
127.0.1.1      dave00-G31M-ES2L
```

In order to accomplish this, open a console (press Ctrl+Alt+T) and type:

```
sudo gedit /etc/hosts
```

Add the letter L as mentioned, save and exit.

---

**Tags:** [sudo](#) ([Next Q](#)), [error-handling](#) ([Next Q](#))

---

## **Q: How to modify a invalid /etc/sudoers file? It throws out an error and not allowing me to edit again**

**Tags:** [sudo](#) ([Next Q](#))

How do I edit an invalid visudo file?

Here is what happens:

```
$ sudo visudo
>>> /etc/sudoers: syntax error near line 28 <<
sudo: parse error in /etc/sudoers near line 28
sudo: no valid sudoers sources found, quitting
```

**Tags:** [sudo](#) ([Next Q](#))

**User:** [yumyumyum](#)

[Answer](#)  by [eliah-kagan](#)

On a modern Ubuntu system (and many other GNU/Linux distributions), fixing a corrupted sudoers file is actually quite easy, and doesn't require rebooting, using a live CD, or physical access to the machine.

To do this via SSH, log in to the machine and run the command `pkexec visudo`. If you have physical access to the machine, SSH is unnecessary; just open a Terminal window and run that `pkexec` command.

Assuming you (or some other user) are authorized to run programs as `root` with PolicyKit, you can enter your password, and then it will run `visudo` as `root`, and you can fix your `/etc/sudoers`.

If you need to edit one of the configuration files in `/etc/sudoers.d` (which is uncommon in this situation, but possible), use `pkexec visudo -f /etc/sudoers.d/filename`.

If you have a related situation where you have to perform additional system administration commands as `root` to fix the problem (also uncommon in this circumstance, but common in others), you can start an interactive root shell with `pkexec bash`. Generally speaking, any non-graphical command you'd run with `sudo` can be run with `pkexec` instead.

(If there is more than one user account on the system authorized to run programs as `root` with PolicyKit, then for any of those actions, you'll be asked to select which one you want to use, before being asked for your password.)

---

If that doesn't work—for example, if there are no users authorized to run programs as `root` via PolicyKit—then boot from an Ubuntu live CD (like the CD you probably used to install Ubuntu) and mount the filesystem for the installed system. You can do this by running `sudo parted -l` to view your partitions—there is probably just one ext4 partition, and that's the root filesystem.

Suppose the installed Ubuntu system's root filesystem is on `/dev/sda1`. Then you could mount it with `sudo mount /dev/sda1 /mnt`. Then you can edit the installed system's sudoers file with `sudo nano -w /mnt/etc/sudoers`. Or, even better, you can edit it with

```
sudo visudo -f /mnt/etc/sudoers
```

(which will prevent you from saving a sudoers file with incorrect syntax).

---

[Answer](#)  by [caesium](#)

Always use `visudo` to edit your sudoers file, never edit it directly yourself. It will prevent you saving it to disk unless it validates.

---

**Tags:** [sudo](#) ([Next Q](#))

---

**Q: How do I run specific sudo commands without a password?** 

**Tags:** [sudo](#)

On one particular machine I often need to run sudo commands every now n then. I am fine with entering password on sudo in most of the cases.

However there are **three sudo commands** I want to run **without entering password**:

- sudo reboot
- sudo shutdown -r now
- sudo shutdown -P now

How can i exclude these commands from password protection to sudo?

**Tags:** [sudo](#)

**User:** [z9it](#)

---

[Answer](#)  by [mgd](#)

# Use the NOPASSWD directive

You can use the NOPASSWD directive in your [/etc/sudoers file](#).

If your user is called user and your host is called host you could add these lines to /etc/sudoers:

```
user host = (root) NOPASSWD: /sbin/shutdown
user host = (root) NOPASSWD: /sbin/reboot
```

This will allow the user user to run the desired commands on host without entering a password. All other [sudo](#)ed commands will still require a password.

**Note!** Use the command [visudo](#) to edit the sudoers file to make sure you do not lock yourself out of the system just in case you accidentally write something incorrect to the sudoers file.

# Using `/etc/sudoers.d` instead of modifying `/etc/sudoers`

As an alternative to editing the `/etc/sudoers` file, you could add the two lines to a new file in `/etc/sudoers.d` e.g. `/etc/sudoers.d/shutdown`. This is an elegant way of separating different changes to the sudo rights and also leaves the original `sudoers` file untouched for easier upgrades.

**Note!** Again, you should use the command `visudo` to edit the file to make sure you do not lock yourself out of the system:

```
sudo visudo -f /etc/sudoers.d/shutdown
```

This also automatically ensures that the owner and permissions of the new file is set correctly.

# If sudoers is messed up

If you did not use visudo to edit your files and then accidentally messed up /etc/sudoers or messed up a file in /etc/sudoers.d then you will be locked out of sudo.

The solution could be to fix the files using [pkexec](#) which is an alternative to sudo.

To fix /etc/sudoers:

```
pkexec visudo
```

To fix /etc/sudoers.d/shutdown:

```
pkexec visudo -f /etc/sudoers.d/shutdown
```

If the ownership and/or permissions are incorrect for any sudoers file, the file will be ignored by sudo so you might also find yourself locked out in this situation. Again, you can use pkexec to fix this.

The correct permissions should be like this:

```
$ ls -l /etc/sudoers.d/shutdown
-r--r----- 1 root root 86 Jul 16 15:37 /etc/sudoers.d/shutdown
```

Use pkexec like this to fix [ownership and permissions](#):

```
pkexec chown root:root /etc/sudoers.d/shutdown
pkexec chmod 0440 /etc/sudoers.d/shutdown
```

**Tags:** [sudo](#)

[Q: How do I add a user to the “sudo” group?](#)

[Q: How can I add a new user as sudoer using the command line?](#)

[Q: What is the difference between “gksudo nautilus” and “sudo nautilus”?](#)

[Q: How to avoid using sudo when working in /var/www?](#)

[Q: Error message when I run sudo: unable to resolve host \(none\)](#)

[Q: How to modify a invalid /etc/sudoers file? It throws out an error and not allowing me to edit again](#)

[Q: How do I run specific sudo commands without a password?](#)

[Q: Run same command again but as root](#)

[Q: What does `!!` mean in `sudo !!`?](#)

[Q: Can sudo be reinstalled after being removed?](#)

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# Shortcut Keys

## Questions

### [Q: How to make keyboard work like OSX System Wide?](#)

Tags: [shortcut-keys](#) ([Next Q](#))

I switch back and forth between two computers constantly:

- OSX Snow Leopard
- Ubuntu 10.10

I'd like to be able to make Ubuntu use the same keyboard shortcuts as OSX **System Wide**, for the following keyboard sequences only (ie I don't want to make Ctrl act like Super)

- Super+C -> Copy
- Super+V -> Paste
- Super+T -> Open a new tab in whatever browser I'm in.
- Super+W -> Close a tab in whatever browser I'm in.

**So in short, is there anyway for me to map just these keyboard sequences to the following, system wide ?**

- Super+C -> Ctrl+C
- Super+V -> Ctrl+V
- Super+T -> Ctrl+T
- Super+W -> Ctrl+W

I know there are ways for me to do this for vim, and Firefox, and I'm sure specifically for most applications... but I would prefer to have to do this just once and have it work that way *system wide!*

I'm using a standard PC keyboard, that is "Generic 105 key (intl) PC" on Ubuntu. I'm also using the same keyboard on my Mac mini.

Tags: [shortcut-keys](#) ([Next Q](#))

User: [brad-parks](#)

---

[Answer](#)  by [cscarney](#)

If you install the xautomation package, you can add a command in System/Preferences/Keyboard Shortcuts/Custom like:

```
xte "keyup Meta_L" "keyup c" "keydown Control_L" "key c" "keyup Control_L"
```

and map that to Meta-C.

---

Alternative Solution:

Install AutoKey (apt-get install autokey-gtk) and set a phrase to:

```
Phrase Text: <ctrl>+C (actually type out the <ctrl>+ here)
Paste Using: Keyboard
Abbreviation: None
Hotkey: <super>+v
Window Filter: None
```

---

Tags: [shortcut-keys](#) ([Next Q](#))

---

## [Q: Quickly place a window to another screen using only the keyboard](#)

Tags: [shortcut-keys](#) ([Next Q](#)), [window-manager](#) ([Next Q](#)), [multiple-monitors](#) ([Next Q](#))

I know that using Alt-F7, I can use the keyboard to move the window around. I can also use the “Grid” plugin of Compiz to position quickly the window around my current monitor. The grid plugin doesn’t seem work across monitor however.

What I need is a quicker way to move the current window to the other screen. In my current dual-monitor setup, I find myself needing to move the focus window to the other monitor as I focus on working on something else (and move it back afterward).

If I use XMonad (or other tiling managers), this would be rather easy. However, many applications that I use (Gnome Do, MATLAB, image viewers, custom apps that I write, ...) do not work well with a tiling manager.

So my question is: is there a shortcut key combination that moves the currently focused window to the other monitor (and back)?

Tags: [shortcut-keys](#) ([Next Q](#)), [window-manager](#) ([Next Q](#)), [multiple-monitors](#) ([Next Q](#))

User: [dat-chu](#)

---

Answer  by [grizzly](#)

1. Install [CompizConfig Settings Manager](#)

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```
apt-get install compizconfig-settings-manager
```

2. Run it → Go to bottom (Window Management) → Go to “Put”

3. Enable the plugin
4. Configure shortcut for “Put to next Output”

If the plugin *put* doesn't appear in CCSM, install the [compiz-plugins](#)

# Missing Image

package. (`sudo apt-get update && sudo apt-get install compiz-plugins`)

EDIT: The required plugin package is now called compiz-plugins on 12.10 and higher. compiz-plugins-extra is still used for 12.04.

---

**Tags:** [shortcut-keys](#) ([Next Q](#)), [window-manager](#) ([Next Q](#)), [multiple-monitors](#) ([Next Q](#))

---

## Q: How do I remap certain keys or devices?

**Tags:** [shortcut-keys](#) ([Next Q](#)), [xorg](#) ([Next Q](#)), [keyboard](#) ([Next Q](#))

I'm searching for a way to remap certain keys in ubuntu.

i.e.

I'd like to change PgUp to Home or PgDown to End.

Does a built-in command or a tool exist reassign keys in Ubuntu/GNOME?

**Tags:** [shortcut-keys](#) ([Next Q](#)), [xorg](#) ([Next Q](#)), [keyboard](#) ([Next Q](#))

**User:** [nes](#)

---

Answer  by [nes](#)

For remapping certain keys you need two tools. First [xev](#)  (command-line tool) and second [xmodmap](#)  (also command-line tool). Both should be available in Ubuntu without extra installing them.

1. Start terminal window and run xev. Now it's active and waits for you to press a key. Then press the key whose behaviour you want to change. i.e. PgUp.
2. xev will output some information about the pressed key. The third line is important. It should look similar to:

```
state 0x10, keycode 110 (keysym 0xff55, Prior), same_screen YES,
```

in this example **Prior** is the name of the behaviour the key is assigned to at the moment, the number **keycode** is the internal id to recognize the key. Now do this with another key i.e. PgDown give this output

```
state 0x10, keycode 115 (keysym 0xff56, Next), same_screen YES,
```

Here again the interesting part for us is keycode 115 and Next - the name of the behaviour.

3. now when you want to swap the two keys use xmodmap.

```
xmodmap -e "keycode 110 = Next"
```

This changes the key with keycode 110 on your keyboard to the action Next. It's pretty simple.

Note that if the key you are mapping should have a different meaning when used with the Shift key (for example for British keyboard layouts, Shift+2 gives quotation marks) then you can simply list the secondary command after the first. For example if you want the key with code 53 to map to backslash normally, but to the bar symbol when used with shift, you might do:

```
xmodmap -e "keycode 53 = backslash bar"
```

**Note: These change are for the active X session only and will be lost after reboot.  
When you want to save the changes permanently you have to run the following commands after the ones above:**

```
xmodmap -pk >~/ .Xmodmap
```

(it creates a file named .Xmodmap in your home directory (~))

Then you have to create a file named **.xinitrc** in your home directory where you put command xmodmap .Xmodmap in.

source: [Ubuntu Forums](#) 

## Bonus stuff:

If the key you are remapping has different behavior depending on a state ( like how the keys in the numeric keyboard depend on NumLock) you simply have to do `xmodmap -pm` to get a list of modifiers and then do:

```
xmodmap -e "KEYCODE MODIFIER = behaviour behaviour_with_modifier"
```

Suppose, for example, that you want to get a period instead of a comma on the numeric keyboard (useful for most programmers), but you want to keep the “delete” behavior when NumLock is off.

```
xmodmap -e "keycode 91 mod2 = KP_Delete period"
```

mod2, because `xmodmap -pm` tells us that mod2 is `Num_Lock`, the other names are obtained by pressing the keys in `xev`.

---

[Answer](#) by [peter.o](#)

I've just had an afterthought.. I think you may mean something entirely different by “remap”.. but I'll leave my answer as it is... (I don't know how to re-assign one key to behave as another)

**UPDATE:** my ‘afterthought’ has been confirmed; ( I've answered the wrong question :)... please see NES's Community Wiki answer (accepted above).

There are two general ways to `remap` rebinding a key.

- locally to a particular program  
(a key can be used for different things in different apps/windows)
- globally for a specific user  
(a key has the same function in all windows)

For ‘local to a program’ methods, there is sometimes a way to change keybindings offered by the app itself... eg.

Firefox has an addon called [keyconfig](#) ... for some info see this [MozillaZine post](#)

Most Ubuntu programs are Gnome based and there is a specific utility to modify the keybinding for any menu item of these Gnome apps... It is called `Editable Menu Accelerator` ... It is a very ‘touchy’ tool, but quite powerful.. You can enable it by running `gconf-editor` (via Terminal or Alt+F2)... navigate to `desktop—gnome—interface` and select `can_change_accel` .... You can then change menu items to virtual anything you like (per program/window)... I suggest you disable it as soon as you've done what you need..

Otherwise you can set up Global hotkeys. I use a program called [xbindkeys](#)

# Missing Image

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, and there is also an option available via the Main Menu — Preferences, called Keyboard Shortcuts

If you use xbindkeys, you will need to add it to your “Startup Applications” (Main Menu — Preferences) ... Also (as suggested by Stefano Palazzo) I have previously written a more detailed description of xbindkeys in an answer on this [askubuntu page](#) 

---

[Answer](#)  by [casey](#)

If you’re trying to move a Shift key, there are a few extra steps:

```
xmodmap -e "keycode 62 = Up" # Shift => Up
xmodmap -e "keycode 111 = Shift_R" # Up => Shift
xmodmap -e "add shift = Shift_R" # Make the new Shift key actually do shifting
xmodmap -e "remove shift = Up" # Prevent the old Shift key from shifting
xset r 62 # Make the new Up key autorepeat
xset -r 111 # Prevent the new Shift key from autorepeating
```

---

**Tags:** [shortcut-keys](#) (Next Q), [xorg](#) (Next Q), [keyboard](#) (Next Q)

---

## Q: How do I deactivate F1 and F10 keybindings in gnome-terminal?

**Tags:** [shortcut-keys](#) (Next Q), [gnome-terminal](#) (Next Q)

How can I turn off the F1 (help) and F10 (notifications menu) key bindings?

First one I need for screen utility and second to exit mc in console.

There are no such key bindings in the *Keyboard Shortcuts* system settings.

**Tags:** [shortcut-keys](#) (Next Q), [gnome-terminal](#) (Next Q)

**User:** [marko-kevac](#)

---

[Answer](#)  by [alvin-row](#)

# 11.04

## Disabling the F1 shortcut

1. In a gnome-terminal open up *Edit Keyboard Shortcuts*.
2. Scroll down to the *Help/Contents* shortcut, click where it says “F1” and hit Backspace:



## Disabling the F10 shortcut

1. Install the [compizconfig-settings-manager](#)

# Missing Image

package.

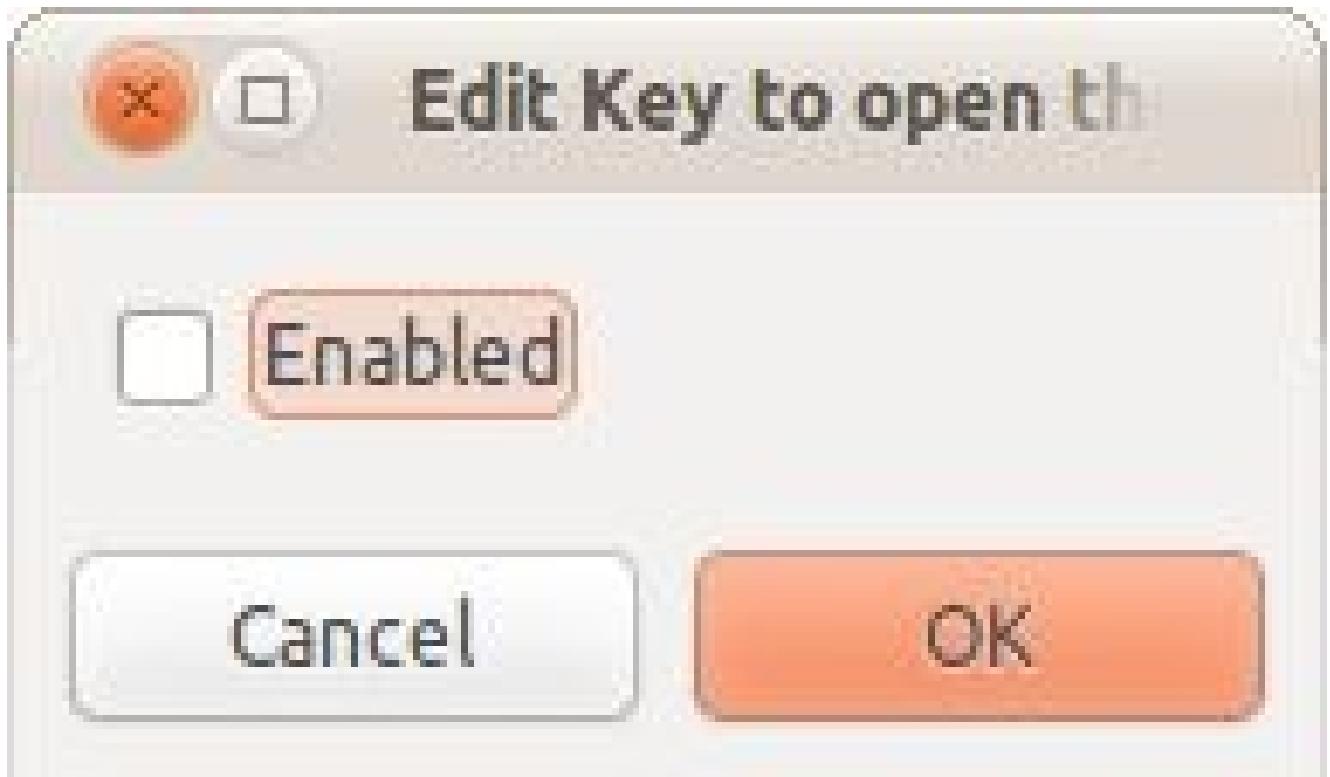
- Warning: [What are some of the issues with ccsm and why should I not use it?](#)

2. Open up *CompizConfig Settings Manager*.

- Hit Super to open the Dash, type “Compiz” and hit Enter.

3. Type “unity” in the *Filter* entry and select the *Ubuntu Unity Plugin*.

4. Click the button to the right of *Key to open the first panel menu* and uncheck the *Enabled* checkbox.



5. That disabled the global F10 shortcut, now disable gnome-terminal’s F10 shortcut:

- In a gnome-terminal open up *Keyboards Shortcuts* (*Edit Keyboard Shortcuts*) and uncheck *Enable the menu shortcut key (F10 by default)*



6. F10 is mapped to menubar\_accel by something in Ubuntu. Gnome? Metacity? Not sure what exact thing it is that steals it, but the key doesn't make it to Eclipse.

- Run gconf-editor, browse to /desktop/gnome/interface then scroll down to menubar\_accel and delete the F10 value. [\[Stolen from here\]](#)

---

[Answer](#) by [paweł-gościński](#)

# Disable F10 in gnome-terminal in 12.04

Type this in the console:

[Skip code block](#)

```
mkdir -p ~/.config/gtk-3.0
cat<<EOF > ~/.config/gtk-3.0/gtk.css

@binding-set NoKeyboardNavigation {
    unbind "<shift>F10"
}

* {
    gtk-key-bindings: NoKeyboardNavigation
}

EOF
```

Then close all terminal sessions. Now it should work as it should (in mc for example).

- <https://bugs.launchpad.net/ubuntu/+source/unity/+bug/726639/comments/18> 
- <https://bbs.archlinux.org/viewtopic.php?pid=1017546#p1017546> 

---

[Answer](#)  by [rinzwind](#)

start gconf-editor and follow /apps/gnome-terminal/keybindings/help

**Configuration Editor - keybindings**

File Edit Bookmarks Help

gedit-2  
gksu  
gnome-power-manager  
gnome-screensaver  
gnome-screenshot  
gnome-search-tool  
gnome-session  
gnome\_settings\_daemon  
gnome-sound-recorder  
gnome-system-log  
gnome-terminal  
  global  
  keybindings  
profiles  
gnomine  
  gucharmap  
  gwd  
  indicator-session  
  mahjongg  
metacity  
nautilus  
gnome-panel

/apps/gnome-terminal/keybindings/help

| Name           | Value                  |
|----------------|------------------------|
| close_tab      | <Ctrl><Shift>w         |
| close_window   | <Ctrl><Shift>q         |
| copy           | <Ctrl><Shift>c         |
| detach_tab     | <no value>             |
| full_screen    | F11                    |
| <b>help</b>    | <b>F1</b>              |
| move_tab_left  | <Ctrl><Shift>Page_Up   |
| move_tab_right | <Ctrl><Shift>Page_Down |
| new_profile    | <no value>             |
| new_tab        | <Ctrl><Shift>t         |
| new_window     | <Ctrl><Shift>n         |
| next_tab       | <Control>Page_Down     |
| paste          | <Ctrl><Shift>v         |

**Key Documentation**

Key name: /apps/gnome-terminal/keybindings/help  
Key owner: gnome-terminal  
Short description: Keyboard shortcut to launch help  
Long description: Keyboard shortcut key for launching help. Expressed as a string in the same format used for GTK+ resource files. If you set the option to the special string "disabled",

Description:

“Keyboard shortcut key for launching help. Expressed as a string in the same format used for GTK+ resource files. If you set the option to the special string “disabled”, then there will be no keyboard shortcut for this action.”

---

Tags: [shortcut-keys](#) ([Next Q](#)), [gnome-terminal](#) ([Next Q](#))

---

## Q: What is the equivalent of ‘Control-Alt-Delete’?

Tags: [shortcut-keys](#) ([Next Q](#)), [process](#) ([Next Q](#))

On Windows anytime the system hangs Ctrl-Alt-Delete brings up the Start Up Manager, from which you can end the program or process causing the hang.

Is there any command like this on Ubuntu?

Tags: [shortcut-keys](#) ([Next Q](#)), [process](#) ([Next Q](#))

User: [mysterio](#)

[Answer](#) by [vincent](#)

System Monitor shows you an overview of running applications (under the Processes tab) and allows you to end them by right-clicking on the name and selecting the respective context menu item. You can set up keyboard shortcuts in the Keyboard settings (Shortcuts tab), so you can bind `ctrl+Alt+Del` to `gnome-system-monitor`, the command to start System Monitor.

Another command you might be interested in is `xkill`. This is traditionally bound to `Ctrl+Alt+Esc` (not sure if by default) and allows you to click on a misbehaving window to close it.

Both of these might not work if your entire system hangs. If that happens, there are two things you can do. The first has to be enabled in advance when your system doesn't hang yet (you could do it right now): open Keyboard Layout settings (I believe this is merged into Keyboard in Ubuntu 12.04, but that hasn't been released yet), then click Options. One of the options is **Key sequence to kill the X server**, you can click that to enable `ctrl+Alt+Backspace`. If you have done that, and your system hangs, you can press `ctrl+Alt+Backspace`, which will effectively bring you back to the login screen.

If even that doesn't work, the last thing you can do is ensuring a sane shutdown (i.e. not pressing and holding the power button). This one is a bit hard to remember, but it involves pressing and holding `Alt+PrtSc` and then press in order `R, E, I, S, U, B` (a mnemonic is Reboot Even If System Utterly Broken).

---

[Answer](#) by [cÃ©dric-julien](#)

To stay in the spirit of magical shortcuts, here are some :

- `ctrl+alt+backspace` combination (disabled on default on 11.10) that can restart the GUI.
- `ctrl+alt+F2` to `F6`, that will display a console from which you could login and then eventually kill the stucked application. Once you killed it you can return to the GUI by pressing `alt-f7`. Killing an application by name can be done by using this command:

```
sudo killall <name-of-the-application>
```

If this doesn't work, use the `-9` flag to kill it with berforce.

```
sudo killall -9 <name-of-the-application>
```

- IN CASE OF EMERGENCY : use the [Magic SysReq Key](#) to directly “speak” to the kernel.

---

**Tags:** [shortcut-keys](#) ([Next Q](#)), [process](#) ([Next Q](#))

---

**Q: How to use Alt+Shift to switch keyboard layouts?** 

**Tags:** [shortcut-keys](#) [keyboard-layout](#) ([Next Q](#))

I recently upgraded to Ubuntu 13.10, with the new keyboard handling system. The little “switch keyboard” option does not let me set it to Alt+Shift. How can I get this keyboard binding, as I have absolutely no interest in using the Mac-esque Super+Space combo?

**Tags:** [shortcut-keys](#) [keyboard-layout](#) ([Next Q](#))

**User:** [rtpg](#)

---

[Answer](#)  by [georgy-ivanov](#)

A confirmed [bug](#)  in Ubuntu 13.10 prevents users from switching layouts using combinations like Alt+Shift, Caps Lock, Ctrl+Shift etc.

The bug affects many people, its importance is set to “High”, so we may expect that an official fix will be released soon. You can [subscribe](#)  to notifications about this bug on launchpad.net, so that you receive an email when it’s done.

Currently, a [patch](#)  aimed at resolving this issue is being tested. By now it seems to work for most users, though certain problems remain. To install the patch, use the following commands:

```
sudo add-apt-repository ppa:attente/modifier-only-input-switch
sudo apt-get update
sudo apt-get upgrade
```

A system reboot was needed in my case to make it work (simple log out and log in may be sufficient).

**Note:** Originally, the patch was located at ppa:attente/1218322. If you have previously installed it from there, you can first purge it as follows

```
sudo ppa-purge ppa:attente/1218322
```

and then execute the three commands above.

Alternatively, you may consider using a combination containing a non-modifier key (a letter, digit, space): try, for instance, Alt+Shift+Space (this will work without installing any patches).

Note that the keyboard shortcuts for switching layouts still do not work on lock screen (it is a [separate bug](#) ). If you are stuck on lock screen and unable to enter the password because of the wrong layout, simply click the language indicator icon on the right of the password field.

---

[Answer](#)  by [radu-r&fdeanu](#)

Many thanks to [William Hua \(attente\)](#)  for his [Modifier-only input switch PPA](#) . As he said, he will keep the PPA up-to-date until a correct fix for [this bug](#)  is released.

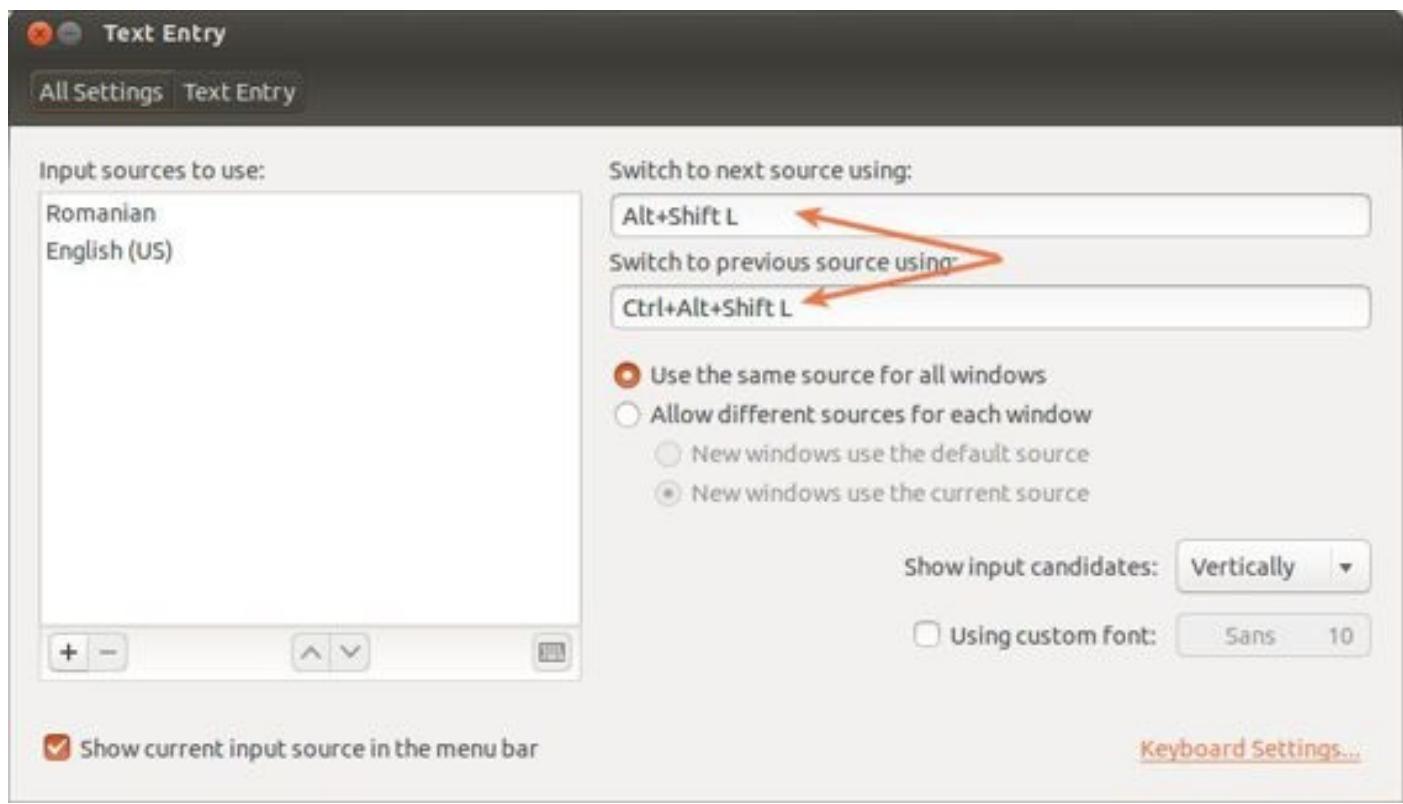
After I added this PPA to my list of sources using the following command:

```
sudo add-apt-repository ppa:attente/modifier-only-input-switch
```

and after I upgraded my system using:

```
sudo apt-get update  
sudo apt-get upgrade
```

I could change the default Super+Space keyboard shortcut to Alt+Shift:



**Tags:** [shortcut-keys](#) [keyboard-layout](#) ([Next Q](#))

[Q: How to make keyboard work like OSX System Wide?](#)

[Q: Quickly place a window to another screen using only the keyboard](#)

[Q: How do I remap certain keys or devices?](#)

[Q: What are Unity's keyboard and mouse shortcuts?](#)

[Q: How do I deactivate F1 and F10 keybindings in gnome-terminal?](#)

[Q: What is the “show desktop” keyboard shortcut?](#)

[Q: How can I set default terminal used in Unity?](#)

[Q: What is the equivalent of ‘Control-Alt-Delete’?](#)

[Q: How do I modify or disable the HUD’s use of the Alt key?](#)

[Q: How to use Alt+Shift to switch keyboard layouts?](#)

# Filesystem

## Questions

### [Q: Why is defragmentation unnecessary?](#)

Tags: [filesystem](#) ([Next Q](#))

Why is defragmenting unnecessary in Ubuntu?

Tags: [filesystem](#) ([Next Q](#))

User: [zango](#)

---

[Answer](#)  by [dave-child](#)

The underlying filesystems used by Ubuntu, like ext2 and ext3, simply don't need defragmenting because they don't fragment files in the same way as NTFS. There are more details at [ext3 - Wikipedia, the free encyclopedia](#) 

---

[Answer](#)  by [popey](#)

Some argue that it's actually a myth that we don't need defragmentation. It's argued that we do in fact need it, but only once the filesystem gets pretty full (i.e. less than ~10% free space). Tools *are* available for defragging such as e2defrag.

---

[Answer](#)  by [eduard-grebe](#)

Fragmentation is the product of writing files in the first available open blocks on a drive. Over time, as files get created and deleted, small sections of disk open up, which causes newly written files to be split over several such openings. This can reduce performance, although it was much more of a problem in the past with slow hardware and slow disks.

The default filesystem in Ubuntu, ext4 (and until recently, ext3) are designed to limit fragmentation of files as far as possible. When writing files, it tries to keep the blocks used sequential or close together. This renders defragmentation effectively unnecessary.

---

Tags: [filesystem](#) ([Next Q](#))

---

### [Q: How to find \(and delete\) duplicate files](#)

Tags: [filesystem](#) ([Next Q](#))

I have a largish music collection and there are some duplicates in there. Is there any way to find duplicate files. At a minimum by doing a hash and seeing if two files have the

same hash.

Bonus points for also finding files with the same name apart from the extension - I think I have some songs with both mp3 and ogg format versions.

I'm happy using the command line if that is the easiest way.

**Tags:** [filesystem](#) ([Next Q](#))

**User:** [hamish-downer](#)

---

[Answer](#) by [qbi](#)

I use [fdupes](#) for this. It is a commandline program. You can call it like `fdupes -r /dir/ect/ory` and it will print out a list of dupes. fdupes has also a [Wikipedia article](#), which lists some more programs.

---

[Answer](#) by [dominik](#)

[FSlint](#) has a GUI and some other features. The explanation of the duplicate checking algorithm from their FAQ:

1. exclude files with unique lengths
2. handle files that are hardlinked to each other
3. exclude files with unique md5(first\_4k(file))
4. exclude files with unique md5(whole file)
5. exclude files with unique sha1(whole file) (in case of md5 collisions).

[Answer](#) by [v2r](#)

**List of programs/scripts/bash-solutions, that can find duplicates and run under nix:**

[dupedit](#) - Compares many files at once without checksumming. Avoids comparing files against themselves when multiple paths point to the same file.

[dupmerge](#) - runs on various platforms (Win32/64 with Cygwin, \*nix, Linux etc.)

[dupseek](#) - Perl with algorithm optimized to reduce reads.

[fdf](#) - Perl/c based and runs across most platforms (Win32, \*nix and probably others). Uses MD5, SHA1 and other checksum algorithms

[freedups](#) - shell script, that searches through the directories you specify. When it finds two identical files, it hard links them together. Now the two or more files still exist in their respective directories, but only one copy of the data is stored on disk; both directory entries point to the same data blocks.

[fslint](#) - has command line interface and GUI.

[liten](#) - Pure Python deduplication command line tool, and library, using md5 checksums and a novel byte comparison algorithm. (Linux, Mac OS X, \*nix, Windows)

[liten2](#) - A rewrite of the original Liten, still a command line tool but with a faster interactive mode using SHA-1 checksums (Linux, Mac OS X, \*nix)

[rdfind](#) - One of the few which rank duplicates based on the order of input parameters (directories to scan) in order not to delete in “original/well known” sources (if multiple directories are given). Uses MD5 or SHA1.

[rmlint](#) - Fast finder with command line interface and many options to find other lint too (uses MD5)

[ua](#) - Unix/Linux command line tool, designed to work with find (and the like).

[findrepe](#) - free Java-based command-line tool designed for an efficient search of duplicate files, it can search within zips and jars.(GNU/Linux, Mac OS X, \*nix, Windows)

[fdupes](#) - a small script written in Perl. Doing its job fast and efficiently.[1](#)

[ssdeep](#) - identify almost identical files using Context Triggered Piecewise Hashing

---

**Tags:** [filesystem](#) ([Next Q](#))

---

## [Q: What is the difference between /etc/init/ and /etc/init.d/?](#)

**Tags:** [filesystem](#) ([Next Q](#))

What is the difference between /etc/init/ and /etc/init.d/? More generally, what meaning does the “.d” suffix convey to a directory?

**Tags:** [filesystem](#) ([Next Q](#))

**User:** [olivier-lalonde](#)

---

[Answer](#) by [gilles](#)

/etc/init.d contains scripts used by the System V init tools (SysVinit). This is the traditional service management package for Linux, containing the `init` program (the first process that is run when the kernel has finished initializing) as well as some infrastructure to start and stop services and configure them. Specifically, files in /etc/init.d are shell scripts that respond to `start`, `stop`, `restart`, and (when supported) `reload` commands to manage a particular service. These scripts can be invoked directly or (most commonly) via some other trigger (typically the presence of a symbolic link in /etc/rc?.d/).

/etc/init contains configuration files used by Upstart. Upstart is a young service management package championed by Ubuntu. Files in /etc/init are configuration files telling Upstart how and when to start, stop, reload the configuration, or query the status of a service. As of lucid, Ubuntu is transitioning from SysVinit to Upstart, which explains why many services come with SysVinit scripts even though Upstart configuration

files are preferred. In fact, the SysVinit scripts are processed by a compatibility layer in Upstart.

.d in directory names typically indicates a directory containing many configuration files or scripts for a particular situation (e.g. /etc/apt/sources.list.d contains files that are concatenated to make a virtual sources.list; /etc/network/if-up.d contains scripts that are executed when a network interface is activated). This structure is usually used when each entry in the directory is provided by a different source, so that each package can deposit its own plug-in without having to parse a single configuration file to reference itself. In this case, it just happens that init is a logical name for the directory, SysVinit came first and used init.d, and Upstart used plain init for a directory with a similar purpose (it would have been more mainstream, and perhaps less arrogant, if they'd used /etc/upstart.d instead).

not counting initrd

---

**Tags:** [filesystem](#) ([Next Q](#))

---

## **Q: How can I securely erase a hard drive?**

**Tags:** [filesystem](#) ([Next Q](#))

I'm planning on selling a USB external hard drive that currently contains an old Ubuntu installation with stored passwords and banking information.

How can I securely erase the drive before selling it?

**Tags:** [filesystem](#) ([Next Q](#))

**User:** [AndrÃ¼k](#)

---

[Answer](#)  by [frxstrem](#)

# Securely erasing a storage device

There's a command-line utility in Ubuntu called `shred`, which overwrites data in a file or on a device with random bits and bytes, making it nearly impossible to recover.

First of all, you need to identify the name of the device. This might be something like `/dev/sdb` or `/dev/hdb` (but not like `/dev/sdb1`, as that's a partition on that device). You can use `sudo fdisk -l` to list all connected storage devices, and try to find your external hard drive there. **Make sure that this is the correct device, as picking the wrong device will erase data on that device instead.** Make sure to unmount all currently mounted partitions on that device, if any.

Then type:

```
sudo shred -v /dev/sdb
```

(replacing `/dev/sdb` with the name of your device). `shred` would then overwrite all the data on the device with random data three times. You can add the option `-nN` to only do this  $N$  times, to save time on large capacity devices. This might take a while, depending on the size of your external hard drive (I think it takes twenty minutes or so for my 4 GB flash drive).

You can also set all bits to zero after the last iteration by adding the option `-z` - I prefer to do this.

After this, you would have to repartition the device. The easiest way is to install GParted and use it:

```
sudo apt-get install gparted  
gksu gparted
```

Choose your device in the upper-right corner list. Then select **Device -> Create partition table** to create a partition table on the device.

Then add a single partition that uses all of the unallocated space on the device, choosing `fat32` as the file system. Apply the changes by click the **Apply** button (the green checkmark) in the toolbar.

# Tips

- Read the manpage for shred [here](#) or by typing `man shred` in the terminal.
- 

[Answer](#) by [htorque](#)

Just ‘zero’ it using the dd tool:

1. Start the Disk Utility via System > Administration > Disk Utility
2. Find your disk in the left panel, select it, and on the right find the device path (eg. `/dev/sdb`)
3. Run the following command from a gnome-terminal (Applications > Accessories > Terminal):

```
sudo dd if=/dev/zero of=/dev/sdb bs=1M
```

Make sure you use the right device path and **not** just copy this line!

This will overwrite the whole disk with zeros and is considerably faster than generating gigabytes of random data. Like all the other tools this won’t take care of blocks that were mapped out for whatever reason (write errors, reserved, etc.), but it’s highly unlikely your buyer will have the tools and the knowledge to recover anything from those blocks.

PS: Before you Bruce Schneier fanboys downvote me: I want proof that it’s possible to recover data from a non-ancient rotational hard drive that has been overwritten with zeros. Don’t even think about commenting otherwise! :P

---

[Answer](#) by [rory-alsop](#)

Have a look at this definitive question on Security Stack Exchange

[How can I reliably erase all information on a hard drive](#)

This discusses various secure deletion options, along with physical destruction and wiping so you can decide which option may be your best bet.

Remember though that the current recovery status for different storage is as follows:

- Very old hard drives: there were gaps between tracks so you could potentially pick up bleed into these gaps (if you had a scanning electron microscope handy). Overwriting multiple times was potentially useful.
- New hard drives: no technology currently exists that can read after even one overwrite.
- Solid state hard drives: wear levelling means you cannot overwrite securely. Instead you either encrypt the entire volume and dispose of the key to wipe, or you destroy the device.

Tags: [filesystem](#) ([Next Q](#))

---

## [Q: How is the /tmp directory cleaned up?](#)

Tags: [filesystem](#) ([Next Q](#))

How is the /tmp directory cleaned up? Is it automatic? If so, how frequently is it cleaned up?

Tags: [filesystem](#) ([Next Q](#))

User: [olivier-lalonde](#)

---

[Answer](#)  by [max](#)

The directory is cleared by default at every boot, because TMPTIME is 0 by default.

Here you can change the time in the following file:

`/etc/default/rcS`

TMPTIME says how frequent the tmp dir sould be cleared in days

---

[Answer](#)  by [hhlp](#)

While the /tmp folder is not a place to store files long-term, occasionally you want to keep things a little longer than the **next time you reboot**, which is the default on Ubuntu systems. I know a time or two Ive downloaded something to /tmp during testing, rebooted after making changes and then lost the original data again. This can be changed if youd like to keep your /tmp files a little bit longer.

### **Changing the /tmp Cleanup Frequency**

The default setting that tells your system to clear /tmp at reboot is held in the /etc/default/rcS file. The value well look at is TMPTIME.

The current value of TMPTIME=0 says delete files at reboot despite the age of the file. Changing this value to a different (positive) number will change the number of days a file can survive in /tmp.

`TMPTIME=7`

This setting would allow files to stay in /tmp until they are a week old, and then delete them on the next reboot. A negative number (TMPTIME=-1) tells the system to never delete anything in /tmp. This is probably not something you want, but is available.

---

[Answer](#)  by [lesmana](#)

The cleaning of /tmp is done by the upstart script /etc/init/mounted-tmp.conf. The script is run by upstart everytime /tmp is mounted. That basically means at every boot.

The script does roughly the following: if a file in /tmp is older than \$TMPTIME days it will be deleted.

`$TMPTIME` is an environment variable defined in `/etc/default/rcs`. The default value of `$TMPTIME` is 0, which means every file and directory in `/tmp` gets deleted.

---

**Tags:** [filesystem](#) ([Next Q](#))

---

## **Q: Why has `/var/run` been migrated to `/run`?**



**Tags:** [filesystem](#) ([Next Q](#))

From the [technical overview of Ubuntu 11.10 Oneiric](#):

Ubuntu 11.10 has migrated away from `/var/run`, `/var/lock` and `/dev/shm` and now uses `/run`, `/run/lock` and `/run/shm` instead (respectively).

- I hardcode these paths in my applications, why is this change made to Oneiric?
- What can I do to make my applications backwards- and forward-compatible? Is there a better way other than checking first for the existence of `/run`, and then `/var/run`?

**Tags:** [filesystem](#) ([Next Q](#))

**User:** [lekensteyn](#)

---

[Answer](#) by [james-henstridge](#)

The intent is to reduce the number of `tmpfs` file systems. On 11.04, there are separate `tmpfs` file systems at `/var/lock`, `/var/run` and `/dev/shm`. If these directories were all under a single parent directory, then only a single `tmpfs` would be needed. It also provides an obvious location for further runtime state data that shouldn't persist over reboots.

Unless your application depends on canonical paths of files, your application should run without modification since the old locations will be symlinked to the new ones. The AppArmor policies are one case that does depend on the real path names, which is why it was mentioned specifically.

The following links should help explain the rationale:

- <http://lists.fedoraproject.org/pipermail-devel/2011-March/150031.html>
  - [https://bugs.linuxfoundation.org/show\\_bug.cgi?id=718](https://bugs.linuxfoundation.org/show_bug.cgi?id=718)
  - <https://lists.linuxfoundation.org/pipermail-fhs-discuss/2011-May/000061.html>
  - <http://wiki.debian.org/ReleaseGoals/RunDirectory>
- 

[Answer](#) by [rinzwind](#)

1. `/run` is a new cross-distribution `tmpfs` location for the storage of transient state files that is, files containing run-time information that may or may not need to be written early in the boot process and which does not require preserving across reboots.

Making the `/run` directory available brings us a step closer to the point where it is possible to use the system normally with the root filesystem mounted read-only, without requiring any clunky workarounds such as aufs/unionfs overlays.

`/run` replaces several existing locations described in the Filesystem Hierarchy Standard:

- `/var/run /run`
- `/var/lock /run/lock`
- `/dev/shm /run/shm` [currently only Debian plans to do this]
- `/tmp /run/tmp` [optional; currently only Debian plans to offer this]
- `/run` also replaces some other locations that have been used for transient files:
- `/lib/init/rw /run`
- `/dev/.*/run/*`
- `/dev/shm/* /run/*`
- writable files under `/etc /run/*`

(so you probably can expect these to move aswell).

Source:[debian release goals](#) 

2. I would advice on creating a part in your software where you set these directories in variables, change your code to use these variables and then alter the variables based on the system it is used on (but I bet you knew that already).

---

Tags: [filesystem](#) ([Next Q](#))

---

## [Q: How to understand the Ubuntu file system layout?](#)

Tags: [filesystem](#)

In Windows therere perhaps only a couple of important folders (by important I mean important in my logical picture of the Windows file system) in the installation drive (in my case `c:\`). Namely `Program Files` and `windows`. I simply stay away from `windows` folder and the add remove program files is good enough to handle the `program files` folder of Windows. Of course theres a folder named `users` where the users (who are not admins) can access only their folders.

Thus theres a clear picture at some level in my mind of the Windows file system. In Ubuntu, when I reach the location `/`, theres a huge list of folders, most of which I have no clue as to what they contain. The `/bin` folder seems to be the equivalent of the `windows` folder in windows. The `/usr` folder seems like its the equivalent of the `users` folder in Windows. But even the `/home` folder looks like it can fit the bill.

Please understand that I do understand, that Ubuntu (Linux) has a different character than that of Windows, i.e., there need not be exact equivalent of Windows functions, in Ubuntu. All I am looking for is a bit more clearer picture of the Ubuntu file system.

This question is a part of a bigger question which I am splitting up to make it more answerable. The original question can be found here:

<http://sgsawant.wordpress.com/2012/05/17/whats-the-equivalent-of-add-or-remove-programs-in-ubuntu/>

**Tags:** [filesystem](#)

**User:** [shashank-sawant](#)

---

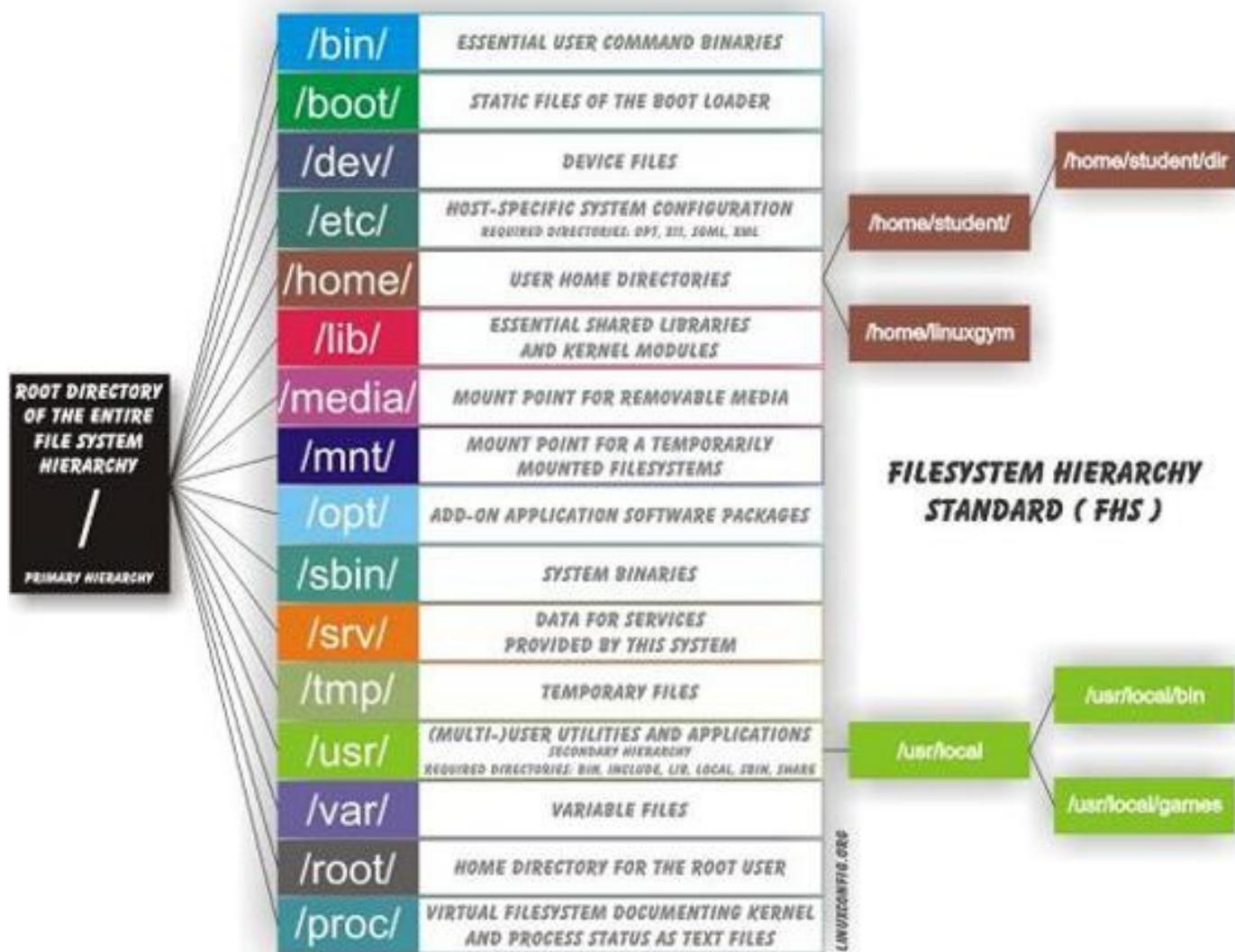
[Answer](#) by [rinzwind](#)

You can read up on this on for instance wikipedia. An excerpt:

The [Filesystem Hierarchy Standard](#) (FHS) defines the main directories and their contents in Linux operating systems. For the most part, it is a formalization and extension of the traditional BSD filesystem hierarchy.

The FHS is maintained by the Linux Foundation, a non-profit organization consisting of major software and hardware vendors, such as HP, Red Hat, IBM and Dell. The current version is 2.3, announced on January 29, 2004.

A visual representation with a short description:



Basically Linux has divided the directory structure based on the function of what is needed to make the system as secure as possible with the minimum amount of permissions

needed. Otherwise someone is bound to have to do a lot of avoidable work.

Remember that Unix and Linux were made as multi-user systems and Windows was created for a single user. Everything else can be explained from that idea. You can explain every directory when thinking about it being multi-user and security.

3 examples:

- You will see that files and directories that are admin only are gathered in the same directory: the s in /sbin and /usr/sbin and /usr/local/sbin stands for system. A normal user can not even start programs that are in there. Files a normal user can start are in /bin, /usr/bin, /usr/local/bin based on where it most logically should reside. But if they are admin only they should go to the s version of that directory. There is a famous utility called fuser. You can kill processes with it. If a normal user could use this (s)he would be able to kill your session.
- The same goes for /home: /home/user1 is property of user1. /home/user2 is property of user2. user2 has no business doing stuff in user1's home (and the other way around is also true: user1 has no business doing stuff in user2's home). If all the files would be in /home with no username underneath it you would have to give permissions to every file and assess if someone is allowed to write/remove those files. A nightmare if you have tens of users.
- [Addition](#) regarding libraries.

/lib/, /usr/lib/, and /usr/local/lib/ are the original locations, from before multilib systems existed and they exist to prevent breaking things. /usr/lib32, /usr/lib/64, /usr/local/lib32/, /usr/local/lib64/ are 32-/64-bit multilib inventions.

It is not a static concept by any means. Other Linux flavours made tweaks to this layout. For instance; currently you will see [debian and Ubuntu](#) changing a lot in the layout of the FHS since SSD is better off with read only files. There is a movement towards a new layout where files are split into a 'read only' and a 'writable' directory/group so we can have a root partition that can be mounted read only (partition for a ssd) and writable (sata hdd). The new directory that is used for this (not in the image) is /run/.

---

[Answer](#) by [pritesh-wadhia](#)

Give this command a try...

```
man hier
```

---

Hope it helps

---

[Answer](#) by [mtk](#)

This following text shows the directory structure.

[Skip code block](#)

```
mtk4@laptop:/$ pwd  
/  
mtk4@laptop:/$ tree -L 1  
.
```

```
|- bin
|- boot
|- cdrom
|- dev
|- etc
|- home
|- lib
|- lost+found
|- media
|- mnt
|- opt
|- proc
|- root
|- run
|- sbin
|- selinux
|- srv
|- sys
|- tmp
|- usr
|- var
```

The main components here are:

1. `/boot` : Contains the boot loader
2. `/home` : Contains the home directories of users.
3. `/bin` : All the executable binaries and commands used by all the users on the system are located here.
4. `/sbin` : This contains the system executable binaries typically used by system administrators.
5. `/lib` : Contains the system libraries that support the binaries in `/bin` and `/sbin`.
6. `/etc` : Contains the configuration files for network, boot-time, etc.
7. `/dev` : This has the device files i.e. usb, terminal device or any other device attached to the system are shown here.
8. `/proc` : Contains information about the process running.
9. `/tmp` : This is the temporary directory where many processes create the temporary files required. This is purged each time the machine is booted.

For more details, [Thegeekstuff](#) link perfectly explain the generic linux file-system.

---

**Tags:** [filesystem](#)

---

[\*\*Q: Why is defragmentation unnecessary?\*\*](#)

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[\*\*Q: How do I determine the total size of a directory \(folder\) from the command line?\*\*](#)

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[\*\*Q: How to find \(and delete\) duplicate files\*\*](#)

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[\*\*Q: What is the difference between `/etc/init/` and `/etc/init.d/`?\*\*](#)

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[\*\*Q: How can I securely erase a hard drive?\*\*](#)

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[Q: How is the /tmp directory cleaned up?](#)

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[Q: Why has /var/run been migrated to /run?](#)

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[Q: How to understand the Ubuntu file system layout?](#)

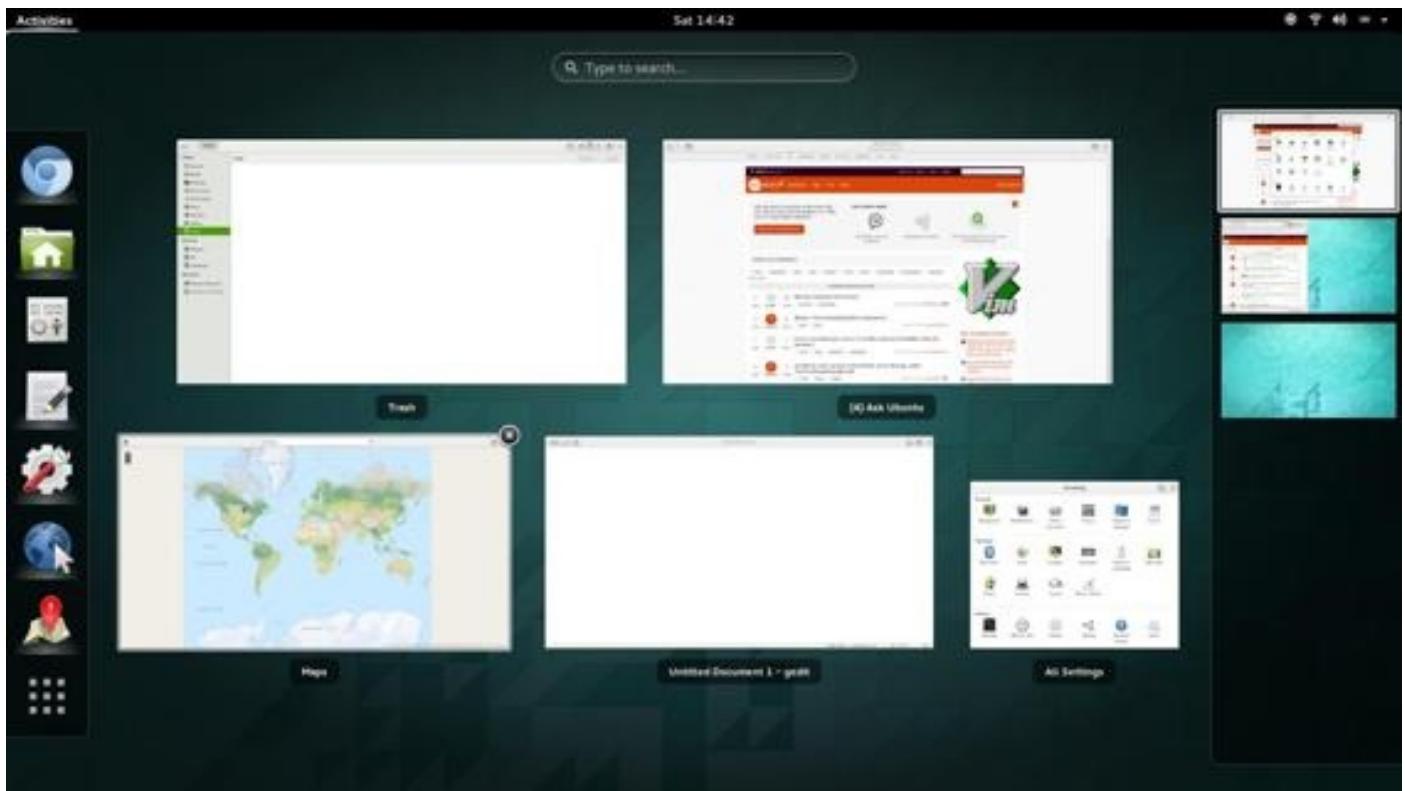
---

[Q: Differences between /bin, /sbin, /usr/bin, /usr/sbin, /usr/local/bin, /usr/local/sbin](#)

---

# GNOME

[Skip to questions](#), Wiki by user [8128](#)



GNOME-Shell, is probably the most well-known DE available and is a GTK-based desktop environment.

# Use of the tag

Use it when asking about the the Desktop Environment GNOME as whole, how to run non-native gnome applications in GNOME, general configuration and behavior change.

If you want to ask about [nautilus](#) or some other GNOME application, use that as tag instead.

# Key Features

- **Automatic Workspace management**

At any given moment, it only keeps open as many workspaces as you have active windows on, plus an extra empty one to start more windows. When you remove all the windows from a workspace, that workspace will be removed until you need it again.

- **Extensions**

An unique features to GNOME Shell's and its functionality and interface can be extended or modified through the use of extensions. For more information on how to install these extensions, see [How to install GNOME Shell extensions](#).

- **Messaging Tray**

It provides a uniform interface for messages, notifications, and alerts. Allow the user to stay focused on the primary task and have controllable information display. It also provides a lightweight interface to background operations.

# **System Requirements**

| Required | Recommended |
|----------|-------------|
|----------|-------------|

|           |             |                         |
|-----------|-------------|-------------------------|
| Processor | 1 GHz (x86) | Better than 1 GHz (x86) |
|-----------|-------------|-------------------------|

|        |        |      |
|--------|--------|------|
| Memory | 768 MB | 1 GB |
|--------|--------|------|

|                     |      |       |
|---------------------|------|-------|
| Hard drive capacity | 7 GB | 10 GB |
|---------------------|------|-------|

|            |               |                |
|------------|---------------|----------------|
| Video card | VGA @ 640x480 | VGA @ 1024x768 |
|------------|---------------|----------------|

## How to install

Click this link to install the [gnome-shell](#)

# Missing Image

package, find it in the Ubuntu Software Center, or type `sudo apt-get install gnome-shell` in a terminal. There are more instructions [here](#)

But it is recommended to install it from the official image (.iso) that can be downloaded at [this page](#)

# Sources

- <https://ask.fedoraproject.org/en/question/7322/do-i-have-appropriate-hardware-for-gnome/> 
  - [https://wiki.ubuntu.com/TrustyTahr/ReleaseNotes/UbuntuGNOME#Known\\_Issues](https://wiki.ubuntu.com/TrustyTahr/ReleaseNotes/UbuntuGNOME#Known_Issues) 
  - <https://wiki.ubuntu.com/UbuntuGNOME> 
  - [What are the system requirements for Gnome 3?](https://ask.fedoraproject.org/en/question/7322/do-i-have-appropriate-hardware-for-gnome/) 
  - <https://wiki.gnome.org/Projects/GnomeShell/Design/Guidelines/MessageTray> 
-

# Questions

## [Q: Desktop doesn't remember brightness settings after a reboot](#)

**Tags:** [gnome](#) ([Next Q](#)), [brightness](#) ([Next Q](#))

Every time I reboot my machine the brightness goes back to 100% in Gnome. I wish it would keep the last setting. Is there anyway?

**Tags:** [gnome](#) ([Next Q](#)), [brightness](#) ([Next Q](#))

**User:** [decio-lira](#)

---

[Answer](#)  by [levesque](#)

This is supposed to be configurable in the energy options, set the brightness to the desired level and it will always be used. If you use a laptop you will also need to configure the level for battery mode as well...

I found that Gnome has some issues about lcd panel brightness, e.g. if I run on battery mode and set the brightness manually to a given level and leave the laptop unattended for 10 seconds it will go back to the preset brightness when I take control back. Same goes when on A/C mode except it takes longer so goes unnoticed more easily. I believe all those settings should be saved somewhere and restored - at least for A/C mode.

EDIT: For gnome3 this does not work (at least for me).

---

[Answer](#)  by [dolhow](#)

The file /etc/rc.local should look like this:

[Skip code block](#)

```
#!/bin/sh -e
#
# rc.local
#
# This script is executed at the end of each multiuser runlevel.
# Make sure that the script will "exit 0" on success or any other
# value on error.
#
# In order to enable or disable this script just change the execution
# bits.
#
# By default this script does nothing.
echo 0 > /sys/class/backlight/acpi_video0/brightness
exit 0
```

Per @zerdo: In my dell studio 1558 the brightness setting is stored in /sys/class/backlight/intel\_backlight/brightness. Just change the path if your computer doesn't use the acpi\_video0 folder.

Also, per @Nick : If this is the only answer you read, note that the 0 in echo 0 is going to be your default brightness setting. I had set this up and it was driving me crazy for a long

time : every time I booted up, it would set it to the lowest brightness setting. I prefer mine to start at max brightness, so I used echo 10 instead. Your hardware might vary in brightness scale.

---

[Answer](#)  by [bodhi.zazen](#)

This function, the backlight control, is dependent on your bios and kernel version.

Try these four things.

# Kernel (boot) options

When you boot, at the grub screen, hit e to edit. To the kernel line add nomodeset acpi\_backlight=vendor Some hardware may work with different options.

Intel - nomodeset acpi\_backlight=intel Acer - acpi\_backlight=acer\_acpi or even acpi\_osi=Linux acpi\_backlight=legacy.

As you can see, you may need to google search for your settings.

```
quiet splash nomodeset acpi_backlight=vendor
```

If that works, edit /etc/default/grub and add those options to the default options.

```
# command line  
sudo -e /etc/default/grub
```

```
# graphical  
gksu gedit /etc/default/grub
```

Edit the “GRUB\_CMDLINE\_LINUX\_DEFAULT” line so it looks like this

```
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash nomodeset acpi_backlight=vendor"
```

Save your edit, update grub

```
sudo update-grub
```

# Command line

If that does not work, you can try to manually set the brightness.

**Note:** Path may vary with hardware / kernel version, may be /proc/acpi/video0..., you may need to browse the /proc/acpi directory to find the brightness setting and adjust the following commands accordingly.

```
cat /proc/acpi/video/VGA/LCD/brightness
```

The output of that command varies a bit with hardware, 1 -> 10 , 1 -> 12 , 1 -> 100 ???  
Choose a value and set it (choose the value for your hardware).

```
sudo echo 80 > /proc/acpi/video/VGA/LCD/brightness
```

If that works, add it to /etc/rc.local

```
# command line  
sudo -e /etc/rc.local  
  
# graphical  
gksu gedit /etc/rc.local
```

Add in your setting above “exit 0”

```
echo 80 > /proc/acpi/video/VGA/LCD/brightness
```

# xbacklight

You can also try xbacklight

```
sudo apt-get install xbacklight
```

You then adjust with the command line

```
# For 80 % brightness  
xbacklight -set 80
```

Again, add that to /etc/rc.local

```
# command line  
sudo -e /etc/rc.local  
  
# graphical  
gksu gedit /etc/rc.local
```

Add in, above “exit 0”

```
xbacklight -set 80
```

# setpci

You can try to set your brightness with setpci

The general syntax is

```
sudo setpci -s <address> f4.B=your_setting
```

You identify your pci bus address with

```
sudo lspci | grep VGA
```

Example

```
00:02.0 VGA compatible controller: Cirrus Logic GD 5446
```

```
setpci -s 00:02.0 F4.B=80
```

If you get your setting wrong, most likely you will just loose your display, and have to reboot. As this is a hardware setting, you really need to identify your hardware and research the settings first.

Examples

Intel - <https://bbs.archlinux.org/viewtopic.php?id=74914>

Toshiba - <http://www.linlap.com/wiki/toshiba+satellite+t130>

Acer extensa - <https://bugs.launchpad.net/ubuntu/+source/linux/+bug/518002>

[Ubuntu man page setpci](#)

---

**Tags:** [gnome](#) ([Next Q](#)), [brightness](#) ([Next Q](#))

---

## Q: Desktop forgets theme?

**Tags:** [gnome](#) ([Next Q](#)), [themes](#) ([Next Q](#))

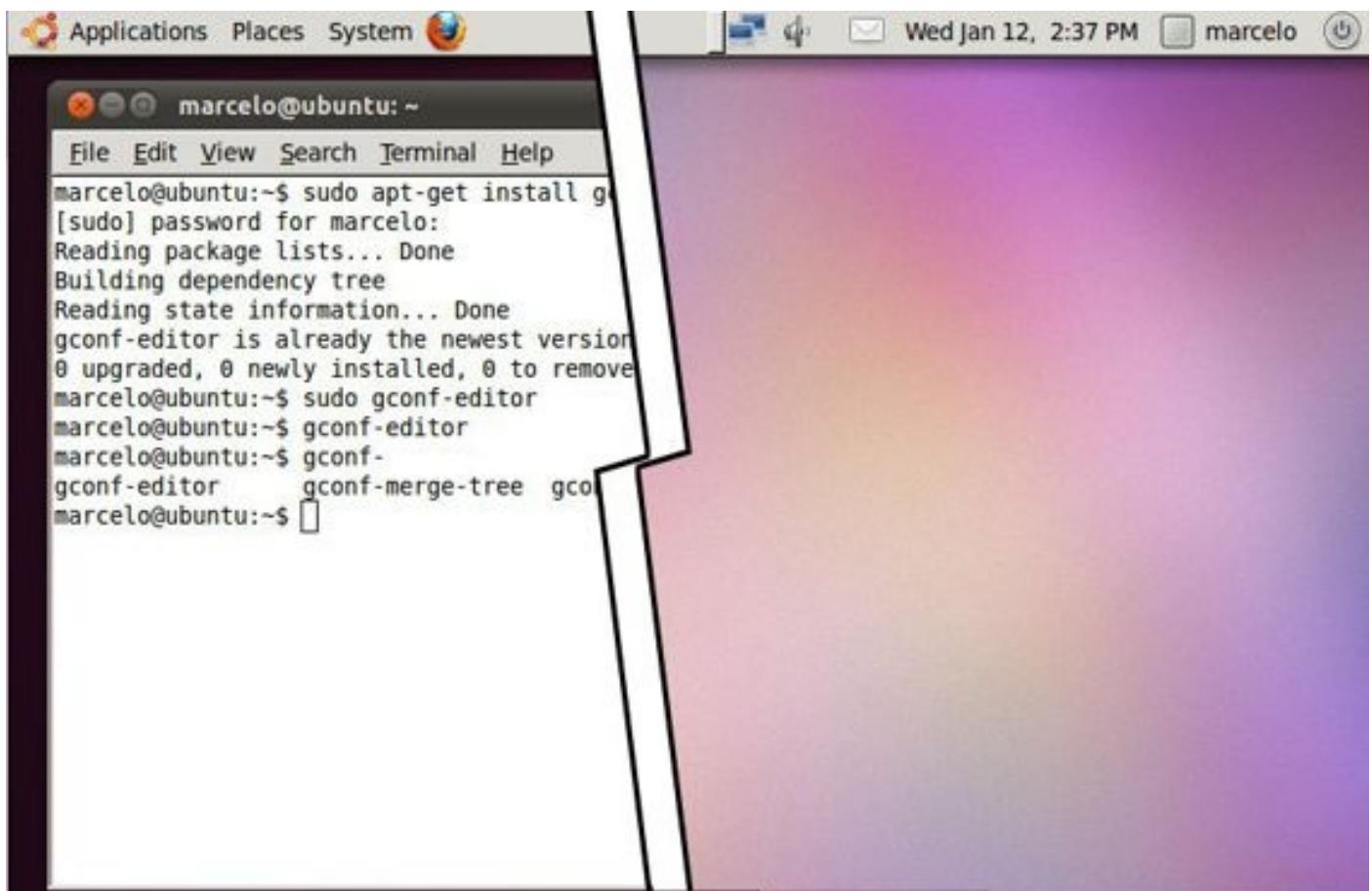
I am running Ubuntu in VirtualBox (on a Windows 7 host). Several times now, the top-level menu bar, the task bar and seemingly every system dialog have forgotten the out-of-the-box “Ambiance” theme they conform to when I first installed the system. Window captions still preserve the theme, but pretty much nothing else does.

I have searched high and low on Google for assistance with this problem. Everything I’ve found suggests either running some gconf reset or deleting .gconf\* .gnome\* and other similar directories. I have followed all this advice and nothing works. I still get a boring Windows-95-style gray 3D look and feel. On previous occasions, after much messing around I’ve given up and rebooted the VM instance, and been pleasantly surprised to see the original “Ambience” theme restored throughout the UI, but invariably it disappears again some time later, usually after a reboot, so I can never figure out what I did that broke it.

Here's a sample from Ubuntu's site of what I want it to look like.



And here's a screenshot of my system as it currently looks.



Also note that my GNOME Terminals normally have a nice purple semi-translucent look, and as can be seen from the screenshot, they are now just a solid matte white.

This last time (just yesterday), trying numerous combinations all the usual tricks and rebooting several times hasn't fixed it, so here I am on SU wondering:

**How do I recover the out-of-the-box theme for my Gnome/Ubuntu desktop, noting that blowing away all config files as suggested in many places online fails to achieve this?**

It might help to know that it seems to fail either after I resize the VM instance, forcing the Ubuntu desktop to resize itself, or after I play around with Compiz settings. I haven't been able to figure out which of these it is, and it could be neither. Given the amount of pain I have had to go through to get things back to normal (and given that I am at a loss as to how to do so), it has proven difficult to definitively isolate the cause.

**Tags:** [gnome](#) ([Next Q](#)), [themes](#) ([Next Q](#))

**User:** [marcelo-cantos](#)

---

[Answer](#)  by [marcelo-cantos](#)

[@zpletan's answer](#) lead to a bit of hunting around, which quickly unearthed what seems to be the root cause of my problem. It's detailed in Ubuntu [Bug #574296](#) . In summary, my Core i7 system with an SSD starts everything with sufficiently different timings that gnome-settings-daemon runs too early, bails, and leaves me mostly with a stock GTK theme.

A short sleep in /etc/xdg/autostart/gnome-settings-daemon.desktop fixes it:

```
Exec= bash -c "sleep 2; /usr/lib/gnome-settings-daemon/gnome-settings-daemon"
```

---

[Answer](#)  by [tm.](#)

I couldn't fix this problem with any of the suggested answers (the currently accepted answer worked sporadically, but usually did not work for me). I tried increasing the sleep time by a lot and it still wasn't working consistently.

However, one of the answers did point to a bug that tracks this issue, and I found a [comment on the bug](#)  that solved it for me.

Here are the key bits:

First, create a bash script (I named it /etc/xdg/autostart/gnomesettingsdaemonfix.sh)

[Skip code block](#)

```
#!/bin/bash

pid=$(pgrep gnome-settings-)

while [ -n "$pid" ];
do
    pid=$(pgrep gnome-settings-)
    sleep 0
done

exit 0
```

Make sure it is executable (run chmod +x).

Then edit /etc/xdg/autostart/gnome-settings-daemon.desktop

Change the Exec line to:

```
Exec=bash -c '/etc/xdg/autostart/gnomesettingsdaemonfix.sh;/usr/lib/gnome-settings-daemon/gnome-settings-daemon'
```

---

That seems to have fixed it so far for me.

---

[Answer](#)  by [zpletan](#)

Press Alt+F2 (Run Application) and run the following:

```
gksudo gnome-settings-daemon
```

---

**Tags:** [gnome](#) ([Next Q](#)), [themes](#) ([Next Q](#))

---

## [Q: Difference between vim-gtk and vim-gnome](#)

**Tags:** [gnome](#) ([Next Q](#))

How are the packages vim-gtk and vim-gnome different from each other? I've tried both and the resulting Gvim feels the same (to me). If there is no difference, why are both packages maintained?

**Tags:** [gnome](#) ([Next Q](#))

**User:** [owais-lone](#)

---

**Answer**  by [adam-byrtrek](#)

Both packages provide the same application, but compiled with different dependencies (e.g. vim-gnome depends on libgnome2). Vim-gtk is important only to people who use Kubuntu (or some lightweight desktop environment) and don't want to install GNOME libraries. If you use the standard Ubuntu desktop, the dependencies are already present, and you can safely use vim-gnome. I agree that it could be confusing.

---

**Tags:** [gnome](#) ([Next Q](#))

---

## [Q: How do I reset GNOME to the defaults?](#)

**Tags:** [gnome](#) ([Next Q](#))

I was playing around with some settings, and now I need to reset GNOME to its defaults - how do I do that?

**Tags:** [gnome](#) ([Next Q](#))

**User:** [jrg](#)

---

**Answer**  by [jrg](#)

For Unity-related configuration resetting, [take a look here](#).

***This command will delete your configuration files. Once it's run there is no going back!***

Still with me?

### **GNOME2**

Run the following in the terminal or Alt+F2:

```
rm -rf .gnome .gnome2 .gconf .gconfd .metacity
```

That will do is remove all the GNOME2 configuration settings. Log out, and log back in. You'll be back to a stock desktop.

You can backup before playing around with your settings in the future:

```
mkdir ./old-gnome-config && mv ./gnome* ./old-gnome-config && mv .gconf* ./old-gnome-config &&  
mv ./metacity ./old-gnome-config
```

## GNOME3

If your config isn't worth saving run the following:

```
rm -rf .gnome .gnome2 .gconf .gconfd .metacity .cache .dbus .dmrc .mission-control .thumbnails  
~/.config/dconf/user ~.compiz*
```

To back up and reset GNOME3:

```
mkdir ./old-gnome-config/ && mv ./gnome* ./old-gnome-config/ && mv .gconf* ./old-gnome-config/  
&& mv ./metacity ./old-gnome-config/ && mv ./cache ./old-gnome-config/ && mv ./dbus ./old-  
gnome-config/ && mv ./dmrc ./old-gnome-config/ && mv ./mission-control ./old-gnome-config/ && mv  
./thumbnails ./old-gnome-config/ && mv ~/.config/dconf/* ./old-gnome-config/
```

---

**Tags:** [gnome](#) ([Next Q](#))

---

## Q: How to revert to GNOME Classic Desktop?

**Tags:** [gnome](#) ([Next Q](#)), [gnome-classic](#) ([Next Q](#))

I'm used to GNOME Classic and personally don't want to change to anything else, but it seems there is no more GNOME Classic in the Oneiric release. After apt-get installed gnome-session and all, though there comes back the GNOME Classic option in the session listbox, however, after logged in, it seems not the expected one.

There is no System menu in the top bar, and I couldn't customize panels at all. I want to change the appearance(theme), but I can't find Appearance menu at all. And much more differences to my previous experience of GNOME classic shell.

---

There are multiple valid answers for this question spanning over several versions of Ubuntu. For your convenience an index of each below:

- [13.04](#)  and up
- [12.04](#) and [12.10](#) 
- [11.10](#) 
- [11.04 answer 1](#)  & [11.04 answer 2](#) 
- [Mate Desktop](#) 
- [Fix Icon spacing](#) 

**Tags:** [gnome](#) ([Next Q](#)), [gnome-classic](#) ([Next Q](#))

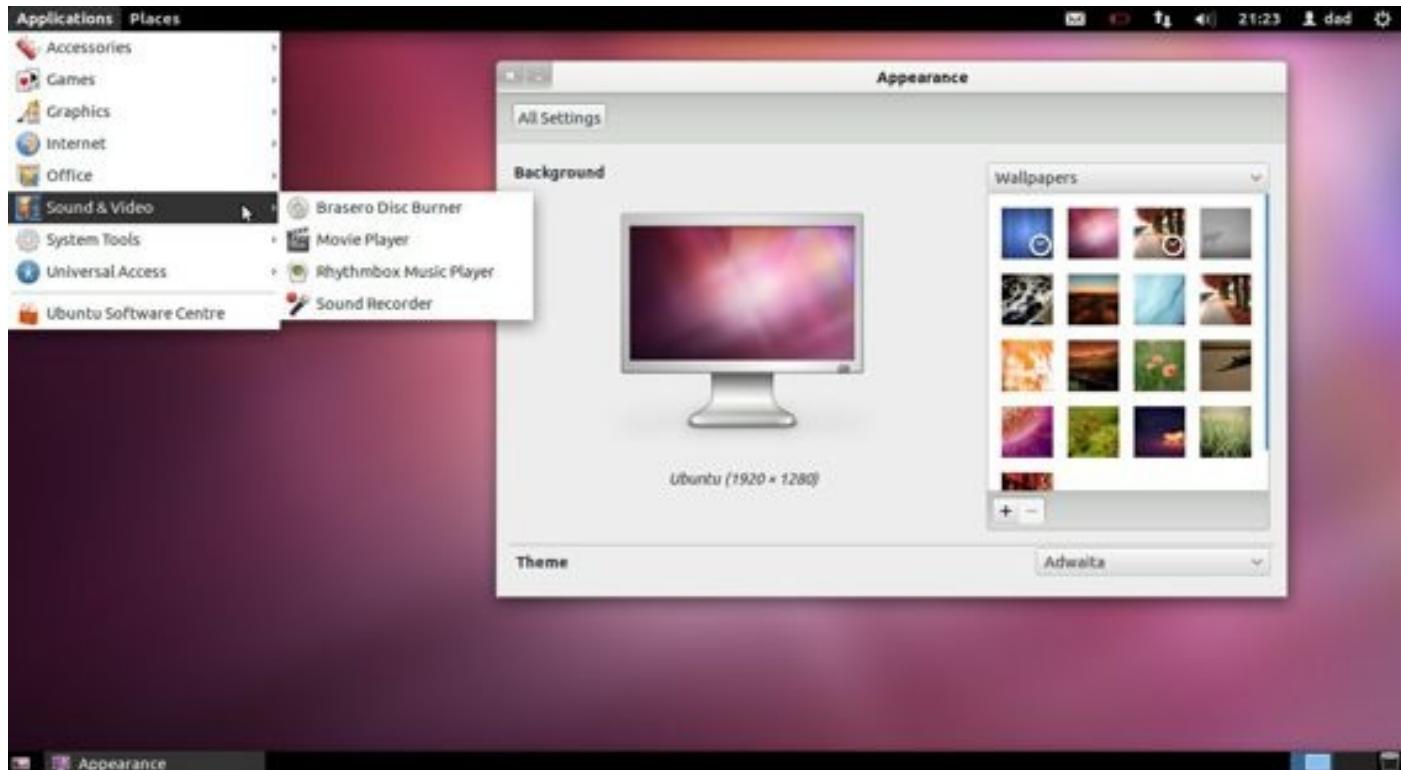
**User:** [xiñ-jñ-lñci](#)

---

[Answer](#)  by [fossfreedom](#)

## 11.10 Overview

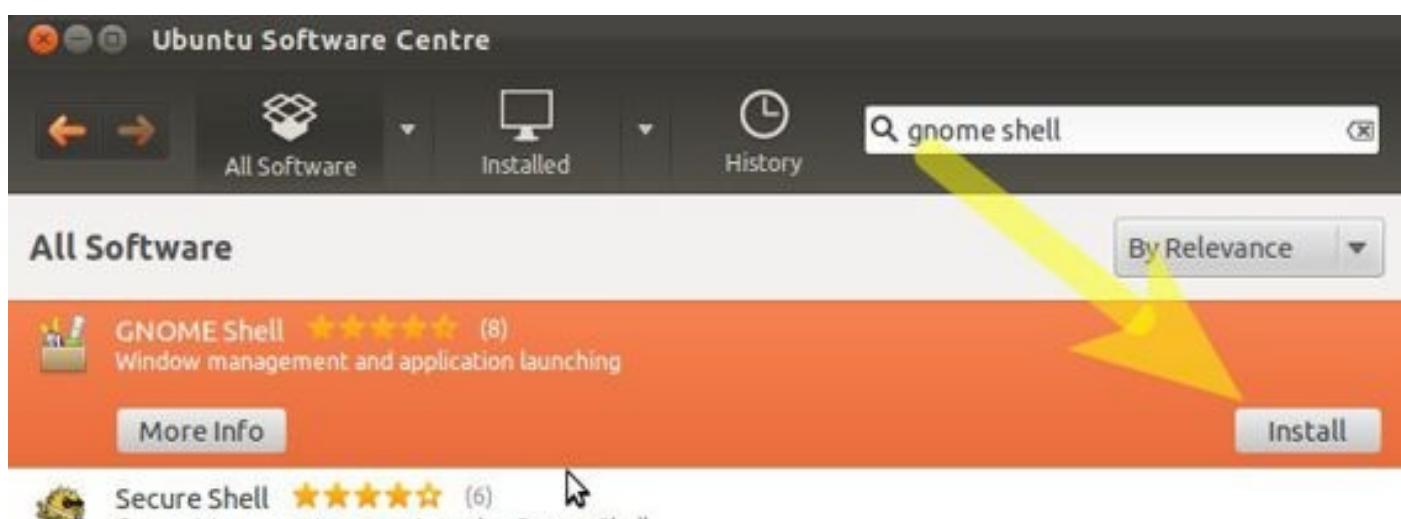
The older GNOME 2.x experience has been retired in GNOME, however you can use the GNOME 3.x classic mode (as shown below) to make an approximation of the older experience.



### install prerequisites

In the software center you have the option to install [Gnome Shell](#)

# Missing Image



Similarly - search for [CompizConfig Settings Manager](#)

# Missing Image

and install this package - we'll need that later.

Whilst you are there you can also install [gnome-tweak-tool](#)

# Missing Image

to further customise your desktop.

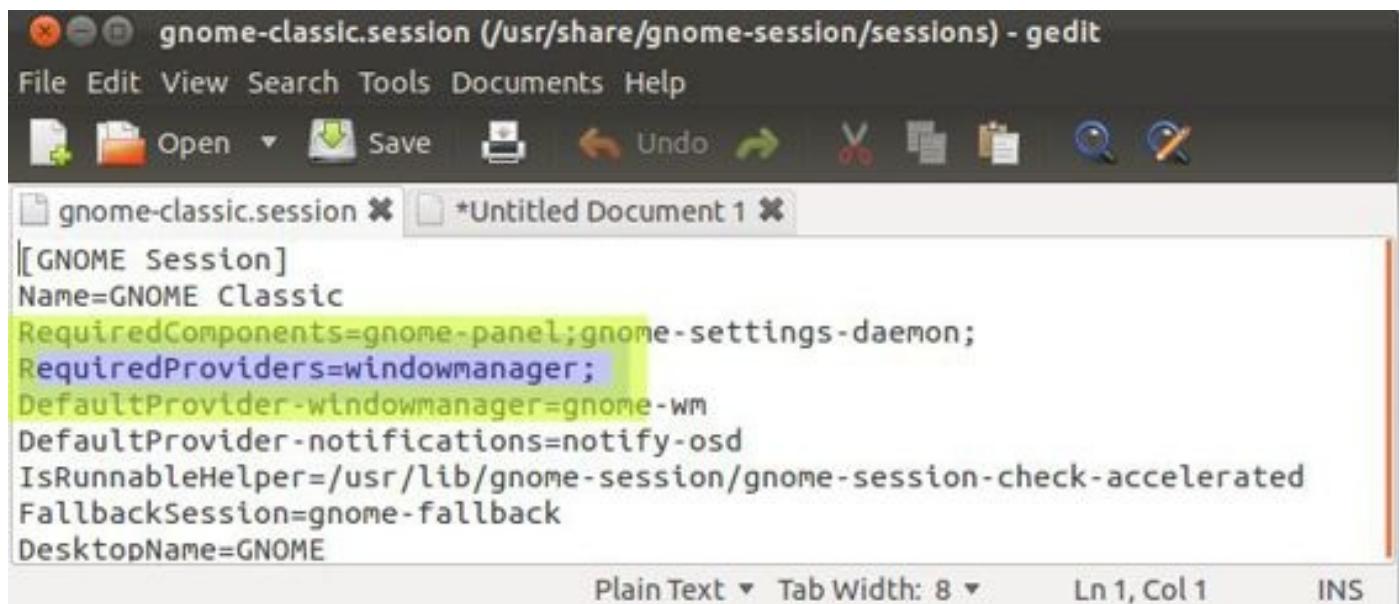
## enabling compiz

Now perhaps the tricky part - [getting gnome classic to function with compiz](#) :

In a terminal copy and paste the following:

```
gksudo gedit /usr/share/gnome-session/sessions/gnome-classic.session
```

Now edit the file shown to contain this line entry:



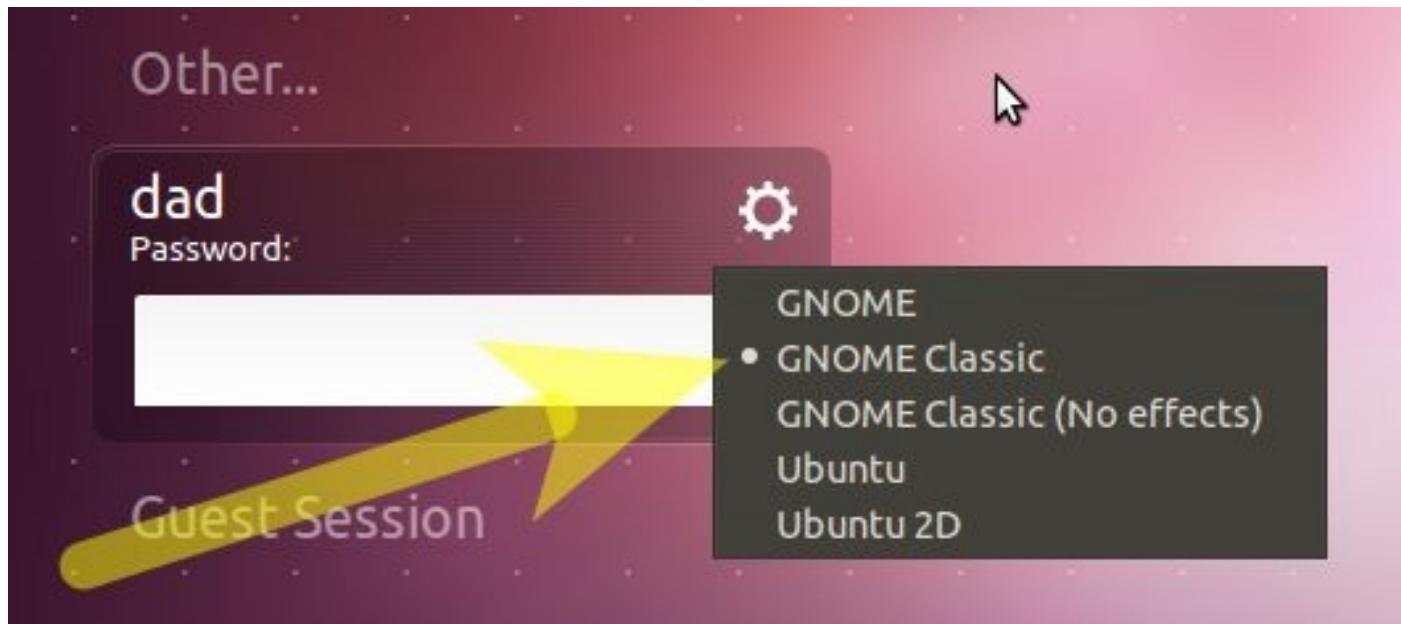
The screenshot shows the gedit text editor window. The title bar reads "gnome-classic.session (/usr/share/gnome-session/sessions) - gedit". The menu bar includes File, Edit, View, Search, Tools, Documents, and Help. The toolbar contains icons for Open, Save, Undo, Redo, Cut, Copy, Paste, Find, and Replace. The main text area displays the following session configuration file:

```
[GNOME Session]
Name=GNOME Classic
RequiredComponents=gnome-panel;gnome-settings-daemon;
RequiredProviders>windowmanager;
DefaultProvider>windowmanager=gnome-WM
DefaultProvider>notifications=notify-osd
IsRunnableHelper=/usr/lib/gnome-session/gnome-session-check-accelerated
FallbackSession=gnome-fallback
DesktopName=GNOME
```

At the bottom of the window, there are status indicators: "Plain Text" and "Tab Width: 8", "Ln 1, Col 1", and "INS".

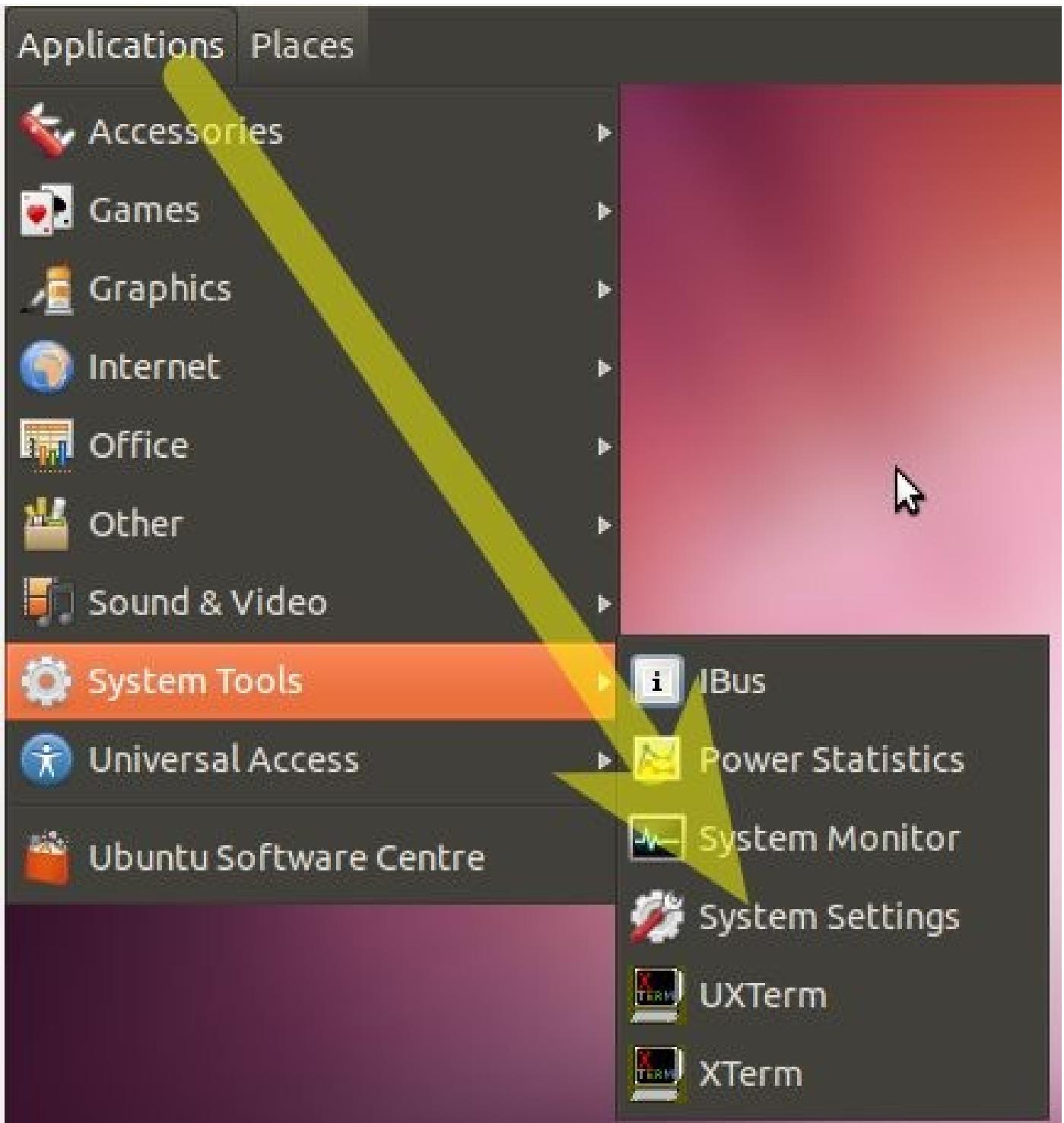
## How to login to Gnome-Classic

Save, logout and in your session options choose *Gnome Classic*



## Changing the theme

You'll notice that the default Ubuntu Ambiance theme doesn't look great in Gnome Classic. We can correct this by changing to a Gnome 3 friendly theme.



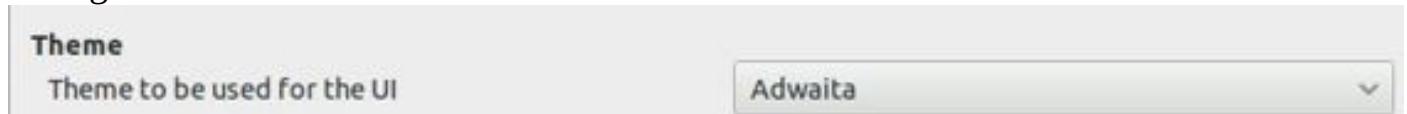
... and choosing *Appearance*

# Personal



# Appearance

Change the theme to Adwaita...



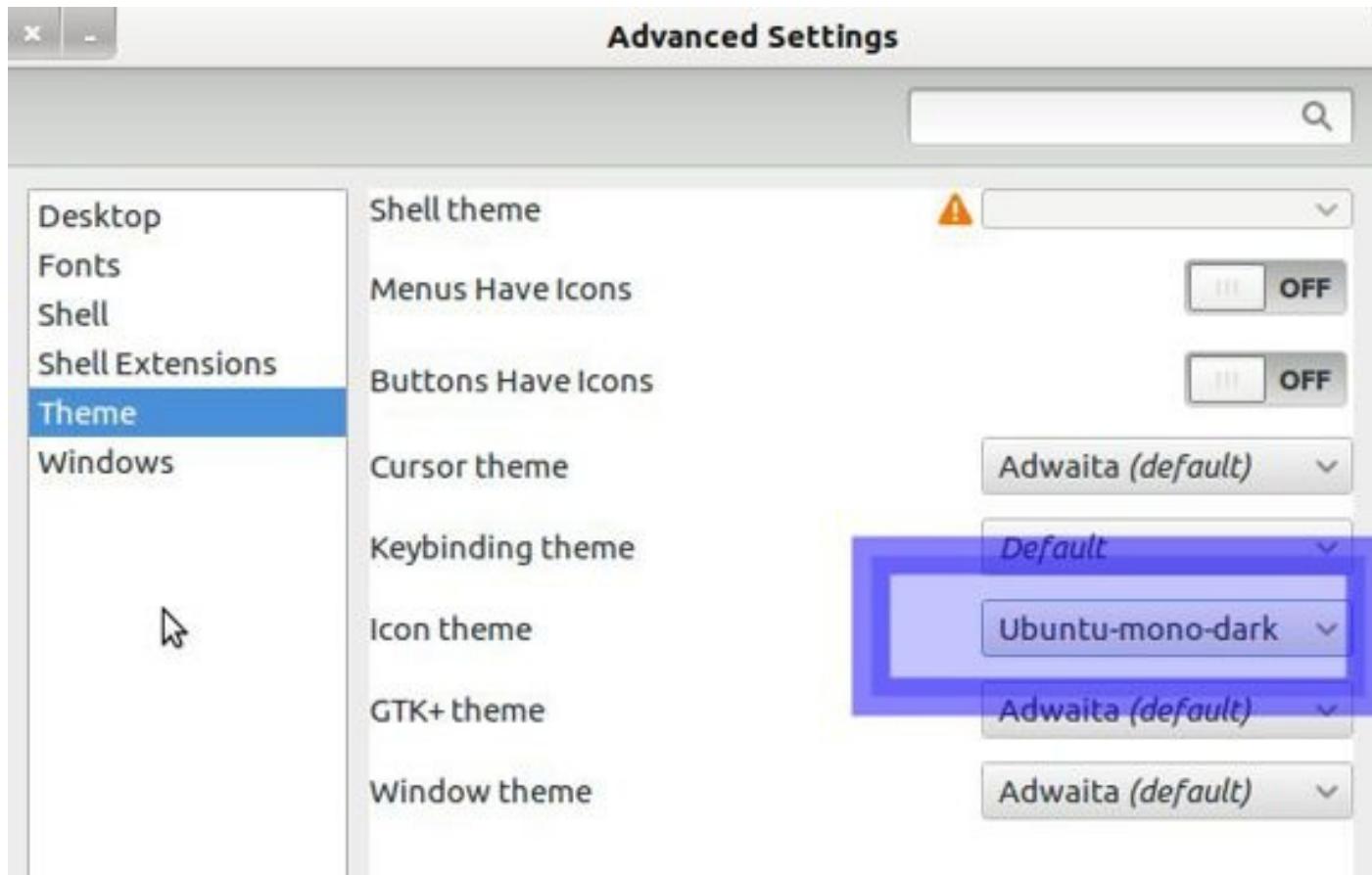
Note - see the linked questions below for other theming options.

## Changing Icons

Launch gnome-tweak-tool via the menu option:

- Applications —> Other —> Advanced Settings

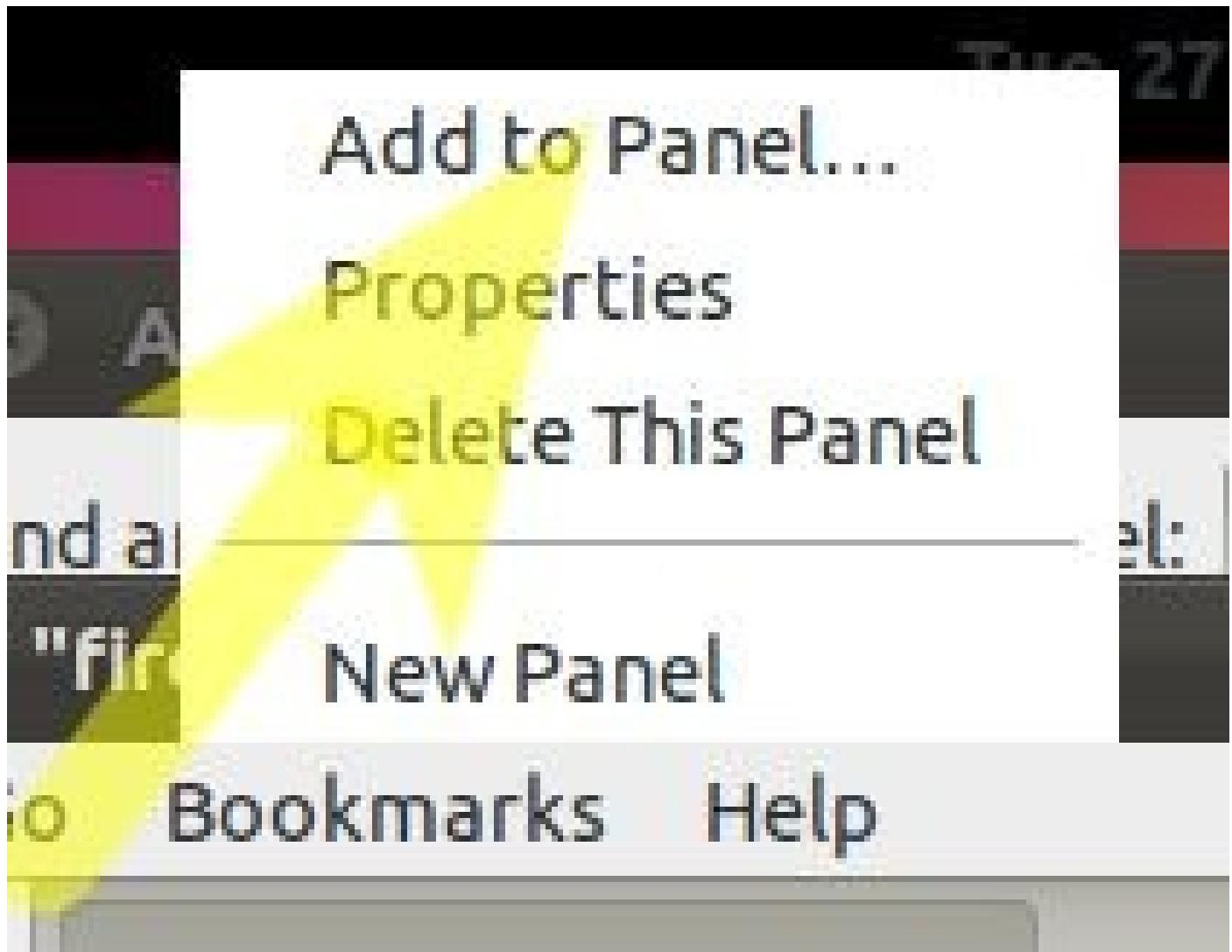
Change the icon theme as shown:



## Restructure the desktop layout

Now lets get back the panels to something that we are familiar with...

Press Alt+Win and right-click the top menu bar - N.B. Win is the Windows Symbol key



(If you are using Gnome Classic (No Effects) i.e. *gnome fallback mode* then to add to the panel use Alt and right-click)

Choose *Add to Panel*

## Add to Panel

Find an item to add to the panel:



### Custom Application Launcher

Create a new launcher



### Application Launcher...

Copy a launcher from the applications menu



### Character Palette

Insert characters



### Clock

Get the current time and date



### Connect to Server...

Connect to a remote computer or shared disk



### CPU Frequency Scaling Monitor

Monitor the CPU Frequency Scaling



### Disk Mounter

Mount local disks and devices



### Eyes

A set of eyeballs for your panel

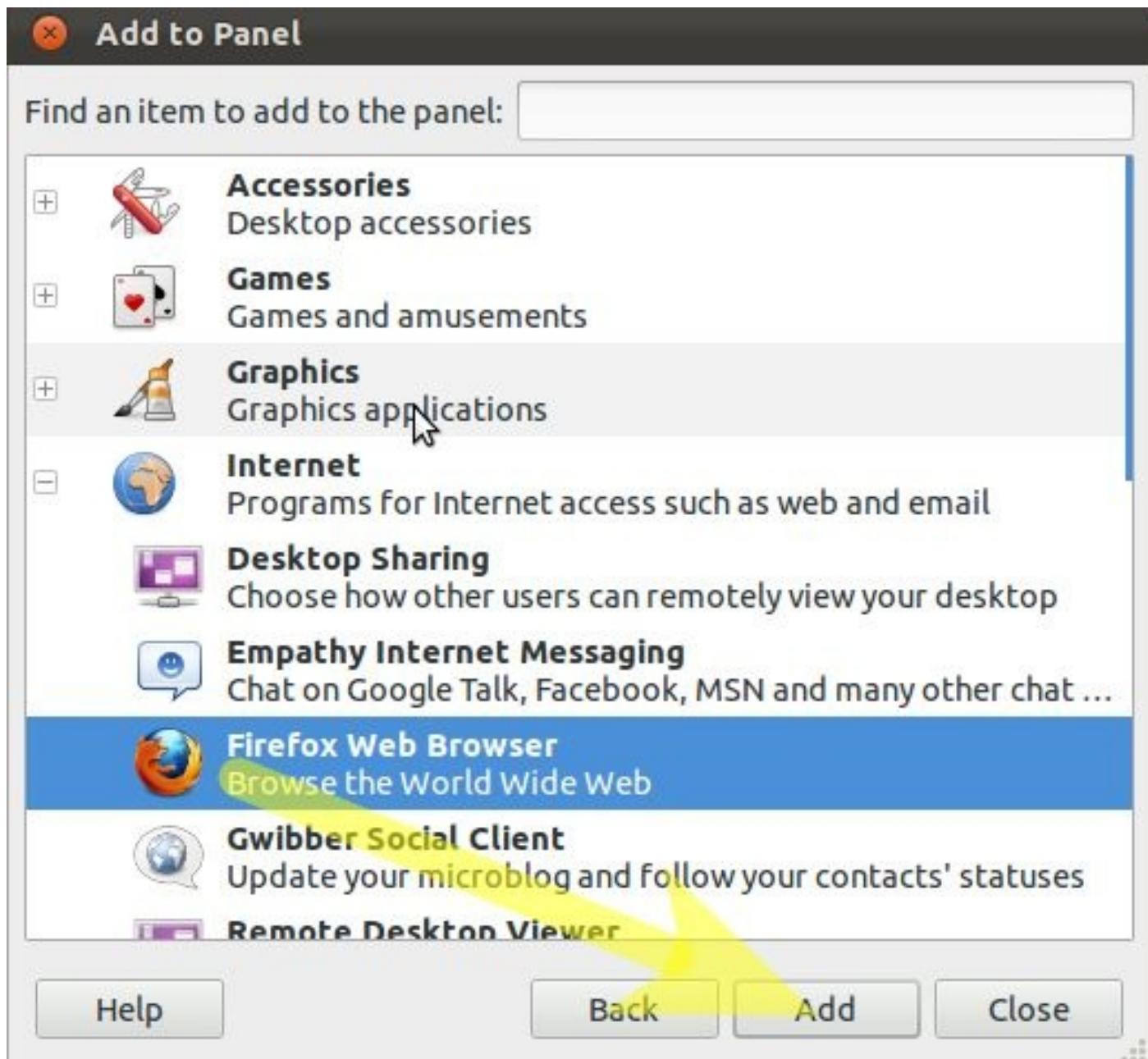
Help

Back

Forward

Close

Click the option shown and click the button *Forward*



Repeat the Alt+Win + Right Click the date and choose *Delete* to delete the clock.

Repeat this delete procedure for the other applets on the top-panel.

Note - if an error appears indicating that the Panel has reloaded you can safely ignore this.

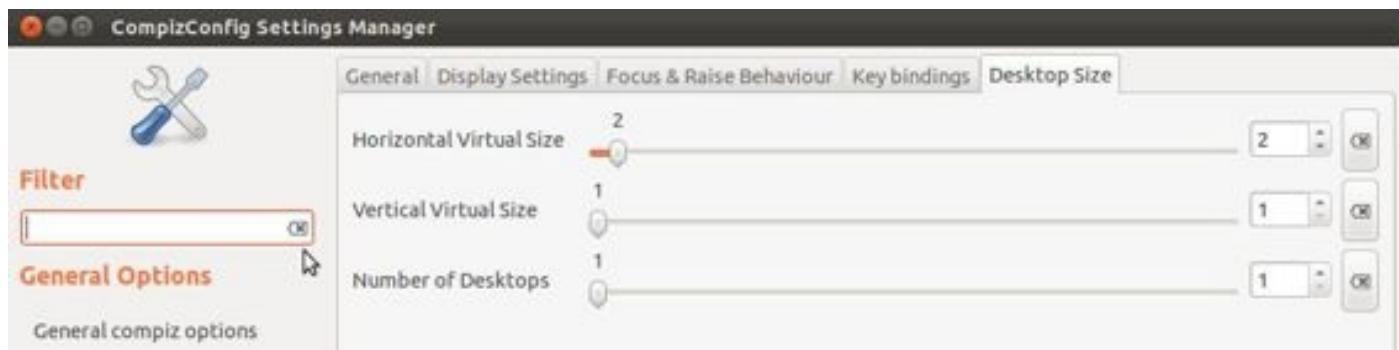
Repeat the Alt+Win + Right Click the top panel - add the applet *Accessibility*.

Repeat the Alt+Win + Right Click on bottom panel - add the applet *Show Desktop* and move to the bottom left.

Repeat the Alt+Win + Right Click on bottom panel - add the applet *Wastebasket* and move to the bottom right.

Now we need to [change the number of workspaces](#) back to two.

Navigate to *Applications - Other - CompizConfig Settings Manager - General Options - Desktop Size* and change the Vertical Virtual Size value to 1



## Install the indicator-applet

Now lets install the indicator-applet:

- see the [linked question below](#) to add a PPA containing the indicator-applet

To add to the panel:

Alt+Win+Right click the panel and choose *Add To Panel* and add the following indicator

A screenshot of the "Add to Panel" dialog box. The title bar says "Add to Panel". Below it is a search bar labeled "Find an item to add to the panel:". A list of items is shown:

- Force Quit**  
Force a misbehaving application to quit
- Indicator Applet**  
An indicator of something that needs your attention on the desktop
- Indicator Applet Complete**  
A unified applet containing all of the indicators. **(This item is highlighted with a yellow glow.)**
- Invest**  
Track your invested money.
- Keyboard Accessibility Status**  
Shows the status of keyboard accessibility features
- Lock Screen**  
Protect your computer from unauthorised use
- Log Out...**  
Log out of this session to log in as a different user
- Main Menu**  
The main GNOME menu
- Menu Bar**  
A custom menu bar

At the bottom are four buttons: "Help", "Back", "Add", and "Close".

Finish off by Alt+Win+Right click the indicator-applet and move it to the right side of the top panel.

Optional:

- You can install [fonts-cantarell](#)



if you want to use the default upstream GNOME font

---

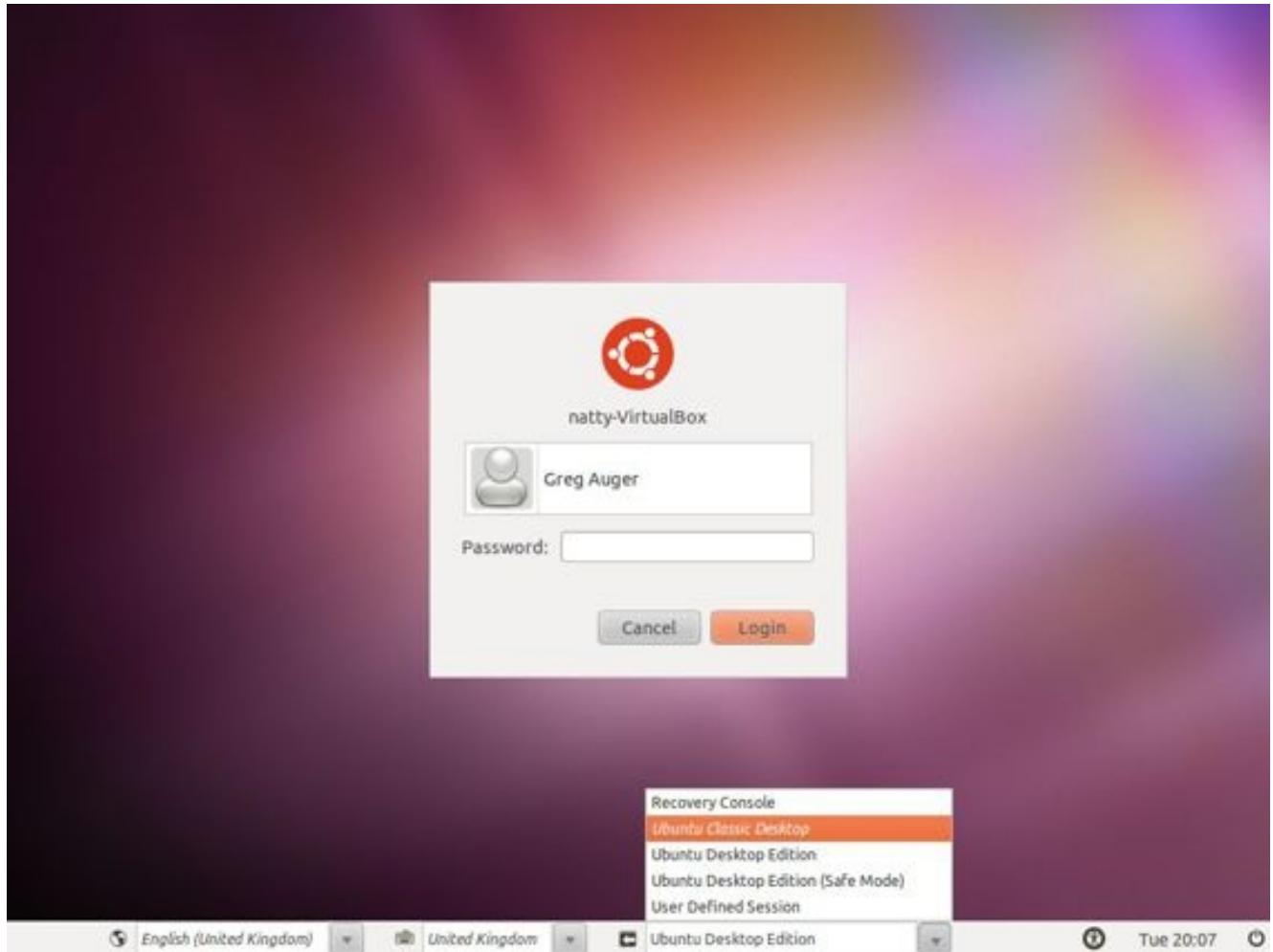
Linked Questions:

1. [Delete extra toolbar on top of the screen in GNOME fallback mode?](#)
  2. [How do I revert Alt-tab behavior to switch between windows on the current workspace?](#)
  3. [How do I change to a theme not listed in the Appearance screen?](#)
  4. If you use autologin you need to do this: [How do I set the GNOME Classic login to be the default with autologin?](#)
  5. [How to re-add indicator-applet for 11.10](#)
  6. [How to customize the gnome classic panel](#)
  7. Warning: [What are some of the issues with ccsm and why would I want to avoid it?](#)
- 

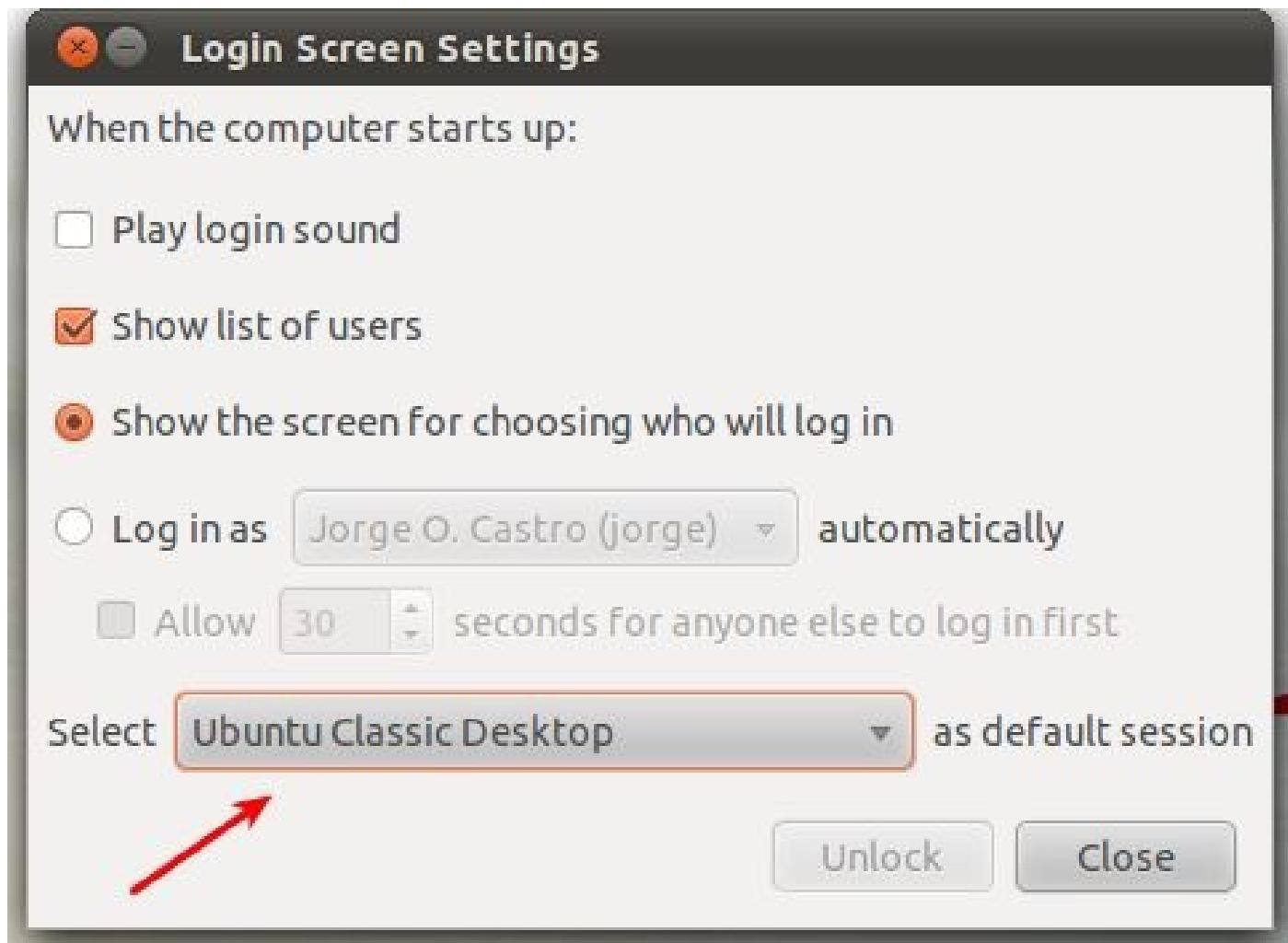
[Answer](#) by [octavian-damiean](#)

# For 11.04

1. Log in with the classic GNOME session by selecting your username and then selecting *Ubuntu Classic*:



From then on GDM will remember your setting. To permanently make the Classic Session be the default, run the `Login Settings` tool and select the classic desktop:

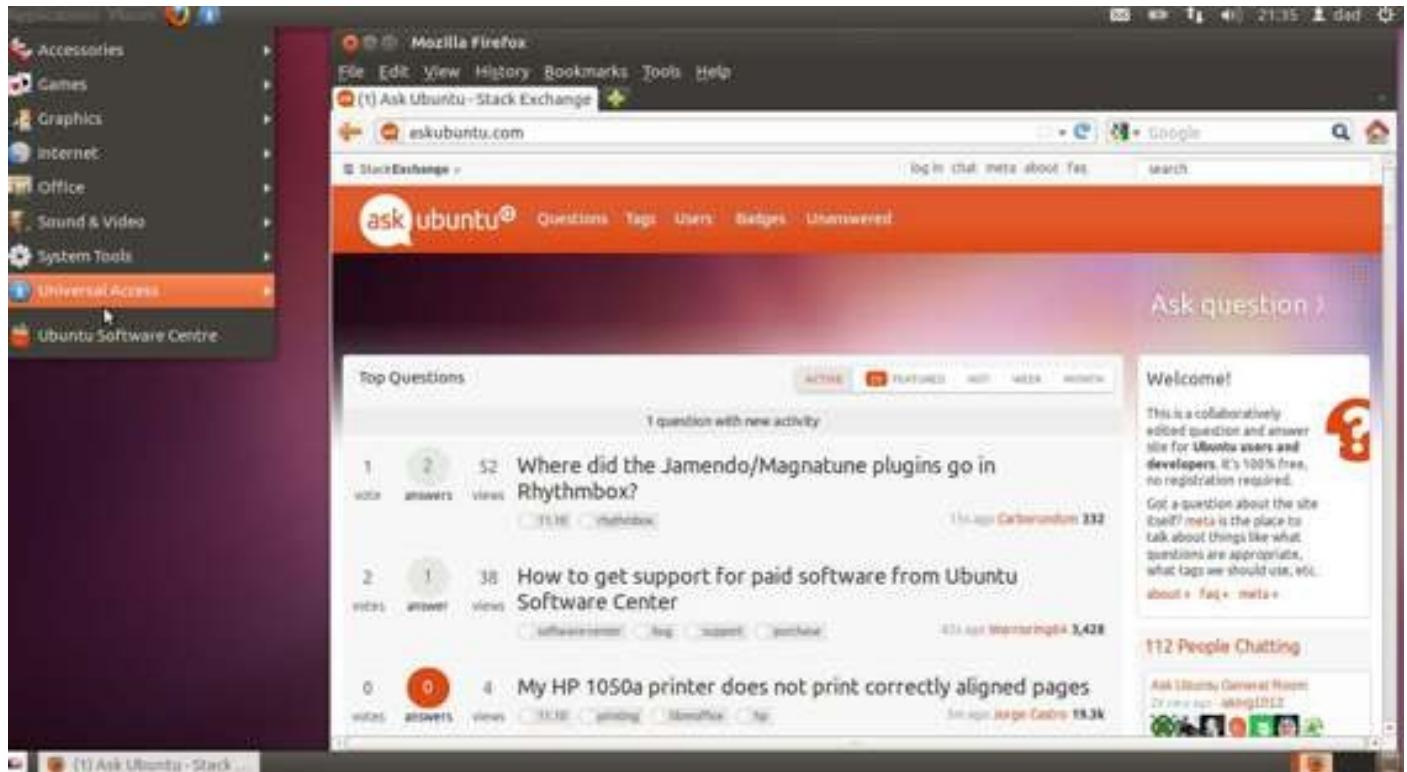


---

[Answer](#) by [fossfreedom](#)

## 12.04 Overview

The older GNOME 2.x experience has been retired in GNOME, however you can use the GNOME 3.x classic mode (as shown below) to make an approximation of the older experience.



Install the prerequisites:

# Missing Image

Similarly install myunity:

# Missing Image

### How to login to Gnome-Classic

Save, logout and in your session options choose *Gnome Classic*

dad



new account

Click

Guest Session

 Back



Cinnamon



GNOME



GNOME Classic



GNOME Classic (No effects)



Ubuntu

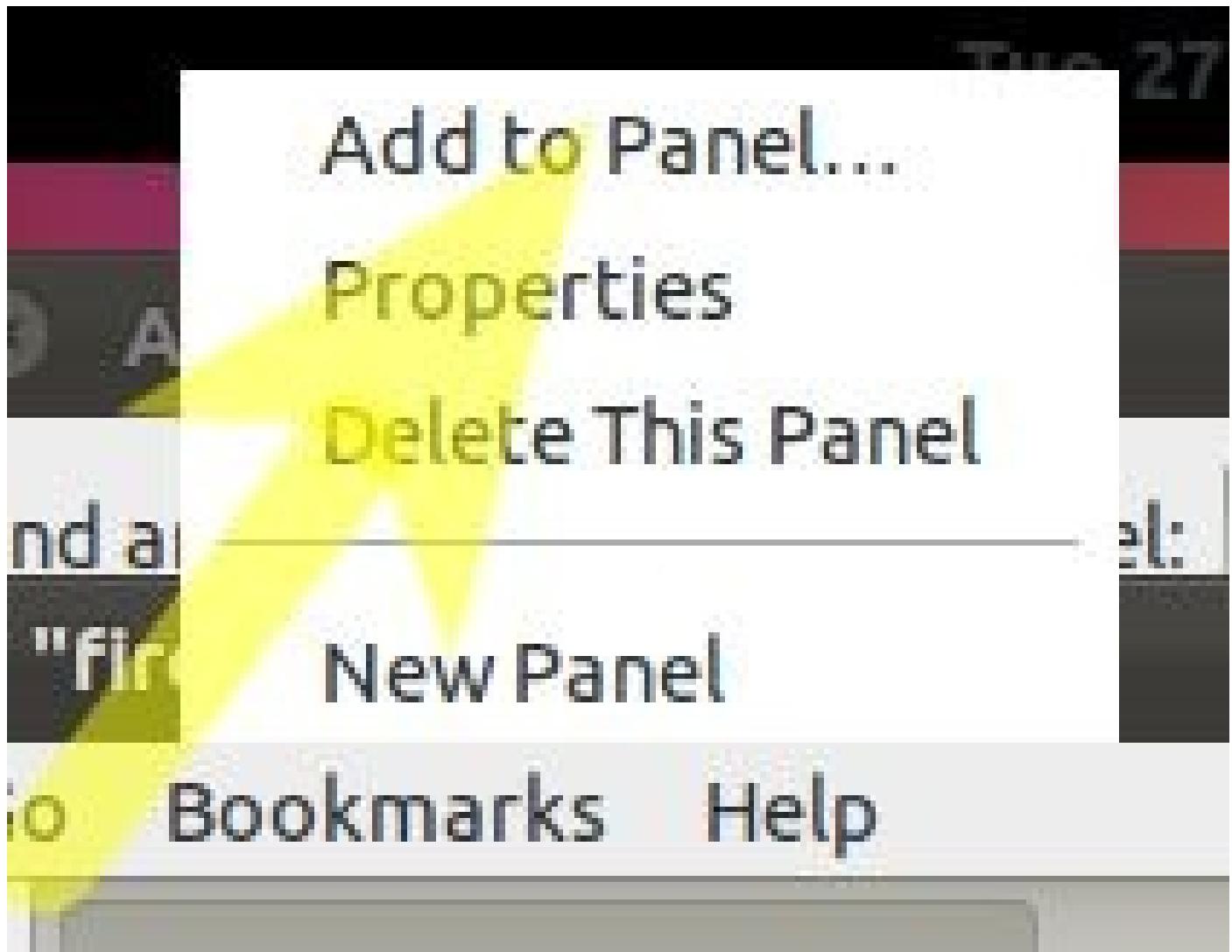


Ubuntu 2D

### Restructure the desktop layout

Now lets get back the panels to something that we are familiar with...

Press Alt+Win and right-click the top menu bar - N.B. Win is the Windows Symbol key



(If you are using Gnome Classic (No Effects) i.e. *gnome fallback mode* then to add to the panel use Alt and right-click)

Choose *Add to Panel*

## Add to Panel

Find an item to add to the panel:



### Custom Application Launcher

Create a new launcher



### Application Launcher...

Copy a launcher from the applications menu



### Character Palette

Insert characters



### Clock

Get the current time and date



### Connect to Server...

Connect to a remote computer or shared disk



### CPU Frequency Scaling Monitor

Monitor the CPU Frequency Scaling



### Disk Mounter

Mount local disks and devices



### Eyes

A set of eyeballs for your panel

Help

Back

Forward

Close

Click the option shown and click the button *Forward*

**Add to Panel**

Find an item to add to the panel:

- +  **Accessories**  
Desktop accessories
- +  **Games**  
Games and amusements
- +  **Graphics**  
Graphics applications
-  **Internet**  
Programs for Internet access such as web and email
-  **Desktop Sharing**  
Choose how other users can remotely view your desktop
-  **Empathy Internet Messaging**  
Chat on Google Talk, Facebook, MSN and many other chat ...
-  **Firefox Web Browser**  
Browse the World Wide Web
-  **Gwibber Social Client**  
Update your microblog and follow your contacts' statuses
-  **Remote Desktop Viewer**

**Help**      **Back**      **Add**      **Close**

After clicking *Add*, add the *Universal Access* applet.

Repeat the *Alt+Win + Right Click* on bottom panel - add the applet *Wastebasket*

*Alt+Win + Right Click* over the Wastebasket and move to the bottom right.

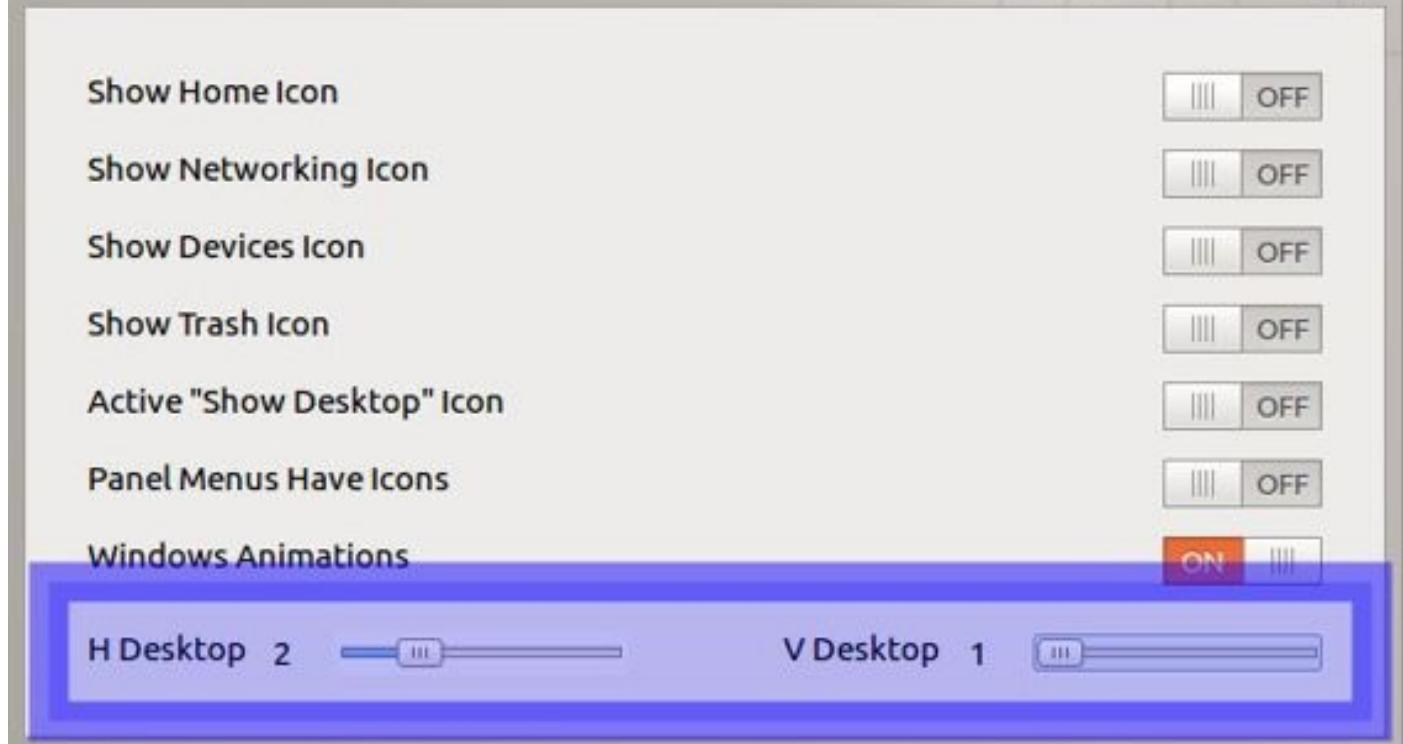
Now we need to change the number of workspaces back to two.

Launch *MyUnity* via its icon in *System Settings*

change the Vertical Virtual Size value to 1

# desktop

default settings



Optional:

- You can install [fonts-cantarell](#) if you want to use the default upstream GNOME font

---

Linked Questions:

1. [Delete extra toolbar on top of the screen in GNOME fallback mode?](#)
  2. [How do I revert Alt-tab behavior to switch between windows on the current workspace?](#)
  3. [How do I change to a theme not listed in the Appearance screen?](#)
  4. If you use autologin you need to do this: [How do I set the GNOME Classic login to be the default with autologin?](#)
- 

Tags: [gnome](#) ([Next Q](#)), [gnome-classic](#) ([Next Q](#))

---

**[Q: How can I create launchers on my desktop?](#)**

Tags: [gnome](#) ([Next Q](#))

In older versions it was easy to create a launcher on my desktop all i had to do is right

click on my desktop and select the create launcher option. But on 11.10 the option disappeared from the menu.. How can I get it back?

**Tags:** [gnome](#) ([Next Q](#))

**User:** [tinuz](#)

---

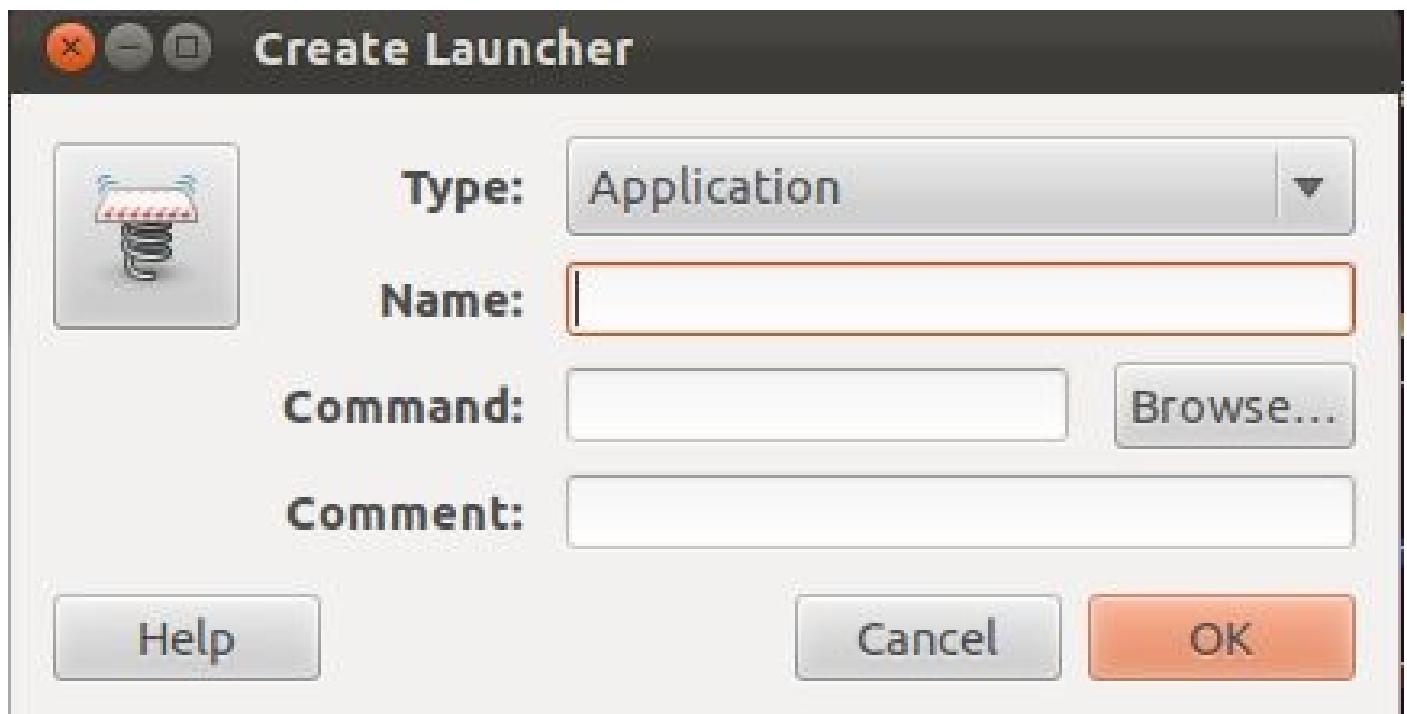
[Answer](#)  by [fossfreedom](#)

The old GUI dialog is still available if you still want to use this:

Using ALT+F2 type

```
gnome-desktop-item-edit --create-new ~/Desktop
```

This will launch the old GUI Dialog and create a launcher on your Desktop:



## Prerequisites

gnome-desktop-item-edit is installed automatically if you have installed gnome-shell/gnome-fallback. It is also installed automatically if you have previously installed gnome-tweak-tool.

Alternatively, you can install the old gnome-panel without much of the bulk:

```
sudo apt-get install --no-install-recommends gnome-panel
```

---

[Answer](#)  by [fnkr](#)

You can do it manually. Make a new text-file named something.desktop and write this in there:

```
#!/usr/bin/env xdg-open

[Desktop Entry]
Version=1.0
Type=Application
Terminal=false
Exec=command to run here
```

```
Name=visible name here  
Comment=comment here  
Icon=icon path here
```

Dont forget to make the file executable (`chmod +x something.desktop`).

---

[Answer](#) by [mateo](#)

This Is a solution to get it back on the right click menu In Gnome and Unity,

1- Install [gnome-tweak-tool](#)

# Missing Image

, if you don't already have it, In terminal paste-

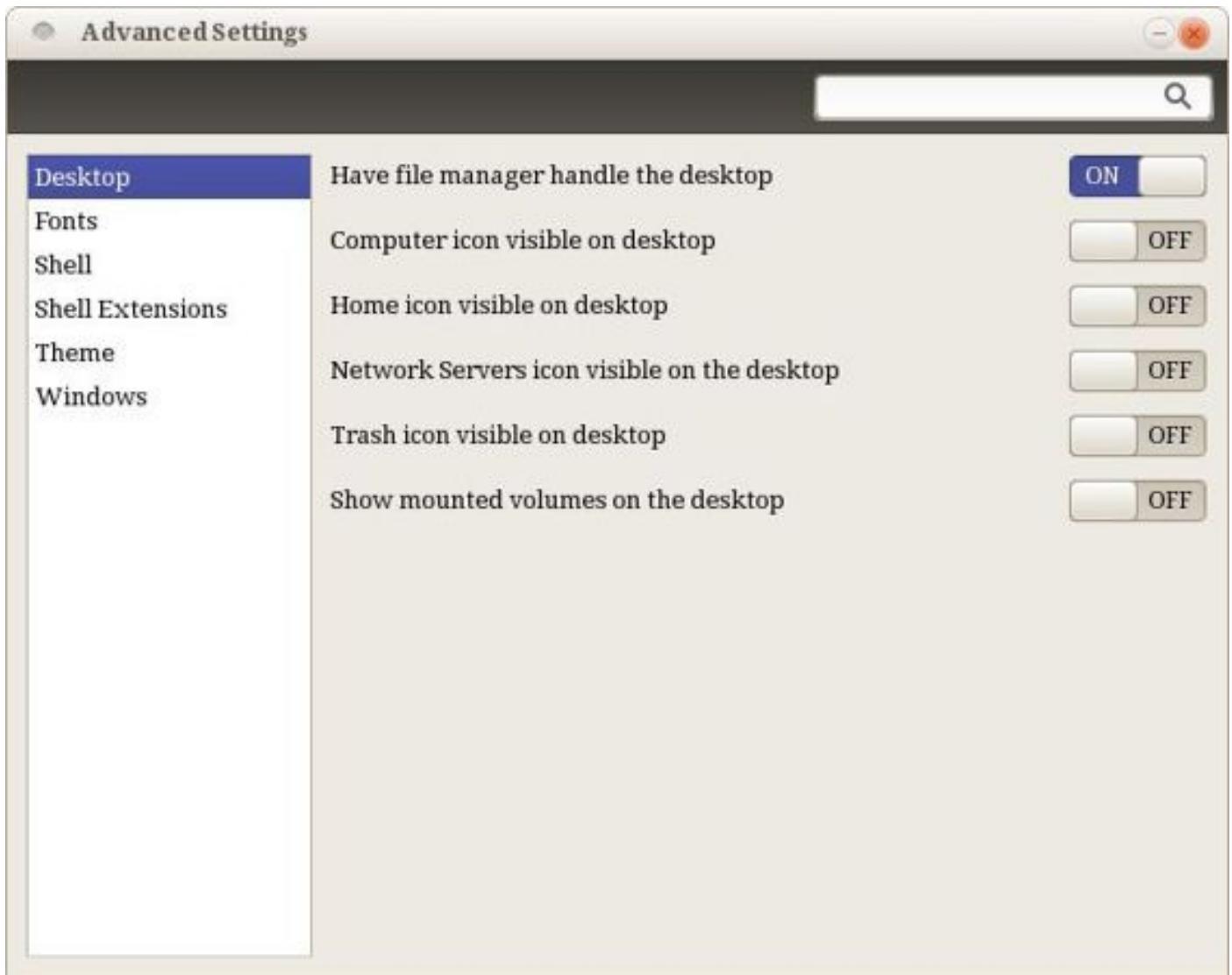
```
sudo apt-get install gnome-tweak-tool
```

2- Then type the following to launch it

```
gnome-tweak-tool
```

Or use the key shortcut Alt+F2 type `gnome-tweak-tool` then click “Run”

3- Navigate to the “Desktop” tab on the left pictured - And turn ON  
“Have file manager handle the desktop”



4-*Source for this part:* Now we are going to create a Script to put on the right click menu -

Open gedit either by terminal or Alt+F2, Paste the code

```
gnome-desktop-item-edit ~/Desktop/ --create-new
```

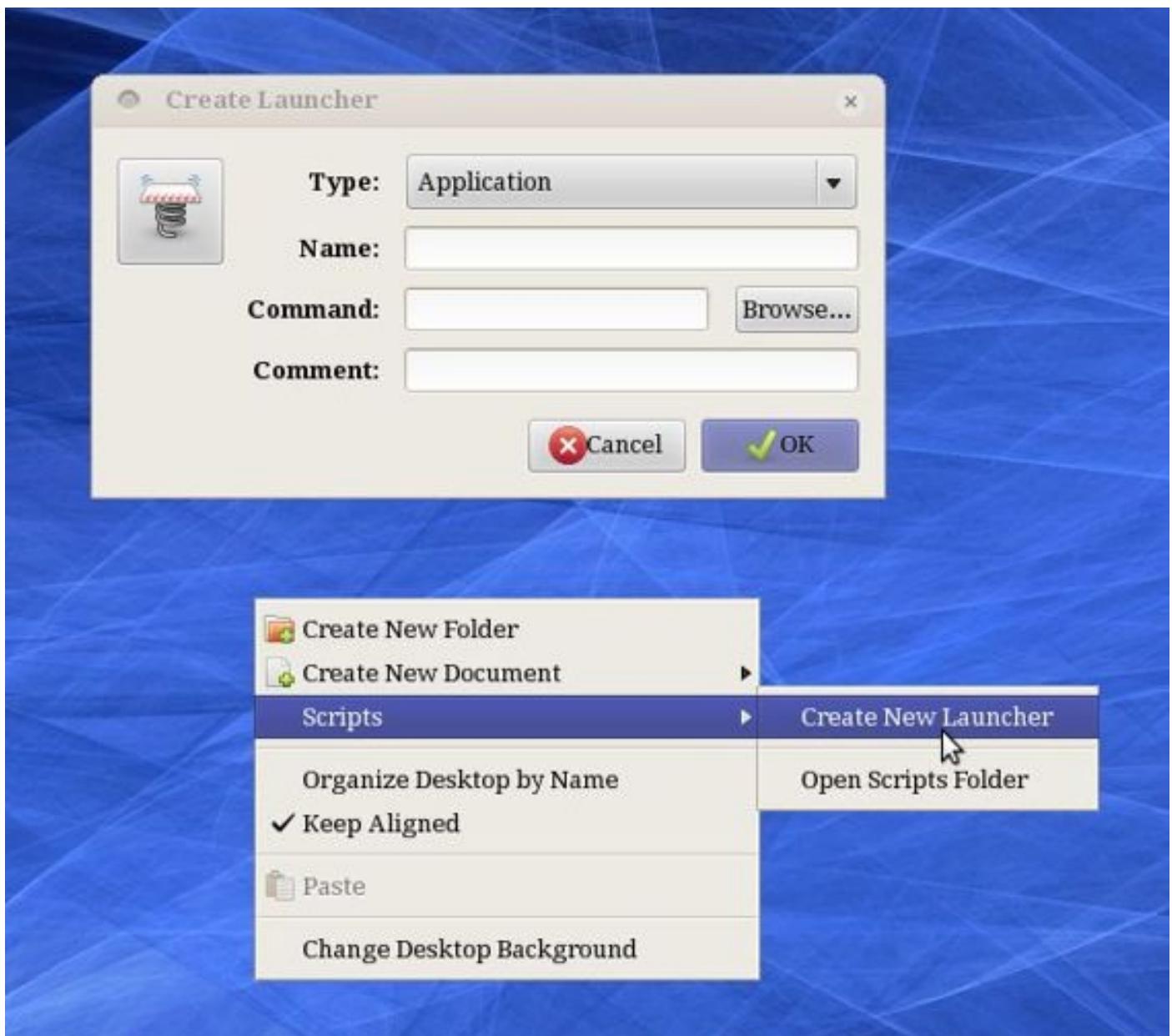
put only this into the new text document and then save it as “Create New Launcher” no extension needed (you may need to use .sh as extension ex “Create New Launcher.sh”, if you can’t make it executable in the next step).

5- Now we need to make the file executable, Right click on the file go to > Properties > click Permissions tab > look for “Execute” and check “Allow executing file as program” then close out.

6- Open the file browser, go to > View > Show Hidden Files, now navigate to you home folder, and Place the file in ~/.gnome2/nutilus-scripts . Shown below -

| Devices   |          |                     |                                 |  |
|---|----------|---------------------|---------------------------------|--|
| File Edit View Go Bookmarks Help                |          |                     |                                 |  |
| Home Packages                                   |          |                     |                                 |  |
| Name  | Size     | Type                | Date Modified                   |  |
| gimp-2.8  | 34 items | folder              | Fri 27 Apr 2012 12:37:31 AM CDT |  |
| .gimp-2.6                                       | 5 items  | folder              | Fri 11 Sep 2009 05:59:00 PM CDT |  |
| .gkrellm2                                       | 29 items | folder              | Sat 28 Apr 2012 04:09:30 PM CDT |  |
| .gnome2   | 16 items | folder              | Thu 19 Apr 2012 07:45:42 PM CDT |  |
| accels  | 1 item   | folder              | Thu 11 Jun 2009 03:26:37 PM CDT |  |
| blackjack.d                                     | 10 items | folder              | Mon 12 Mar 2012 06:02:14 PM CDT |  |
| epiphany  | 1 item   | folder              | Sun 29 Nov 2009 03:53:31 PM CST |  |
| evince  | 0 items  | folder              | Mon 22 Dec 2008 10:16:21 AM CST |  |
| file-roller                                     | 1 item   | folder              | Thu 16 Feb 2012 10:57:25 PM CST |  |
| glchess   | 2 items  | folder              | Mon 02 Feb 2009 04:48:32 PM CST |  |
| gnome-art                                       | 3 items  | folder              | Mon 22 Dec 2008 11:03:34 AM CST |  |
| gthumb  | 4 items  | folder              | Wed 05 May 2010 11:06:44 PM CDT |  |
| keyrings  | 2 items  | folder              | Sun 20 Feb 2011 03:28:32 PM CST |  |
| nautilus-scripts                                | 1 item   | folder              | Sat 28 Apr 2012 05:14:20 PM CDT |  |
| Create New Launcher                             | 48 bytes | plain text document | Sat 28 Apr 2012 05:09:43 PM CDT |  |
| panel2.d  | 1 item   | folder              | Sat 04 Oct 2008 10:08:56 AM CDT |  |
| rhythmbox                                       | 1 item   | folder              | Wed 09 Sep 2009 08:33:06 PM CDT |  |
| share   | 0 items  | folder              | Tue 29 Sep 2009 03:08:01 PM CDT |  |
| accelsgedit                                     | 7.7 kB   | Glade project       | Mon 31 Aug 2009 06:30:25 PM CDT |  |
| alleyoop  | 53 bytes | plain text document | Sat 12 Sep 2009 04:09:15 PM CDT |  |
| "nautilus-scripts" selected (containing 1 item) |          |                     | Thu 16 Feb 2012 12:29:45 AM CST |  |

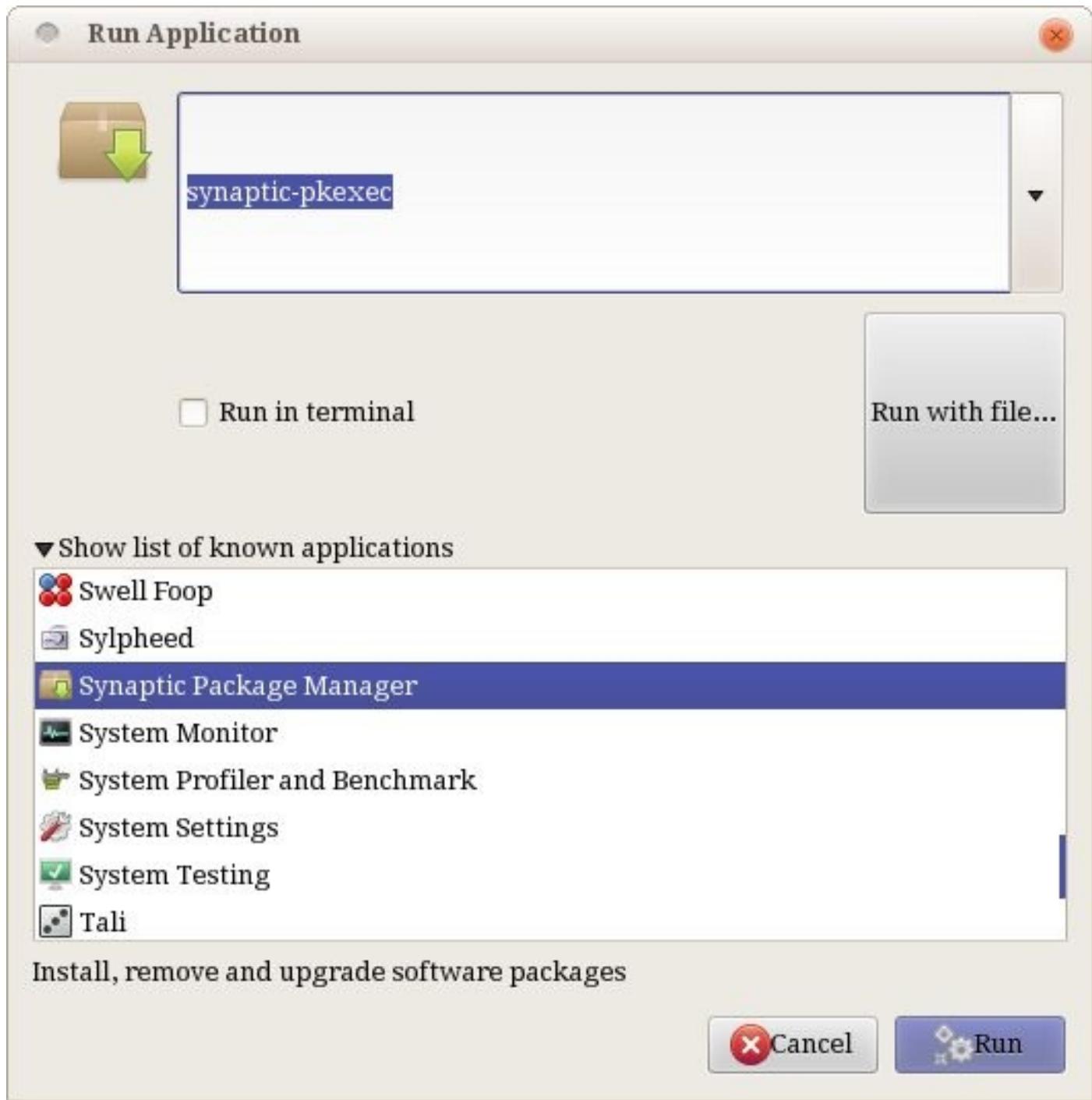
7- Now we have Create new launcher on the right click menu! Right click on your desktop and go to > Scripts > Create New Launcher Then fill in the command information for the application you want,  
 Shown below-



If you forget what the app's launch command is click "Browse" then navigate to File System > usr > bin which is /usr/bin , these are the applications on your system, most should automatacally find the icon after you click "Open" , although they won't show up before.

If It dosn't show the icon when you get back to the "Create Launcher" box you can drag a icon in by finding the icon in /usr/share/icons . There are default icons in the various theme folders or specific icons in the /usr/share/icons/hicolor/scalable/apps or /usr/share/icons/hicolor/48x48/apps, or if later you want to put an icon in you can right click > properties to drag and drop the icon in.

(This part only for gnome, alt+f2 is diffrent in unity) Another way to list known applications is to hit Alt+F2 and click on the app under "Show list of known applications", you can then copy the command text for that program to paste in to Create New Launcher.



All this will make it extremely easier to make custom launchers, and once setup you can make them without the terminal.

---

Tags: [gnome](#) ([Next Q](#))

---

## [Q: Why are .goutputstream-xxxxx files created in home folder?](#)

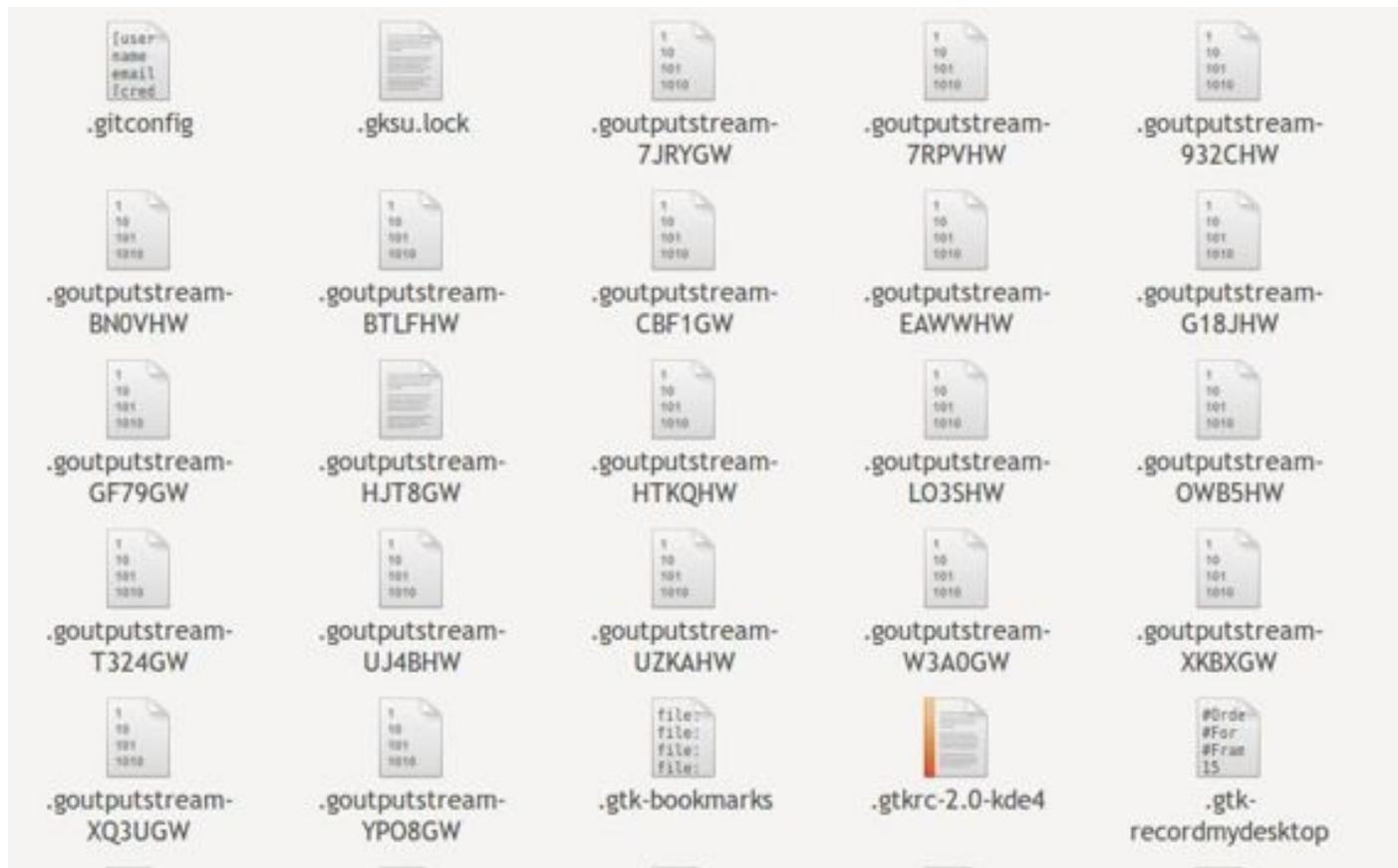
Tags: [gnome](#)

I find a lot of files with names of the like

.goutputstream-xxxxx

where xxxx are some alphanumeric characters.

Here is a screenshot of the home folder



Any idea why I should keep these or can I remove and also stop further creation?

**Tags:** [gnome](#)

**User:** [john](#)

---

**Answer** by [elfy](#)

This is a bug - <https://bugs.launchpad.net/ubuntu/+source/lightdm/+bug/984785>

Pretty sure it's not ubuntu one - I don't have it here and have the files.

I delete them every now and again, not caused me any issues.

You can run this command in a terminal to delete them all:

```
cd && rm .goutputstream-* -v
```

---

**Tags:** [gnome](#)

---

[Q: Desktop doesn't remember brightness settings after a reboot](#)

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[Q: Why is Ubuntu switching to Unity?](#)

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[Q: Desktop forgets theme?](#)

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[Q: How do I install and use the latest version of GNOME?](#)

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[Q: Difference between vim-gtk and vim-gnome](#)

---

[Q: How do I reset GNOME to the defaults?](#)

---

[Q: How to revert to GNOME Classic Desktop?](#)

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[Q: How can I create launchers on my desktop?](#)

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[Q: Why are .goutputstream-xxxxx files created in home folder?](#)

---

# System Installation

## Questions

### [Q: When installing I'm given the option of encrypting my home folder — what does this do?](#)

Tags: [system-installation](#) ([Next Q](#)), [encryption](#) ([Next Q](#))

- Does encrypting my home folder make my computer more secure?
- Do I have to enter my password more if my home folder is encrypted?
- What else should I know about encrypting my home folder?

Tags: [system-installation](#) ([Next Q](#)), [encryption](#) ([Next Q](#))

User: [david-siegel](#)

---

[Answer](#)  by [marco-ceppi](#)

#### Simply

1. Encrypting your home folder doesn't actually make your computer more secure - it simply makes all the files and folders in your home folder more secure from unauthorized viewing.
  - Your computer is still “vulnerable” in a security standpoint - but it becomes very difficult for your content to be stolen (unless the attacker has your password).
2. You won't need to actually enter your password any more than you normally do - when you log in to your computer your files are seamlessly decrypted for just your session.
3. There is a possibility (depending on your computers hardware) that this will affect the performance on your machine. If you're worried about performance more than security (and you're on an older machine) you may wish to disable this feature.

#### Technically

Ubuntu uses “eCryptfs” which stores all the data in a directory (this case the home folders) as encrypted data. When a user is logged in that encrypted folder is mounted with second decryption mount (this is a temporary mount that works similar to tmpfs - it's created and run in RAM so the files are never stored in a decrypted state on the HD). The idea is - if your hard drive is stolen and the contents read those items aren't able to be read since Linux needs to be running with your authentication to create the successful mount and decryption (The keys are SHA-512 encrypted data based of several user aspects - the keys are then stored in your encrypted key ring). The end result is technically secure data (as long as your password isn't cracked or leaked).

You will not have to enter your password any more than usual. There is a slight increase of Disk I/O and CPU which (depending on your computer specs) may hinder performance - though it's quite seamless on most modern PCs

---

**Tags:** [system-installation](#) ([Next Q](#)), [encryption](#) ([Next Q](#))

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## **Q: Which computers are guaranteed to work?**

**Tags:** [system-installation](#) ([Next Q](#))

Before I buy my next laptop, I'd like to make sure that it will work perfectly with Ubuntu. Is there a list of *completely* supported computers anywhere?

**Tags:** [system-installation](#) ([Next Q](#))

**User:** [david-siegel](#)

---

[Answer](#)  by [marco-ceppi](#)

There is an ongoing QA effort for Laptops and Desktops in the Ubuntu Community - you can find that information here:

[Old Ubuntu Laptop Reports](#)  and for everything 11.04 and onwards, [Laptop Testing Site](#)  and more recently at [Ubuntu Friendly](#) 

You can find the reports for Lucid tested Laptops tests here: [10.04 Lucid Laptop Tests](#) .

The best course of action is to find a handful of laptops you're interested in then check the Reports on each.

If you feel compelled to help you can find more information at the [Laptop Testing](#)  page.

Finally there is a detailed list of compatible systems on the [Ubuntu Certification](#)  page.

---

[Answer](#)  by [snostorm](#)

If you get a computer with Ubuntu preinstalled, it's guaranteed to work with Ubuntu. Dell (<http://www.dell.com/ubuntu> ) and System76 (<http://www.system76.com/> ) are the two most recommended companies from which to get Ubuntu computers.

---

[Answer](#)  by [jorge-castro](#)

[This page](#)  on [ubuntu.com](#) has the breakdown of certified machines by manufacturer and model type.

---

**Tags:** [system-installation](#) ([Next Q](#))

---

## **Q: What's your recommendation on drive partitioning schemes for a desktop and home server?**

**Tags:** [system-installation](#) ([Next Q](#)), [partitioning](#) ([Next Q](#))

What partitioning scheme do you recommend for a desktop? I've always created three or four primary partitions — root, swap, home, and sometimes a separate boot partition. Ubuntu's default install offers LVMs. I've never had to add additional drives or space, so it never seemed like a big deal. Whenever I do a fresh install, though, I always think there might be a better way.

**Tags:** [system-installation](#) ([Next Q](#)), [partitioning](#) ([Next Q](#))

**User:** [tinker](#)

---

[Answer](#)  by [buttlink](#)

1. / (i.e. the root filesystem)
2. swap
3. /home

The biggest reason to do this is that you can do anything to your Ubuntu install and it won't affect your music/videos/whatever in your home. I especially enjoy this when a upgrade to a new Ubuntu version and the installation goes weird.

---

[Answer](#)  by [evan](#)

Generally speaking, you shouldn't bother with a separate /home or /boot partition unless you're running multiple Linux distributions at once.

The Ubuntu installers for both the desktop CD and server/alternate CD have the ability to install over an existing system, preserving your home directory (and the local system driectories: /usr/local, /usr/src, and /var/local). This functionality also reuses the user ID and group ID of an existing user, if it has the same username as the user you're creating during installation.

To use this option when installing, choose the option for advanced partitioning, then select your existing / or /home partition. In the box that appears, make sure the filesystem selected matches the existing filesystem of that partition, and that the format box is not checked. Proceed as normal through the rest of the options.

In Ubuntu 10.10 we had hoped to add an option to the installer that detected when you had an existing copy of Ubuntu installed and offered to replace it with the newer version you were attempting to install (using the aforementioned functionality behind the scenes). While it did not make the final cut, it is likely to arrive in Ubuntu 11.04.

As for a separate /boot partition, that's a relic of hardware constraints of the past (the bootloader 1024 cylinder limit). I can think of no practical advantage a separate /boot would have on a modern system, and if not given an arguably excessive amount of space, it will potentially fill up and create problems of its own, given that Ubuntu does not automatically remove old kernels.

---

**Tags:** [system-installation](#) ([Next Q](#)), [partitioning](#) ([Next Q](#))

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## **Q: What's the difference between Wubi and a regular “alongside Windows” installation?**

Tags: [system-installation](#) ([Next Q](#))

At this time, **Wubi does not work with Windows 8** default boot-loader. Thus at this point Wubi would not work on a new Windows 8 machine.

Citation from [WubiGuide](#)

# Question

Recently I've learned of [Wubi](#), a way to install Ubuntu right from Windows.

Besides installing from Windows, I would like to know key differences between a regular “alongside Windows” or Dual-boot Ubuntu installation and one done with Wubi. Are there any disadvantages (for example a performance penalty) or incompatibilities I should look out for when using Wubi?

**Tags:** [system-installation](#) ([Next Q](#))

**User:** [cesar](#)

---

[Answer](#) by [nicholas-knight](#)

You can expect disk performance to be a bit lower (bouncing through NTFS isn't exactly ideal), and you're still somewhat at the mercy of Windows. If your Windows install goes pear-shaped, you may lose access to your Wubi install, too. The reliance on NTFS would also give me heartburn in general, but that by itself probably won't be a serious reliability problem.

Other than that, I can't think of anything that should be different. If you do find a problem, report a bug! :)

There is one other catch noted on the [Wubi FAQ](#) in addition to performance/reliability: Hibernation isn't supported.

(I'll note for the record, however, that even with native installs, I've rarely had reliable suspend or hibernation support in any Linux distribution, including Ubuntu.)

- [What performance differences are there when installing with Wubi?](#)
- 

**Tags:** [system-installation](#) ([Next Q](#))

---

## [Q: How can I install Ubuntu without removing Windows?](#)

**Tags:** [system-installation](#) ([Next Q](#)), [windows](#) ([Next Q](#))

I need my pre-installed version of Windows 7 (or any other version of Windows), how could I install Ubuntu without erasing it?

**Tags:** [system-installation](#) ([Next Q](#)), [windows](#) ([Next Q](#))

**User:** [dani-barca-casafont](#)

---

[Answer](#) by [fader](#)

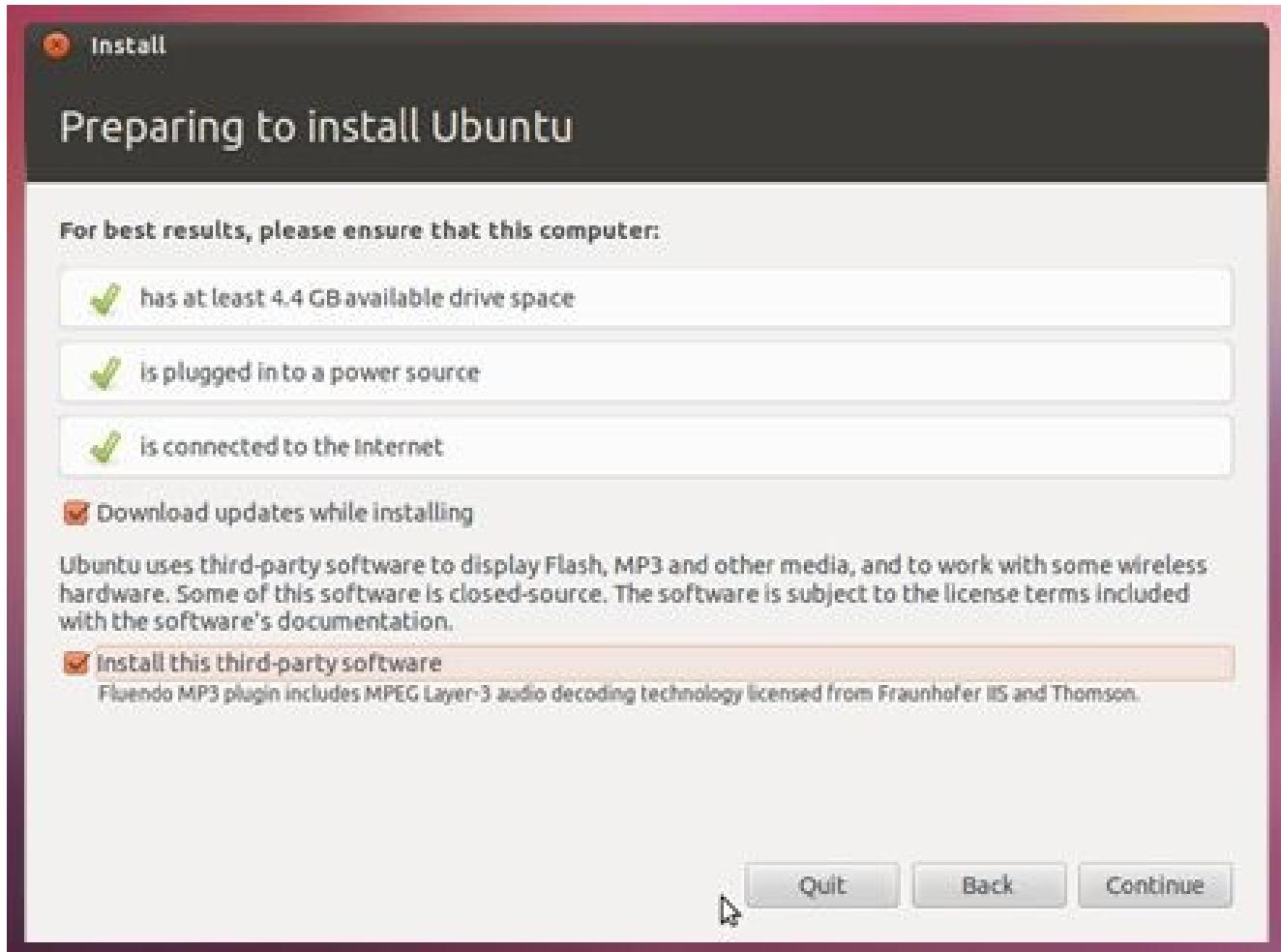
The instructions below are for Ubuntu 11.10. Other versions will be similar but might

have a slightly different appearance or order. You must make sure that Windows is correctly shutdown (no Hibernation, no Suspend, no Fast Boot) and your NTFS drive is healthy.

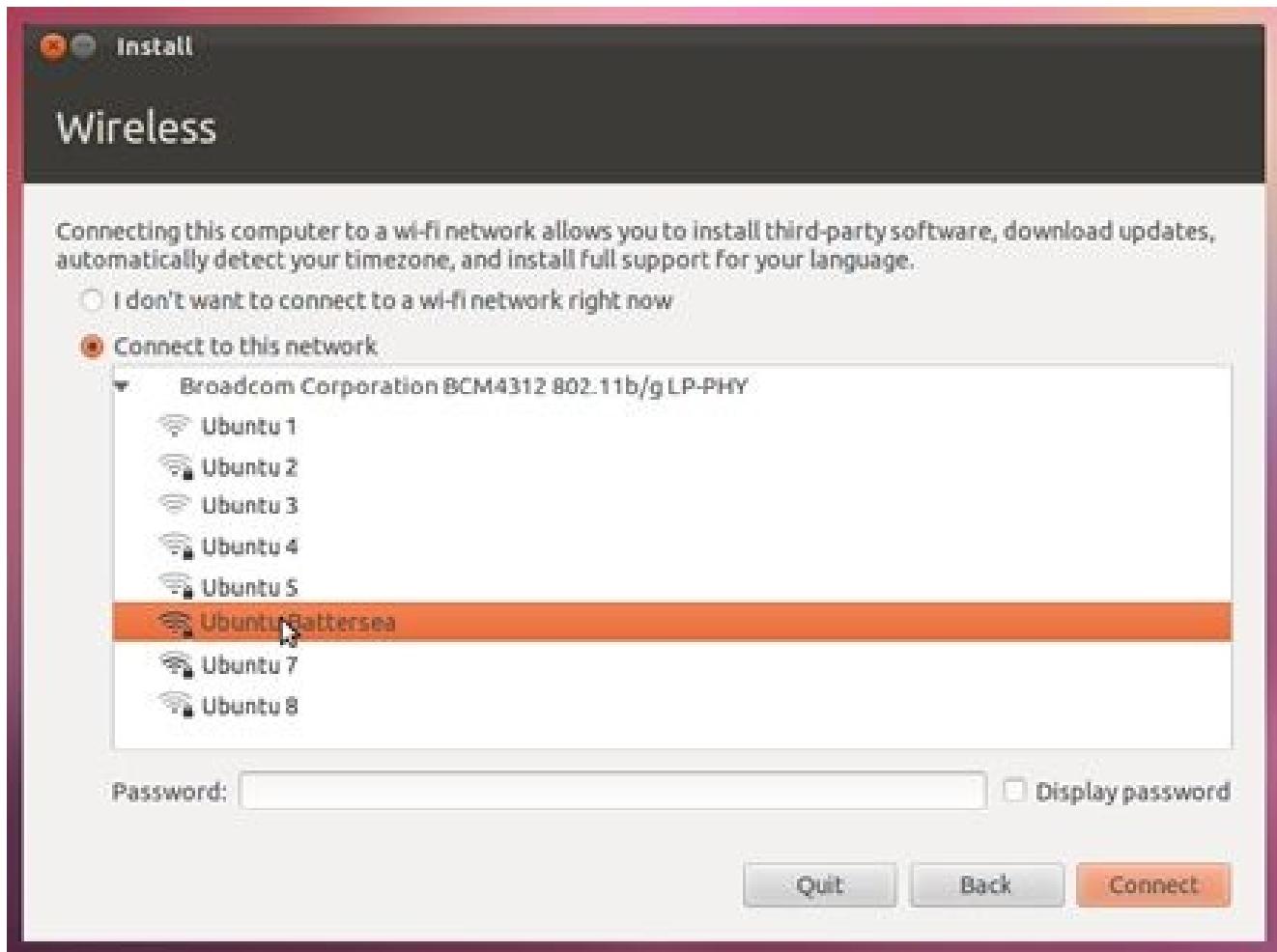
1. Boot from your Ubuntu CD or USB stick. When prompted, choose “Install Ubuntu”.



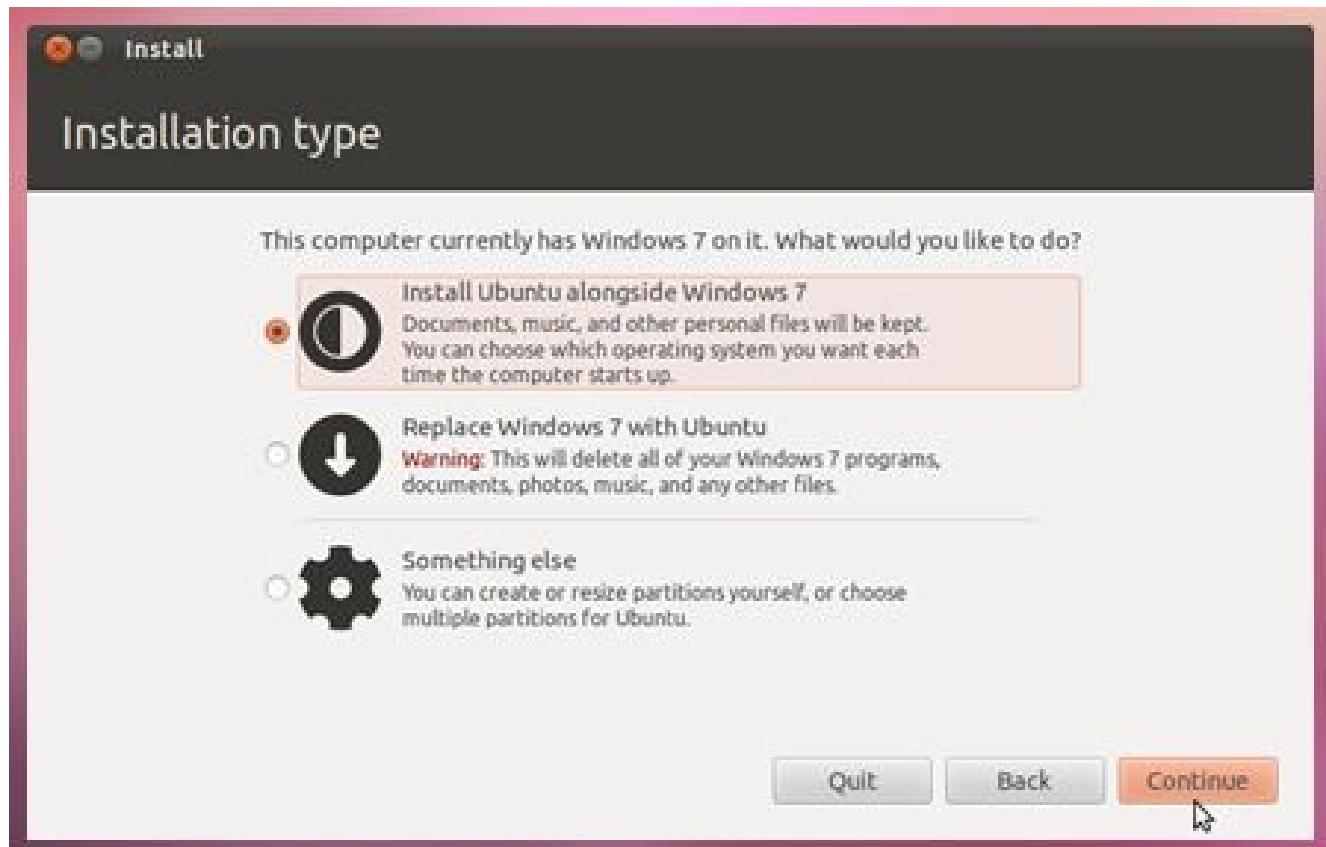
2. Ensure that you meet all the installation prerequisites. Ideally, connect to the internet at this time as well.



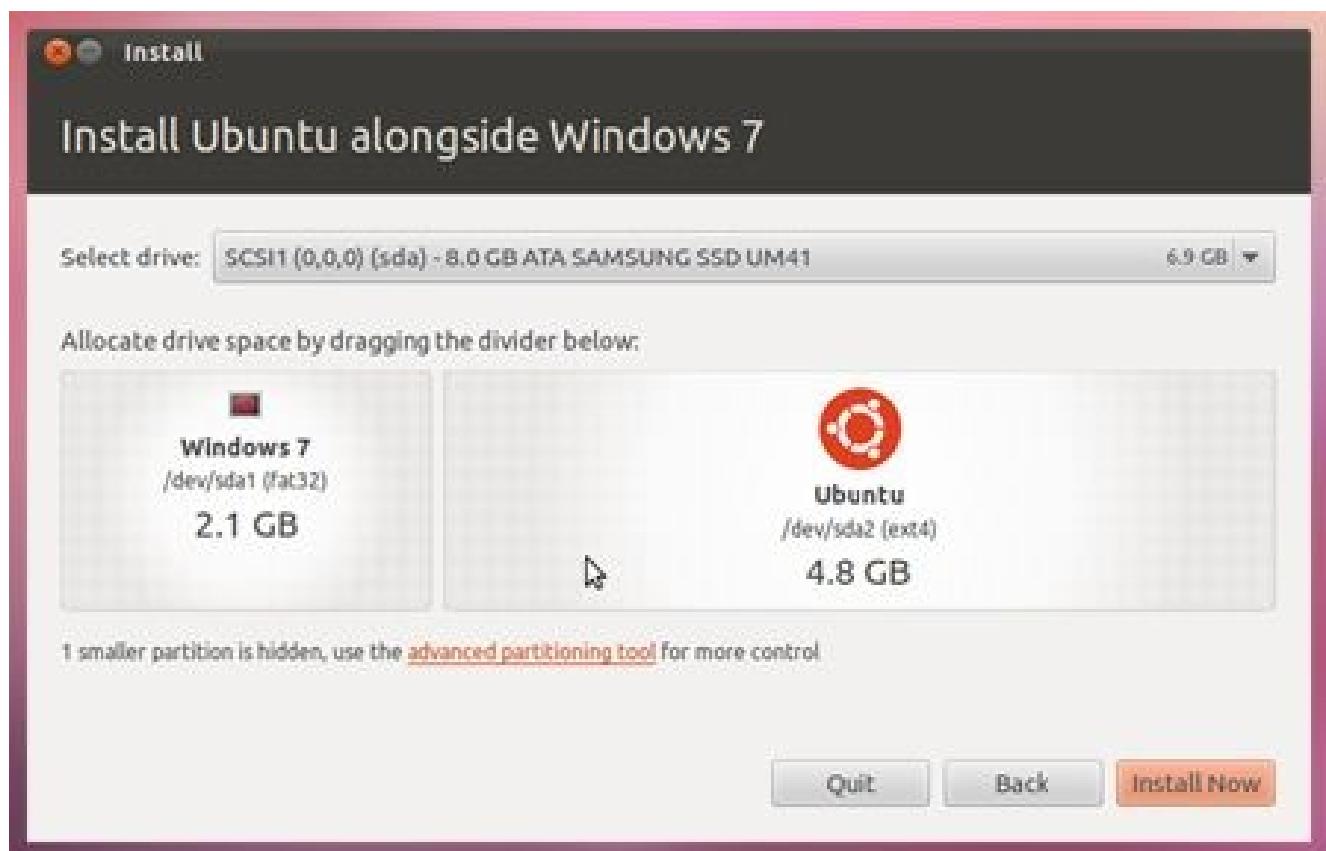
3. If you have wireless network hardware and there is an available network, you can (optionally) connect to it at this time.



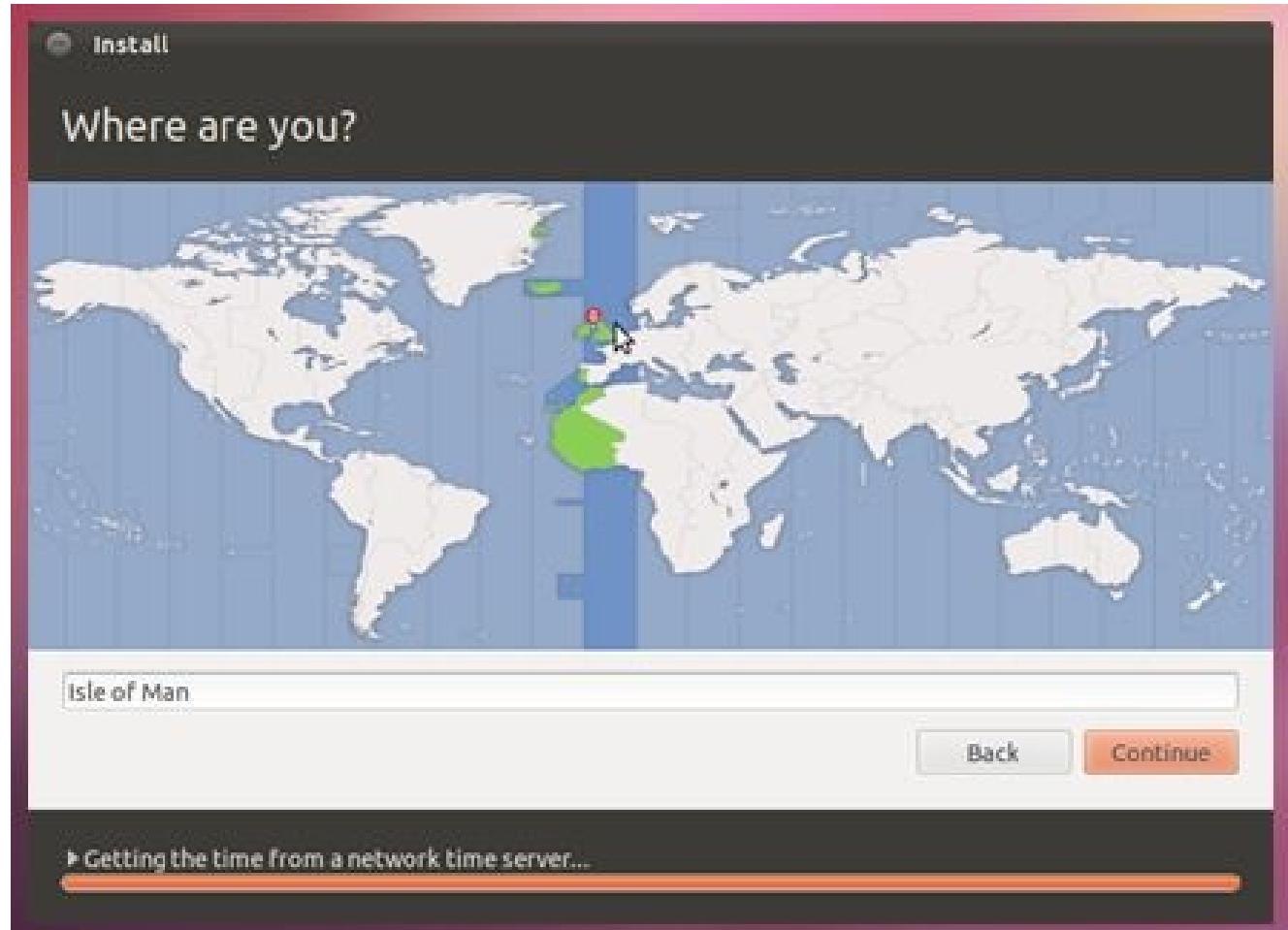
4. Be certain to choose "**Install Ubuntu alongside Windows**" (or "other operating systems" or other similar wording, depending on your system configuration). This is the important step that will ensure that Ubuntu and windows are **both** available after the installation.



5. Choose how much space to give to Ubuntu and Windows. How much you give each one is up to you.



6. Complete the rest of the installation by setting your timezone and entering information about your computer and yourself.



Install

## Keyboard layout

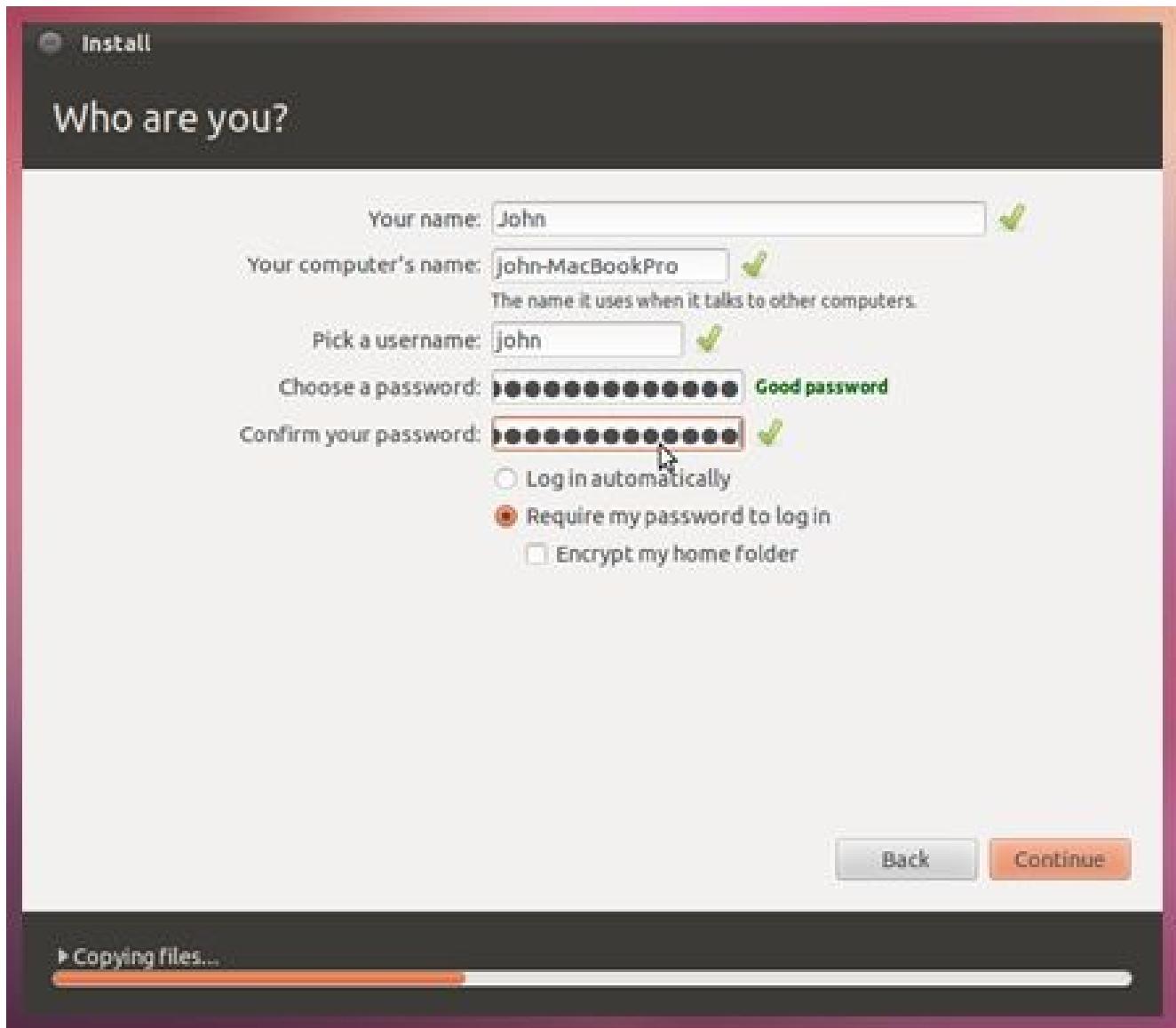
Choose your keyboard layout:

|                               |   |
|-------------------------------|---|
| English (Cameroon)            | English (UK)  |
| English (Ghana)               | English (UK) - English (UK, Colemak)                      |
| English (Nigeria)             | English (UK) - English (UK, Dvorak with UK punctuation)   |
| <b>English (South Africa)</b> | English (UK) - English (UK, Dvorak)                       |
| English (UK)                  | English (UK) - English (UK, Macintosh international)      |
| English (US)                  | <b>English (UK) - English (UK, Macintosh)</b>             |
| Esperanto                     | English (UK) - English (UK, extended WinKeys)             |
| Estonian                      | English (UK) - English (UK, international with dead keys) |
| Faroese                       |   |

Detect Keyboard Layout

Back Continue

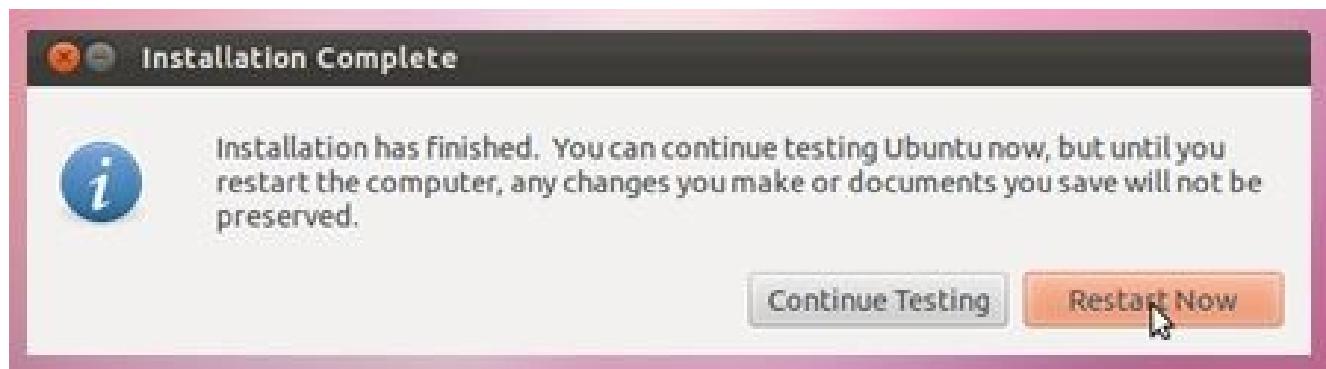
▶ Copying files...



7. Enjoy the informative slide show while the system installs.



## 8. Restart and enjoy Ubuntu!



- <http://www.ubuntu.com/download/ubuntu/windows-installer>

---

Answer by [ricky](#)

You can do it either with Wubi or you can install it in a separate partition.

These links may be useful:

- [Wubi Guide](#)
  - [How to partition](#)
- 

Tags: [system-installation](#) (Next Q), [windows](#) (Next Q)

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# Q: How can I install Windows after I've installed Ubuntu?

**Tags:** [system-installation](#) ([Next Q](#)), [windows](#) ([Next Q](#)), [dual-boot](#) ([Next Q](#))

I have Ubuntu on my laptop. Now I want install Windows 7 in a dual-boot. How can I do this?

I can't lose my Ubuntu files, and I'm afraid that I might break [GRUB](#).

**Tags:** [system-installation](#) ([Next Q](#)), [windows](#) ([Next Q](#)), [dual-boot](#) ([Next Q](#))

**User:** [sk8er](#)

---

[Answer](#) by [evgeny](#)

Here's the general outline:

1. Make space for Windows 7
2. Install Windows 7
3. Reinstall [GRUB](#)
  1. Mount the /boot partition
4. Install the boot loader

## Step One

Open up [GParted](#), and make sure that you have at least 20 GB available for Windows 7, either as a partition you can remove, or as unpartitioned space. If it's a partition, remove it from GRUB to make sure it doesn't break your Ubuntu install — GParted will complain if anything bad is about to happen. *Make note of current /boot device. If that doesn't show up there, make note of the / device. The device name is something like sda5.*

## Step Two

Install Windows 7 into the space you just made

## Step Three

Load up from your [Ubuntu live CD](#), and then run these commands.

If you DO NOT have a separate /boot partition:

```
sudo mount /dev/DEVICENAME_FROM_STEP_ONE /mnt
sudo rm -rf /boot      # Careful here, make sure YOU ARE USING THE LIVE CD. I tried it, it works.
sudo ln -s /mnt/boot /boot
```

If you have a SEPARATE /boot partition:

```
sudo mount /dev/DEVICENAME_FROM_STEP_ONE /boot
```

## Step Four

Then continue with those commands:

```
sudo apt-get update && sudo apt-get install grub-pc  
sudo grub-install /dev/sda      # NOTE THAT THERE IS NO DIGIT  
sudo umount /boot
```

And restart. It should work fine and boot both systems.

---

[Answer](#)  by [peachy](#)

Installing **Windows** after **Ubuntu** is not the recommended process for a dual boot Windows and Ubuntu system, but it is possible.

- First, you have to make sure that the 50GB free space is available, resizing your Ubuntu by using *gParted* if necessary.
- Also use *gParted* or *Disk Utility* to format the the free space as **NTFS**, this prevents Windows 7 from creating an additional boot partition in addition to the “C” drive.
- Next, boot to the Windows DVD installer and install Windows on the NTFS partition. Upon reboot, Windows will automatically boot and you won’t see the grub menu allowing you to choose Ubuntu, because the Windows bootloader has replaced grub.
- Now, what you need to do is run Ubuntu from **LiveCD** or **LiveUSB** and [install boot-repair](#) .
- To install **boot-repair**, open up a terminal by pressing **Ctrl+Alt+T** and type the following commands:

```
sudo add-apt-repository ppa:yannubuntu/boot-repair && sudo apt-get update  
sudo apt-get install -y boot-repair && boot-repair
```

- After installation, **boot-repair** will automatically launch, if is doesn’t, launch it via Dash.
- Make sure to select **recommended repair** to repair grub. Reboot and that’s it.
- You should now have a Grub menu on boot, allowing you to choose from Ubuntu, memtest, and Windows 7

---

**Tags:** [system-installation](#) ([Next Q](#)), [windows](#) ([Next Q](#)), [dual-boot](#) ([Next Q](#))

---

**Q: How do I install Ubuntu to a USB key? (without using Startup Disk Creator)** 

**Tags:** [system-installation](#) ([Next Q](#))

If you are hurrying to reply, System Administration **StartUp Disk Creator** — no, that's not what I'm talking about.

I want to try Ubuntu 11.04's Unity without touching my existing Ubuntu install.

To do this, I need to install the nVidia drivers first (sigh).

To do this, I need changes to persist a reboot.

To do this, **I need to *really* install Ubuntu on a USB key.**

How do you do that?

---

# What I tried

1. I tried to make a USB key from [Testdrive](#), then boot from it, then choose “Install Ubuntu.” The installer refused to install to the installation media itself.
2. I tried, from my installed copy of Ubuntu:

```
sudo kvm /dev/sdb --cdrom .cache/testdrive/iso/ubuntu_natty-desktop-i386.iso
```

...but the installer didn't detect the disk properly.

**Tags:** [system-installation](#) ([Next Q](#))

**User:** [badp](#)

---

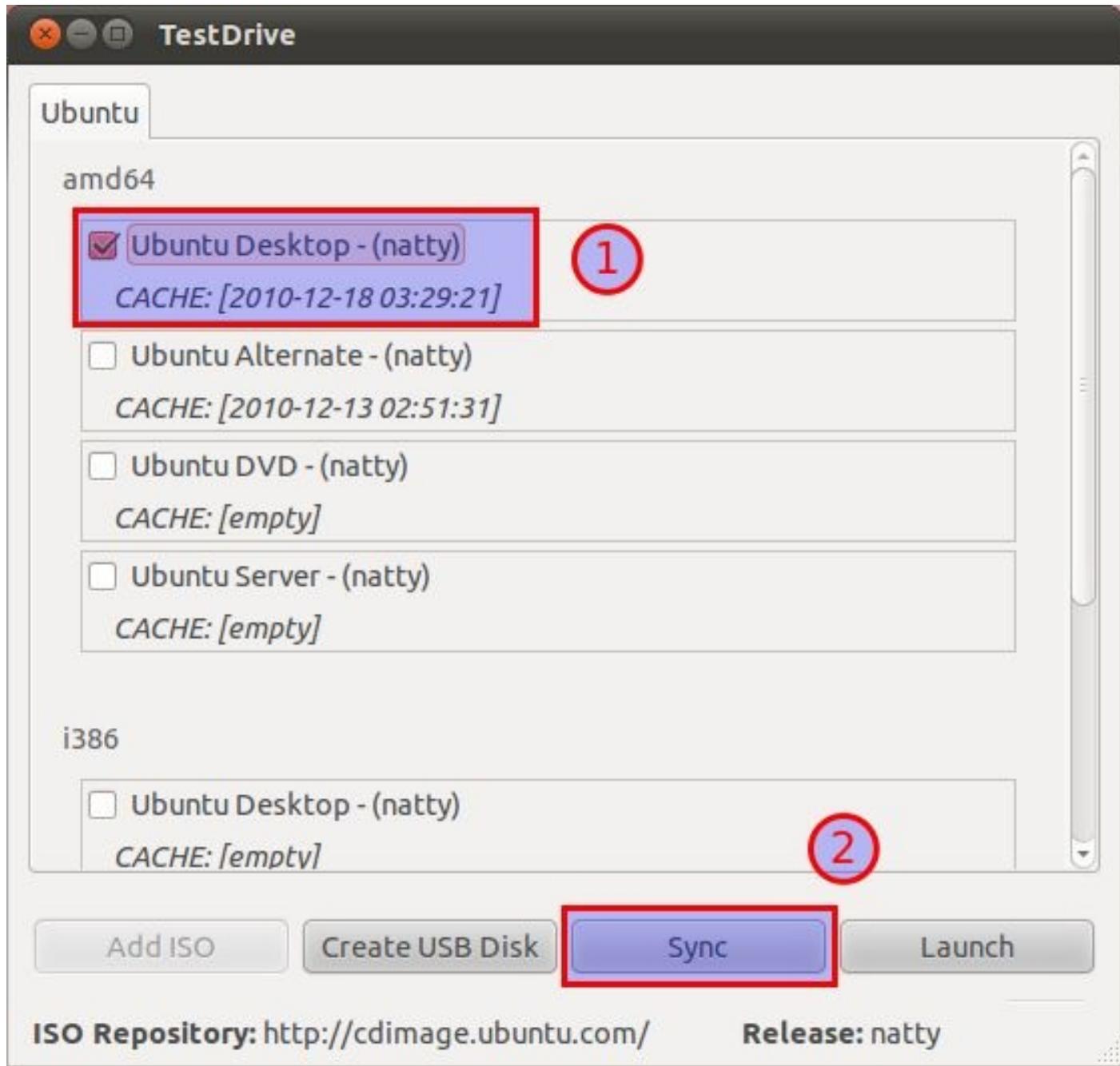
[Answer](#) by [badp](#)

# Ubuntu/Linux solution

## 1. Obtain latest image

You should do this with [testdrive](#) 

# Missing Image



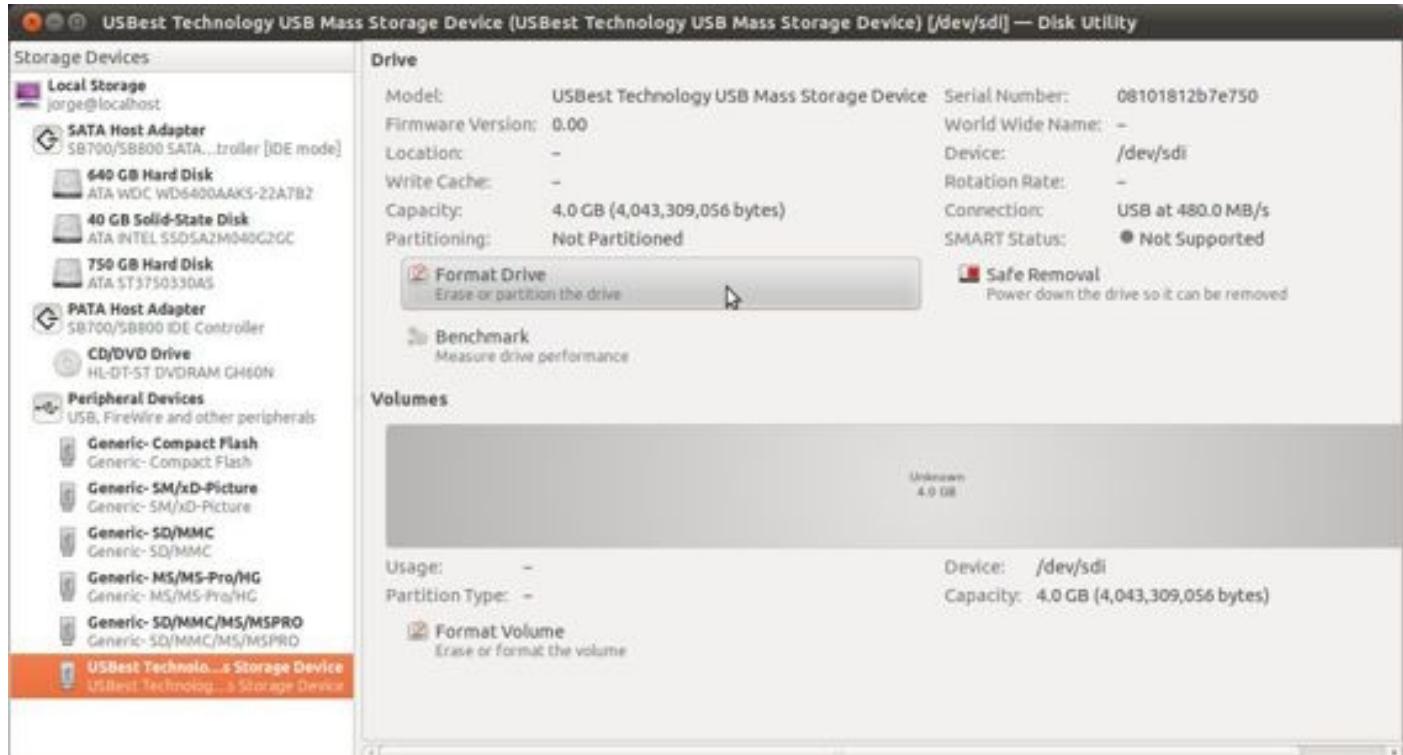
**Note.** If your key is smaller than 4.4 GB (for Ubuntu 11.04), you **must** get the alternate

installer. The Desktop installer refuses to continue if there is less than 4.4 GB of free disk space.

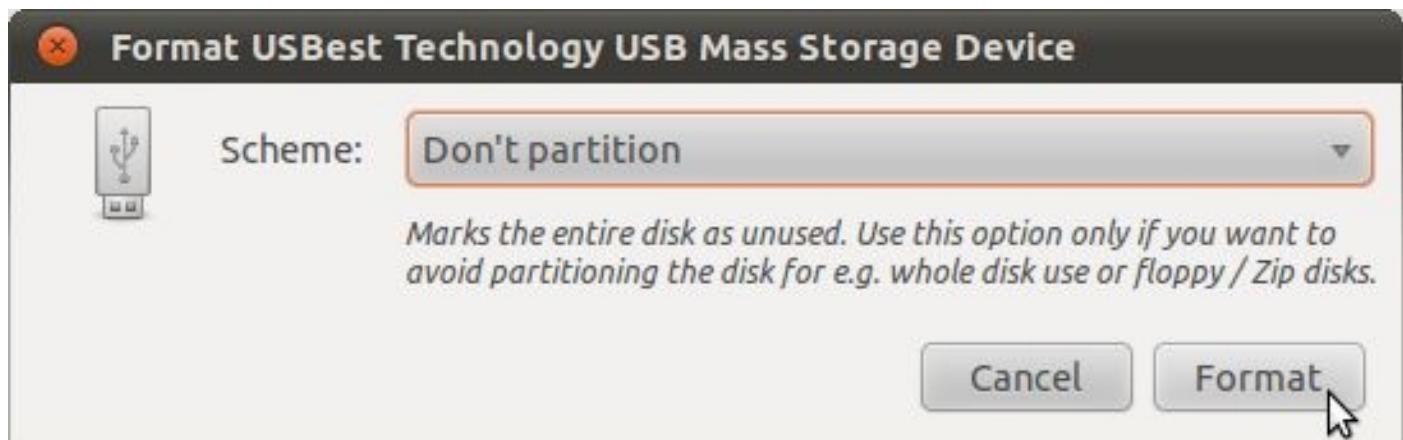
## 2. Format the USB disk.

This is important if you already have anything looking like a Linux install on your disk, or the installer will not want to touch that disk, for some reason. I failed earlier because I didn't perform this step, so skip at your own risk! You need a key that is at least 3GB in size.

You can do so from System Administration Disk Utility. Choose the destination USB key, unmount all partitions and select *Format Drive*.



You need to make sure you select “Don’t Partition” before it lets you format the disk.



### 3. Start a virtual machine on the USB key

I made sure (with `file`) that my USB key was in `/dev/sdb`, then ran:

```
sudo qemu-system-x86_64 /dev/sdb -cdrom ~/cache/testdrive/iso/ubuntu_natty-desktop-i386.iso
```

...to install the i386 ISO of Natty desktop — the file name will vary if you download a different ISO.

Details for your virtualization solution of choice will vary, but you want to use the *device file* of your USB key as the VM's hard drive.

Append `-boot order=dto` to the kvm command to make it boot from the image in case it tries to boot from the 'hard disk' and fails because it cannot find an operating system there.

## 4. Install normally.

At this point you are working on a virtual machine that sees your USB key as the only connected hard drive. From inside the “QEMU” window, install as you would normally do.

A few notes:

- **Partitioning.** Avoid using the automatic partitioning system, as it will create a swap partition on your USB key. That’s no good, as swapping becomes *super* slow (seconds-long system freezes slow) and quickly kills your drive’s life. Simply allocate a single partition for `/`. If you’re using the alternate installer, make sure you set the `noatime` flag to further reduce the amount of writes to the disk.
- **Updates.** Skip the option to automatically download and install updates. It is not guaranteed that the repositories will be in a consistent state by the time you run the installer. Personally, I’d rather manage the upgrades manually with a tool such as [aptitude](#) (which does no longer ship with Ubuntu by default).
- **Alpha-quality software.** Things are a little wonky — it is alpha quality software, after all. I had `dpkg` exiting with error code 1 without being able to review the error — no packages were broken as a result, however. I tried to shutdown the virtual machine cleanly after the setup, but it hung. On a reboot, however, the system booted fine.

## 5. Reboot and boot into your copy of Ubuntu

You may need to fiddle with your BIOS settings to make this work.

---

A nice (or annoying, based on your use case) thing about Ubuntu on a USB is that next time it'll refresh GRUB, it'll also detect and add to the list the kernels and operative systems on the HDD. This should let you boot straight into your HDD from your USB key's GRUB.

---

[Answer](#)  by [takkat](#)

# Installing Ubuntu to a removable USB drive with Virtual Box

In order to install Ubuntu to a portable external USB drive (either disk or stick) we may also use **Virtual Box** to install from a virtual environment. For USB 2.0 support the closed source but free [PUEL-version of Virtual Box](#) is needed.

## Create a virtual machine for the installation live environment:

We create a virtual machine for a Linux/Ubuntu environment (32- or 64-bit, depending on the installation medium):



As we want to install to an USB drive we **do not create a virtual harddisk (VDI)** for this machine by unticking the box in the following window:



We then need to assign system memory (e.g. 1024 MB), graphics memory (e.g. 128MB), and adjust CPU settings according to our host hardware. Also we may want to create a **bridged** network in order to be able to download files during the installation.

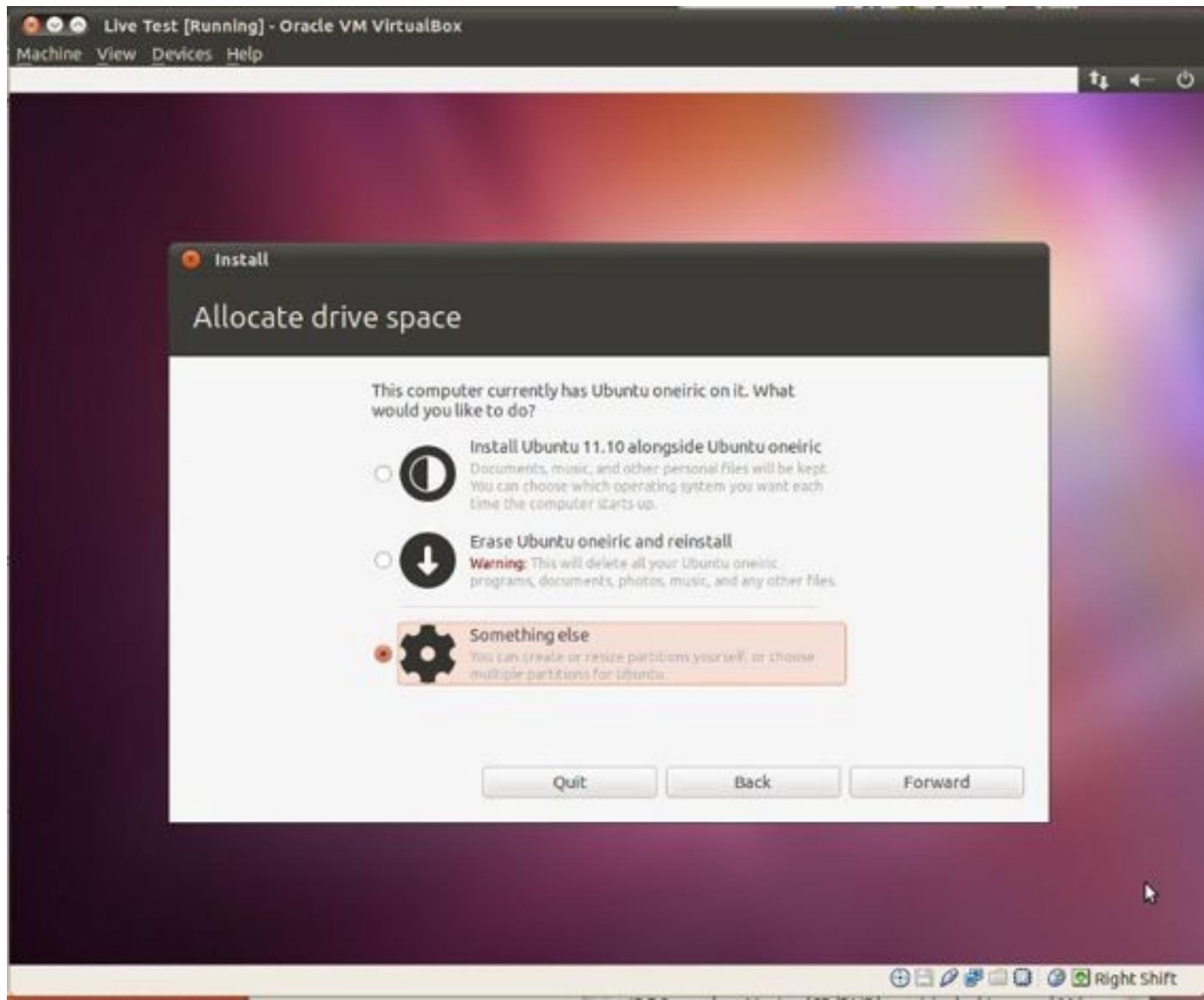
## Mount the installation CD to the virtual machine:

In the *Storage* menu from Virtual Box Manager we select the .iso image of our installation CD to mount as CD drive. Make sure the boot order of the virtual machine is set to boot from CD.



## Mount the USB drive to the installation environment

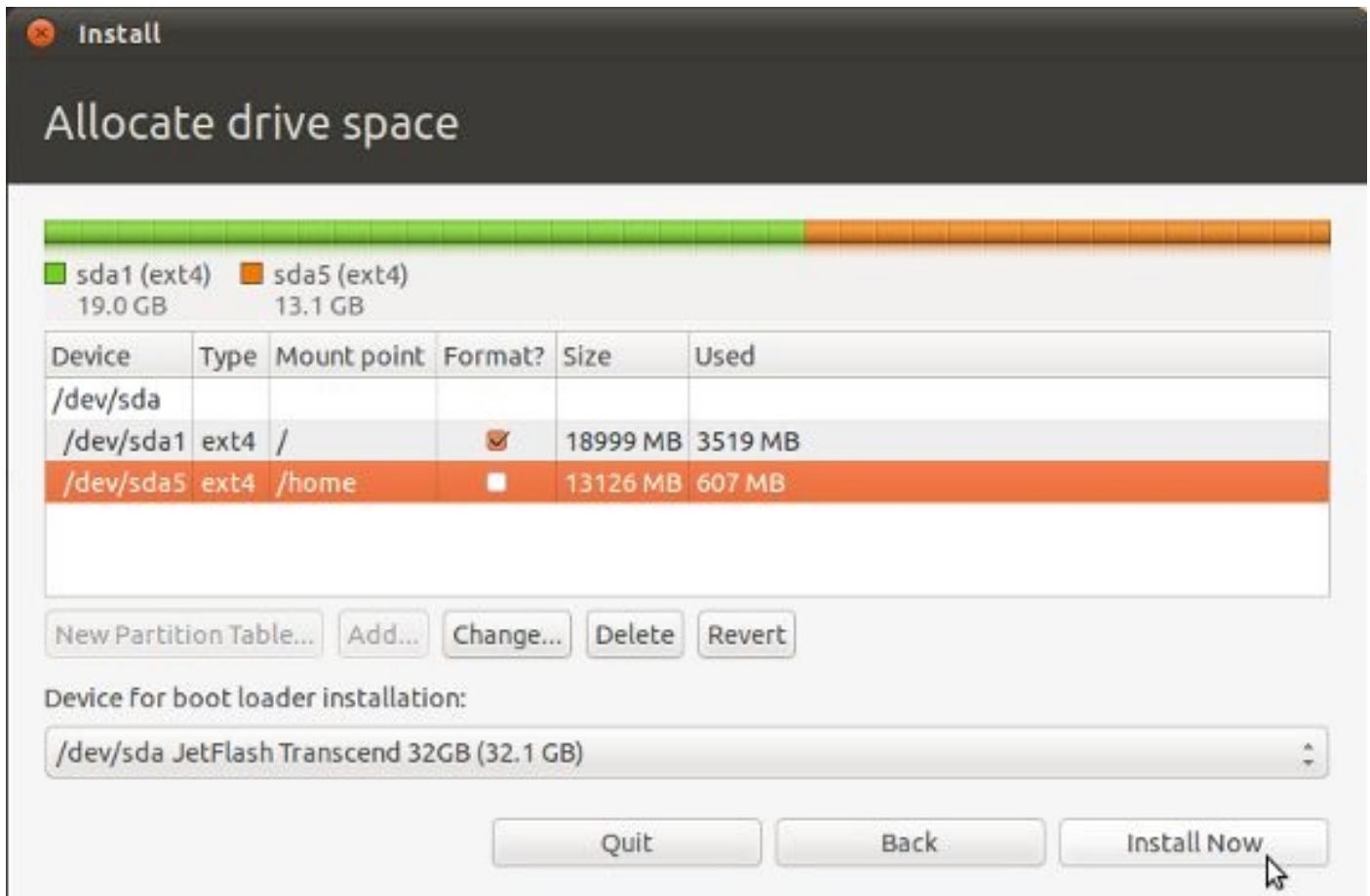
After we started the virtual machine ([USB support](#) needs to have been set up first) to boot the installation CD we need to mount the USB drive either by clicking on the small icon in the bottom panel or by choosing from *Devices -> USB Devices* menu of Virtual Box Manager.



This is when the USB drive needs to have been mounted before we proceed

## Partition and format the USB drive

After having chosen *Something else* the graphical partition manager GParted will guide us through the partitioning process:



We need at least a partition with a mount point root (/). In the example above an additional /home partition was created. By unticking *Format* we keep the data that may already be there. A /swap partition may not be needed for an USB-stick or a portable drive.

- **At this point take extra care that the boot loader Grub indeed will be installed to the USB drive (/sda) and not to anywhere else**

By selecting *Install Now* we start the installation to our USB drive. Consider that this installation may take a bit longer than we are used to.

After the installation has finished we may unmount our drive eith the brand new operating system and boot from any other machine to customized it to our needs.

- **Do not forget to enable booting from USB in this computer's BIOS.**

---

[Answer](#) by [zkriesse](#)

If you are talking about an actual install, as in a full Ubuntu install rather than just a Live USB type then what you can do is use an external hard drive that plugs in via USB and install to that via the following method.

*Please Note: The following steps were tested using Ubuntu Version 9.10, but has not been tested with the later versions. Use at your own risk & discretion.*

# **What You Will Need**

1. A Computer with Internet access.
2. A LiveCD or LiveUSB with Ubuntu.
3. An external Hard Drive with USB capability.

# What To Do

1. Open up your computer and remove the Hard Drive.
2. Plug in your external USB Hard Drive via the USB cable.
3. Stick in your LiveUSB or LiveCD and then boot up your PC.
4. Open up the boot menu, and choose to boot from the LiveCD/LiveUSB.
5. During the installation process you should see your external hard drive listed, install Ubuntu to that.
6. Finish the installation process, turn off your PC, and put your other hard drive back into your computer.
7. Reboot your computer, go to the boot menu and select your external hard drive and attempt to boot from it. If it does congratulations, you now have an external hard drive with a full fledged Operating System on it.
8. Enjoy your external hard drive running Ubuntu/Linux! Please do let me know if this helps you! If not let me know about that too. :)

But if you're just wanting a Live USB then you can use the Universal USB Installer for that or the Ubuntu USB Startup Disk Creator...

---

**Tags:** [system-installation](#) ([Next Q](#))

---

## [Q: Installing Ubuntu on a SSD](#)

**Tags:** [system-installation](#) ([Next Q](#)), [ssd](#) ([Next Q](#))

Going to install Ubuntu 10.10 on new intel x25M 80GB SSD. It will be fresh install. I have been googling for past few days and getting overwhelming articles/blogs/Q&As. One particularly very useful being:

### [How do I optimize the OS for SSDs?](#)

But with so many suggestions and differences of opinions (on different links) this simple OS install process seems to be daunting task to me and I really want to stick with Ubuntu (although have used for very short period of time).

Can someone help me by answering few questions (yes, they are repeated because I couldn't comprehend the answers elsewhere)

1. Which file system (ext2/3/4 or something else)? (consider SSD life)
2. Can it be changed after installation?
3. Should I partition the disk? (as we do in traditional HDD) for now, no plan of dual booting. Only Ubuntu will live on scarce space of 80GB SSD.
4. I have 2 GB RAM, should i still allocate swap space (if I don't allocate swap space, can I still hibernate the machine)? will swap space impact SSD life?
5. Should I consider putting additional 1GB RAM to avoid swap space?

6. What is partition aligning? Is it needed to be done before installing the Ubuntu OS or can be done later?

Intended usage - heavy browsing, programming, regular video/music and some other non-CPU/RAM-intensive programs. Will keep big files in an external hard drive.

laptop config - 3yr old Vaio, Core2 Duo, 2GB RAM

More references:

- <http://opentechnow.blogspot.com/2010/02/linux-ssd-optimization-guide.html> 
- [Is a 40GB SSD practical to use for ‘ / ‘](#) 
- <http://ubuntuforums.org/archive/index.php/t-1145332.html> 
- <https://help.ubuntu.com/community/SwapFAQ> 
- <http://ubuntuforums.org/showthread.php?t=1242740>  (resizing/creating does not seem a simple process after look this)
- <http://en.dogeno.us/2010/01/karmic-with-solid-state-disk-how-to-optimize-ubuntu-for-ssd/> 
- [How to enable TRIM?](#)

**Tags:** [system-installation](#) ([Next Q](#)), [ssd](#) ([Next Q](#))

**User:** [kunal](#)

---

[Answer](#)  by [openningia](#)

I'll start by saying that the answer you linked already summarizes all the optimizations you may need.

Next, to answer your questions:

**1. Which file system (ext2/3/4 or something else)? (consider SSD life)**

ext4 is a good filesystem even for SSD, so that would be my suggestion. (If you want performance so bad you should try XFS )

**2. Can it be changed after installation?**

Yes, but it is not trivial, so choose well from the start :)

**3. Should I partition the disk? (as we do in traditional HDD) for now, no plan of dual booting. Only Ubuntu will live on scarce space of 80GB SSD.**

This is really not a matter of SSD, but your personal choice. If you were to ask me I'll say no; don't partition the disk you will end in loosing useful space. (If you end with a partition with 2GB free and another with 1GB free, you theoretically have 3Gb free but cannot copy a 3GB file... that space is wasted )

**4. I have 2 GB RAM, should I still allocate swap space (if I dont allocate swap space, can i still hibernate the machine)? will swap space impact SSD life? I wouldn't worry so much about the SSD life ( modern one can run for decades ), however 2GB of RAM are enough not to need the swap partition. Finally the swap partition is needed in order to hibernation, so if you want to hibernate the machine then you need the swap partition.**

**5. Should I consider putting additional 1GB RAM to avoid swap space? 1GB more or ram is always useful :) do it if you can.**

**6. What is partition aligning? is it needed to be done before installing the Ubuntu OS or can be done later?**

That is the procedure where you align clusters, blocks and chunks. IMHO it is only needed on servers with a lot of data throughput. A good tool to do partition alignment is GParted. Of course this should be done **before** installing Ubuntu.

Hope this helps :)

---

**Tags:** [system-installation](#) ([Next Q](#)), [ssd](#) ([Next Q](#))

---

**Q: How can I install on a non-PAE CPU? (error “Kernel requires features not present on the CPU: PAE”)** 

**Tags:** [system-installation](#) [kernel](#) ([Next Q](#))

After burning Ubuntu 12.04 to a CD, I tried booting and got the message:

```
This kernel requires the following features not present on the CPU:  
pae  
  
Unable to boot - please use a kernel appropriate for your CPU.
```

What does this mean?

**Tags:** [system-installation](#) [kernel](#) ([Next Q](#))

**User:** [oshirowanen](#)

---

[Answer](#)  by [fossfreedom](#)

The error message means that your CPU does not support *PAE* extensions - that is a technique which allows a 32bit CPU to address more than 4GB of memory address space.

By default, 12.04 and later versions of Ubuntu expects a CPU with this capability:

PAE is provided by Intel Pentium Pro and above CPUs, including all later Pentium-series processors (except the 400 MHz-bus versions of the Pentium M). It is also available on other processors with similar or more advanced versions of the same architecture, such as the AMD Athlon [dubious discuss] and later AMD processor models. [wikipedia](#) 

While the above is strictly true, old systems which have the memory controller on the motherboard may not “expose” the CPU’s PAE support, effectively making them non-PAE.

There is a heated [bug report](#)  about this; Canonical has decided that the default Ubuntu Desktop install will expect PAE support.

A few suggested workarounds:

## Workaround 1: Install *Lubuntu* or *Xubuntu*, then install the regular Ubuntu Desktop

- Install either [Lubuntu 12.04 32-bit](#) or [Xubuntu 12.04 32-bit](#); both of these use a non-PAE kernel by default.
- Once you boot into your new Lubuntu/Xubuntu, you can then switch to the default Unity desktop by installing the `ubuntu-desktop` package.

## Workaround 2: Install an older version and then upgrade to 12.04

Install 10.04 or 11.10 and then upgrade to 12.04. See the linked question below for 12.10.

## Workaround 3: If you have a wired internet connection, use the “net install” mini-CD

- You will need a reasonably fast *wired* connection for this method — all packages will be downloaded over the internet.
- Download the non-PAE netboot CD image [mini.iso](#) and burn it to a CD or USB.
- Boot from it, follow the steps, and choose `linux-generic` when asked to choose a kernel, and `ubuntu-desktop` to get the “default” Ubuntu installation the regular Desktop CD would have given you, just with a non-PAE kernel.
  - You can also choose one of the other desktops. You *should* choose a desktop otherwise you will not have a GUI to play with after installation.

## Workaround 4: Ubuntu 12.04.5 and 14.04 (or later) on Pentium M only

- Ubuntu 12.04.5 and 14.04 support an option (“`forcepae`”) to enable PAE on Pentium M CPUs (where it is disabled by default). To enable it:
  - Boot the 32-bit Ubuntu (or Xubuntu etc.) installer
  - When the image of the keyboard and little man in circle appears hit the Tab key
  - “Choose your language” popup appears. Use the cursor keys and hit the Enter key to choose your language
  - Press F6, a grey menu will popup with some boot options
  - Press escape to close the window
  - You will now see a line that says:

```
Boot Options file=/cdrom/preseed/ubuntu.seed boot=casper
```

```
initrd=/casper/initrd.lz quiet splash --
```

Edit this line and add the `forcepae` parameter to the end:

```
Boot Options file=/cdrom/preseed/ubuntu.seed boot=casper  
initrd=/casper/initrd.lz quiet splash-forcepae
```

- Hit the Enter key, hopefully Ubuntu will boot and the rest of your install will be successful. If you have graphical problems with Unity, or just find it slow, try a more lightweight distribution like Xubuntu.
- 

Linked Question:

1. [How can I tell if a machine has PAE?](#) 
  2. [Will it be possible to use a non-pae kernel in recent versions of Ubuntu?](#) 
- 

[Answer](#)  by [rolandixor](#)

There is [a custom iso available](#)  (use at your own risk).

It worked for me, and I just had to install the relevant updates when I was done.

---

Tags: [system](#)-[installation](#) [kernel](#) ([Next Q](#))

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[Q: When installing I'm given the option of encrypting my home folder — what does this do?](#)

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[Q: Which computers are guaranteed to work?](#)

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[Q: What's your recommendation on drive partitioning schemes for a desktop and home server?](#)

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[Q: What's the difference between Wubi and a regular “alongside Windows” installation?](#)

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[Q: How can I install Ubuntu without removing Windows?](#)

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[Q: How can I install Windows after I've installed Ubuntu?](#)

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[Q: How do I install Ubuntu to a USB key? \(without using Startup Disk Creator\)](#)

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[Q: Installing Ubuntu on a SSD](#)

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[Q: How can I install on a non-PAE CPU? \(error “Kernel requires features not present on the CPU: PAE”\)](#)

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# Windows

[Skip to questions](#), Wiki by user [rolandixor](#)

Microsoft Windows is a popular operating system developed by Microsoft. If your question relates more to Windows than it does to Ubuntu, please use the [SuperUser](#)  forum - you can use the same [StackExchange](#)  account.

This tag may include Windows 95, Windows 98, Windows Millennium, Windows XP, Windows Vista, Windows 7 or Windows 8 .

The latest stable version is [windows-8](#) .

Questions with this tag should relate to Ubuntu to be on-topic for this site.

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# Questions

## [Q: How can I install Windows software or games?](#)

**Tags:** [windows](#) ([Next Q](#)), [wine](#) ([Next Q](#))

Can .exe and .msi files (Windows software) be installed in Ubuntu?

**Tags:** [windows](#) ([Next Q](#)), [wine](#) ([Next Q](#))

**User:** [akshatj](#)

---

[Answer](#)  by [tommy-brunn](#)

Yes, if you first install the [Wine compatibility layer](#) 

# Missing Image

from the Software Center, you can install Windows applications in Ubuntu. Be warned though that not all applications work perfectly or without glitches. Some applications are even unusable, while others work perfectly (see the [Wine Application Database](#)  for a good idea of how well various programs work).

Once Wine is installed, you can simply double click an .exe or .msi file to run it. If this doesn't work for some reason, right-click the file and select "Open With Wine Windows Program Loader". Of course, only run executables from sources you trust to avoid Windows malware.



If you run into compatibility issues, you may wish to try the latest Wine Beta version from the ppa:ubuntu-wine/ppa software source (see [What are PPAs and how do I use them?](#)). You might also consider installing [Winetricks](#) 

# Missing Image

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, [CrossOver](#) 

# Missing Image

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or [CrossOver Games](#) 

# Missing Image

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to install and use software more easily.

To see the debug output of Windows software (in case something goes wrong) run it from a terminal using `wine msieexec /i file.msi` or simply `wine file.exe`.

---

[Answer](#)  by [rafaÅ,-cieÅ,lak](#)

## **Short answer**

.exe files are not binary-compatible with Ubuntu. There are, however, compatibility layers for Linux, such as `wine`, that are capable of running .exe.

---

# Detailed answer and solutions

## The underlying problem:

Ubuntu is a completely different system than MS Windows. Not only it looks differently, but it also uses different mechanisms for its core functions.

The problem with .exe files is that they are *specific* to Windows. No other system is capable of running them, because their contents are designed to work on a Microsoft's system. Linux uses different standards, different concepts, and therefore Ubuntu applications need to be adapted to them to work correctly.

If you have just migrated from Windows and are doing your baby steps with Ubuntu, you may be indeed surprised that .exe files fail to run. There may be different symptoms, either an error message may appear, or there may be no effect at all when double-clicking an .exe. This all happens, because Ubuntu has **no idea** what should it do to run that file. Ubuntu is not knowledgeable about how MS Windows works “behind the curtain”, and therefore it can't execute the code that's within them. In technical jargon, one says that Windows and Linux executables are not binary-compatible.

## Looking for alternatives

The first thing you should do is to realise that most likely you do not want to run that .exe file. Most Windows applications you are used to have their Ubuntu **alternatives** in Ubuntu Software Center.

Therefore **the very first step when you try to run an .exe file** is to check whether there is a Ubuntu version of the same application (like Firefox - it has both a Windows and Ubuntu edition), or a close alternative, which is not the same app, but does 99% the same stuff. For example, if you want to compose a document, instead of MS Office you will want to use LibreOffice.

## How can I find an alternative?

Here are some tips.

1. Search Ubuntu Software Center.
  - Launch the Ubuntu Software Center, type in the search box what kind of application you are looking for. For example, typing in “photoshop” finds **The GIMP**, which is a great advanced image editing tool, and is a great substitute for Adobe Photoshop.
  - Many Windows applications are also available for Ubuntu, and have their *identical* version in Ubuntu Software Center, which is the preferred way of installing software in Ubuntu.
2. Search Ask Ubuntu (this very site).
  - There are many questions here that explain what applications can be used as substitutes. Also, do not forget to [ask a question](#)  if you need [software-recommendation](#) .
3. [This Ubuntu Help page](#)  contains great tips when seeking for alternatives.

4. <http://ubuntuguide.org/wiki/Alternatives>
5. <http://alternativeto.net/>

Okay, but not all applications have alternatives. There are a number of cases where you will want to run the .exe program anyway. Examples include:

- You are trying to run an application of which alternative makes no sense. In case of most video games you will want to run them and not an alternative.
- You may want to run the original application instead of an alternative, because the alternative is not good enough. For example, many people consider Photoshop to be a much better editor than The GIMP.
- This is a very Windows-specific program, that makes little sense on Linux.

***Luckily, you can get .exe files to run on Ubuntu.***

# Running .exe files on Ubuntu with WINE

What is [Wine](#)? Well, technically it's a compatibility layer. What it means is that it provides an environment similar to Windows to any .exe application you try to run. Therefore, with WINE .exe files will run on Ubuntu.

WINE is not installed by default. You can get it either by:

- Searching for “wine” in Ubuntu Software Center.
- Running the command: `sudo apt-get install wine`.

Details on installing WINE can be found in [this question](#).

## ***Okay, so I installed WINE. Now what?***

Proceed to launching your .exe file! Double-click it, and with a bit of luck everything will seem like on Windows. Voil!

**WARNING:** Not all applications will behave correctly when run with WINE. WINE is by no means perfect, and because it *pretends* to be a Windows environment instead of actually being a real one, some applications may malfunction. Common problems may include incorrectly displayed fields, fullscreen issues with video games, copy-protection problems. Some of them can be solved with little hassle, make sure to check the [WINE application database](#) and use google to find hints in case your .exe does not work correctly.

# Running Windows applications on Ubuntu with PlayOnLinux

There is another tool you may like which aids you in running Windows applications.

It's called PlayOnLinux ([website](#)  ) and it supports quite a wide range of software ([browse](#)  ).

What it does is it runs a specific version of Wine which is known to work best with the application you are willing to run. It also installs additional paths to provide maximum compatibility with Ubuntu. But you don't need to know about that; everything is done automatically.

Because of that, PlayOnLinux tends to provide the best results in case of running a widely known piece of software, including many video games.

## Installing PlayOnLinux:

- Find it in Ubuntu Software Center, or
- Run `sudo apt-get install playonlinux`

## Using PlayOnLinux:

Instead of double-clicking the .exe (which launches it with WINE), run PlayOnLinux application. Select “Install” button on the toolbar, and choose what application you wish to install. PlayOnLinux will guide you through the installation process (of course you will need installation media).

Once it's done, your installed application will be displayed in PlayOnLinux main window. Double click to launch it!

# Commercial solutions

If you are not satisfied with WINE, there are some commercial softwares that runs Windows applications on Linux. One of the most well-known is [CrossOver](#). In some cases it has significantly better results, yet it is not available for free.

---

[Answer](#) by [jnut](#)

yes by using wine.

get it by going to the Ubuntu software center.

here is a link to the ppa <https://launchpad.net/~ubuntu-wine/+archive/ppa>

here is a video on how to install <http://www.youtube.com/watch?v=hZgjgeDQVo4>

here is a video on installing basic applications <http://www.youtube.com/watch?v=RLRLWEfdFqY&feature=related>

and here is wine wiki which will provide you with some more information.

<http://wiki.winehq.org/HowTo>

if you wish to play a game from a CD you can install **play on linux** which is also available in the Ubuntu software center. hope this helps

---

**Tags:** [windows](#) ([Next Q](#)), [wine](#) ([Next Q](#))

---

## [Q: Do I need to have ‘antivirus software’ installed?](#)

**Tags:** [windows](#) ([Next Q](#))

I thought that there was no need to scan for viruses either in Ubuntu or any Linux distros until I found virus scanner packages ‘clamtk’ and ‘klamav’ in Ubuntu software center yesterday.

This leads to the following questions:

- How do viruses differ between Linux and Windows?
- How do the strategies for protection differ between Linux and Windows?
- Should a virus scanner package be installed on my system? If so, which would be a better option?

**Tags:** [windows](#) ([Next Q](#))

**User:** [vinay-challuru](#)

[Answer](#) by [jim-mckeeth](#)

There are viruses for most all platforms ([the first worm was for DEC VAX](#)), they are

just more common on Windows. Different platforms are more secure than others, but a virus can typically gain user level security, which is often good enough, on most platforms. You can actually run Windows without a virus scanner if you keep it patched and are really careful.

**Differences** from Windows to Linux for viruses: On Linux it is harder for the virus to get root (or system) level access. But it could probably still access your address book or saved passwords in Firefox (user level access).

**Strategy:** If you are really careful and know what you are doing you can get away without a scanner. A good strategy is to have your scanner just scan downloads or if you are bringing a file from another computer on a USB drive or floppy disk (assuming you have one). If you want you can have it do regular full system scans too. It is all about how paranoid you are, and how likely you are to get a virus.

For your **laptop** I would suggest only having the scanner scan downloads and when you are bringing files from another computer. Having it do full system scans can be a battery drain.

A very important element of a virus scanner is having it **updated with new signatures**, so pick the package that has the best signature updates, and that works best for how you want to use it.

---

[Answer](#)  by [imaginaryrobots](#)

Both clamav and clamtk are front-ends for the clamAV software. They *do* check for linux viruses, but they are most useful for making sure your linux computer isn't sharing infected files with windows machines. Most of the virus scanners for linux are actually for servers, and are meant to scan email or uploaded files as they are sent.

Wikipedia has a list of Linux malware, which should help inform about the risks: [Linux malware - Wikipedia, the free encyclopedia](#) . They list 30 viruses and various other possible threats.

---

[Answer](#)  by [crasic](#)

You may not need a virus *scanner* per se, but you sure do need to keep your system up to date and secure (good passwords and system practices - permissions etc)

**Personal Anecdote:** I had a debian server running, It had an uptime of 400 days and I wanted to get to 500 before restarting it to update the kernel, I was being silly, and too cocky about it being a linux system . Since it was a server that served a research group, I gave all of my coworkers an ssh account. Turns out that some hacker exploited a bad password by one of my users and loaded on automated script that ran through 5 or 6 exploits before finding one that worked (an exploit that was patched, had I updated the kernel). It rooted the server and then proceeded to set up a bot (Campus IT caught the hack before I did, they noticed suspicious IRC traffic and contacted me).

Funny story, is that I used those same scripts to take back control of the machine to backup some raw data before nuking the system.

Long story short, keep your system up to date, keep your passwords secure, maintain good

administrative practices. And unless you literally go and do `sudo rm -rf /*` because someone online told you to, it's unlikely you will ever have any trouble with your linux computer.

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**Tags:** [windows](#) ([Next Q](#))

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## **Q: How can I repair grub? (How to get Ubuntu back after installing Windows?)**

**Tags:** [windows](#) ([Next Q](#)), [grub2](#) ([Next Q](#)), [dual-boot](#) ([Next Q](#))

I installed Windows 7, which ate Ubuntu's boot file. When starting up the computer, it now goes straight to Windows, without giving me the option of booting Ubuntu.

How can I get Ubuntu back?

**Tags:** [windows](#) ([Next Q](#)), [grub2](#) ([Next Q](#)), [dual-boot](#) ([Next Q](#))

**User:** [salahuddin](#)

---

**Answer**  by [scott-severance](#)

When you install Windows, Windows assumes it's the only OS on the machine — or at least it doesn't account for Linux. So, it replaces GRUB with its own boot loader. What you have to do is replace the Windows boot loader with GRUB. I've seen various instructions for replacing GRUB by mucking around with GRUB commands or some such, but to me the easiest way is to simply chroot into your install and run `update-grub`. `chroot` is great because it allows you to work on your actual install, instead of trying to redirect things here and there. It's really clean.

Here's how:

1. Boot from the live CD.
2. Determine the partition number of your main partition. GParted can help you here. I'm going to assume in this answer that it's `/dev/sda2`, but *make sure you use the correct partition number for your system!*
3. Mount your partition:

```
sudo mount /dev/sda2 /mnt # make sure that sda2 is correct!
```

4. Bind mount some other necessary stuff:

```
for i in /sys /proc /run /dev; do sudo mount --bind "$i" "/mnt$i"; done
```

5. chroot into your Ubuntu install:

```
sudo chroot /mnt
```

6. At this point, you're in your install, not the live CD, and running as root. Update grub:

```
update-grub
```

If you get errors, go to step 7. (Otherwise, it is optional.)

7. Depending on your situation, you might have to reinstall grub:

```
grub-install /dev/sda  
update-grub # I'm not sure if this is necessary, but it doesn't hurt.
```

8. If everything worked without errors, then you're all set:

```
exit  
sudo reboot
```

9. At this point, you should be able to boot normally.

If you cannot boot normally, and didn't do step 7 because there were no error messages, try again with step 7.

- Sometimes giving GRUB2 the correct *configuration* for your partitions is not enough, and you must actually install it (or reinstall it) to the Master Boot Record, which step 7 does. Experience helping users in chat has shown that step 7 is sometimes necessary even when no error messages are shown.

---

[Answer](#) by [web-e](#)

The windows installer doesn't care about other OS in the system. So it writes own code over the master boot record. Its not a problem of windows installer, its intended. If you reinstall, upgrade windows you will face the issue. Fortunately the solution is easy too.

You need to repair the mbr. Do the following

Boot using a live usb/cd of ubuntu. Use `boot-repair` to fix the problem.

After booting with live usb/cd ,Run following command in terminal,

```
sudo add-apt-repository ppa:yannubuntu/boot-repair && sudo apt-get update  
sudo apt-get install -y boot-repair && boot-repair
```

Use Recomended Repair.



More info - <https://help.ubuntu.com/community/Boot-Repair>

[Answer](#) by [desgua](#)

I never got in trouble by using these instructions:

<https://wiki.ubuntu.com/Grub2#Recover>

First of all, you must start your system from a live cd. Then

### **“METHOD 3 - CHROOT**

This method of installation uses the chroot command to gain access to the broken system's files. Once the chroot command is issued, the LiveCD treats the broken system's / as its own. Commands run in a chroot environment will affect the broken systems filesystems and not those of the LiveCD.

**1)** Boot to the LiveCD Desktop (Ubuntu 9.10 or later). Please note that the Live CD must be the same as the system you are fixing - either 32-bit or 64-bit (if not then the chroot will fail).

**2)** Open a terminal (Applications > Accessories > Terminal).

**3)** Determine your normal system partition - (the switch is a lowercase “L”)

```
sudo fdisk -l
```

If you aren't sure, run

```
df -Th
```

Look for the correct disk size and ext3 or ext4 format.

**4) Mount your normal system partition:**

Substitute the correct partition: sda1, sdb5, etc.

```
sudo mount /dev/sdXX /mnt
```

*Example: sudo mount /dev/sda1 /mnt*

**5) Only if you have a separate boot partition: sdYY is the /boot partition designation (for example sdb3)**

```
sudo mount /dev/sdYY /mnt/boot
```

**6) Mount the critical virtual filesystems:**

```
sudo mount --bind /dev /mnt/dev
sudo mount --bind /dev/pts /mnt/dev/pts
sudo mount --bind /proc /mnt/proc
sudo mount --bind /sys /mnt/sys
```

**7) Chroot into your normal system device:**

```
sudo chroot /mnt
```

**8) If there is no /boot/grub/grub.cfg or it's not correct, create one using**

```
update-grub
```

**9) Reinstall GRUB 2:**

Substitute the correct device - sda, sdb, etc. Do not specify a partition number.

```
grub-install /dev/sdX
```

**10) Verify the install (use the correct device, for example sda. Do not specify a partition):**

```
sudo grub-install --recheck /dev/sdX
```

**11) Exit chroot: CTRL-D on keyboard**

**12) Unmount virtual filesystems:**

```
sudo umount /mnt/dev/pts
sudo umount /mnt/dev
sudo umount /mnt/proc
sudo umount /mnt/sys
```

**13) If you mounted a separate /boot partition:**

```
sudo umount /mnt/boot
```

**14) Unmount the LiveCD's /usr directory:**

```
sudo umount /mnt/usr
```

**15) Unmount last device:**

```
sudo umount /mnt
```

**16) Reboot.**

```
sudo reboot
```

”

---

**Tags:** [windows](#) ([Next Q](#)), [grub2](#) ([Next Q](#)), [dual-boot](#) ([Next Q](#))

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## [Q: Unable to mount Windows \(NTFS\) filesystem due to hibernation](#)



**Tags:** [windows](#) ([Next Q](#)), [nautilus](#) ([Next Q](#)), [mount](#) ([Next Q](#))

Whenever I boot Ubuntu, I get a message that it cannot mount my windows partition, and I can choose to either wait, skip or manually mount.

When I try to enter my Windows partition through Nautilus I get a message saying that this partition is hibernated and that I need to enter the file system and properly close it, something I have done with no problem so I don't know why this happens.

Here's my partition table, if any more data is needed please let me know.

| Device    | Boot | Start     | End       | Blocks    | Id | System               |
|-----------|------|-----------|-----------|-----------|----|----------------------|
| /dev/sda1 |      | 2048      | 20000767  | 9999360   | 83 | Linux                |
| /dev/sda2 |      | 20002814  | 478001151 | 228999169 | 5  | Extended             |
| /dev/sda3 | *    | 478001152 | 622532607 | 72265728  | 7  | HPFS/NTFS/exFAT      |
| /dev/sda4 |      | 622532608 | 625141759 | 1304576   | 82 | Linux swap / Solaris |
| /dev/sda5 |      | 20002816  | 478001151 | 228999168 | 83 | Linux                |

**Tags:** [windows](#) ([Next Q](#)), [nautilus](#) ([Next Q](#)), [mount](#) ([Next Q](#))

**User:** [yotamoo](#)

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[Answer](#) by [adempewolff](#)

A [bug](#) has been filed about the Nautilus dialog you are seeing as it recommends a potentially dangerous option that could result in data loss. Please do not run the command in this dialog unless you want to **delete** your saved Windows session and potentially lose unsaved work.

# **Explanation: Why Linux can't open hibernated Windows partitions:**

You are seeing this error because you hibernated Windows instead of turning it off the normal way (in newer versions of Windows, hibernate might be the default option).

- Hibernating saves the current state information to the hard disk and then powers down the computer.
- Shutting down the computer closes all programs and ends all running processes before powering down the computer.

When you turn off Windows by hibernating it, you are essentially pausing the system and saving all of that information (into a big file called `hiberfil.sys`) This way when you resume from hibernation all of your applications and files will be exactly how you left them. It also sets a flag in `hiberfil.sys` to let other Operating Systems know that Windows is hibernated.

Making changes to your Windows (`ntfs`) partition while it is hibernated could be dangerous—it could cause Windows to not resume from hibernation or to crash after resuming. Because of this, the tool (`ntfs-3g`) that mounts (opens) the partition will not mount it in read-write mode if it sees a hibernation flag. As such, Nautilus, the default file browser, will not be able to automatically open this partition—hence the error message that you see—because it is trying to open it in read-write mode.

# Solution: Windows 7 and older

There are three ways to mount a hibernated Windows partition:

1. Boot into Windows and power down the system by shutting it down completely. You may then boot back into Ubuntu and the partition will mount in read-write mode automatically when you open it in Nautilus. *Note that the “Shut Down” option may not be the one displayed in your start menu by default. You may need to click the button next to it to see further options.*
2. Manually mount the filesystem in read only mode.
  - Check to see if you have a mount point (folder for mounting your partition in) for your Windows partition in the folder /media using this command:  
`ls /media`
  - If you don’t see a folder for your Windows partition, you should create one with the following command:  
`sudo mkdir /media/windows`
  - Next, mount the partition in read-only mode onto this folder with this command:  
`mount -t ntfs-3g -o ro /dev/sda3 /media/windows`  
Note that you should change /media/windows if your mountpoint is called something else.
  - Now you will be able to view/open files on your Windows partition using any program in Ubuntu. However you will not be able to write to the partition or modify any files as it is in read only mode.
3. If you need to mount the partition in read-write mode and are not able to or willing to boot into Windows and shut it down completely there is a third option. However, it is not included here because it **completely deletes** hiberfil.sys and will cause you to lose all unsaved information in the hibernated Windows programs. The following is a quotation from `man ntfs-3g` about the option that would be used to do this.

`remove_hiberfile`

Unlike in case of read-only mount, the read-write mount is denied if the NTFS volume is hibernated. One needs either to resume Windows and shutdown it properly, or use this option which will remove the Windows hibernation file. Please note, this means that the saved Windows session will be completely lost. Use this option under your own responsibility.

# Solution: Windows 8

There is a new feature in Windows 8 called [Fast Startup](#). If this feature is enabled (which it is by default), Windows 8 does not actually completely shutdown when you choose shutdown. Instead, it does a “hybrid shutdown”. This is something like hibernating; it makes booting Windows 8 back up faster. So, you need to disable this feature to be able to shut it down properly, and be able to mount the Windows partitions. To do this, boot into your Windows 8 and:

**Note:** disabling Fast Startup will most likely make your Windows 8 take a longer time to boot. There are no “exact” numbers, but let’s say that if it took you 10 seconds to boot into Windows 8, it will now take you 50 seconds after disabling this feature.

**1.** Open **Control Panel** in the small icons view and click on **Power Options**.

**2.** Click on **Choose what the power buttons do**.

**3.** Click on **Change settings that are currently unavailable**.

**4.** Uncheck **Turn on fast startup (recommended)**.

Click on the numbers above to see screenshots.

Click on **Save changes**. Now, shutdown Windows 8 and boot back into Ubuntu. You’ll be able to mount without getting errors.

**Source:** [Fast Startup - Turn On or Off in Windows 8](#).

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**Tags:** [windows](#) ([Next Q](#)), [nautilus](#) ([Next Q](#)), [mount](#) ([Next Q](#))

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## **Q: How can I create a Windows bootable USB stick with Ubuntu?**

**Tags:** [windows](#)

I’d like to create a Windows 8 bootable USB stick, but I don’t have a Windows machine with me to do so.

So how do I do it with Ubuntu/Linux?

**Tags:** [windows](#)

**User:** [zignd](#)

---

[Answer](#) by [avinash-raj](#)

Create a bootable Windows USB from Ubuntu through [WinUSB](#) software.

# Ubuntu 13.10,13.04,12.10,12.04

Run the below commands on terminal to install WinUSB from a [PPA](#) 

```
sudo add-apt-repository ppa:colingille/freshlight  
sudo apt-get update  
sudo apt-get install winusb
```



WinUSB

File Help

Source :

From a disk image (.iso)

**Windows8-ConsumerPreview-32bit-English.iso**

From a CD/DVD drive

Target device :

**/dev/sdb - USB Flash Drive -**

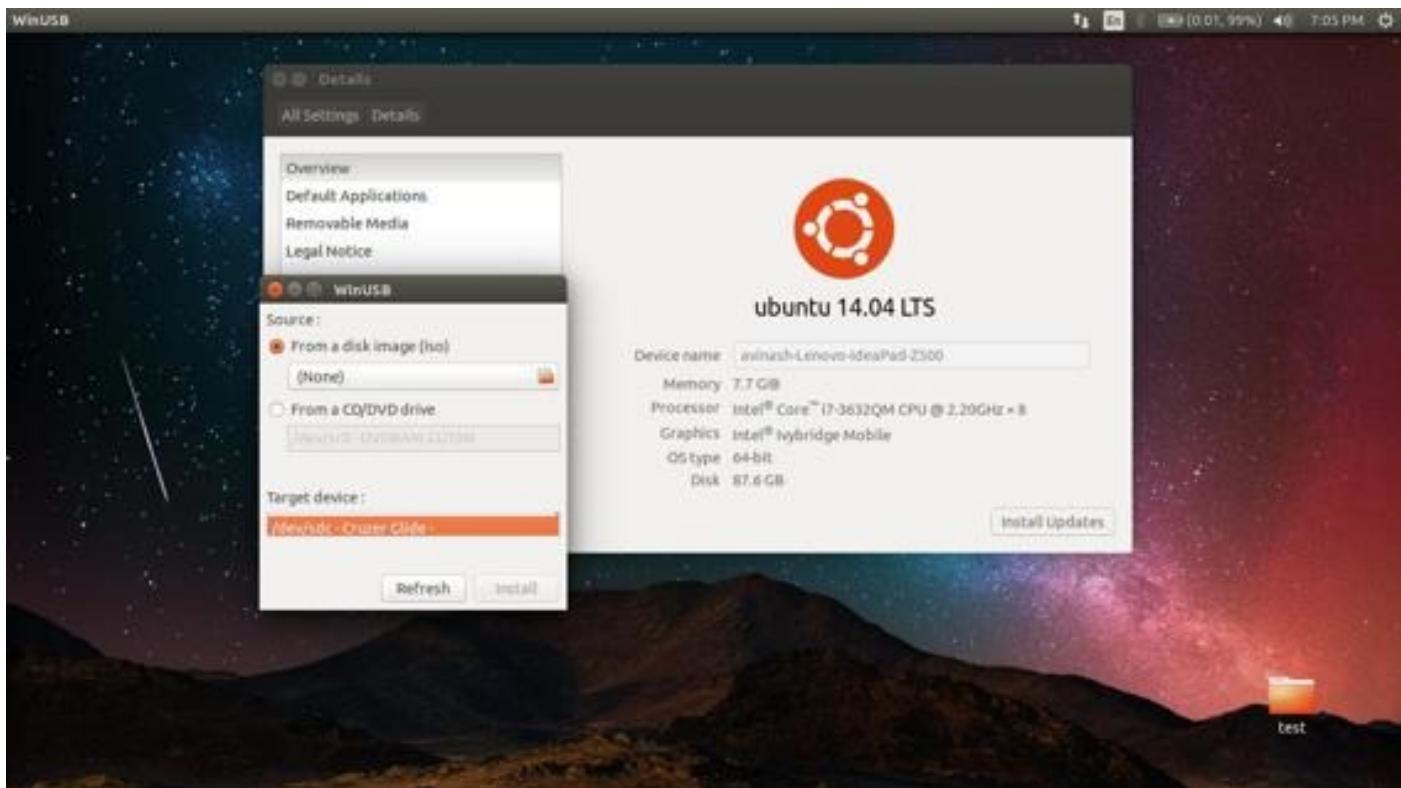
Refresh

Install

# Ubuntu 14.04

This method will install Winusb package from the previous version's repository(*saucy*).

```
sudo add-apt-repository ppa:colingille/freshlight
sudo sh -c "sed -i 's/trusty/saucy/g' /etc/apt/sources.list.d/colingille-freshlight-trusty.list"
sudo apt-get update
sudo apt-get install winusb
```



**Tags:** [windows](#)

[Q: How can I install Windows software or games?](#)

[Q: How can I install Ubuntu without removing Windows?](#)

[Q: How can I install Windows after I've installed Ubuntu?](#)

[Q: Do I need to have 'antivirus software' installed?](#)

[Q: How can I repair grub? \(How to get Ubuntu back after installing Windows?\)](#)

[Q: Unable to mount Windows \(NTFS\) filesystem due to hibernation](#)

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# Bash

[Skip to questions](#), Wiki by user [Ã'ndrÃ¼k](#)

Bash is a command processor, typically run in a text window, allowing the user to type commands which cause actions. Bash can also read commands from a file, called a script. Like all Unix shells, it supports filename wildcarding, piping, here documents, command substitution, variables and control structures for condition-testing and iteration. The keywords, syntax and other basic features of the language were all copied from sh. Other features, e.g., history, were copied from csh and ksh. Bash is a POSIX shell but with a number of extensions.

The name itself is an acronym, a pun and descriptive. As an acronym, it stands for Bourne-again shell, referring to its objective as a free replacement for the Bourne shell. As a pun, it expressed that objective in a phrase that sounds the same as born again, a term for spiritual rebirth. The name is also descriptive of what it did, bashing together the features of sh, csh and ksh. (Via [Wikipedia](#).)

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# Questions

## [Q: Hide current working directory in terminal](#)

**Tags:** [bash](#) ([Next Q](#))

As a default, the terminal prompt shows something like:

```
user@system:/folder1/folder2/folder3/folder4$
```

the deeper you go into the filesystem, the less space is left for typing in commands. Can I change this to only show something like:

```
>
```

I mean, I can just type pwd to show where I am at. ;)

**Tags:** [bash](#) ([Next Q](#))

**User:** [theodor](#)

---

[Answer](#)  by [oli](#)

```
export PS1=' \u@\h: '
```

That results in oli@bert: for my prompt.

If you really want something as minimalist as you ask for, try this:

```
export PS1='> '
```

You can attach that to the end of your ~/.bashrc file to have it persist between logins.

You can also get creative with some colours. Here's what I use on my servers:

```
export PS1='\[\033[0;35m\]\h\[\033[0;33m\] \w\[\033[00m\]: '
```

Giving (it's easier to see on a full black background):



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[Glossary of acceptable characters in PS1](#) 

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[Answer](#)  by [stefano-palazzo](#)

Just to expand on Oli's answer (and so that I have a bookmark for those short-hand symbols):

The bash prompt (stefano@linux:~\$) is only the first of a couple of prompts you might see,:

- **PS1:** The default prompt you see when you open a shell

Its value is stored in an environment variable called PS1. To see its value, type  
echo \$PS1

This will give you something like

```
\[\e]0;\u@\h: \w\${debian_chroot:+($debian_chroot)}\u@\h:\w\$
```

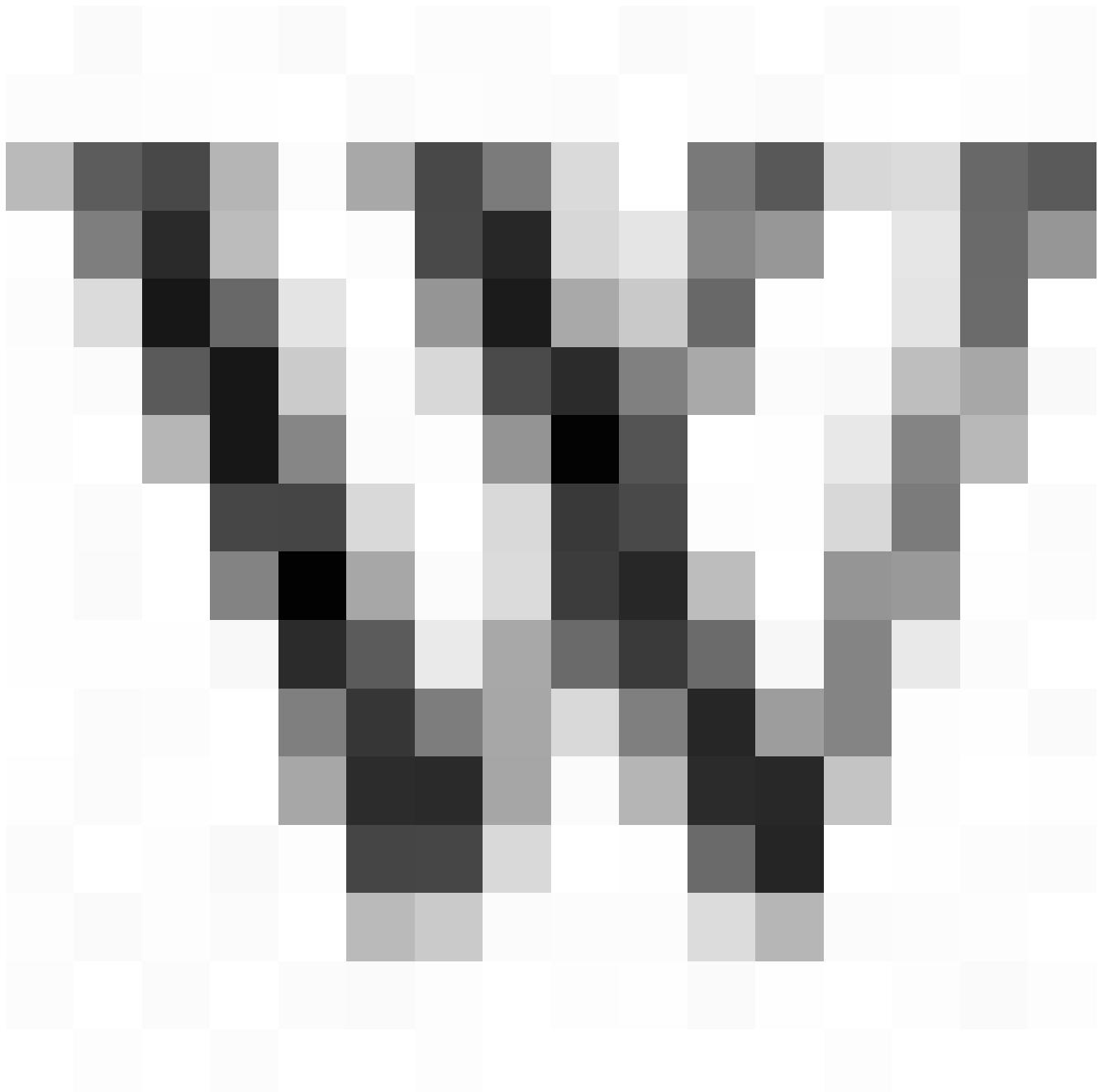
To change it, you can set a new value for the variable:

```
export PS1="\u > "
```

This will result in a prompt like this:

```
stefano >
```

- **PS2:** is your secondary prompt. This gets shown when a command is not finished. Type echo "asd and hit enter, the secondary prompt will let you enter more lines until you close the inverted commas.
- **PS3** is the prompt used for [select\(2\)](#)
- **PS4** is the prompt used for



## [stack traces](#)

(default: +)

To make the changes permanent, you append them to the end of `.bash_profile` (or `.bashrc`, see [this question](#)) in your home directory.

Here's a more or less complete list of shorthand that you can use when composing these:

- `\a` The ‘bell’ charakter
- `\A` 24h Time
- `\d` Date (e.g. Tue Dec 21)
- `\e` The ‘escape’ charakter
- `\h` Hostname (up to the first “.”)
- `\H` Hostname
- `\j` No. of jobs currently running (ps)
- `\l` Current tty
- `\n` Line feed
- `\t` Time (hh:mm:ss)

- `\T` Time (hh:mm:ss, 12h format)
- `\r` Carriage return
- `\s` Shell (i.e. bash, zsh, ksh..)
- `\u` Username
- `\v` Bash version
- `\V` Full Bash release string
- `\w` Current working directory
- `\W` Last part of the current working directory
- `\!` Current index in history
- `\#` Command index
- `\$` A “#” if you’re root, else “\$”
- `\`` Literal Backslash
- `\@` Time (12h format with am/pm)

You can of course insert any literal string, and any command:

```
export PS1="\u \$($pwd) > "
```

Where `$(pwd)` stands in place of “the output of” `pwd`.

- If the command substitution is escaped, as in `\$(pwd)`, it’s evaluated every time the prompt is displayed, otherwise, as in `$(pwd)`, it’s only evaluated once when bash is started.

If you want your prompt to feature colours, you can use bash’s colour codes to do it. The code consists of three parts:

```
40;33;01
```

- The first part before the semicolon represents the text style.
  - 00=none
  - 01=bold
  - 04=underscore
  - 05=blink
  - 07=reverse
  - 08=concealed
- The second and third part are the colour and the background color:
  - 30=black
  - 31=red
  - 32=green
  - 33=yellow
  - 34=blue
  - 35=magenta
  - 36=cyan
  - 37=white

Each part can be omitted, assuming starting on the left. i.e. “1” means bold, “1;31” means

bold and red. And you would get your terminal to print in colour by escaping the instruction with \33[ and ending it with an m. 33, or 1B in hexadecimal, is the ascii sign “ESCAPE” (a special character in the ascii character set). Example:

```
"\33[1;31mHello World\33[m"
```

Prints “Hello World” in bright red.

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**Tags:** [bash](#) ([Next Q](#))

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## [Q: How do I create a permanent Bash alias?](#)

**Tags:** [bash](#) ([Next Q](#))

I would like to create an alias to rm command in order to have a confirmation message after executing this command. So I am creating an alias like this alias rm='rm -i'. But as far as I know this is a temporary alias and it lives until you close the terminal.

As it is explained [here](#) to save alias permanently I need to execute ~/.bash\_aliases or ~/.bashrc commands in terminal and add my alias there. But when I execute ~/.bashrc I get following error message :

```
bash: /home/bakhtiyor/.bashrc: Permission denied
```

When I run ~/.bash\_aliases I get another error message like this:

```
bash: /home/bakhtiyor/.bash_aliases: File or directory doesn't exist.
```

What is the actual problem and how can I solve it?

**Tags:** [bash](#) ([Next Q](#))

**User:** [bakhtiyor](#)

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[Answer](#)  by [karthick87](#)

To create an alias permanently add the alias to your .bashrc file

```
gedit ~/.bashrc
```

And then add your alias at the bottom.

```
# enable programmable completion features (you don't need to enable
# this, if it's already enabled in /etc/bash.bashrc and /etc/profile
# sources /etc/bash.bashrc).
if [ -f /etc/bash_completion ] && ! shopt -oq posix; then
    . /etc/bash_completion
fi
export HISTCONTROL=ignoreboth:erasedups
alias rm='rm -i'
```

Now execute . ~/.bashrc in your terminal (there should be a gap between the . and

~/.bashrc.

Now you can check your alias.

```
File Edit View Terminal Help
karthick@Ubuntu-desktop:~/Desktop$ rm Screenshot.png
rm: remove regular file `Screenshot.png'?
```

[Answer](#) by [aneeshep](#)

There are lot of ways to create alias . The most used ways are :

- 1) . Add aliases directly in your ~/.bashrc file

For example. append these line to ~/.bashrc file

```
alias ll='ls -l'
alias rm='rm -i'
```

Next time when you type rm the rm -i command will be executed.

- 2). The second method lets you make a separate aliases file, so you won't have to put them in .bashrc, but to a file of your choice. First, edit your ~/.bashrc file and add or uncomment the following lines, if it is not already

```
if [ -f ~/.bash_aliases ]; then
. ~/.bash_aliases
fi
```

Save it and close the file. After that, all you have to do is create a ~/.bash\_aliases file and add your aliases there, with the same format specified in the first method.

Contents of my ~/.bash\_aliases file:

```
aneesh@aneesh-VirtualBox:~$ cat .bash_aliases
alias cs='cd;ls'
```

**Tags:** [bash](#) ([Next Q](#))

**Q: Why ~/.bash\_profile is not getting sourced when opening a terminal?** [\[Answer\]](#)

**Tags:** [bash](#) ([Next Q](#)), [environment-variables](#) ([Next Q](#))

# Problem

I have an Ubuntu 11.04 Virtual Machine and I wanted to set up my Java development environment. I did as follows

1. `sudo apt-get install openjdk-6-jdk`
2. Added the following entries to `~/.bash_profile`

```
export JAVA_HOME=/usr/lib/jvm/java-6-openjdk  
export PATH=$PATH:$JAVA_HOME/bin
```

3. Save the changes and exit
4. Open up a terminal again and typed the following

```
echo $JAVA_HOME  (blank)  
echo $PATH      (displayed, but not the JAVA_HOME value)
```

5. Nothing happened, like if the export of `JAVA_HOME` and it's addition to the `PATH` were never done.

# Solution

I had to go to `~/.bashrc` and add the following entry towards the end of file

```
#Source bash_profile to set JAVA_HOME and add it to the PATH because for some reason is not being
picked up
. ~/.bash_profile
```

# Questions

1. Why did I have to do that? I thought bash\_profile, bash\_login or profile in absence of those two get executed first before bashrc.
2. Was in this case my terminal a **non-login** shell?
3. If so, why when doing su after the terminal and putting the password it did not execute profile where I had also set the exports mentioned above?

Tags: [bash \(Next Q\)](#), [environment-variables \(Next Q\)](#)

User: [viriato](#)

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[Answer](#) by [geirha](#)

`~/.bash_profile` is only sourced by bash when started in interactive login mode. That is typically only when you login at the console (Ctrl+Alt+F1..F6), or connecting via ssh.

When you log in graphically, `~/.profile` will be specifically sourced by the script that launches gnome-session (or whichever desktop environment you're using). So `~/.bash_profile` is not sourced at all when you log in graphically.

When you open a terminal, the terminal starts bash in (non-login) interactive mode, which means it will source `~/.bashrc`.

The right place for you to put these environment variables is in `~/.profile`, and the effect should be apparent next time you log in.

Sourcing `~/.bash_profile` from `~/.bashrc` is the wrong solution. It's supposed to be the other way around; `~/.bash_profile` should source `~/.bashrc`.

See [DotFiles](#) for a more thorough explanation, including some history of why it is like it is.

(On a side note, when installing openjdk via apt, symlinks should be set up by the package, so that you don't really need to set JAVA\_HOME or change PATH)

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[Answer](#) by [lgarzo](#)

You can check if your Bash shell is started as a login-shell by running:

```
shopt login_shell
```

If the reply is off you are not running a login shell.

Read the Bash manual's *invocation* section on how Bash reads (or does not read) different configuration files.

Excerpt from `man bash`:

When bash is invoked as an interactive login shell, or as a non-interactive shell with the `--login` option, it first reads and executes commands from the file

`/etc/profile`, if that file exists. After reading that file, it looks for `~/.bash_profile`, `~/.bash_login`, and `~/.profile`, in that order, and reads and executes commands from the first one that exists and is readable.

`su` on the other hand also does not start a login shell by default, you have to tell it to do so by using the `--login` option.

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**Tags:** [bash](#) ([Next Q](#)), [environment-variables](#) ([Next Q](#))

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## **Q: How to clear bash history completely?**

**Tags:** [bash](#) ([Next Q](#))

I want to clear all before command from history of my server. I use `history -c` it seems all things are cleared but when I ssh to the server, all commands are still there.

How can I clear them permanently?

**Tags:** [bash](#) ([Next Q](#))

**User:** [hd.](#)

---

[Answer](#)  by [devav2](#)

`~/.bash_history` holds the history.

To clear the bash history completely on the server. You can open terminal and type `cat /dev/null > ~/.bash_history`

Other alternative way is to link `~/.bash_history` to `/dev/null`

On my Ubuntu 12.10 box, The history comes back when I login back. I guess because the history entries has a copy in the memory and it will flush back to the file when you log out. The following command worked for me.

`cat /dev/null > ~/.bash_history && history -c && exit`

---

[Answer](#)  by [callpraths](#)

What to do:

In every open bash shell (you may have multiple terminals open):

```
history -w  
history -c
```

Why: As noted above, `history -c` empties the file `~/.bash_history`. It is important to note that bash shell does not immediately flush history to the `bash_history` file. So, it is important to (1) flush the history to the file, and (2) clear the history, *in all terminals*. That's what the commands above do.

Reference: <http://www.giannistsakiris.com/index.php/2007/09/13/how-to-clear-bash-history-and-what-to-watch-out-for/> 

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[Answer](#) by [peter-eijlander](#)

There's another much simpler one: running `history -c` on the terminal prompt and gone are all entries in the `bash_history` file.

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**Tags:** [bash](#) ([Next Q](#))

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## [Q: Is `#!/bin/sh` read by the interpreter?](#)

**Tags:** [bash scripts](#) ([Next Q](#)), [python](#) ([Next Q](#))

In bash or sh, I guess anything which starts with `#` is a **comment**.

But in bash scripts we write:

```
#!/bin/bash
```

And in Python scripts, there is:

```
#!/bin/python
```

Does this mean that `#` by itself is a comment whereas `#!` is not?

**Tags:** [bash scripts](#) ([Next Q](#)), [python](#) ([Next Q](#))

**User:** [gaurav-sharma](#)

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[Answer](#) by [eliah-kagan](#)

**The `#!` line is used *before* the script is run, then ignored *when* the script runs.**

You're asking what the difference is between a [shebang line](#) and an ordinary comment.

A line starting with `#!` is just as much a comment as any other line that starts with `#`. This is true if the `#!` is the first line of the file, or anywhere else. `#!/bin/sh` *has an effect*, but **it is not read by the interpreter itself**.

`#` is not a comment in all programming languages but, as you know, it's a comment in Bourne-style shells including sh and bash (as well as most non-Bourne-style shells, like csh). It's [also a comment in Python](#). And it is a comment in a variety of configuration files that are not really scripts at all (like /etc/fstab).

Suppose a shell script begins with `#!/bin/sh`. That is a comment, and the interpreter (the shell) ignores everything on the line after the `#` character.

The purpose of a `#!` line is not to give information to the interpreter. The purpose of the `#!` line is to tell the operating system (or whatever process launches the interpreter) *what to use as the interpreter*.

- If you invoke the script as an executable file, for example, by running `./script.sh`,

the system consults the first line to see if it begins with `#!`, followed by zero or more spaces, followed by a command. If it does, it runs that command with the name of the script as its argument. In this example, it runs `/bin/sh script.sh` (or, technically, `/bin/sh ./script.sh`).

- If you invoke the script by explicitly calling the interpreter, the `#!` line is never consulted. So, if you run `sh script.sh`, the first line has no effect. If `script2.sh`'s first line is `#!/usr/games/nibbles`, running `sh script2.sh` will not try to open the script in `nibbles` (but `./script2.sh` will).

You'll notice that in neither case does the script's extension (`.sh`), if it has one, impact how it is run. In a Unix-like system, this doesn't ordinarily affect how the script is run. On some other systems, like Windows, the `#!` shebang line might be ignored entirely by the system, and the extension might determine what runs the scripts. (This doesn't mean you need to give your scripts extensions, but it is one of the reasons why if you do, they should be correct.)

`#!` was chosen to serve this purpose precisely *because #* begins a comment. The `#!` line is for the system, not the interpreter, and it should be ignored by the interpreter.

## Shebang Line for Bash Scripts

You (originally) said you use `#!/bin/sh` for bash scripts. You should only do that if the script doesn't require any of bash's extensions—`sh` needs to be able to run the script. `sh` is not always a symlink to `bash`. Often, including on all remotely recent Debian and Ubuntu systems, `sh` is a symlink to `dash`.

## Shebang Line for Python Scripts

You also said (in the first version of your question, before editing) that you start your Python scripts with `#!/bin/sh` read by the interpreter. If you mean that literally, then you should definitely stop doing that. If `hello.py` begins with that line, running `./hello.py` executes:

```
/bin/sh read by the interpreter hello.py
```

`/bin/sh` will try to execute a script called `read` (with `by the interpreter hello.py` as its arguments), `read` will (hopefully) not be found, and your Python script will never be seen by a Python interpreter.

If you're making this mistake but not having the problem I'm describing, you're probably invoking your Python scripts by explicitly specifying the interpreter (e.g., `python hello.py`), causing the first line to be ignored. When you distribute your scripts to others, or use them a long while later, it may not be clear that this is necessary for them to work. It's best to fix them now. Or at least remove the first line entirely, so that when they fail to run with `./` the error message will make sense.

For Python scripts, if you know where the Python is (or is going to be), you can write the

`#!` line the same way:

```
#!/usr/bin/python
```

Or, if it's a Python 3 script, you should specify `python3`, since `python` is almost always Python 2:

```
#!/usr/bin/python3
```

However, the problem is that while `/bin/sh` is supposed to always exist, and `/bin/bash` almost always exists on systems where `bash` comes with the OS, `Python` may exist in a variety of places.

Therefore, many Python programmers use this instead:

```
#!/usr/bin/env python
```

(Or `#!/usr/bin/env python3` for Python 3.)

This makes the script rely on `env` being in the “right place” instead of relying on `python` being in the right place. That’s a good thing, because:

- `env` is almost always located in `/usr/bin`.
- On most systems, whichever `python` *should* run your script is the one that appears first in the `PATH`. Starting `hello.py` with `#!/usr/bin/env python` make `./hello.py` run `/usr/bin/env python hello.py`, which is (virtually) equivalent to running `python hello.py`.

The reason you cannot use `#!python` is that:

- You want the interpreter specified to be given by an absolute path (i.e., starting with `/`).
- The calling process would execute `python` in the current directory. The behavior of searching the path when the command doesn’t contain a slash is specific shell behavior.

Occasionally a Python or other script that isn’t a shell script will have a shebang line starting with `#!/bin/sh...` where `...` is some other code. This is sometimes correct, because there are some ways to invoke the Bourne-compatible shell (`sh`) with arguments to make it invoke a Python interpreter. (One of the arguments will probably contain `python`.) However, for most purposes, `#!/usr/bin/env python` is simpler, more elegant, and more likely to work the way you want.

## Shebang Lines in Other Languages

Many programming and scripting languages, and some other file formats, use `#` as a comment. For any of them, a file in the language can be run by a program that takes it as an argument by specifying the program on the first line after `#!`.

In some programming languages, `#` is not normally a comment, but as a special case the first line is ignored if it starts with `#!`. This facilitates the use of `#!` syntax even though `#`

doesn't otherwise make a line a comment.

## Shebang Lines for Files That Don't Run As Scripts

While it's less intuitive, any file whose file format can accommodate a first line starting with `#!` followed by the full path of an executable can have a shebang line. If you do this, and the file is marked executable, then you can run it like a program...causing it to be opened like a document.

Some applications use this behavior intentionally. For example, in VMware, `.vmx` files define virtual machines. You can "run" a virtual machine as though it were a script because these files are marked executable and have a shebang line causing them to be opened in a VMware utility.

## Shebang Lines for Files That Don't Run as Scripts but Act Like Scripts Anyway

`rm` removes files. It is not a scripting language. However, a file that starts `#!/bin/rm` and is marked executable can be run, and when you run it, `rm` is invoked on it, deleting it.

This is often conceptualized as "the file deletes itself." But the file is not really running at all. This is more like the situation described above for `.vmx` files.

Still, because the `#!` line facilitates the running of a simplistic command (including command-line arguments), you can perform some scripting this way. As a simple example of a "script" more sophisticated than `#!/bin/rm`, consider:

```
#!/usr/bin/env tee -a
```

This takes user input interactively, echoes it back to the user line-by-line, and appends it to the end of the "script" file.

Useful? Not very. Conceptually interesting? Totally! Yes. (Somewhat.)

## Conceptually Similar Programming/Scripting Concepts (just for fun)

- Scripts/programs that are [multiple languages at once](#), for example, [to simulate hashbang functionality in OSes that didn't have it](#).

(These programs are called *polyglots*, but this is not to be confused with [the other sense of polyglot in software development](#), a program/project where different parts are written in different languages.)

- [Metacommmands](#) in QBasic/QuickBASIC, which signaled to the compiler (for compiled code) options for code generation, but were part of comments and thus ignored during actual compilation/interpretation.

**Tags:** [bash scripts](#) ([Next Q](#)), [python](#) ([Next Q](#))

---

[Q: Moving from bash to zsh](#)

---

[Q: What to do when Ctrl-C won't kill running job?](#)

---

[Q: Hide current working directory in terminal](#)

---

[Q: How do I create a permanent Bash alias?](#)

---

[Q: Running programs in the background from terminal](#)

---

[Q: Why `~/.bash\_profile` is not getting sourced when opening a terminal?](#)

---

[Q: How to clear bash history completely?](#)

---

[Q: Is `#!/bin/sh` read by the interpreter?](#)

---

# PPA

[Skip to questions](#), Wiki by user [txwikinger](#)

A PPA is a personal package archive generally hosted by launchpad.net. PPAs allow developers to distribute software in a manner similar to Ubuntu repository items using apt-get.

Users can add a PPA to their system with the `apt-get add repository` command or through the Software Sources application. This allows users to install, update and remove PPA packages just like regular repository packages.

You can use the `ppa-purge` command to remove a PPA, or you can remove it through Software Sources.

---

# Questions

## [Q: What are PPAs and how do I use them?](#)

**Tags:** [ppa](#) ([Next Q](#))

I keep reading about [Personal Package Archives](#)  ('PPAs') and people answer questions with a link to a PPA. What's the best way to use these?

---

There are multiple valid answers for this question spanning over several versions of Ubuntu. For your convenience, an index of each is below.

- [Ubuntu 11.04 and newer](#)
  - [Ubuntu 10.10](#)
  - [Ubuntu 10.04](#) 
  - [Command Line](#)
- 

- [What is a PPA?](#) 
- [Removing a PPA](#) 

**Tags:** [ppa](#) ([Next Q](#))

**User:** [jorge-castro](#)

---

[Answer](#)  by [alaukik](#)

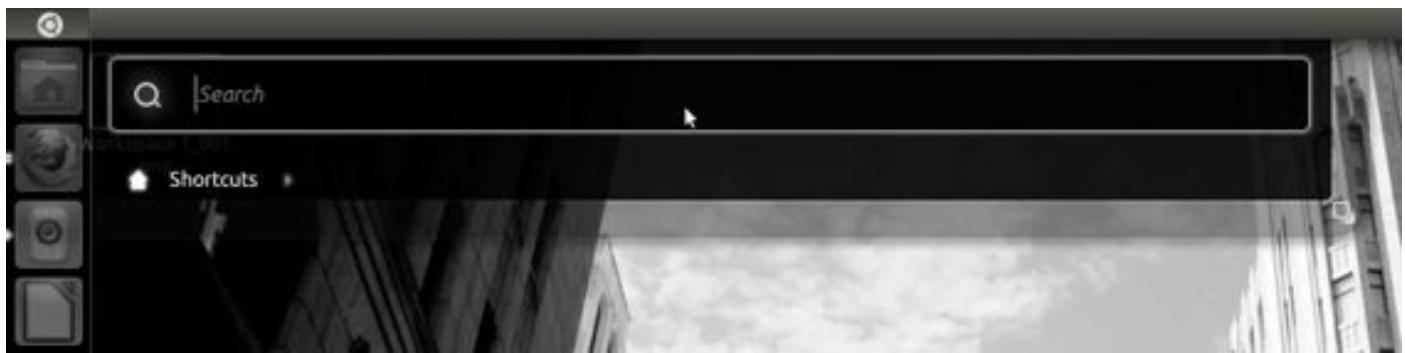
# For Ubuntu 11.04 and newer

Before adding a PPA you should be aware of some of the risks involved:

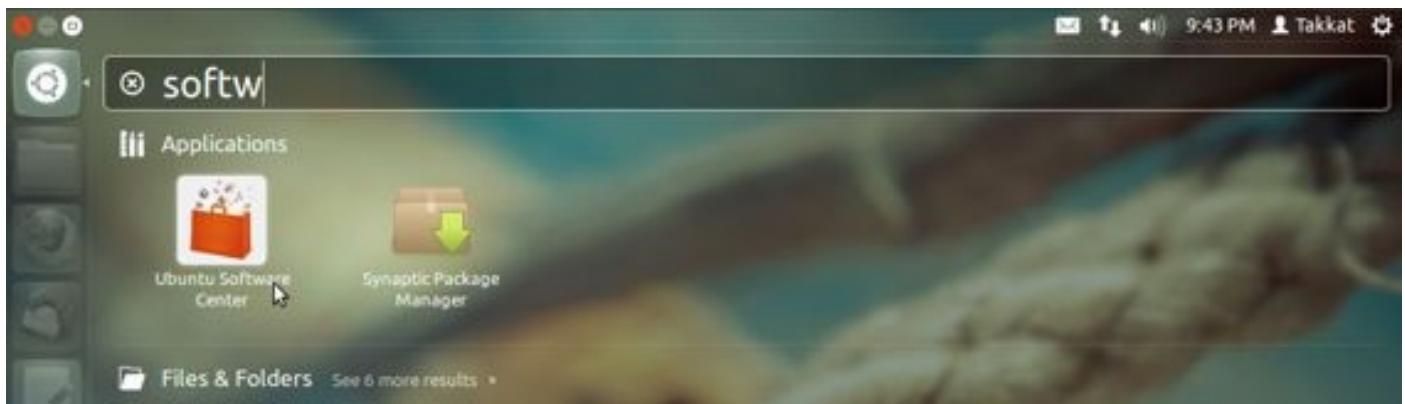
- [Are “PPA’s” safe to add to my system, and what are some “red flags” to watch out for?](#)

Always remember that PPAs are provided by the community, you should be aware of the possible risks before just adding a PPA.

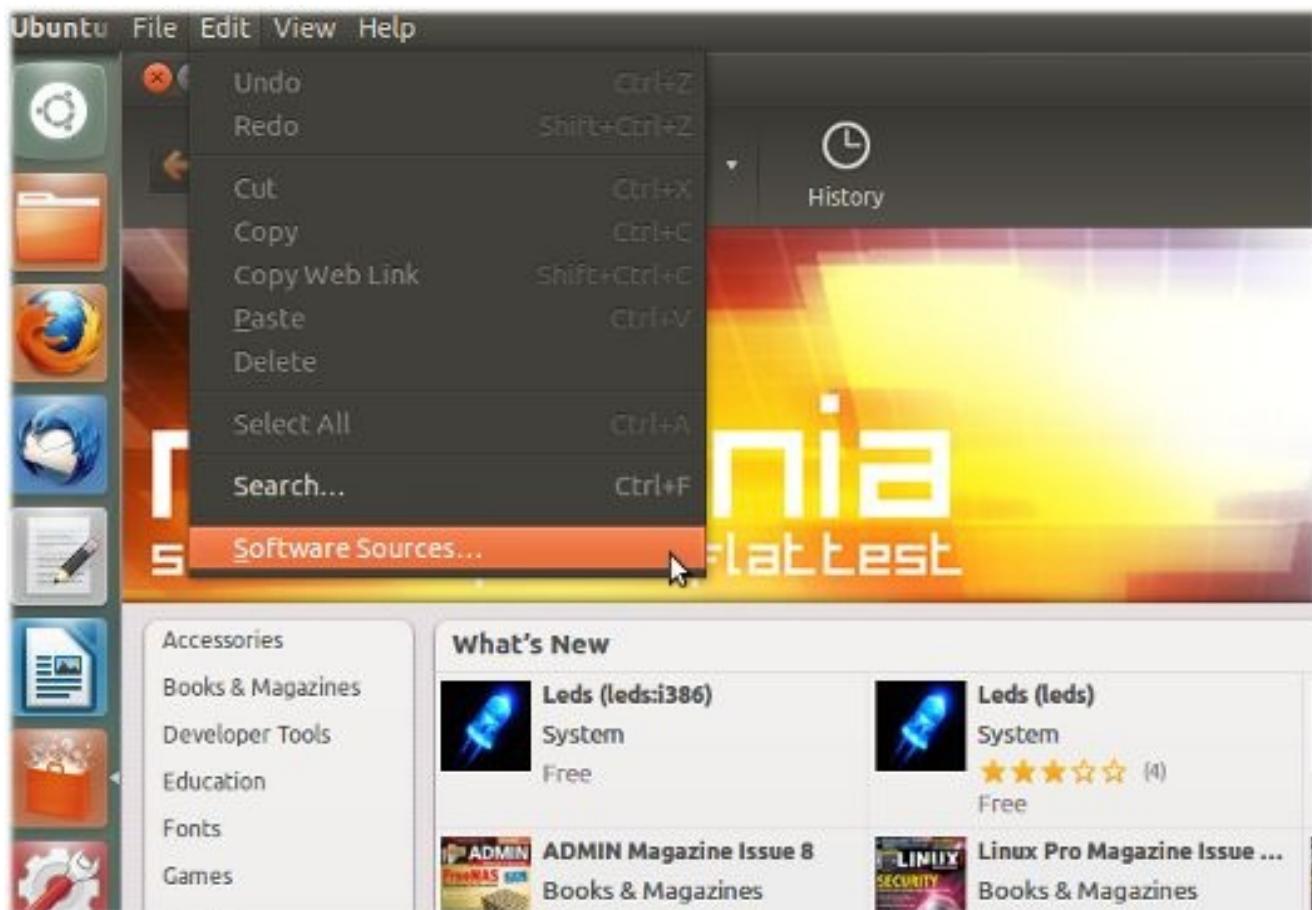
- First open the dash by either clicking on the Home button (On the top-left Corner) or pressing the Super Key .



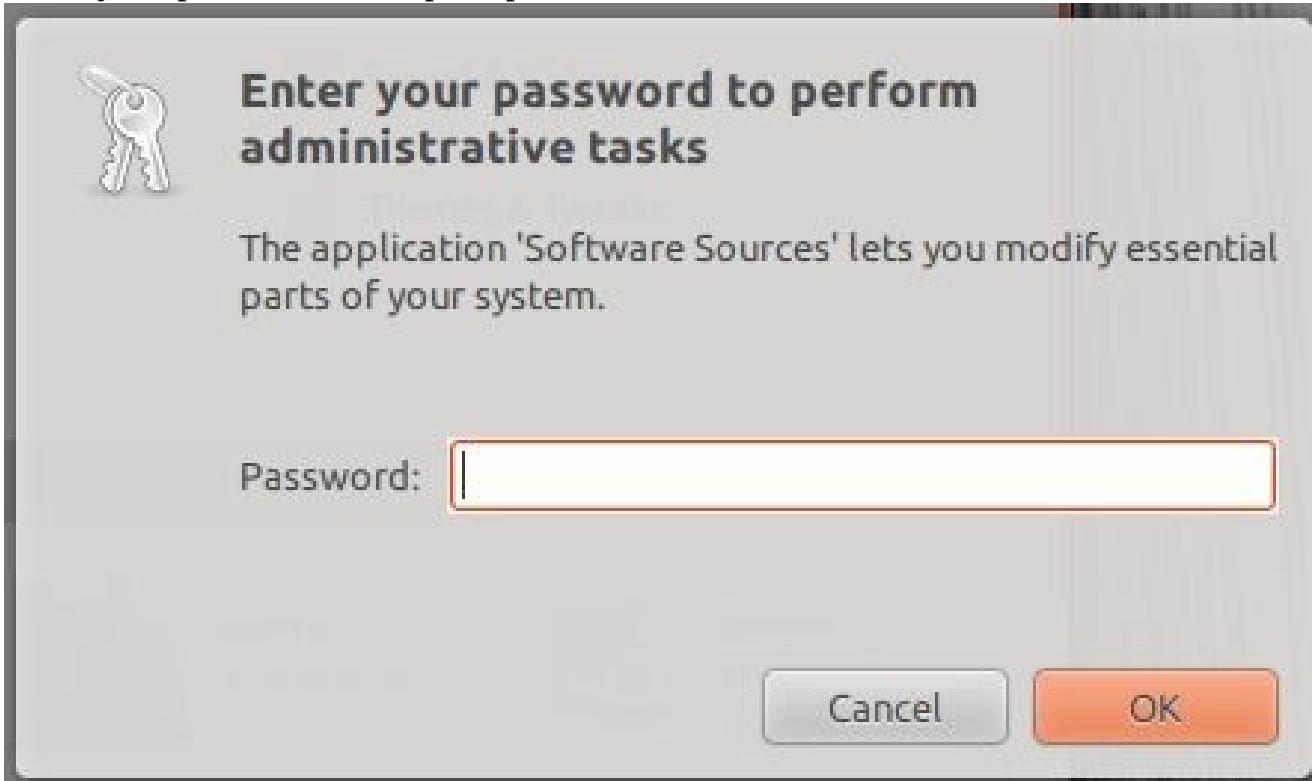
- Search for ‘Software Center’ and launch the Ubuntu software center.



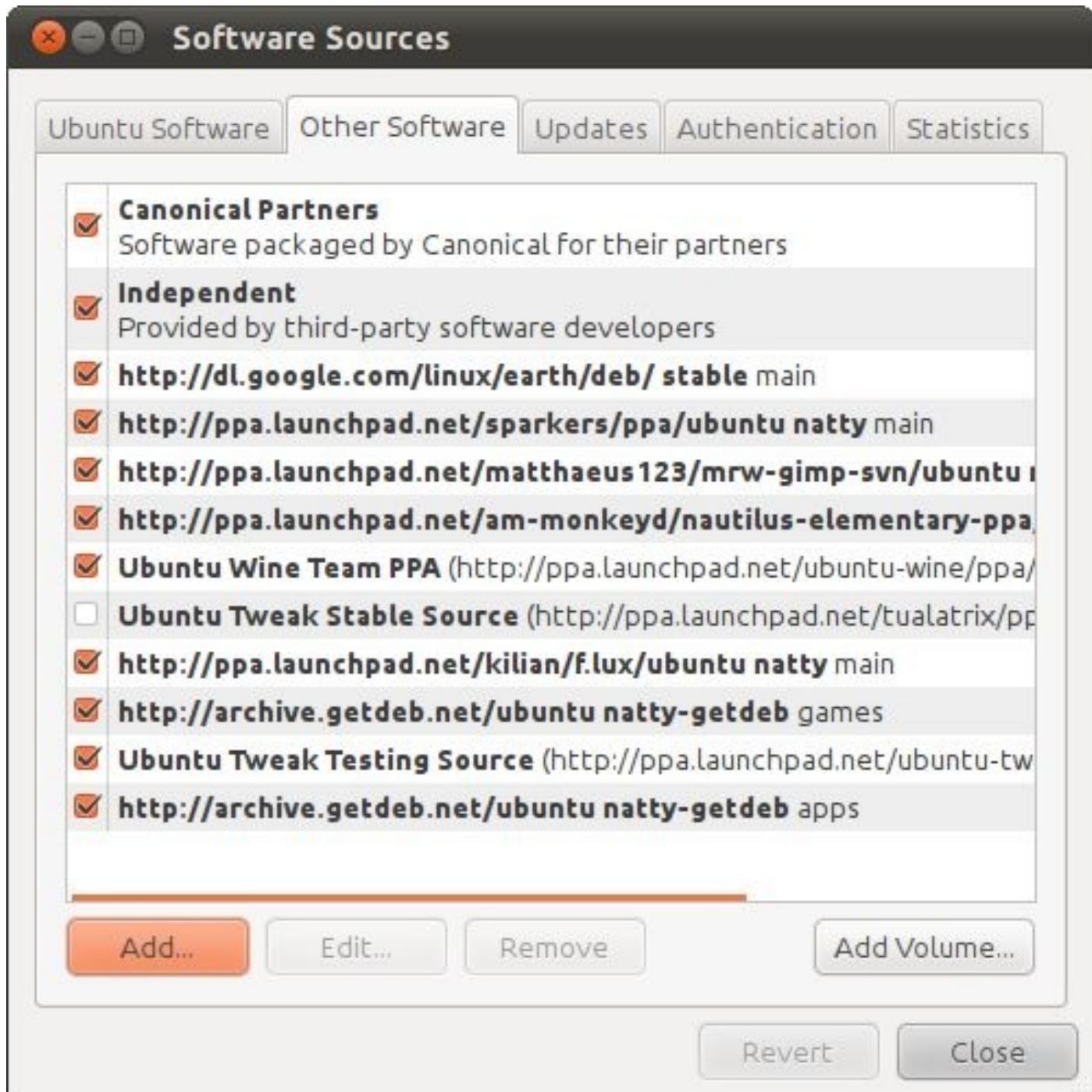
- Move the mouse to the top panel where the name of the application is written.
- Now Go to the *Edit* menu and select *Software Sources*.



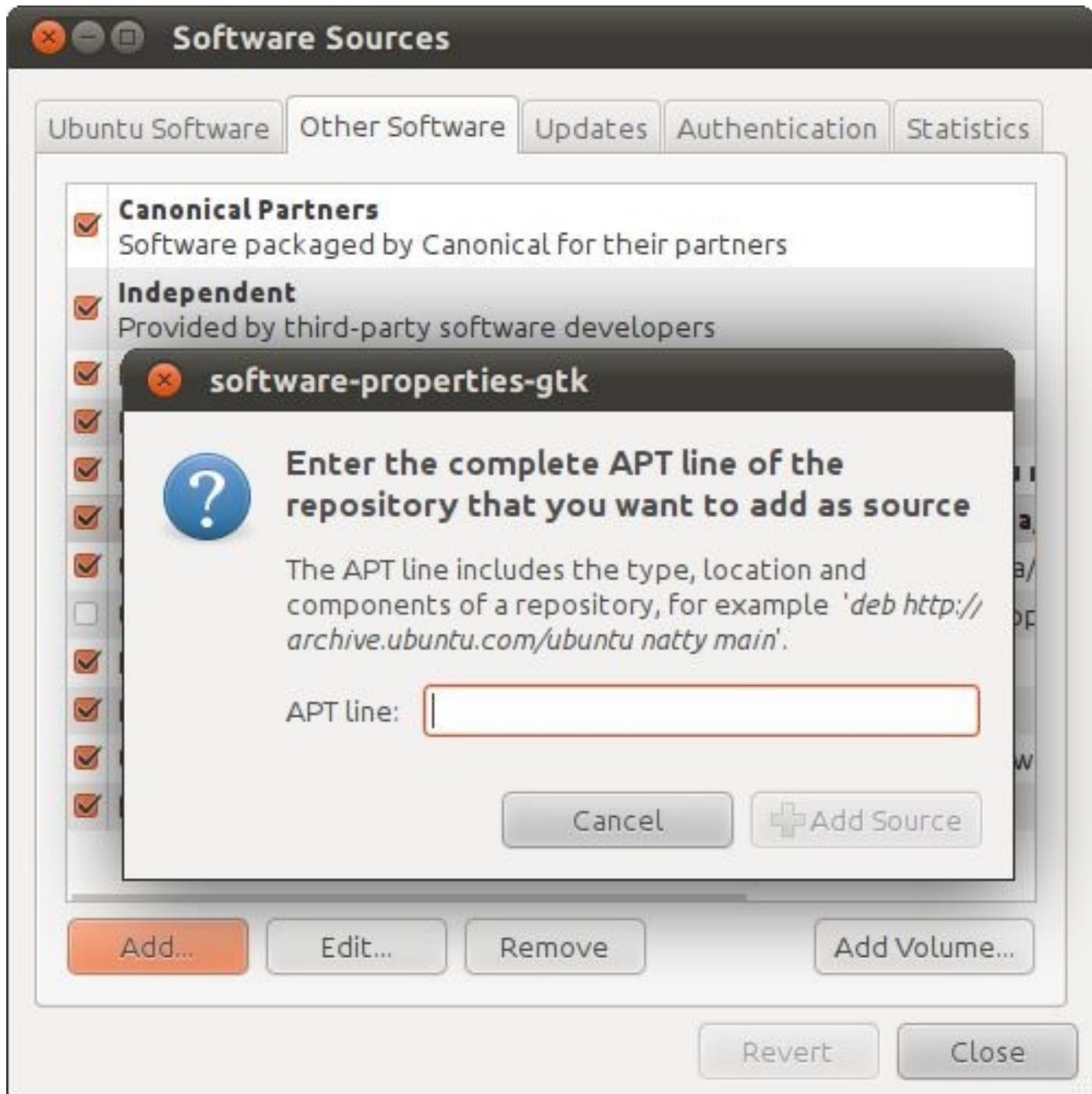
- Enter your password when prompted.



- Switch to the ‘Other Software’ tab.



- Now click 'Add', a box will appear.



- You have to enter the PPA in the box. It can be found in **BOLD** on the launchpad page.

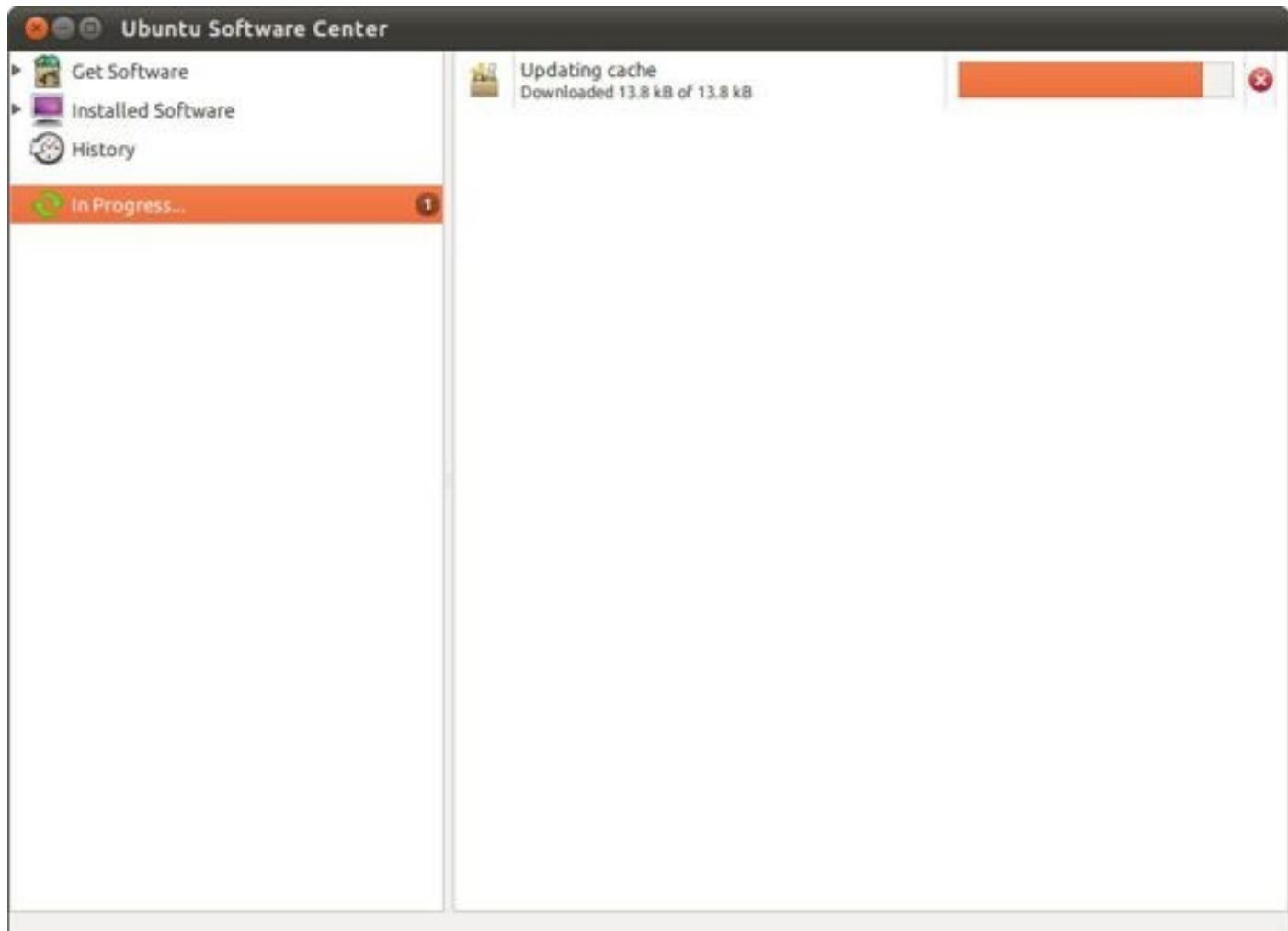
## Adding this PPA to your system

You can update your system with unsupported packages from this untrusted PPA by adding **ppa:chromium-daily/ppa** to your system's Software Sources. ([Read about installing](#))

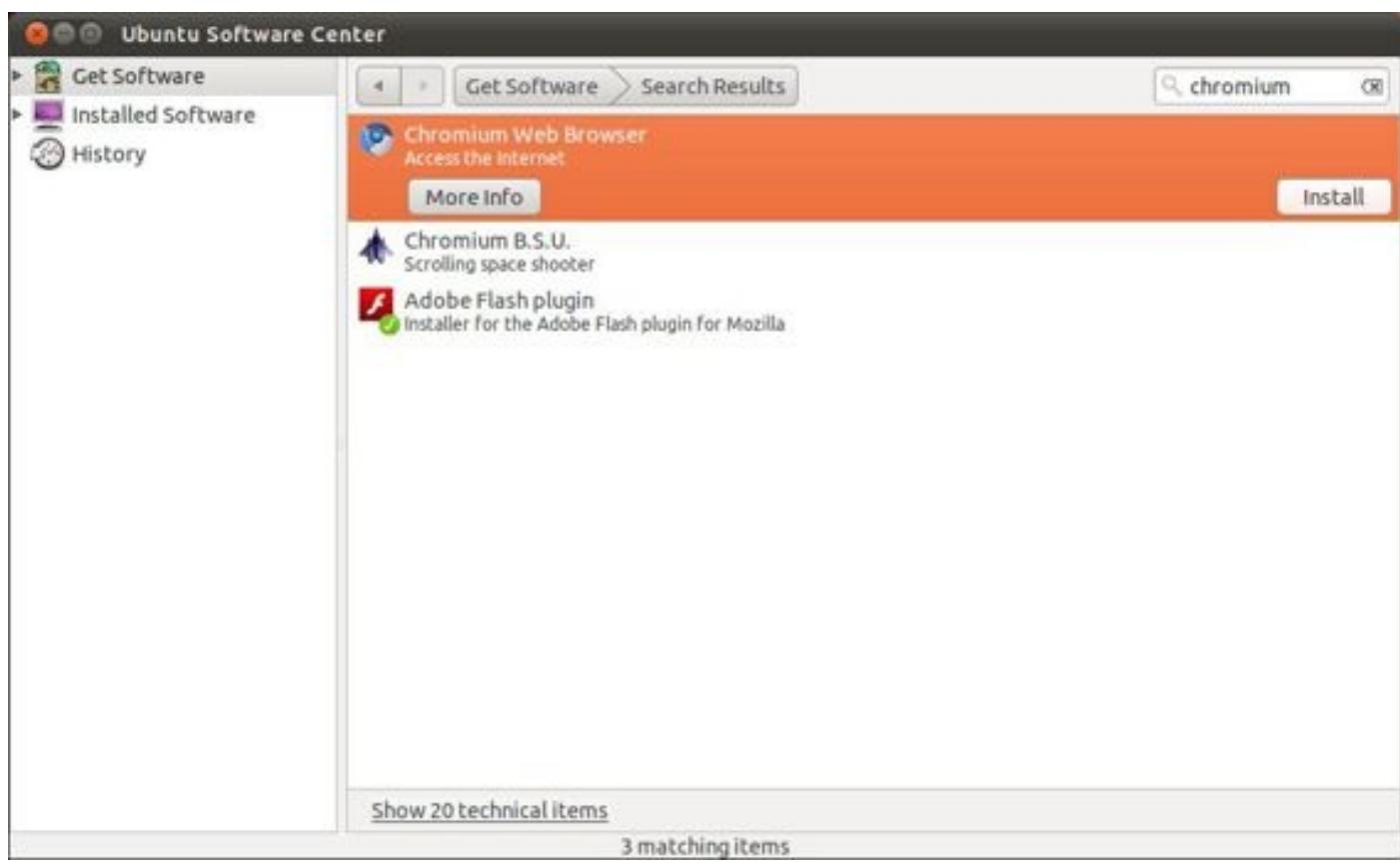
▷ [Technical details about this PPA](#)



- Now click ‘Add source’ and close the Software Sources. The cache will be refreshed



- Now install the software from the software center.



[Answer](#)  by [florian-diesch](#)

# **What is PPA?**

PPAs are for non standard software/updates. They are generally used by people who want the latest and greatest. If you are going extra lengths to get this kind of software, then you are expected to know what you are doing. The selection in the Software Centre is ample for most human beings.

# Command Line

On the command line you can add a PPA using `add-apt-repository`, e.g.:

```
sudo add-apt-repository ppa:gwibber-daily/ppa
```

To remove a PPA remove the corresponding files in `/etc/apt/sources.list.d` (this does not remove the packages you installed from the PPA). To see the packages available from a PPA or remove packages installed from a PPA press the “Origin” button on the lower left of the Synaptic window and choose the PPA from the list.

You can use the usual Software Sources dialog and add `ppa:gwibber-daily/ppa` where it asks for a *APT line* and enable or disable them just like other repositories.

As anybody can create a PPA there's no guarantee for quality or security of a PPA - just like with any other unofficial software source you have to decide yourself if a PPA it's trustworthy or not. And like any other unofficial software packages from a PPA can cause all sorts of difficulties especially when upgrading to a new release of Ubuntu.

---

[Answer](#) by [andrewsomething](#)

# For Ubuntu 10.10

While many find it easier to add PPAs using command line tools, this can be done through **Ubuntu Software Center** for those who prefer graphical interfaces. For this demo, we will be adding the [PPA for the Banshee Team](#)  in order to get the latest stable release of Banshee.

We'll begin by opening the Ubuntu Software Center which can be found in the Applications menu.

Applications > Ubuntu Software Center



Accessories



Games



Graphics



Internet



Office



Sound & Video



Programming

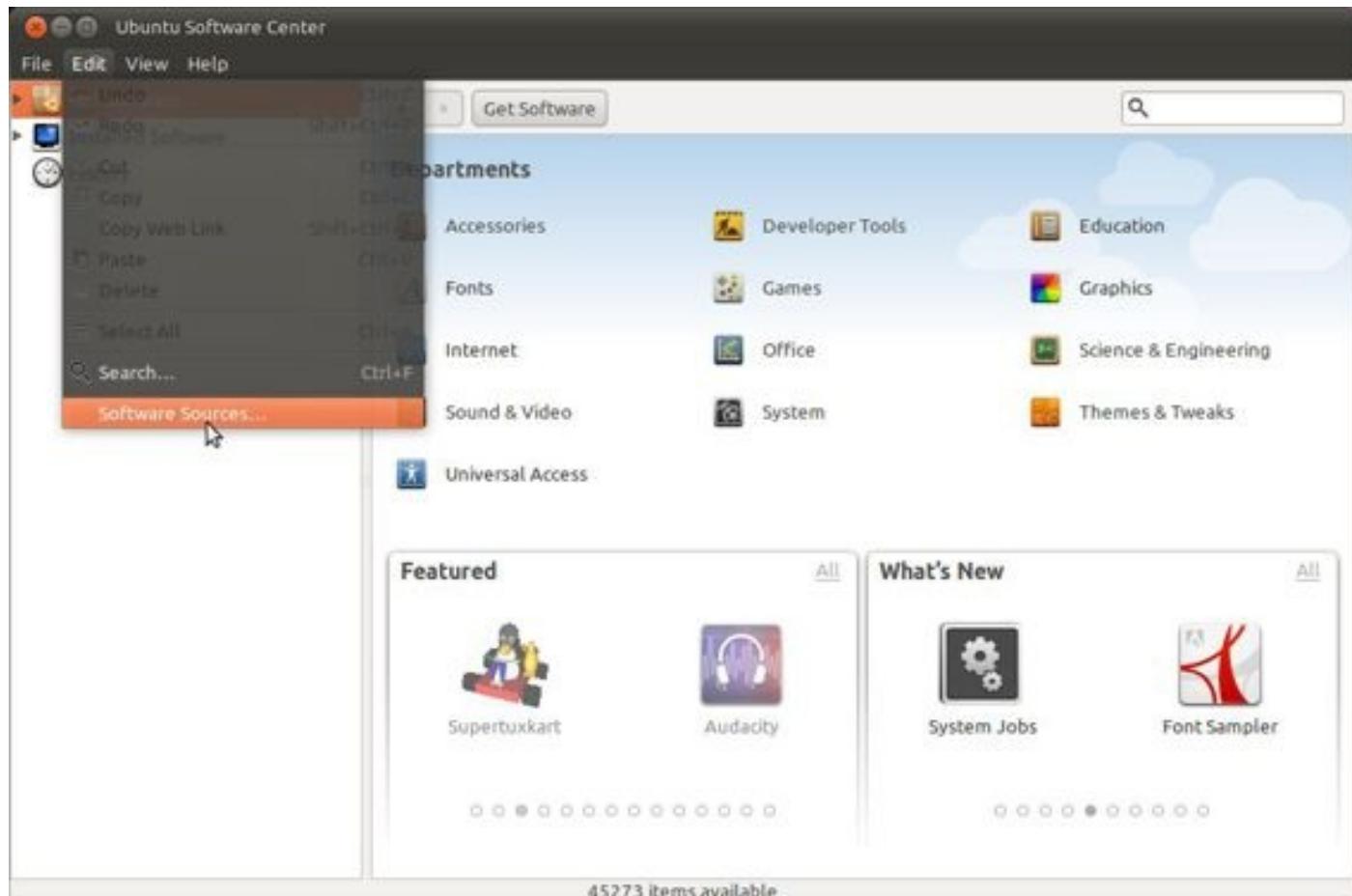


System Tools

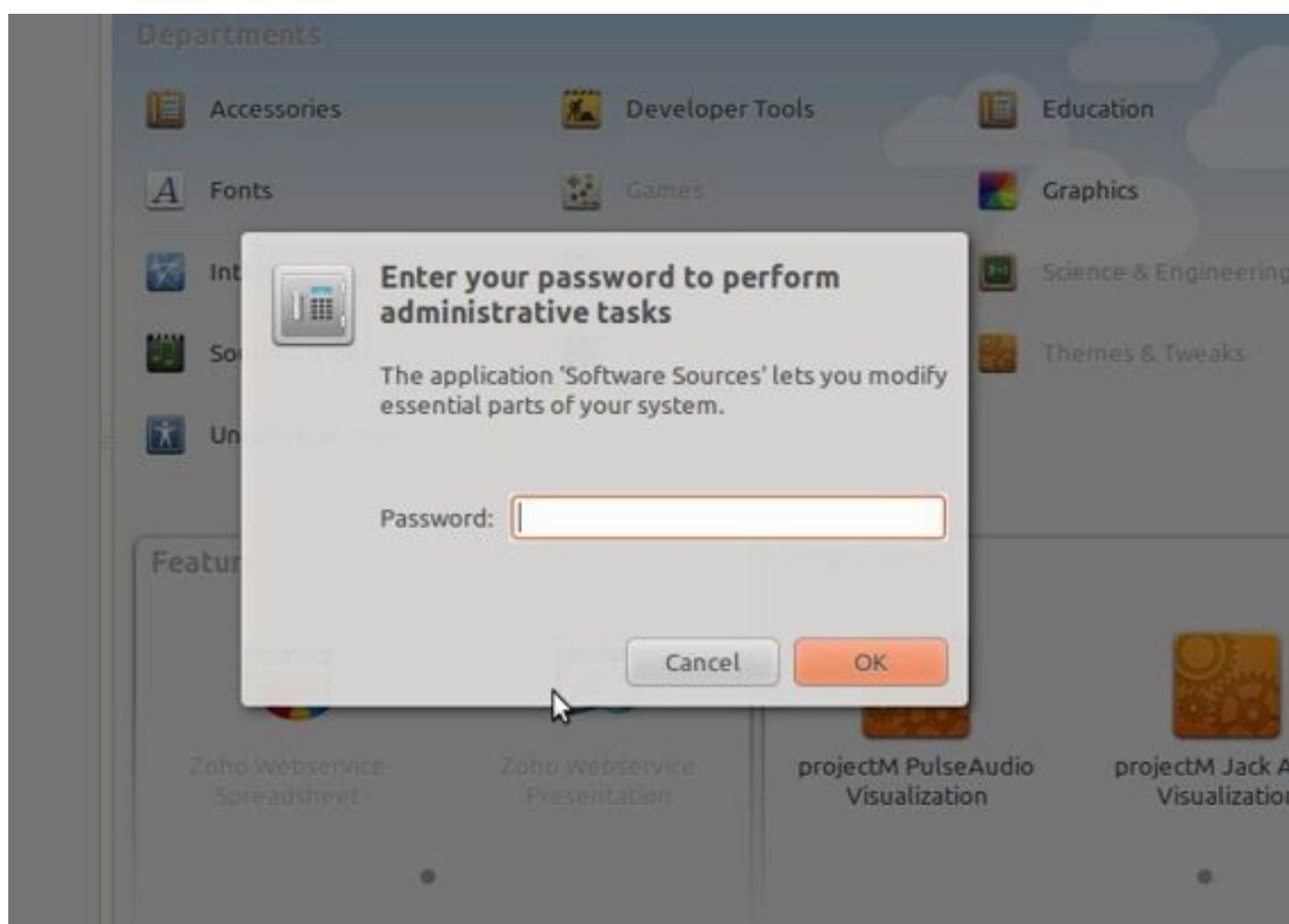


Ubuntu Software Center

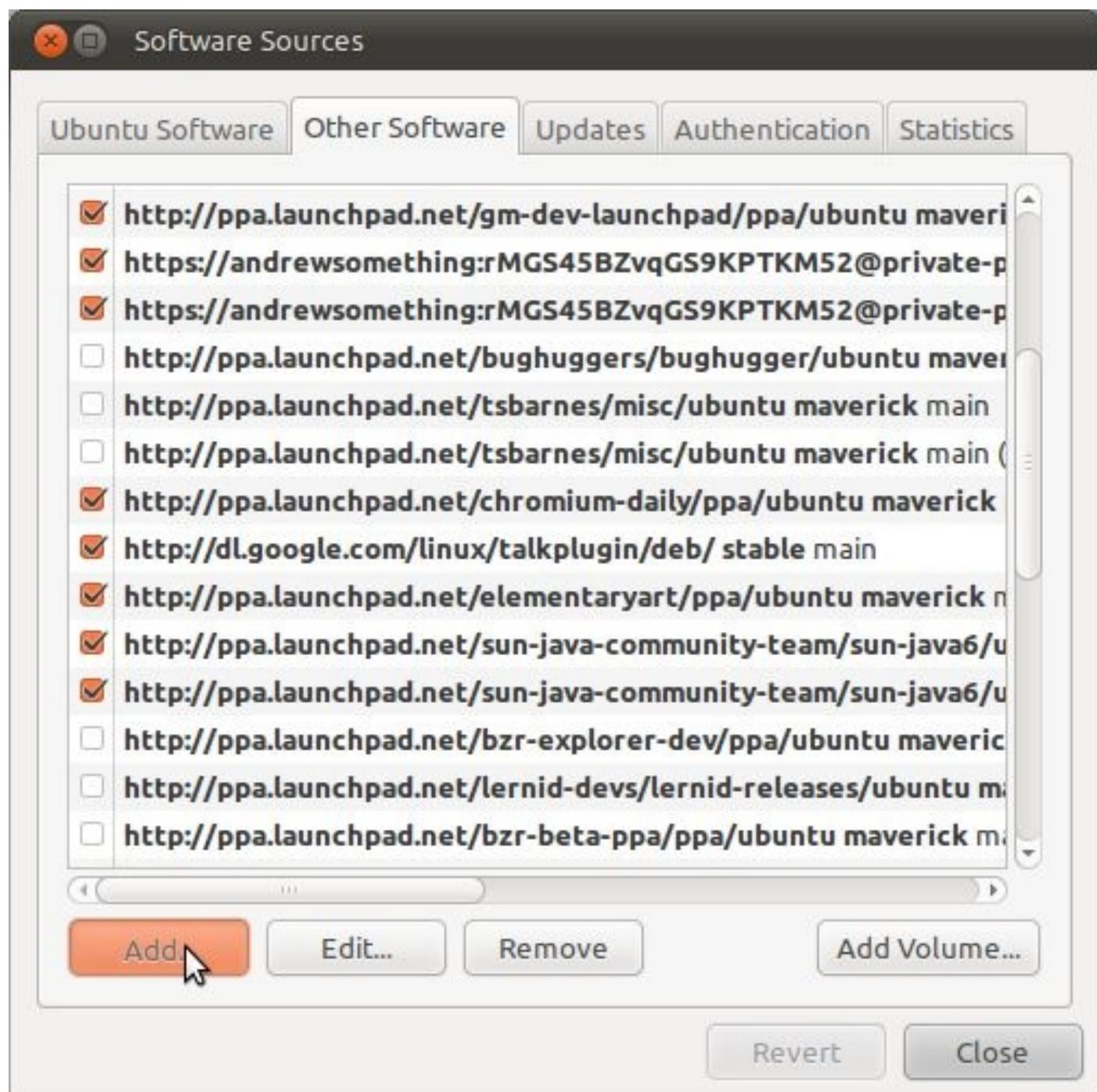
Now in Software Center, go to Edit > Software Sources



You will be asked to enter your administrative password.



Now in Software Sources open the other Software tab and press Add.



In this dialog, we will enter the PPA's information.



software-properties-gtk



## Enter the complete APT line of the repository that you want to add as source

The APT line includes the type, location and components of a repository, for example '*deb http://archive.ubuntu.com/ubuntu maverick main*'.

APT line:

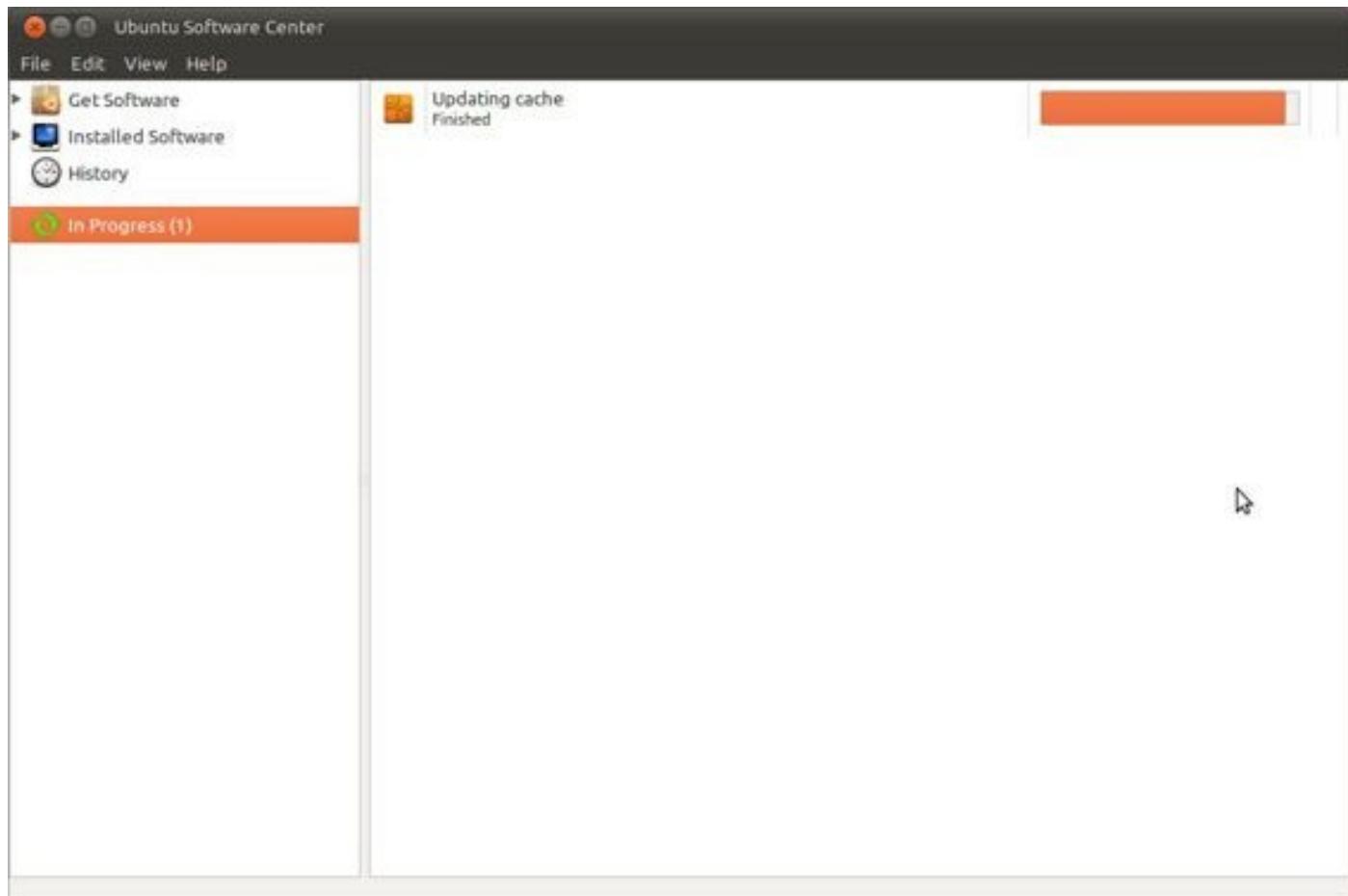


This information is found on the PPA's website in bold under the heading **Adding this PPA to your system**. For the [Banshee PPA](#), it looks like this:

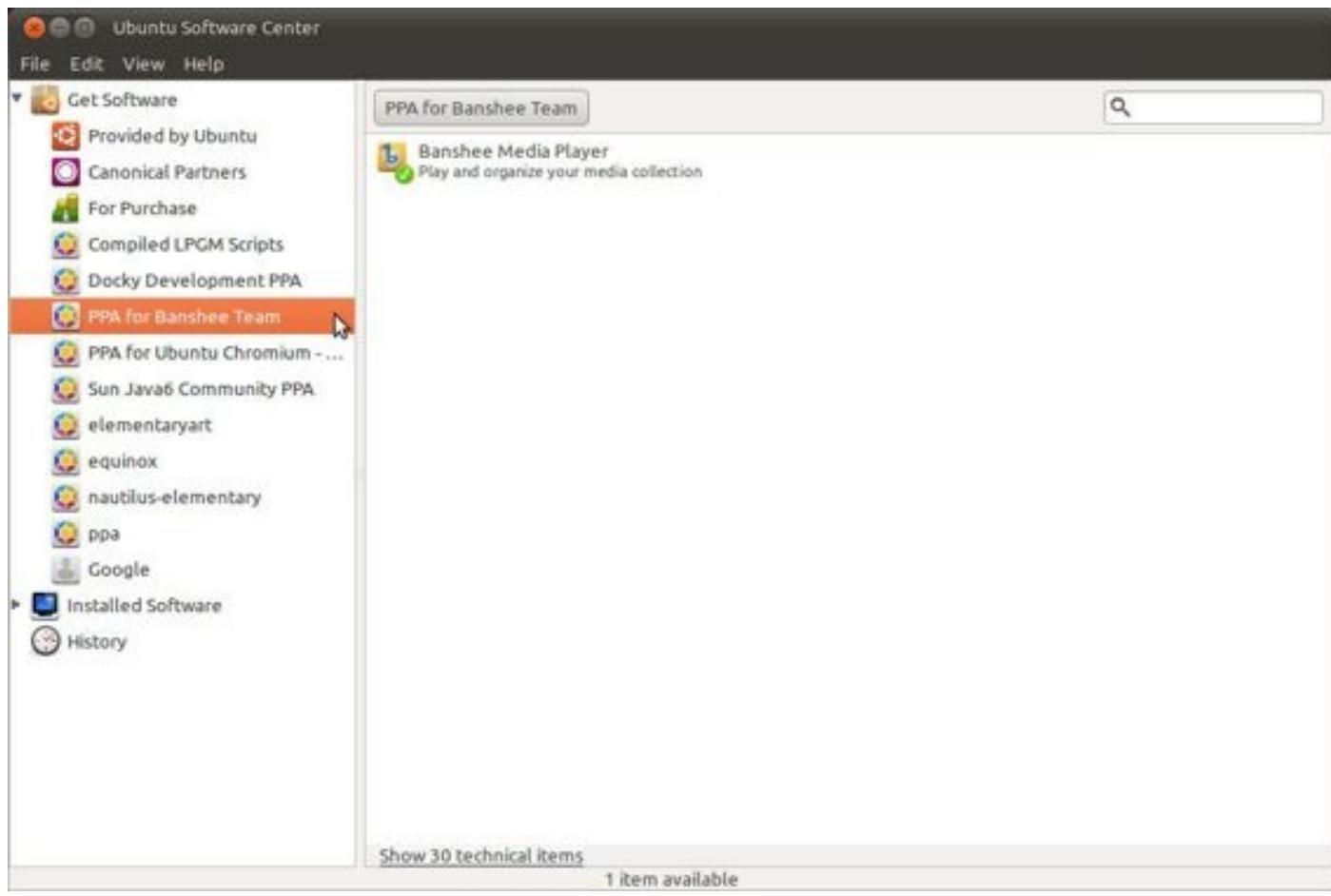
### Adding this PPA to your system

You can update your system with unsupported packages from this untrusted PPA by adding **ppa:banshee-team/ppa** to your system's Software Sources. ([Read about installing](#))

Now we can close Software Sources and Software Center will automatically update so that you can access the new packages from the PPA.



The packages available from the PPA can be seen by expanding the Get Software menu in Software Center's left column.



Tags: [ppa](#) ([Next Q](#))

---

## [Q: Where can I find a Subversion 1.7 binary?](#)

Tags: [ppa](#) ([Next Q](#))

Does anybody know of a ppa or source I can get a subverison 1.7 deb?

It was just released yesterday so I'm sure something will show up eventually. However I figure this will be a good place to post when something is released.

Tags: [ppa](#) ([Next Q](#))

User: [ryu](#)

---

[Answer](#)  by [richard-povinelli](#)

As of Ubuntu 12.10, subversion 1.7 is available as part of the distribution. Subversion can be installed using apt-get.

```
sudo apt-get install subversion
```

For earlier versions of Ubuntu, there is a ppa available at [subversion-1.7](#) . The repository can be added as follows:

```
sudo apt-add-repository ppa:dominik-stadler/subversion-1.7
```

To get the latest version of subversion update and upgrade the repository.

```
sudo apt-get update  
sudo apt-get upgrade
```

I needed to also do a dist-upgrade.

```
sudo apt-get dist-upgrade
```

I'm assuming that you already have subversion installed, if not:

```
sudo apt-get install subversion
```

---

[Answer](#)  by [waylon-flinn](#)

There's also a ppa supported directly by the subversion team: [“Subversion” team](#) .

You should be able to add the ppa with the following command:

```
sudo apt-add-repository ppa:svn/ppa
```

The apt-add-repository command is provided by the python-software-properties package, so make sure to install it first.

Note: RabbitVCS seems to have a problem with subversion 1.7: [Rabbitvcs does not mark as versioned subfodlers/files in svn 1.7](#) . This is fixed in the trunk but hasn't (yet) been pushed to a build.

---

[Answer](#)  by [fernando](#)

The Wandisco script actually install a new repository which contains the .deb file for installing SVN 1.7.

Almost the same can be accomplish by executing the following commands:

```
sudo add-apt-repository 'deb http://opensource.wandisco.com/ubuntu lucid svn17'  
sudo wget -q http://opensource.wandisco.com/wandisco-debian.gpg -O- | sudo apt-key add -  
sudo apt-get update  
sudo apt-get install subversion
```

---

Tags: [ppa](#) ([Next Q](#))

---

## **[Q: How do I install latest PHP in supported Ubuntu versions \(like 5.4.x in Ubuntu 12.04\)?](#)**

Tags: [ppa](#) [php](#) ([Next Q](#))

I am trying to update to php 5.4 in Ubuntu 12.04, and I can only get 5.3.6 using official repositories (using apt-get).

I'm not really sure how to do a manual update I'm sorta new to ubuntu, but I need to play around with the new php features!

Tags: [ppa](#) [php](#) ([Next Q](#))

User: [kavisiegele](#)

---

[Answer](#)  by [matteosister](#)

You could use a PPA to stay up-to-date with PHP. I use:

<https://launchpad.net/~ondrej/+archive/php5>

# Missing Image

---

It's now on 5.5 and also includes Apache 2.4 update. For Apache 2.2+ PHP 5.4 repository, see the bottom of the answer.

If you want use this PHP, do this:

[ppa:ondrej/php5](#)

# Missing Image

---

([Click here for instructions on using PPAs.](#))

```
sudo add-apt-repository ppa:ondrej/php5  
sudo apt-get update
```

```
sudo apt-get upgrade  
sudo apt-get install php5
```

If you don't have add-apt-repository binary do the following:

```
sudo apt-get install python-software-properties
```

Precautions:

- [Are PPA's safe to add to my system and what are some “red flags” to watch out for?](#)

## For Ubuntu 12.10

Ubuntu 12.10's official repository [is updated](#) to PHP 5.4. You should use the main repository package if you can. To do this, just install [PHP5](#)

# Missing Image

without enabling any PPA.

## PHP 5.4

Prepackaged latest PHP 5.4 now resides in separate PPA: [ppa:ondrej/php5-oldstable](#)

# Missing Image

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Tags: [ppa](#) [php](#) ([Next Q](#))

---

[Q: How can PPAs be removed?](#)

---

[Q: What are PPAs and how do I use them?](#)

---

[Q: How to install Eclipse?](#)

---

[Q: Are PPA's safe to add to my system and what are some “red flags” to watch out for?](#)

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[Q: How to add a PPA on a server?](#)

---

[Q: Where can I find a Subversion 1.7 binary?](#)

---

[Q: How do I install latest PHP in supported Ubuntu versions \(like 5.4.x in Ubuntu 12.04\)?](#)

---

[Q: How can I get a list of all repositories and PPAs from the command line?](#)

---

# Indicator

[Skip to questions](#), Wiki by user [jorge-castro](#)

Over the next few releases, Ubuntu is phasing out the notification area (sometimes known as the system tray) because of its clutter, inconsistency and poor integration with the rest of the panel. We are replacing it with two types of status menu: custom status menus for programs, known as application indicators and system status menus for messaging, power, sound, etc.

- [Implementation Guidelines](#) 
  - [Design Guidelines](#) 
-

# Questions

## [Q: How to show time in Ubuntu 13.10](#)

**Tags:** [indicator](#) ([Next Q](#))

Just upgraded from 13.04 to 13.10.

Everything went fine but I don't see the time in the top right corner of the 'top bar' anymore. I tried to right click on it so I could get some options but nothing shows.

I'm sure it's obvious but I don't see it.

**Tags:** [indicator](#) ([Next Q](#))

**User:** [patÃ©](#) 

---

[Answer](#)  by [lorenzo-ancora](#)

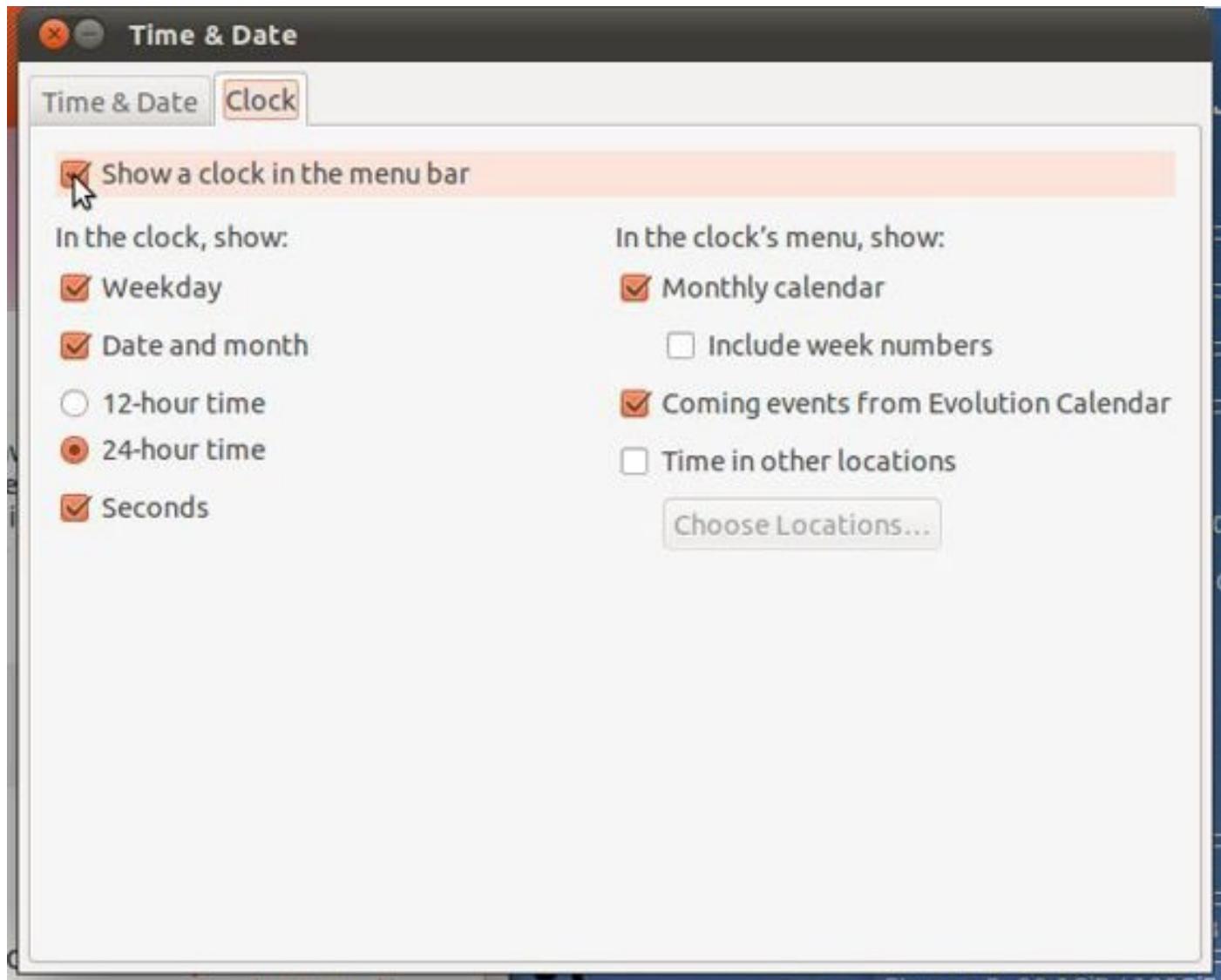
Already solved [here](#)  and [here](#) .

From the terminal:

```
sudo apt-get install indicator-datetime  
sudo dpkg-reconfigure --frontend noninteractive tzdata  
sudo killall unity-panel-service
```

Then logout & login from the graphic session.

If the clock is still hidden/grayed out:



If it still doesn't work report a bug [on Launchpad](#).

\*edited to solve a bigger slice of problems.

---

**Tags:** [indicator](#) ([Next Q](#))

---

## [\*\*Q: No Dropbox icon in the indicator panel?\*\*](#)

**Tags:** [indicator](#)

I have recently installed Ubuntu on my machine and everything has been working fine, except I don't see the Dropbox indicator. I have installed and re-installed Dropbox multiple times and can confirm that it's running in the background (with `ps -e | grep dropbox`).

Does anyone know how to get it back?

**Tags:** [indicator](#)

**User:** [tusharkant15](#)

---

[Answer](#) by [mifas](#)

Found a solution at the [comment #7 from the Ubuntu bug](#):

1. Install package sudo apt-get install libappindicator1
  2. Log out, and then log back in (or issue dropbox stop && dropbox start at the command line)
- 

**Tags:** [indicator](#)

---

[Q: Is it possible to make indicator-appmenu ignore a specific application?](#)

---

[Q: What can replace system monitoring in the top Gnome Panel in Unity?](#)

---

[Q: What Application Indicators are available?](#)

---

[Q: How do I access and enable more icons to be in the system tray?](#)

---

[Q: How do I get the Skype status icon back? \(on panel/tray\)](#)

---

[Q: How to show time in Ubuntu 13.10](#)

---

[Q: No Dropbox icon in the indicator panel?](#)

---

# **VirtualBox**

[Skip to questions](#), Wiki by user [takkat](#)

# VirtualBox

VirtualBox provides a virtual machine for a variety of guest operating systems. Detailed installation instructions can be found in the [VirtualBox User Manual](#). For USB and RDP support a non-open source (PUEL) extension pack needs to be installed.

Recent versions of VirtualBox for Linux can be found on the products [download page](#). The software is [currently owned by Oracle](#).

# Alternatives

- VMware Player [vmware-player](#) 
- VMware Workstation [vmware](#) 
- Kernel-based Virtual Machine (KVM) see [kvm](#) 

# Notable questions

- [How do I install Guest Additions in a VirtualBox VM?](#)
  - [How to set up USB for Virtualbox? !\[\]\(8025dd4bdbebb9ced13fef54cd9d8127\_img.jpg\)](#)
-

# Questions

## [Q: How do I install Guest Additions in a VirtualBox VM?](#)

**Tags:** [virtualbox](#) ([Next Q](#))

I've recently installed Ubuntu on Oracle's Virtualbox. Now I want to install the guest additions.

I started up my Ubuntu guest OS, clicked "Devices" and chose "Install Guest Additions". Nothing happened, and I don't see the CD icon on my desktop.

How can I make this work?

**Tags:** [virtualbox](#) ([Next Q](#))

**User:** [snakile](#)

---

[Answer](#)  by [takkat](#)

If you have trouble installing Ubuntu in a VirtualBox VM, because the installer window does not fit the low resolution screen size, you can move the window with Alt+F7.

# Installing Guest additions from the repositories

In case we have installed the **OSE edition** of Virtual Box from the repositories we can add the guest additions from the repositories.

Install the package [\*\*virtualbox-guest-additions-iso\*\*](#) 

# Missing Image

in the **host** Ubuntu. The .iso file with an image of the OSE edition of the guest additions CD will install in the host directory `/usr/share/virtualbox/VBoxGuestAdditions.iso`. Mount this .iso file as a CD in your virtual machine's settings. In the guest you will then have access to a CD-ROM with the installer.

# Installing Guest Additions from Virtual Box Manager

In case the Guest Additions fail to build we may have to install the Linux kernel headers (see [How do I install kernel header files?](#)) or [build-essential](#)

# Missing Image

tools in addition. It is also recommended to have [dkms](#)

# Missing Image

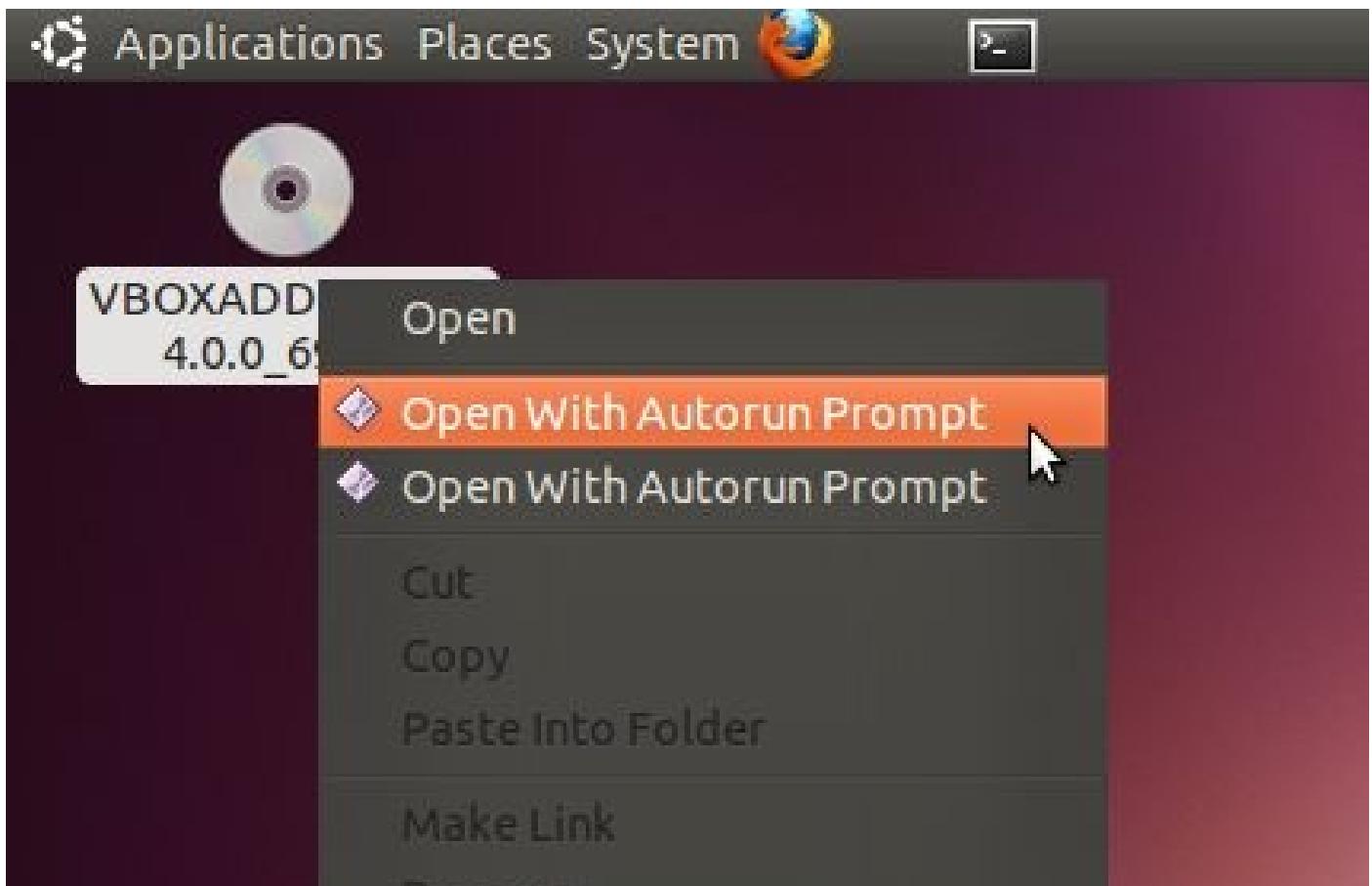
installed (see below - Note 4).

Selecting *Devices* -> *Install Guest Additions* (or press Host+D from the Virtual Box Manager) the Guest Additions CD .iso will be loaded but **not installed** in your guest OS. To install we need to run the installer script VBoxLinuxAdditions.run as root or from the Autorun Prompt (see below),

---

## GNOME classic

To install the Guest Additions we will have a CD icon on our desktop as soon as the virtual drive is mounted:



Next step is to run the *autorun.sh* script (as root) on this **mounted** CD either by opening the drive or by choosing “Open With Autorun Prompt” from the right-click context menu as depicted above. This will build and install the vbox kernel modules needed.

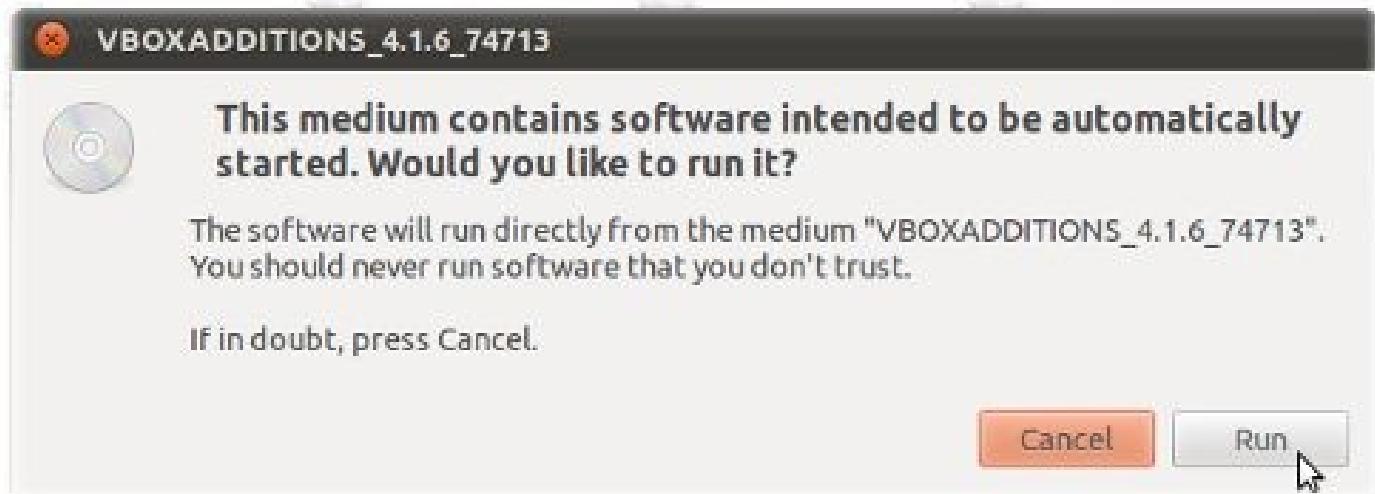
## Unity

The guest additions is mounted as a virtual CD visible on the launcher:

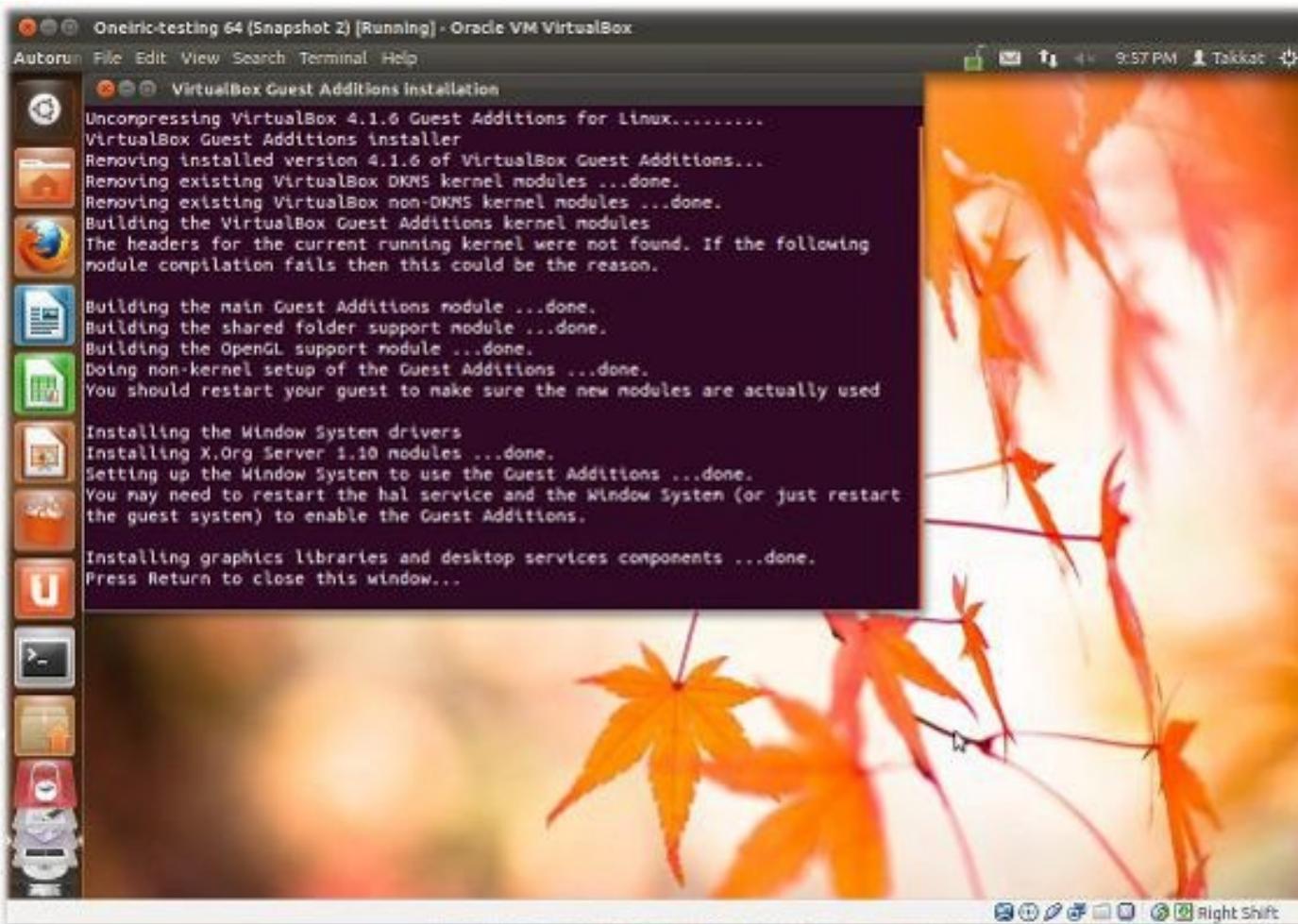


In case the system is set up to autorun a CD it should just open the following autorun

dialogue (if not select the CD symbol, choose open, then choose *Open Autorun Prompt*)



After having entered your credentials for root access the guest additions will build as seen from the terminal output:



Press Return to close the terminal.

### Note 1

Guest Additions need a reboot of your guest OS to take effect.

### Note 2

In some systems the Virtual Box Guest Additions CD icon may not be shown on the

desktop, but will be accessible from the *Places* menu. If the CD still was not there you may have to manually add the `VBoxGuestAdditions.iso` as a CD-ROM in the Virtual Box Manager *Storage* menu. In an Ubuntu host the disk image is in `/usr/share/virtualbox/VBoxGuestAdditions.iso`.

### Note 3

In some systems (e.g. when running **Xubuntu** guests) we may not have an *Autorun Prompt* for the mounted CD. Then we can install the guest additions by opening a terminal on the mounted guest additions .iso to run `sudo`

`./VBoxLinuxAdditions.run`. In **Lubuntu** guests we additionally need to install the GNU C compiler ([gcc](#))

# Missing Image

) and the [make](#)

# Missing Image

utility in the guest system to be able to compile the guest additions.

### Note 4

Running **DKMS** in the guest OS will keep Guest Additions installed after a guest kernel update. It is not a prerequisite for Guest Additions but if used it should be installed **before** we install the Guest Additions.

---

# Installing Guest Additions from a Terminal

In case Guest Additions are not installed properly we may not be able to boot to the GUI. In this case we need to boot holding the Shift key to access the Grub menu where we access a root shell as depicted in the following question (we do need to mount the filesystem read/write to proceed):

- [How do I boot into a root shell?](#) 

The Guest Additions .iso file needs to be installed on /dev/cdrom from the Virtual Box Manager (see above). We then may install Guest Additions by typing the following commands:

```
mount /dev/cdrom /mnt          # or any other mountpoint
cd /mnt
./VBoxLinuxAdditions.run
reboot
```

# Remove Guest Additions

In case something went wrong with installing the guest additions, or the guest OS can not boot after installing we may have to remove the additions. This can be done by running an uninstallation script located in the **guest** /opt directory.

```
cd /opt/<VirtualBoxAdditions-x.x.xx>/  
sudo ./uninstall.sh
```

Replace x.x.xx with your current version of guest additions.

---

[Answer](#)  by [aaron-newton](#)

You could also try the following (this worked for me after I had to reinstall the Guest Additions after Update Manager killed them). Solution found here:

<http://www.unixmen.com/install-guest-addition-in-ubuntu-1010-maverick-meerkat-fix/> 

In summary:

```
sudo apt-get update  
sudo apt-get install build-essential linux-headers-$(uname -r)  
sudo apt-get install virtualbox-guest-x11
```

This found and updated the correct version of the VirtualBox Guest Additions and my system seems to work properly again, and I'm assuming this will also work if Guest Additions are failing to install from the menu item.

One other thing of note. I originally tried to run this under the fish shell - make sure you're using bash (i.e. type "bash" into the terminal before you start).

---

Note on more recent systems, the command has been changed to

```
sudo apt-get install virtualbox-guest-x11
```

---

**Tags:** [virtualbox](#) ([Next Q](#))

## [Q: How can I access Apache \(on VirtualBox guest\) from host?](#)

**Tags:** [virtualbox](#) ([Next Q](#)), [apache2](#) ([Next Q](#))

I installed Apache on an Ubuntu VM. When I go into the guest and load up Firefox I can see that Apache is working fine when I browse to localhost.

I would like to access this same page through the host. I've tried using the IP address of the guest but nothing comes up.

Ideally I would love to set up my Windows 7 (host) to request <http://guestserver.com>

of the Apache server on the guest. How can I do this?

**Tags:** [virtualbox](#) ([Next Q](#)), [apache2](#) ([Next Q](#))

**User:** [drtanz](#)

---

[Answer](#)  by [lekensteyn](#)

If you other machines in your physical network must be able to reach your VM (or if the VM needs Internet access), use bridged networking. Otherwise, stick to host-only networking.

1. Stop your VM and open its settings in the *VirtualBox (OSE) Manager*
2. Go to the *Network* tab
3. Select the network mode at your choice (bridged networking or host-only) (in the below example, I'm using host-only)

If you want to use bridged networking, you've to select the right network adapter at *Name*. For wired connections, you'd select something named like `eth0`. Wireless connections are usually named `wlan0` (the numbers may vary)

4. Save the settings
5. Start the Ubuntu VM
6. When up, you can gather the IP address by running:

```
ifconfig | grep addr
```

In the below output, `192.168.56.101` is the IP address that can be used in your Win7 host system to access your VM:

```
eth0  Link encap:Ethernet  HWaddr 08:00:27:70:27:fe
      inet addr:192.168.56.101  Bcast:192.168.56.255  Mask:255.255.255.0
      inet6 addr: fe80::a00:27ff:fe7b:25fe/64 Scope:Link
            inet addr:127.0.0.1  Mask:255.0.0.0
            inet6 addr: ::1/128 Scope:Host
```

7. In your windows host system, edit `C:\Windows\drivers\etc\hosts` as administrator and add a line:

```
192.168.56.101  guestserver.com
```

If you've a Ubuntu host system, edit `/etc/hosts` using `sudo nano /etc/hosts`

8. Profit!

**Tags:** [virtualbox](#) ([Next Q](#)), [apache2](#) ([Next Q](#))

---

## [Q: Higher screen resolution for VirtualBox?](#)

**Tags:** [virtualbox](#) ([Next Q](#)), [xorg](#) ([Next Q](#))

I have been trying this for a while but no luck. I installed `ubuntu-11.10-desktop-i386`

twice. Also installed guest additions. However I always get maximum screen resolution as, 1024 x 768.

Do I need to change anything in /etc/X11/xorg.conf file ([example](#))? Presently there is no such file in that path. Also, would you be able to advise me what the contents of the file for 11.10 version should be?

**Tags:** [virtualbox](#) ([Next Q](#)), [xorg](#) ([Next Q](#))

**User:** [iammilind](#)

---

[Answer](#) by [wfudge](#)

This worked for me and I am running VirtualBox 4.1.8 and Ubuntu 11.10.

```
sudo apt-get install virtualbox-guest-utils virtualbox-guest-x11 virtualbox-guest-dkms
```

Found it on this site under a slightly different question [Higher screen resolution in VirtualBox?](#)

---

[Answer](#) by [sai-puli](#)

I was able to reproduce this issue repeatedly on Windows 7 host with Ubuntu 11.10 guest. Installing ubuntu from an iso image.

*This issue happens when either the Guest Additions are not installed or installed from ubuntu sources.*

To fix this install guest additions from the virtual machine's **Devices > Install Guest Additions** option and running the autoprompt. If you already have the guest additions installed from a different source it will prompt you about removing the existing one and installing new guest additions, just say 'yes'. This will remove the guest additions if they are already installed from ubuntu sources and build from sources that came with your virtualBox installation.

This should fix the issue.

---

[Answer](#) by [lowresolutiononubuntu12.04](#)

I just installed Ubuntu 12.04 on VirtualBox 4.1.4, but couldn't get it to work on higher resolution, even after installing and reinstalling the VBOXAdditions. Desperate, I installed the VBOX 4.1.14 and reinstalled many times the VBOXAdditions, but without any success. Finally, the solution that solved the problem, was to increase the video memory (in VBOX setting for Ubuntu) from starting 12 MB, to 48 MB (which still did not enable resolution 1366x768), and than to 128 MB. After restarting Ubuntu everything works perfect, 1366x768 is my default resolution. I hope this will help in your problems. Cheers!

---

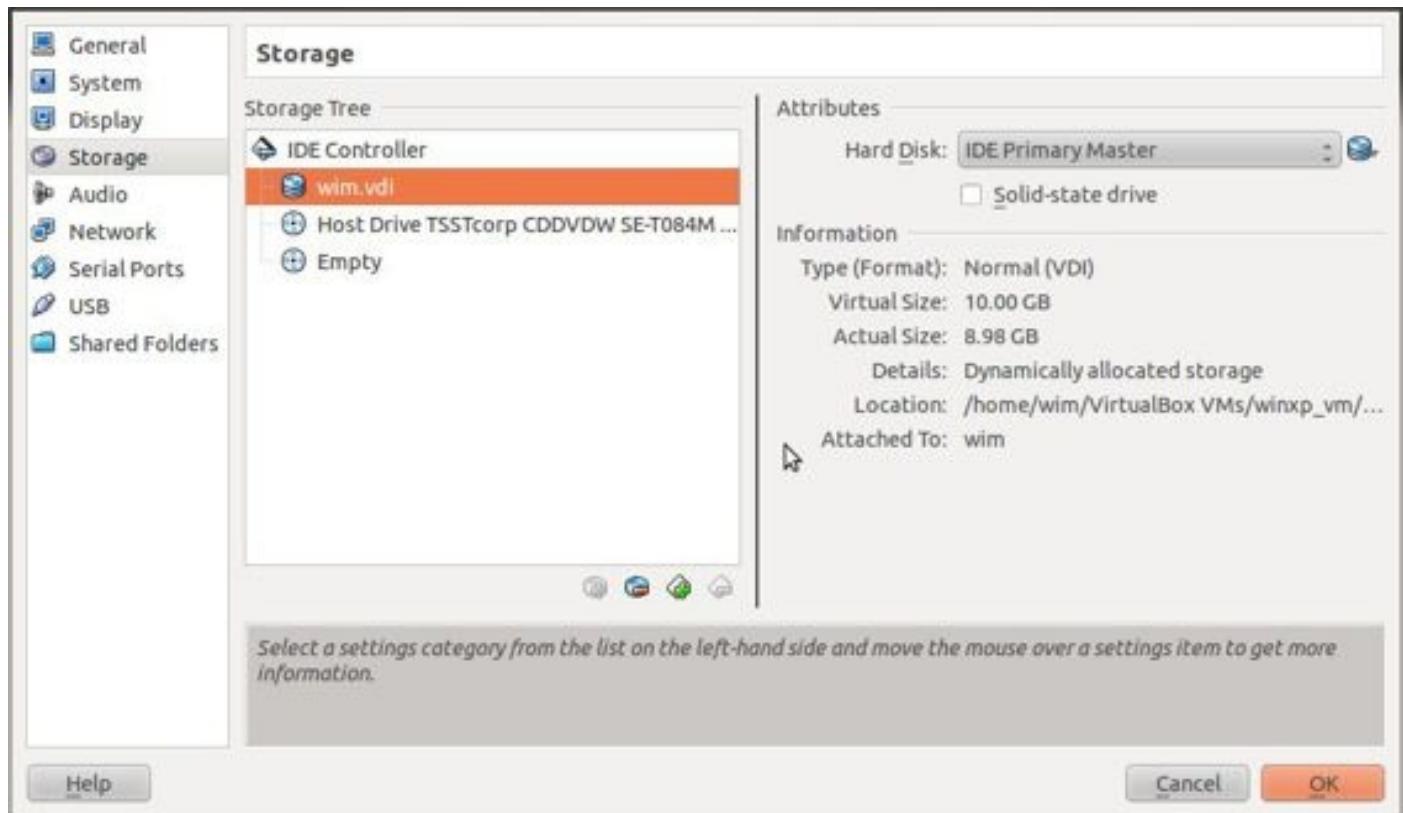
**Tags:** [virtualbox](#) ([Next Q](#)), [xorg](#) ([Next Q](#))

---

**Q: How do I increase the hard disk size of the virtual**

# machine?

Tags: [virtualbox](#) ([Next Q](#))

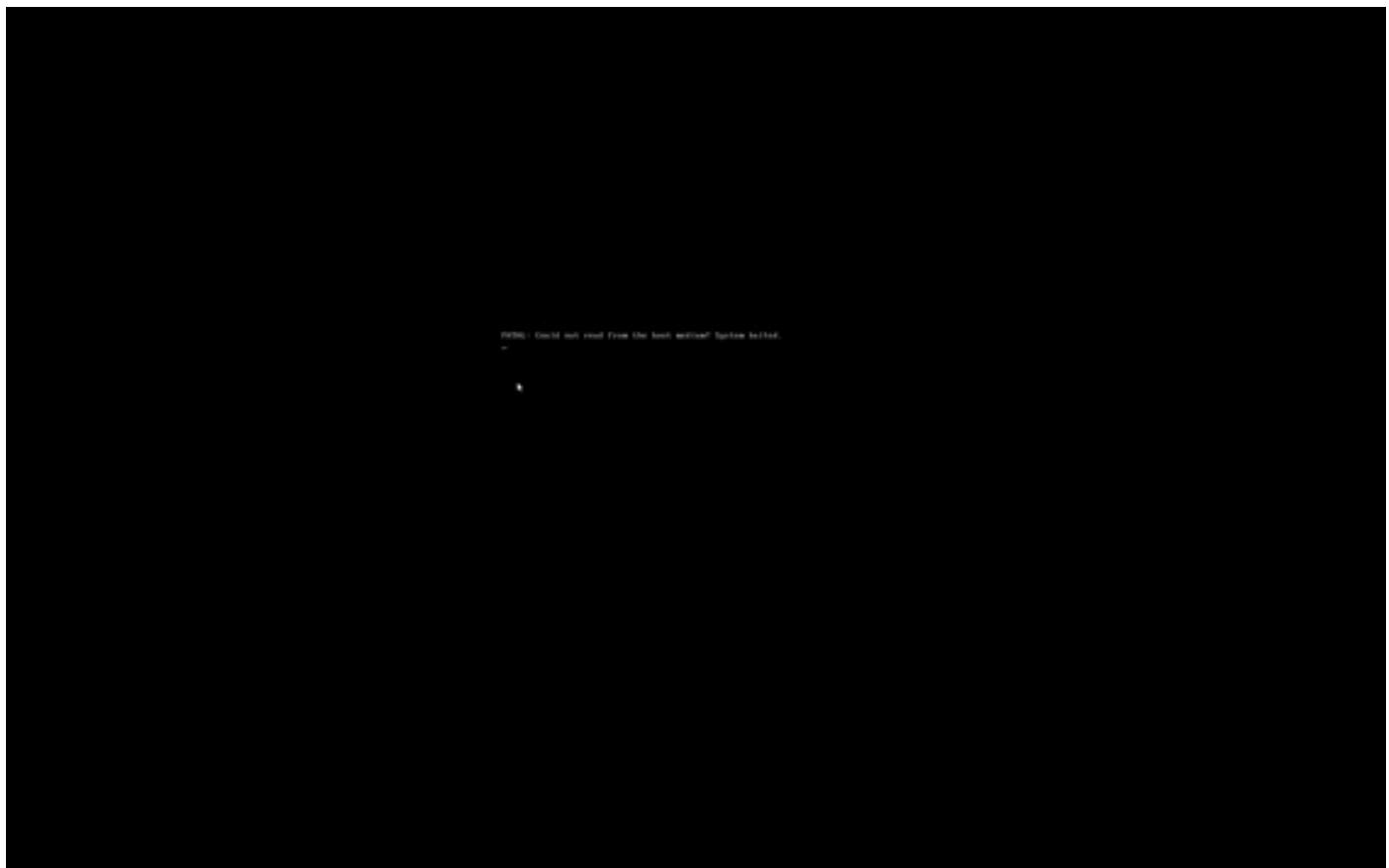


I have run out of space on my WinXP virtual machine, which I only gave 10 GB space for when I created it. Is there an easy way to increase it to, say, 20 GB? I can't see any obvious option in VirtualBox settings.

The suggestion below gives this error

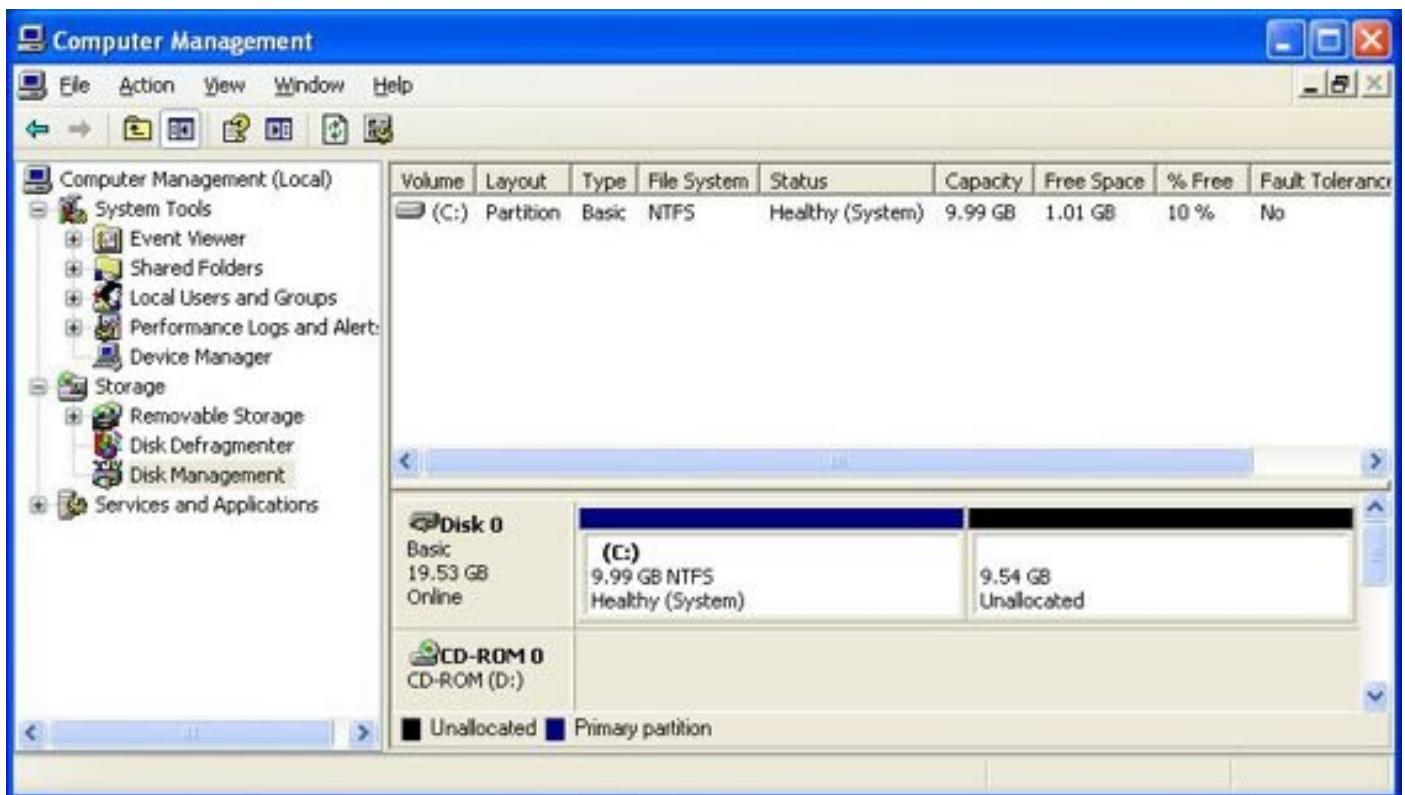
```
wim@wim-ubuntu:/media/data/winxp_vm$ VBoxManage modifyhd wim.vdi --resize 20000
VBoxManage: error: Cannot register the hard disk '/media/data/winxp_vm/wim.vdi' {46284957-2c09-4e70-8a49-bfbe0f7f681d} because a hard disk '/home/wim/VirtualBox VMs/winxp_vm/wim.vdi' with UUID
{46284957-2c09-4e70-8a49-bfbe0f7f681d} already exists
VBoxManage: error: Details: code NS_ERROR_INVALID_ARG (0x80070057), component VirtualBox, interface
IVirtualBox, callee nsISupports
Context: "OpenMedium(Bstr(pszFilenameOrUuid).raw(), enmDevType, AccessMode_ReadWrite,
fForceNewUuidOnOpen, pMedium.asOutParam())" at line 210 of file VBoxManageDisk.cpp
```

Removing the .vdi from VirtualBox before calling VBoxManage command, then adding it back in, was successful. But now I can't boot the virtual machine, I get this worrying screen:



By the way, it says FATAL: Could not read from the boot medium! System halted.

The vdi must be reattached to the VM after VBoxManage command. Further, the partition will need to be resized from WITHIN windows, because you will have this empty space:



I was able to resize the partition easily using a bit of freeware called [EASEUS Partition Master 9.1.0 Home Edition](#).

Tags: [virtualbox](#) ([Next Q](#))

User: [wim](#)

---

[Answer](#) by [tom-brossman](#)

Open a terminal and navigate to the folder with the VirtualBox disk image, then use the following command:

```
VBoxManage modifyhd YOUR_HARD_DISK.vdi --resize SIZE_IN_MB
```

replacing YOUR\_HARD\_DISK and SIZE\_IN\_MB with your image name and desired size. This answer and a fuller explanation are [here, on webupd8](#). Credit to Andrew there for posting this answer.

---

[Answer](#) by [tiempjuuh](#)

Wim, I think you'll need to unregister it from Vbox first. File, Media Manager, Click on you hdd, and unregister it. Then try it again.

---

Tags: [virtualbox](#) ([Next Q](#))

---

## [Q: VirtualBox '/etc/init.d/vboxdrv setup' issue](#)

Tags: [virtualbox](#) ([Next Q](#)), [virtualization](#) ([Next Q](#))

I have installed VirtualBox through the software centre, but when I try to start a VM, I get the following error:

Kernel driver not installed (rc=-1908)

The VirtualBox Linux kernel driver (vboxdrv) is either not loaded or there is a permission problem with /dev/vboxdrv. Please reinstall the kernel module by executing

'/etc/init.d/vboxdrv setup'

as root. If it is available in your distribution, you should install the DKMS package first. This package keeps track of Linux kernel changes and recompiles the vboxdrv kernel module if necessary.

I already updated my dkms and installed linux-headers, but this /etc/init.d/vboxdrv doesn't exist.

I have been googling but I can't find an answer.

Tags: [virtualbox](#) ([Next Q](#)), [virtualization](#) ([Next Q](#))

User: [dr\\_bunsen](#)

---

[Answer](#) by [jason-zhu](#)

I also encountered this issue several times once I upgrade my linux kernel.

What I did:

```
sudo apt-get install linux-headers-`uname -r`
```

Reconfigure dkms and load module:

```
sudo dpkg-reconfigure virtualbox-dkms  
sudo modprobe vboxdrv
```

Then VirtualBox works. No computer reboot needed.

---

[Answer](#)  by [hankhendrix](#)

Here's EXACTLY how to do it on 12.10:

Make sure there are no traces of dkms, (virtualbox/ virtualbox-4.2), linux generic headers (.17):

\*\*\*Replace virtualbox-4.2 with the version you have already installed. If you haven't installed it yet then proceed to step 2.

1. sudo apt-get purge virtualbox-4.2 dkms linux-headers-\$(uname -r)
2. sudo apt-get install linux-headers-\$(uname -r)
3. sudo apt-get install virtualbox-4.2

You MUST install the linux headers BEFORE virtualbox otherwise the VBox installation will error when trying to set up the vboxdrv section because the linux headers aren't installed.

---

**Tags:** [virtualbox](#) ([Next Q](#)), [virtualization](#) ([Next Q](#))

---

## **Q: Why does a Ubuntu guest in VirtualBox run very, very slowly?**

**Tags:** [virtualbox](#)

I'm using currently Ubuntu 12.04 LTS as a host machine, and I've virtualized three machines:

- a Xubuntu 12.04 guest
- a Windows 7 guest
- a Ubuntu 12.10 guest

All the guests have the same VirtualBox default settings, but Ubuntu 12.10 is slower!

The installation took 1h 40 min! (Normally, it takes 40 minutes.) Now it is impossible to use it, and all operations are very, very slow.

I'm using VirtualBox version 4.2.4.

Any ideas?

Why is it slow? And how can I make it faster?

Tags: [virtualbox](#)

User: [giorgio](#)

---

[Answer](#) by [bret](#)

I have heard it has something to do with the fact they removed [Unity 2D](#), or somehow the switch to 3D Unity only slows down the VM performance due to the heavy reliance on the CPU handling more than it used to have to. The [Linux Outlaws podcast](#) talked about it a bit, but I forget the episode.

Update: The problem is with Virtualbox Guest Additions not providing 3D acceleration in 12.10. See [Ubuntu 12.10 unable to use 3D acceleration. Fails to build DRM](#).

---

[Answer](#) by [flimm](#)

[Ubuntu 12.10 no longer includes Unity 2D](#), which was implemented for platforms that can't provide 3D acceleration. Instead, Ubuntu 12.10 has Unity run under LLVM, making code intended for the GPU run on the CPU. It is much slower than using the GPU.

To check if your Ubuntu 12.10 guest is using 3D acceleration, run this command:

[Skip code block](#)

```
$ /usr/lib/nux/unity_support_test -p
Not software rendered:      no
Not blacklisted:            yes
GLX fbconfig:               yes
GLX texture from pixmap:   yes
GL npot or rect textures:  yes
GL vertex program:         yes
GL fragment program:       yes
GL vertex buffer object:   yes
GL framebuffer object:     yes
GL version is 1.4+:         yes

Unity 3D supported:        no
```

As you can see, “Not software rendered” and “Unity 3D supported” both return “no” in this example, which means Unity is using slow LLVMpipe.

# How to enable 3D acceleration (VirtualBox 4.2.x only)

These instructions are intended for VirtualBox 4.2.4 or 4.2.6, installed from VirtualBox's website, not from Ubuntu's repo. Future versions of VirtualBox may fix this problem automatically, or may need a different workaround.

1. Install VirtualBox Oracle VM VirtualBox Extension Pack.
2. Create a VirtualBox instance and install Ubuntu 12.10 on it.
3. Install some required packages for the guest additions:

```
sudo apt-get install linux-headers-$(uname -r) build-essential
```

4. Install the guest additions by clicking Devices, Install Guest Additions and running this command from the CD-ROM's directory:

```
sudo ./VBoxLinuxAdditions.run
```

5. Add the vboxvideo driver to the instance by running:

```
sudo bash -c 'echo vboxvideo >> /etc/modules'
```

6. Shutdown the VirtualBox instance.
7. Open the settings of the Virtualbox instance, navigate to "Display", and tick "Enable 3D acceleration".
8. Boot your Ubuntu 12.10 guest, and check that 3D acceleration is working by running:

```
/usr/lib/nux/unity_support_test -p
```

If windows seem to *disappear*, install CompizConfig Settings Manager and disable Framebuffer Object (FBO) in the OpenGL section:

1. Install the CompizConfig Settings Manager:

```
sudo apt-get install compizconfig-settings-manager
```

2. Run the CompizConfig Settings Manager:

```
ccsm
```

3. Select the OpenGL section and then untick the Framebuffer Object option. If this fixes the issue it should be immediately visible. No reboot is required.

---

[Answer](#)  by [andrew-b](#)

It looks like the VirtualBox software developers are working on a solution, but it's not ready yet - see forum post [Discuss the 4.2.4 release](#) .

There is a thread discussing this in forum post [Ubuntu 12.10 “virtually” unusable](#) 

---

**Tags:** [virtualbox](#)

---

[Q: How do I install Guest Additions in a VirtualBox VM?](#)

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[Q: How can I access Apache \(on VirtualBox guest\) from host?](#)

---

[Q: Higher screen resolution for VirtualBox?](#)

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[Q: How do I increase the hard disk size of the virtual machine?](#)

---

[Q: How to install Internet Explorer \(multiple versions\)?](#)

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[Q: VirtualBox '/etc/init.d/vboxdrv setup' issue](#)

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[Q: Why does a Ubuntu guest in VirtualBox run very, very slowly?](#)

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# Kernel

[Skip to questions](#), Wiki by user [nathan-osman](#)

The Linux kernel is a monolithic kernel originally developed by Linus Torvalds who still directs its development to this day. The latest kernel can be downloaded from [kernel.org](http://kernel.org).

For more details, see the documentation maintained by the [Ubuntu Kernel Team](#).

---

# Questions

## [Q: Does Ubuntu support USB 3.0?](#)

**Tags:** [kernel](#) ([Next Q](#)), [usb](#) ([Next Q](#))

I have a Western Digital My Book 3.0 - 1 TB USB 3.0 Desktop External Hard Drive, and I wanted to know if it would work on Ubuntu 10.10 Maverick Meerkat.

**Tags:** [kernel](#) ([Next Q](#)), [usb](#) ([Next Q](#))

**User:** [sudobash](#)

---

[Answer](#)  by [sid](#)

Yes, Ubuntu supports USB 3.0.

Linux started supporting USB 3.0 in the September 2009 release of the 2.6.31 kernel, and Ubuntu 9.10 Karmic Koala was the first version of Ubuntu to support USB 3.0.

In Ubuntu releases older than Ubuntu 11.04 Natty Narwhal, there is a bug in the XHCI (USB 3.0) kernel module that prevents suspend: [Bug #522998](#) .

---

[Answer](#)  by [hhlp](#)

apparently there is an issue : ([522998](#) 

When the XHCI module is loaded for USB 3.0 operation the system cannot suspend. Manually unloading XHCI will allow suspend to complete normally.

To avoid future suspend problems, the workaround is to add **SUSPEND\_MODULES=“xhci-hcd”** to **/etc/pm/config.d/unload\_module** then the system can suspend normally.

---

**Tags:** [kernel](#) ([Next Q](#)), [usb](#) ([Next Q](#))

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## [Q: How do we get this magic performance-boosting 200 line patch?](#)

**Tags:** [kernel](#) ([Next Q](#)), [performance](#) ([Next Q](#))

I [read today on Phoronix](#)  that there is a [200 line patch](#)  to the Linux Kernel which dramatically improves desktop responsiveness.

How can Ubuntu users get this in a way that's supported?

**Tags:** [kernel](#) ([Next Q](#)), [performance](#) ([Next Q](#))

**User:** [popey](#)

---

## [Answer](#) by [leann-ogasawara](#)

Discussion regarding this specific patch took place on the Ubuntu kernel-team mailing list:

<https://lists.ubuntu.com/archives/kernel-team/2010-November/013498.html>

But let me try to elaborate even more generically about the best way for any patch to make it's way into the Ubuntu kernel...

First, it's the preferred policy of the Ubuntu Kernel Team that patches be submitted and accepted upstream before being pulled into the Ubuntu kernel. It's a large maintenance burden on the Ubuntu Kernel Team to have to maintain out of tree patches. Additionally, if the patch will benefit the entire Kernel Community, it should go upstream first.

Once the patch has been accepted upstream, it will eventually make its way into the Ubuntu kernel automatically. A cherry-pick or pull request could also be made if one so desired, see this page for more information:

<https://wiki.ubuntu.com/Kernel/Dev/KernelPatches>

If the patch needs to be applied as an SRU ([stable release update](#)) to a previous Ubuntu release it's best to get the patch accepted into the corresponding upstream stable 2.6.x.y tree. As a part of our normal kernel SRU process, we continually rebase to the latest upstream stable kernel. Thus we would again eventually get the patch automatically.

---

## [Answer](#) by [roger-light](#)

I've just read the lkml thread and hope I can offer some information - although not about getting the patch into Ubuntu. As a post on the linked Ubuntu list says, it's probably going to be in 2.6.38 anyway.

The patch automatically groups process based on TTYs. There is a lot of discussion/argument on the lkml that says this means it isn't relevant for typical desktop usage - that it makes no difference to interactive applications. The test cases are all based around "start a CPU intensive task from a terminal then look at the responsiveness of another task". So compiling a kernel and trying to watch a video, for example.

That's not to say it's not good, but the general "desktop responsivity improved by an order of magnitude" type headlines could be misleading if you never run CPU intensive tasks connected to a TTY. I could be wrong of course though!

There were some mentions of ways of achieving a very similar result by adding to your bash scripts and allowing all users to create cgroups. This will only work if current Ubuntu kernels have cgroups enabled. The relevant posts are:

- <http://marc.info/?l=linux-kernel&m=128993140308849&w=2>
- <http://marc.info/?l=linux-kernel&m=128993874020246&w=2>

Obviously this isn't answering the question, but it could be used to determine whether the patch is as magical as hoped.

---

[Answer](#) by [oli](#)

How can Ubuntu users get this in a way that's ***supported***?

Emphasis mine. The only way you'll get it in a supported way is by waiting for Ubuntu to pull it into the Ubuntu kernel. As this is really just making it to the kernel mailing list, it's fresh to the point where all testing is fairly anecdotal and I imagine it will be some time before it's ready to be mass-deployed.

Somewhere between the next release and a long time would be my uneducated guess.

---

But if you're a big boy (or girl) and you can cope with a broken kernel if things go wrong (ie you know how to use grub), you can patch and compile your own kernel.

1. Download a patch. There are different versions but the best on its own was posted below by another user: [http://pavlinux.ru/krnl/sched\\_autogroup-2.6.36.patch.bz2](http://pavlinux.ru/krnl/sched_autogroup-2.6.36.patch.bz2)
2. Download the kernel source for the version your patch targets. In this case 2.6.36. You can get vanilla (that is original, unmodified by the Ubuntu kernel team) kernel sources from [kernel.org](http://kernel.org) and extract it.
3. Save the patch somewhere and apply it by cding into the kernel source dir and running: patch -p1 < /path/to/patch (you need the patch package for this... Which I think comes as part of build-essential if it's not installed by default)
4. [And then continue with the rest of the “old fashioned” build process...](#) I really wouldn't bother with the newer methods as they're aimed at Ubuntu/Debian-sanctioned kernel sources... Plus the old way seems easier (to me).

Building kernels isn't hard but you can mess it up if you stray too far from the accepted path. And you won't get official support if things go wrong.

---

Alternatively, there are more and more kernels emerging with the patch built in (or at least in the source tree, awaiting the next release).

- I believe [Zen Kernel](#) has this patch in their tree but I'm not sure if it's in any builds yet.
- The [Liquorix Kernel](#) has this baked in now too.

Note: both these kernels (and probably others too) deviate from the Ubuntu way of doing kernels somewhat. You may find (as I did when I moved to Liquorix) that CPU frequency scaling stops working or suspend gets broken. There are usually fixes and workarounds, but chances are you won't get support from AskUbuntu or the rest of the Ubuntu community as we can't check every single kernel out there.

---

**Tags:** [kernel](#) ([Next Q](#)), [performance](#) ([Next Q](#))

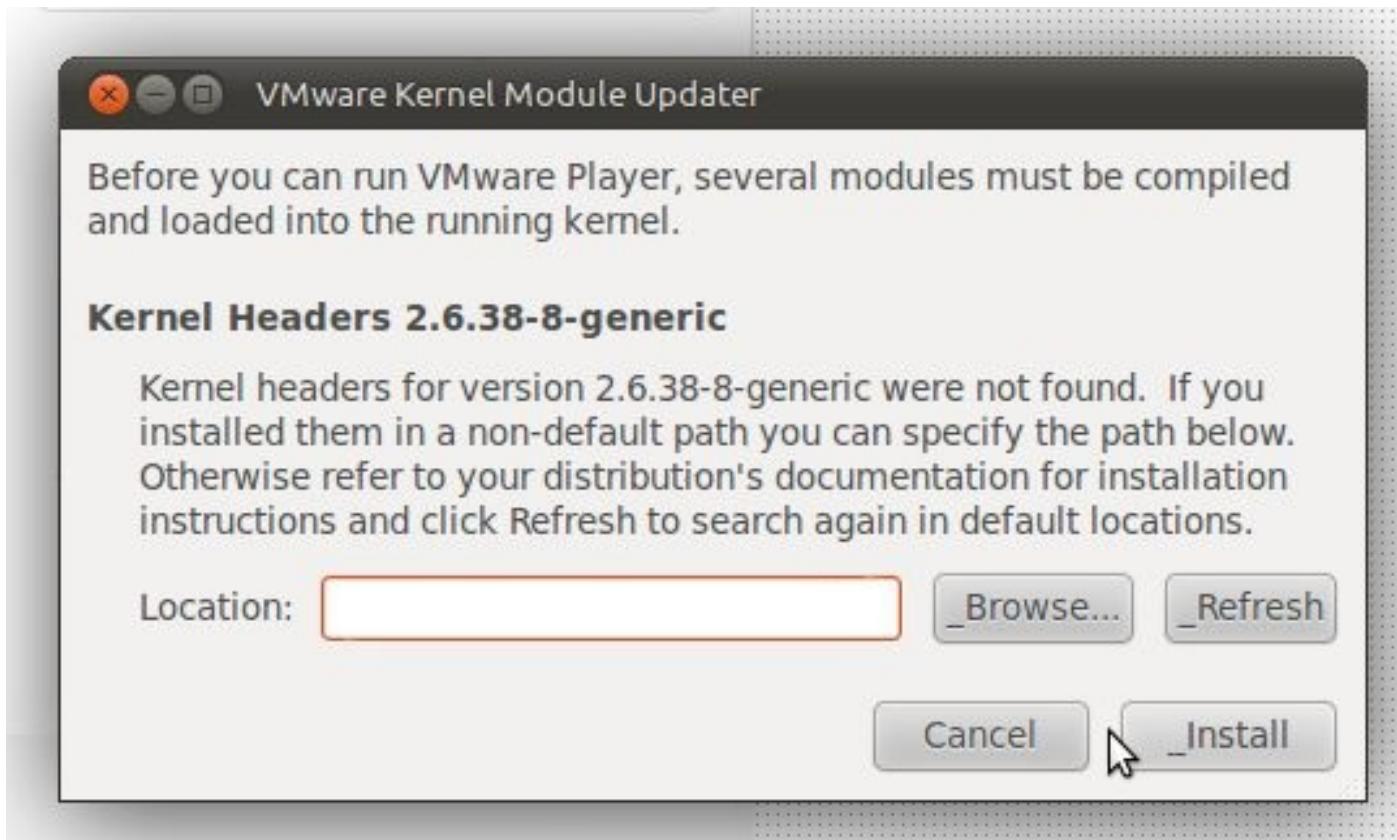
---

**Q: What is the path to the kernel headers so I can install**

## [vmware?](#)

Tags: [kernel](#) ([Next Q](#))

I installed the VMware bundle on my Ubuntu 11.04 successfully but when I open it it gives me this window



and I don't know the path to this C headers.

Tags: [kernel](#) ([Next Q](#))

User: [wazery](#)

---

[Answer](#) by [zhe](#)

```
cd /lib/modules/$(uname -r)/build/include/linux
sudo ln -s ../generated/utsrelease.h
sudo ln -s ../generated/autoconf.h
sudo ln -s ../generated/uapi/linux/version.h
```

After adding the symlink, the path is /usr/src/linux-headers-\$(uname -r)/include  
(Thanks @Kariem!)

---

[Answer](#) by [manikandan](#)

Below commands are very helpful for you:

Step 1 : Ctrl + Alt + T

Step 2 : sudo apt-get install linux-headers-\$(uname -r)

Step 3 : The path to the kernel headers is then /usr/src/linux-headers-\$(uname -r)/include

---

[Answer](#)  by [user115271](#)

There are a few files in locations that the installer doesn't expect, I run this and it works:

```
ifrantz@ifrantz:~$ cat ~/update_version.sh
#!/bin/bash

cd /lib/modules/$(uname -r)/build/include/linux
sudo ln -s ..../generated/utsrelease.h
sudo ln -s ..../generated/autoconf.h
sudo ln -s ..../generated/uapi/linux/version.h
```

---

Tags: [kernel](#) ([Next Q](#))

---

## [Q: Can't upgrade due to low disk space on /boot](#)

Tags: [kernel](#) ([Next Q](#)), [upgrade](#) ([Next Q](#)), [disk-usage](#) ([Next Q](#))

I try to do do-release-upgrade but then I get:

Not enough free disk space

The upgrade has aborted. The upgrade needs a total of 25.7 M free space on disk '/boot'. Please free at least an additional 25.7 M of disk space on '/boot'. Empty your trash and remove temporary packages of former installations using 'sudo apt-get clean'.

Output of df:

|           | 237251272 | 214797108 | 10402504 | 96%  | /         |
|-----------|-----------|-----------|----------|------|-----------|
| udev      | 488120    | 4         | 488116   | 1%   | /dev      |
| tmpfs     | 198676    | 668       | 198008   | 1%   | /run      |
| none      | 5120      | 0         | 5120     | 0%   | /run/lock |
| none      | 496684    | 0         | 496684   | 0%   | /run/shm  |
| /dev/sda1 | 233191    | 225867    | 0        | 100% | /boot     |

How come there is no space left on boot? Here's the output of ls -as /boot:

[Skip code block](#)

```
total 221839
 4 .
 4 ..
645 abi-2.6.32-34-generic-pae
698 abi-2.6.35-30-generic-pae
727 abi-2.6.38-12-generic-pae
727 abi-3.0.0-12-generic-pae
727 abi-3.0.0-13-generic-pae
727 abi-3.0.0-14-generic-pae
727 abi-3.0.0-15-generic-pae
727 abi-3.0.0-16-generic-pae
727 abi-3.0.0-17-generic-pae
727 abi-3.0.0-19-generic-pae
761 abi-3.0.0-20-generic-pae
115 config-2.6.32-34-generic-pae
128 config-2.6.35-30-generic-pae
136 config-2.6.38-12-generic-pae
140 config-3.0.0-12-generic-pae
140 config-3.0.0-13-generic-pae
140 config-3.0.0-14-generic-pae
140 config-3.0.0-15-generic-pae
140 config-3.0.0-16-generic-pae
140 config-3.0.0-17-generic-pae
```

```

140 config-3.0.0-19-generic-pae
140 config-3.0.0-20-generic-pae
5 grub
10773 initrd.img-2.6.32-34-generic-pae
13619 initrd.img-2.6.35-30-generic-pae
15365 initrd.img-2.6.38-12-generic-pae
16481 initrd.img-3.0.0-12-generic-pae
16487 initrd.img-3.0.0-13-generic-pae
16501 initrd.img-3.0.0-14-generic-pae
16476 initrd.img-3.0.0-15-generic-pae
16481 initrd.img-3.0.0-16-generic-pae
16478 initrd.img-3.0.0-17-generic-pae
12 lost+found
174 memtest86+.bin
176 memtest86+_multiboot.bin
1700 System.map-2.6.32-34-generic-pae
1841 System.map-2.6.35-30-generic-pae
2115 System.map-2.6.38-12-generic-pae
2141 System.map-3.0.0-12-generic-pae
2141 System.map-3.0.0-13-generic-pae
2143 System.map-3.0.0-14-generic-pae
2146 System.map-3.0.0-15-generic-pae
2147 System.map-3.0.0-16-generic-pae
2147 System.map-3.0.0-17-generic-pae
2148 System.map-3.0.0-19-generic-pae
2149 System.map-3.0.0-20-generic-pae
2 vmcoreinfo-2.6.32-34-generic-pae
2 vmcoreinfo-2.6.35-30-generic-pae
2 vmcoreinfo-2.6.38-12-generic-pae
2 vmcoreinfo-3.0.0-12-generic-pae
2 vmcoreinfo-3.0.0-13-generic-pae
2 vmcoreinfo-3.0.0-14-generic-pae
2 vmcoreinfo-3.0.0-15-generic-pae
2 vmcoreinfo-3.0.0-16-generic-pae
2 vmcoreinfo-3.0.0-17-generic-pae
2 vmcoreinfo-3.0.0-19-generic-pae
2 vmcoreinfo-3.0.0-20-generic-pae
4092 vmlinuz-2.6.32-34-generic-pae
4347 vmlinuz-2.6.35-30-generic-pae
4567 vmlinuz-2.6.38-12-generic-pae
4675 vmlinuz-3.0.0-12-generic-pae
4676 vmlinuz-3.0.0-13-generic-pae
4681 vmlinuz-3.0.0-14-generic-pae
4698 vmlinuz-3.0.0-15-generic-pae
4700 vmlinuz-3.0.0-16-generic-pae
4700 vmlinuz-3.0.0-17-generic-pae
4703 vmlinuz-3.0.0-19-generic-pae
4705 vmlinuz-3.0.0-20-generic-pae

```

Output of uname -a:

```

Linux kitsch 3.0.0-17-generic-pae #30-Ubuntu SMP Thu Mar 8 17:53:35 UTC 2012 i686 i686 i386
GNU/Linux

```

**Tags:** [kernel](#) ([Next Q](#)), [upgrade](#) ([Next Q](#)), [disk-usage](#) ([Next Q](#))

**User:** [clamp](#)

[Answer](#)  by [jippie](#)

Your /boot partition is filled with old kernels. It does that sometimes, not sure why it is never fixed. You can easily remove the old kernels if you know which packages they came in.

First check uname -a to check your current version.

Then run the following command:

```

dpkg -l 'linux-*' | sed '/^ii!/d;/'"$($uname -r | sed "s/\(\.\*\)\-\(\[^0-9]\+\)\/\(\.\*\)"/'\d;s/\^\[\ \]*\ [\ \]*\(\[\ \]*\)\.\*/\1;/[0-9]/!d"

```

This command will list all packages that you no longer need. I don't like removing them automatically, I like to be in control when it comes to removing kernels. So for every package listed do the following:

```
sudo apt-get -y purge some-kernel-package
```

# Intermezzo

This intermezzo describes in more detail how the commands work and tries to fix an issue with `linux-libc-dev:amd64`. Most users can skip this paragraph.

- `dpkg -l 'linux-*'` list all packages that have a name starting with 'linux-'
- `sed '/^ii/!d;` remove all lines that do \*not\* start with ii'
- `uname -r | sed "s/\(\.*\)-\([^\0-9]+\+\)/\1/"` find the current running kernel version
- `/'"$(uname -r | sed "s/\(\.*\)-\([^\0-9]+\+\)/\1/")'"'/d` Remove all lines, except the ones containing the current running kernel version number
- `s/^ [^ ]* [^ ]* \([^\ ]*\).*/\1/` For each line list only the package name
- `/[^\0-9]/!d` Remove lines that do not contain numbers.

To fix [Frederick Nord's issue](#) I think the command can be amended as follows:

```
dpkg -l 'linux-*' | sed '/^ii/!d;/'"$(uname -r | sed "s/\(\.*\)-\([^\0-9]+\+\)/\1/")'"'/d;s/^ [^ ]* [^ ]* \([^\ ]*\).*/\1/;/[^\0-9]/!d;/^linux-\(headers\|image\)/!d'
```

It basically adds an extra filter:

- `/^linux-(headers\|image)/!d` Delete all lines that do not start with `linux-headers` or `linux-image`

# /Intermezzo

Where some-kernel-package can be replaced with one of the packages listed. Just beware that you don't remove the kernel packages that are in current use (as listed by the `uname -a`) eg. `sudo apt-get purge -y linux-headers-3.0.0-12` etc.

It can be automated further using the xargs command, but I don't like that. It is a personal thing. However, here's the command to do so:

```
dpkg -l 'linux-*' | sed '/^ii/!d;/$(uname -r | sed "s/\(.*\)-\([^\0-9]+\)\([^\0-9]*\).*/\1;/[0-9]/!d'" | xargs sudo apt-get -y purge
```

This is what my /boot looks like, one spare kernel (2.6.38-11) just in case and 3.2.0-24 being current:

[Skip code block](#)

```
$ ls -l /boot
total 59388
-rw-r--r-- 1 root root 730545 Sep 13 2011 abi-2.6.38-11-generic
-rw-r--r-- 1 root root 791023 Apr 25 13:51 abi-3.2.0-24-generic
-rw-r--r-- 1 root root 130326 Sep 13 2011 config-2.6.38-11-generic
-rw-r--r-- 1 root root 140341 Apr 25 13:51 config-3.2.0-24-generic
drwxr-xr-x 3 root root 5120 May 27 17:46 grub
-rw-r--r-- 1 root root 20883146 Oct 1 2011 initrd.img-2.6.38-11-generic
-rw-r--r-- 1 root root 22474219 May 5 09:04 initrd.img-3.2.0-24-generic
drwxr-xr-x 2 root root 12288 Apr 16 2009 lost+found
-rw-r--r-- 1 root root 176764 Nov 27 11:00 memtest86+.bin
-rw-r--r-- 1 root root 178944 Nov 27 11:00 memtest86+_multiboot.bin
-rw----- 1 root root 2656297 Sep 13 2011 System.map-2.6.38-11-generic
-rw----- 1 root root 2884358 Apr 25 13:51 System.map-3.2.0-24-generic
-rw----- 1 root root 1369 Sep 13 2011 vmcoreinfo-2.6.38-11-generic
-rw----- 1 root root 4526784 Sep 13 2011 vmlinuz-2.6.38-11-generic
-rw----- 1 root root 4965776 Apr 25 13:51 vmlinuz-3.2.0-24-generic
```

And file system usage:

```
$ df -h /boot
Filesystem Size Used Avail Use% Mounted
/dev/sda5 228M 63M 154M 29% /boot
```

**Tags:** [kernel](#) ([Next Q](#)), [upgrade](#) ([Next Q](#)), [disk-usage](#) ([Next Q](#))

---

## Q: Why is swap being used even though I have plenty of free RAM?

**Tags:** [kernel](#) ([Next Q](#)), [swap](#) ([Next Q](#))

I thought the whole essence of swap was to act as a temporary storage safety net when RAM was full but my swap partition is constantly being used even though I sometimes have as much as 3GB free RAM. Is this normal?

**Tags:** [kernel](#) ([Next Q](#)), [swap](#) ([Next Q](#))

**User:** [mysterio](#)

[Answer](#) by [jpetersen](#)

You could try changing your “swappiness” value:

From the [Ubuntu’s Swap FAQ](#):

## What is swappiness and how do I change it?

The swappiness parameter controls the tendency of the kernel to move processes out of physical memory and onto the swap disk. Because disks are much slower than RAM, this can lead to slower response times for system and applications if processes are too aggressively moved out of memory.

1. swappiness can have a value of between 0 and 100
2. swappiness=0 tells the kernel to avoid swapping processes out of physical memory for as long as possible
3. swappiness=100 tells the kernel to aggressively swap processes out of physical memory and move them to swap cache

The default setting in Ubuntu is swappiness=60. Reducing the default value of swappiness will probably improve overall performance for a typical Ubuntu desktop installation. A value of swappiness=10 is recommended, but feel free to experiment.

*Note: Ubuntu server installations have different performance requirements to desktop systems, and the default value of 60 is likely more suitable.*

### To check the swappiness value

```
cat /proc/sys/vm/swappiness
```

**To change the swappiness value** A temporary change (lost on reboot) with a swappiness value of 10 can be made with

```
sudo sysctl vm.swappiness=10
```

**To make a change permanent**, edit the configuration file with your favorite editor:

```
gksudo gedit /etc/sysctl.conf
```

Search for vm.swappiness and change its value as desired. If vm.swappiness does not exist, add it to the end of the file like so:

```
vm.swappiness=10
```

Save the file and reboot.

Also you can check out: <http://askubuntu.com/a/103916/54187>

---

[Answer](#) by [neon\\_overload](#)

There are a few different aspects to your question.

Firstly, what your definition of “free” is. It is actually not as simple as it sounds in Linux (or any modern operating system).

## **How Linux uses RAM (very simplified)**

Each application can use some of your memory. Linux uses all otherwise unoccupied memory (except for the last few Mb) as “cache”. This includes the page cache, inode caches, etc. This is a good thing - it helps speed things up heaps. Both writing to disk and reading from disk can be sped up immensely by cache.

Ideally, you have enough memory for all your applications, and you still have several hundred Mb left for cache. In this situation, as long as your applications don’t increase their memory use and the system isn’t putting too much pressure on the cache, there is no need for any swap.

So, when someone refers to “free” RAM, this may or may not include cache, since cache will only occupy “free” RAM. The cache will shrink as RAM is occupied by more critical stuff, like applications.

## **How Linux uses swap (even more simplified)**

Once you have used up enough memory that there is not enough left for a smooth-running cache, Linux may re-allocate some unused application memory from RAM to swap.

It doesn’t do this according to a definite cutoff though. It’s not like you reach a certain percentage of allocation then Linux starts swapping. It has a rather “fuzzy” algorithm. It takes a lot of things into account, which can best be described by “how much pressure is there for memory allocation”. If there is a lot of “pressure” to allocate new memory, then it will increase the chances some will be swapped to make more room. If there is less “pressure” then it will decrease these chances.

Your system has a “swappiness” setting which helps you tweak how this “pressure” is calculated. It’s normally not recommended to alter this at all, and I would certainly never recommend you alter it. Swapping is overall a very good thing - although there are a few edge cases where it harms performance, if you look at overall system performance it’s a net benefit for a wide range of tasks. If you reduce the swappiness, you let the amount of cache memory shrink a little bit more than it would otherwise, even when it may really be useful. Whether this is a good enough trade-off for whatever problem you’re having with swapping is up to you. You should just know what you’re doing, that’s all.

There is a well-known situation in which swap really harms perceived performance on a desktop system, and that’s in how quickly applications can respond to user input again after being left idle for a long time and having background processes heavy in IO (such as an overnight backup) run. This is a very visible sluggishness, but not enough to justify turning off swap all together and very hard to prevent in any operating system. Turn off swap and this initial sluggishness after the backup/virus scan may not happen, but the system may run a little bit slower all day long. This is not a situation that’s limited to Linux, either.

When choosing what is to be swapped to disk, the system tries to pick memory that is not actually being used - read to or written from. It has a pretty simple algorithm for calculating this that chooses well most of the time.

If you have a system where you have a huge amount of RAM (at time of writing, 8GB is a huge amount for a typical Linux distro), then you will very rarely ever hit a situation

where swap is needed at all. You may even try turning swap off. I never recommend doing that, but only because you never know when more RAM may save you from some application crashing. But if you know you're not going to need it, you *can* do it.

## But how can swap speed up my system? Doesn't swapping slow things down?

The act of transferring data from RAM to swap is a slow operation, but it's only taken when the kernel is pretty sure the overall benefit will outweigh this. For example, if your application memory has risen to the point that you have almost no cache left and your I/O is very inefficient because of this, you can actually get a lot more speed out of your system by freeing up some memory, even after the initial expense of swapping data in order to free it up.

It's also a last resort should your applications actually request *more* memory than you actually have. In this case, swapping is necessary to prevent an out-of-memory situation which will often result in an application crashing or having to be forcibly killed.

Swapping is only *associated* with times where your system is performing poorly because it happens at times when you are running out of usable RAM, which would slow your system down (or make it unstable) even if you didn't have swap. So to simplify things, swapping happens *because* your system is becoming bogged down, rather than the other way around.

## Once data is in swap, when does it come out again?

Transferring data out of swap is (for traditional hard disks, at least) just as time-consuming as putting it in there. So understandably, your kernel will be just as reluctant to remove data from swap, especially if it's not actually being used (ie read from or written to). If you have data in swap and it's not being used, then it's actually a good thing that it remains in swap, since it leaves more memory for other things that *are* being used, potentially speeding up your system.

---

[Answer](#)  by [scott-severance](#)

Setting the swappiness value doesn't work in every situation. If it works for you, great. If not, I've written a script to periodically clear out swap by turning it off and back on again.

Toggling swap is a bit risky if you're not careful. If you don't have enough free RAM to hold everything in RAM *plus* everything in swap, trying to disable swap will cause your system to become unresponsive. My script first checks whether there's enough free RAM (which takes a bit of doing, as the actual amount of free RAM is different from what `free` reports as free), then only toggles swap if so. But, if you're a bit short on RAM, don't start another major process while the script is running. Here it is:

[Skip code block](#)

```
#!/bin/bash

# Make sure that all text is parsed in the same language
export LC_MESSAGES=en_US.UTF-8
export LC_COLLATE=en_US.UTF-8
export LANG=en_US.utf8
export LANGUAGE=en_US:en
export LC_CTYPE=en_US.UTF-8

# Calculate how much memory and swap is free
```

```

free_data=$(free)
mem_data=$(echo "$free_data" | grep 'Mem:')
free_mem=$(echo "$mem_data" | awk '{print $4}')
buffers=$(echo "$mem_data" | awk '{print $6}')
cache=$(echo "$mem_data" | awk '{print $7}')
total_free=$((free_mem + buffers + cache))
used_swap=$(echo "$free_data" | grep 'Swap:' | awk '{print $3}')

echo -e "Free memory:\t$total_free kB ($((total_free / 1024)) MB)\nUsed swap:\t$used_swap kB
($((used_swap / 1024)) MB)"

# Do the work
if [[ $used_swap -eq 0 ]]; then
    echo "Congratulations! No swap is in use."
elif [[ $used_swap -lt $total_free ]]; then
    echo "Freeing swap..."
    swapoff -a
    swapon -a
else
    echo "Not enough free memory. Exiting."
    exit 1
fi

```

You must run this script as root (e.g., with sudo). This script won't leave your system unresponsive; if you've got insufficient RAM, it will refuse to toggle swap. I've used this script without problems for close to five years now.

---

**Tags:** [kernel](#) ([Next Q](#)), [swap](#) ([Next Q](#))

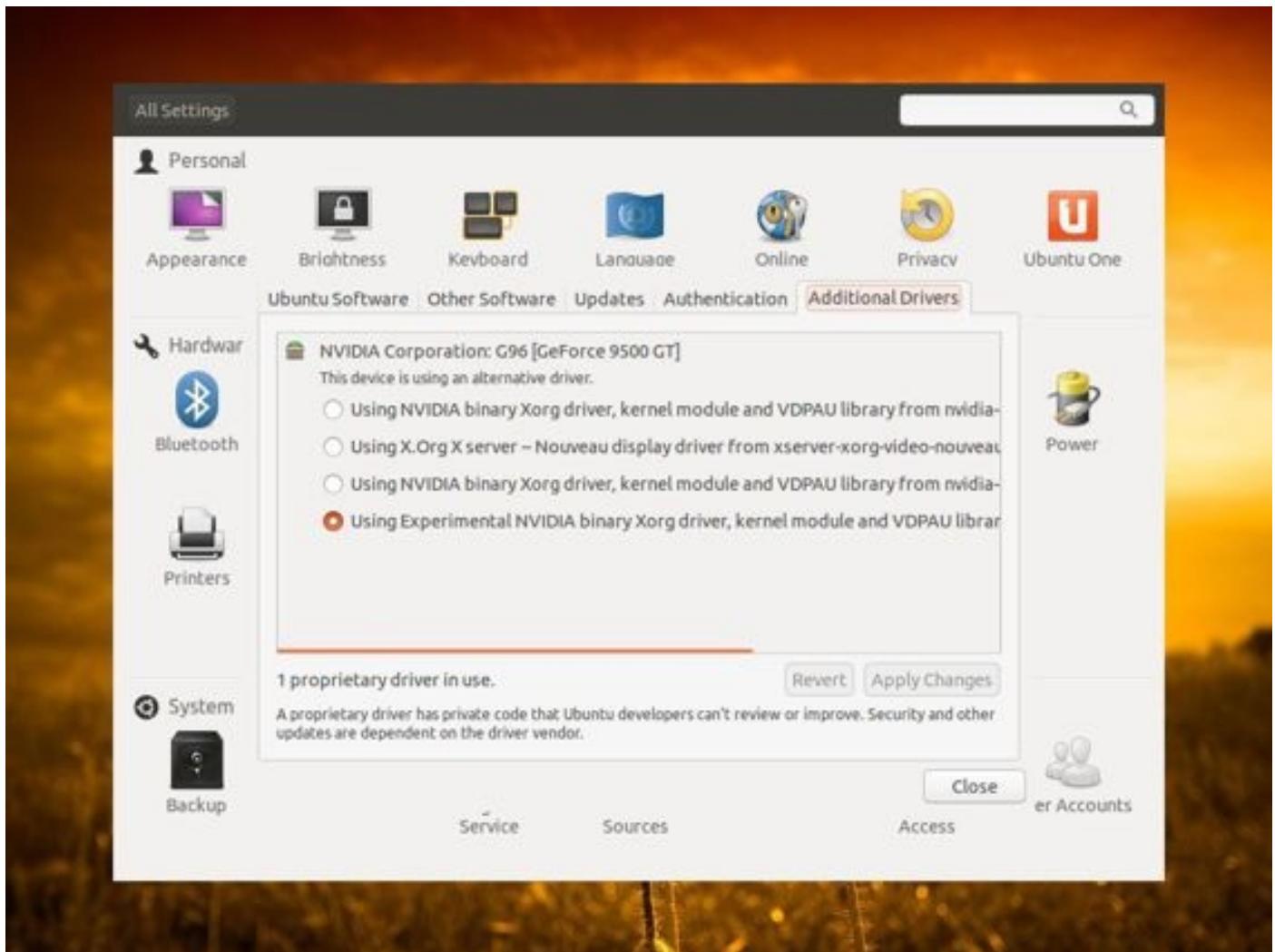
---

## [Q: Desktop does not show when I installed nvidia drivers!](#)

**Tags:** [kernel](#) [nvidia](#) ([Next Q](#))

The desktop does not show after I installed nvidia experimental drivers. I tried nvidia simple proprietary drivers, and they did not work either.

Here is how it looks. This is not cropped or any thing. This is how it looks, after the installation of the drivers the desktop resolution decreased from 1440x900 to 1024x768



The desktop only shows dash and panels when I use the open source drivers.

Is there any way to fix this so I can get better performance?

**Tags:** [kernel](#) [nvidia](#) ([Next Q](#))

**User:** [levan](#)

---

**Answer** by [rft183](#)

I had the same thing happen. Here is how I fixed it:

1. Switch to a terminal **Ctrl+Alt+F1**.
2. Login as your username.
3. Install linux headers:

```
sudo apt-get install linux-headers-generic
```

4. Uninstall nvidia driver - this depends on which version you installed :

```
sudo apt-get remove nvidia-current
```

or

```
sudo apt-get remove nvidia-current-updates
```

or

```
sudo apt-get remove nvidia-experimental-304
```

## 5. Reinstall nvidia driver

```
sudo apt-get install nvidia-current-updates
```

When you do this, it must say something like:

```
Building initial module for 3.5.0-17-generic  
Done.
```

If it says

```
Module build for the currently running kernel was  
skipped since the kernel source for this kernel  
does not seem to be installed.
```

then the problem will not be solved. Do not believe the message. It is not asking for `linux-source` to be install, it does only want the headers but you must install the specific `-generic` headers for your kernel. Run:

```
sudo apt-get install linux-headers-`uname -r`
```

It will *not* work with just `linux-headers-generic` or `linux-headers-3.5.0-17` (for example).

## 6. If it successfully installs, restart the computer :

```
sudo shutdown -r now
```

This should allow the kernel module to compile and install properly. It did for me!

---

**Tags:** [kernel](#) [nvidia](#) ([Next Q](#))

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[Q: Does Ubuntu support USB 3.0?](#)

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[Q: How do we get this magic performance-boosting 200 line patch?](#)

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[Q: What is the path to the kernel headers so I can install vmware?](#)

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[Q: How can I install on a non-PAE CPU? \(error “Kernel requires features not present on the CPU: PAE”\)](#)

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[Q: Can't upgrade due to low disk space on /boot](#)

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[Q: Why is swap being used even though I have plenty of free RAM?](#)

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[Q: Desktop does not show when I installed nvidia drivers!](#)

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# Updates

## Questions

### [Q: How do I enable automatic updates?](#)

**Tags:** [updates](#) ([Next Q](#))

Update Manager is constantly offering me updates (e.g. security fixes, updates from PPAs).

How can I tell my Ubuntu installation to automatically download and install updates whenever they become available?

**Tags:** [updates](#) ([Next Q](#))

**User:** [david-siegel](#)

---

[Answer](#)  by [thisfred](#)

You can do this for security updates, but not for all updates, or at least not very easily. To enable automatic security updates:

From System Settings open Update Manager. Click the ‘Settings...’ button, then on the ‘Updates’ tab, select the radio button ‘Install security updates without confirmation.’

---

[Answer](#)  by [weboide](#)

Although it is not wrong or dangerous (see comments to this answer), using `apt-get upgrade -y` is not the best way to achieve this.

**unattended-upgrades** is **one of the best practices** of having automatic updates, especially for headless machines or servers!

You can set up unattended-upgrades pretty easily by typing this in a terminal:

```
sudo apt-get install unattended-upgrades  
sudo dpkg-reconfigure unattended-upgrades
```

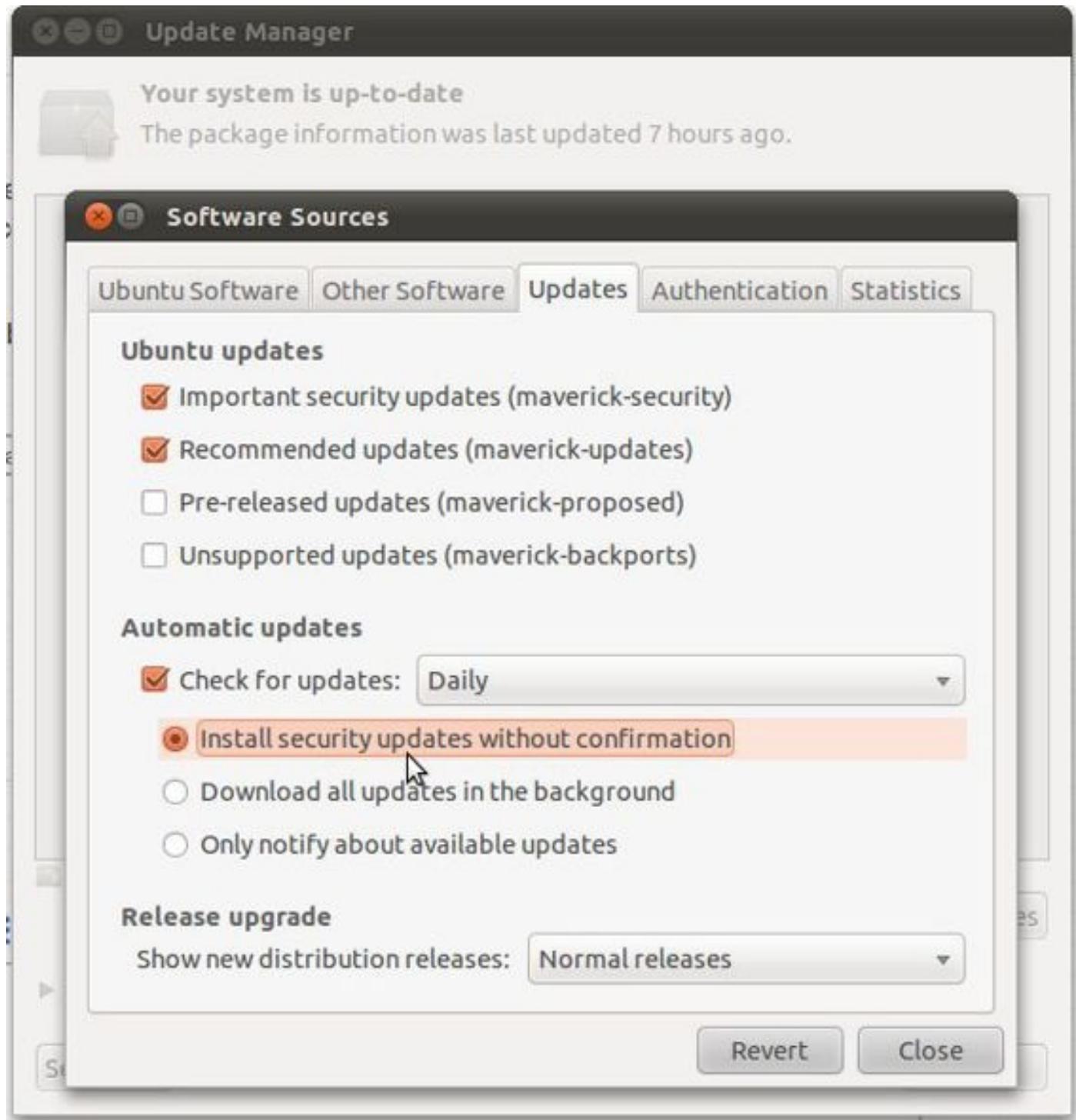
From the description:

This package can download and install security upgrades automatically and unattended, taking care to only install packages from the configured APT source, and checking for dpkg prompts about configuration file changes.

---

[Answer](#)  by [jorge-castro](#)

In the Update Manager click the Settings button. This dialog will show up:



Select the “Install security updates without confirmation”. This will automatically install security updates. If you want to set this up for them remotely via, you can do this:

```
sudo apt-get install unattended-upgrades
```

If the package is installed already you can do:

```
sudo dpkg-reconfigure unattended-upgrades
```

to change it’s behavior. Follow the prompts to enable the feature once you run the command. There’s currently no graphical method to just set the entire system to update unattended for everything (you want to play it safe when it comes to automatic upgrades), but setting security updates automatically is a good idea.

Check out the pages for more information if you want to automate getting -updates and -backports:

- [https://help.ubuntu.com/community/AutomaticSecurityUpdates#Using\\_the\\_.22unattended\\_upgrades.22\\_package](https://help.ubuntu.com/community/AutomaticSecurityUpdates#Using_the_.22unattended_upgrades.22_package)
  - [How to enable silent automatic updates for any repository?](#)
  - [How do I enable automatic updates of all packages?](#)
- 

Tags: [updates](#) ([Next Q](#))

---

## **Q: Trouble downloading updates due to a “Hash sum mismatch” error**

Tags: [updates](#)

When I check for updates, I get a “Failed To Download Repository Information” error.

This is what comes up under details:

```
W: Failed to fetch
gzip:/var/lib/apt/lists/partial/us.archive.ubuntu.com_ubuntu_dists_natty_main_source_Sources  Hash
Sum mismatch,
E: Some index files failed to download. They have been ignored, or old ones used instead.
```

Tags: [updates](#)

User: [rob](#)

---

[Answer](#) by [lorem](#)

Just remove the content of /var/lib/apt/lists directory:

```
sudo rm -fR /var/lib/apt/lists/*
```

then run:

```
sudo apt-get update
```

---

[Answer](#) by [robie-basak](#)

This is a known issue, and is exacerbated for clients behind proxy caches. Some large organisations and ISPs (especially in remote parts of the world) have transparent caches of which you may not be aware.

The fundamental issue is that the apt repository format is subject to race conditions when a mirror is updated. This problem particularly affects repositories that change rapidly, such as the development release.

You can track progress on the fix for this in [this bug](#) (please mark yourself as “affects me too” in the bug) and [this blueprint](#). But be aware that it is a complex issue and may take more than one release to resolve.

---

Tags: [updates](#)

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[Q: How do I enable automatic updates?](#)

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[Q: How can I install just security updates from the command line?](#)

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[Q: How to prevent updating of a specific package?](#)

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[Q: Trouble downloading updates due to a “Hash sum mismatch” error](#)

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[Q: Why can't I update applications without upgrading the whole OS?](#)

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[Q: What does “sudo apt-get update” do?](#)

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# Xorg

[Skip to questions](#), Wiki by user [ringtail](#)

The Xserver is capable of creating its own configuration file.

As root just run: X -configure. The Xserver will then load each driver module, probe for the driver and create a configuration file. The configuration file will be stored in the home directory of the user who started the Xserver (usually /root).

It's called xorg.conf.new so another config file that may exist in this directory will be overwritten.

---

---

# Questions

## [Q: How do I disable middle mouse button click paste?](#)

Tags: [xorg](#) ([Next Q](#))

Is there a way to disable the middle mouse button paste behavior that is here by default on gnome?

I have a sensitive mouse wheel and whenever I scroll texts, sometimes it pastes stuff randomly into the text. I lose quite a lot of credibility when I send a file to someone else that has random text snippets pasted all over it.

I have seen a [solution](#)  that goes by mapping the mouse's middle button to a non-existent mouse button, but that implies getting rid of the middle mouse button altogether (i.e. no tab-closing, opening links into a new tab automatically, etc.). I'd like to keep my middle mouse button active, just disable the pasting behavior.

This also happens when I scroll text with my touchpad (accidentally hit two-fingers without moving, bam.)

So the problem will not be fixed just by changing for a new mouse (in fact I believe it happens more often with my touchpad than with my mouse).

Tags: [xorg](#) ([Next Q](#))

User: [levesque](#)

---

[Answer](#)  by [jelle-geerts](#)

For a solution to the problem, please view this guide I wrote:

[http://www.assembla.com/spaces/slipstream/wiki/Disabling\(GTK's\\_middle\\_mouse\\_button](http://www.assembla.com/spaces/slipstream/wiki/Disabling(GTK's_middle_mouse_button)

Or, more directly, here's the patch to disable the 'middle mouse button paste' functionality in GTK:

[http://subversion.assembla.com/svn/slipstream/patches/gtk\\_disable\\_middle\\_mouse\\_button](http://subversion.assembla.com/svn/slipstream/patches/gtk_disable_middle_mouse_button)

---

[Answer](#)  by [marco-ceppi](#)

This currently isn't possible - though, as you have mentioned, there are ways to disable the MOUSE 3 button - or remap it- none of those get at the source of the issue. The X11 Primary Selection.

While this isn't a solution, hopefully this explanation will make it clear WHY. In Ubuntu there are two clipboards at work. One, which everyone is familiar with, the freedesktop.org clipboard (captures `ctrl+c` command) The second is a clipboard manager that has been at play since before Ubuntu even existed - X11. The X Server (X11) manages three other clipboards: *Primary Selection*, *Secondary Selection*, and *Clipboard*. When you select text with your pointer it gets copied to a buffer in the XServer, the

Primary Selection, and awaits pasting by means of the Mouse 3 button. The other two were designed to be used by other applications in a means to share a common clipboard between applications. In this case the freedesktop.org clipboard manager in Ubuntu already does this for us.

Through the extent of my research I can not find a way to disable the X11 selection manager. There are no compilation flags, applications, or configuration values that can disable this. There are various ways around this on a per application basis (majority of these applications being command line ones) - but nothing on a global scale.

I realize this isn't an ideal solution - but seems to be the truth to the issue. The only relevant solution I could muster is actually a hack, create a script that executes an infinite while loop that just replaces the Primary Selection with a null value.

First install xsel (Tool for manipulation of the X selection) `sudo apt-get install xsel`

The code is as follows:

```
while(true)
do
    echo -n | xsel -n -i
    sleep 0.5
done
```

If you place this in a script and add it to your startup scripts this shouldn't be an issue.

---

[Answer](#)  by [jay-goldfarb](#)

[Jared Robinson gave a simple solution](#)  that works on my machine:

Run the following command:

```
xmodmap -e "pointer = 1 25 3 4 5 6 7 8 9"
```

To persist this behavior, edit `~/.Xmodmap` and add

```
pointer = 1 25 3 4 5 6 7 8 9
```

---

**Tags:** [xorg](#) ([Next Q](#))

## [Q: Where is the X.org config file? How do I configure X there?](#)

---

**Tags:** [xorg](#) ([Next Q](#))

As Ubuntu 10.10 seems to neither detect my graphics card (Intel 82852/855GM) automatically nor use the corresponding Intel driver even after manually installing it, I am looking into manually configuring X (shouldn't I?). Where can I find the configuration files I need to edit?

---

**Tags:** [xorg](#) ([Next Q](#))

---

**User:** [ivan](#)

[Answer](#) by [nightwishfan](#)

The xorg.conf does not exist by default any more. You CAN create one though.

Boot into recovery mode and select Root Shell. Then run:

```
x -configure
```

Then:

```
cp /root/xorg.conf.new /etc/X11/xorg.conf
```

Reboot and you can edit the new Xorg.conf.

[Answer](#) by [desgua](#)

The configurations files are at /usr/share/X11/xorg.conf.d

**They are:**

*10-evdev.conf*

*11-evdev-quirks.conf*

*50-vmmouse.conf*

*50-wacom.conf*

*51-synaptics-quirks.conf*

Check the [current manual](#).

If you create a **xorg.conf** file the configurations of this file will prevail.

Also check [this answer](#).

[Answer](#) by [wolfgang-silbermayr](#)

Usually, you don't need the xorg.conf any more.

If you need to configure some devices anyway, you can do so by placing a file in the /usr/lib/X11/xorg.conf.d/ (Ubuntu 10.04) or /usr/share/X11/xorg.conf.d/ (since Ubuntu 10.10). There are some files in this directory already.

You can find more information on [xorg.conf.d](#) (in german, but the configuration files are in english of course). What is important is that the filenames should start with a two-digit number greater than 10.

Another guide - in english - is on [x org archive](#). It's still using /usr/lib but it's good.

**Tags:** [xorg](#) ([Next Q](#))

## [Q: Why is Wayland better?](#)

**Tags:** [xorg](#) ([Next Q](#))

As [recently announced](#) by Mark Shuttleworth, Ubuntu will be moving towards using

Wayland as its display manager.

What are biggest differences between X11 and Wayland? Why will Wayland make Ubuntu better?

**Tags:** [xorg](#) ([Next Q](#))

**User:** [medieval](#)

---

[Answer](#)  by [oli](#)

You can see [the Wayland architecture page](#)  to see how it differs in design. It's supposed to simplify the whole graphics stack by forcing everything through a standard GEM/DRM stack straight into the kernel and managing compositing itself.

Compare that to the X stack where you have bits and bobs all over the place. Some of the X mess has been through flexible design, some have been growing pains. All the compositors (Compiz/Metacity/Mutter/KWin/etc) have been added as an afterthought. They are, at their core, hacks to do what X should probably be doing itself. If things carry on expanding outwards like they have been, we'll get to a point where the project become unmaintainable.

All in all, when hardware support is there, it should make the whole stack more efficient and less painful to use in standard setups.

However there are a couple of issues that I haven't seen remedies for so far:

- X is pretty network-aware. You can send windows to other computers, you can have multiple screens with remote logins and all sorts of funky things like that. This might seem fairly specialist but it's widely used technology. Wayland appears fairly local and static in comparison.
- There's also driver support. Closed-source drivers are yet to support the KMS/shared-GEM/shared-DRM technologies that Wayland thrives upon. A purist might be okay with Nouveau but somebody who pays 100-400 on a high performance 3D graphics card won't be happy with the flaky poor 3d performance they'd get with the current open driver.

**Update:** [Nvidia have said they have no plans to support Wayland](#)  Given supporting KMS/DRM/etc would be a *major* rewrite of their driver, something that would take years to get stable. If they're not even planning support, we (nvidia users) are probably at least five years away from using Wayland.

Either way, we're talking years (probably two to three IMO) before anything like this is ready for stable testing and even longer before you'd have to give up X (if Wayland was clearly better).

---

[Answer](#)  by [raof](#)

There are *lots* of differences between X and Wayland. Probably the biggest one from the graphics side is that Wayland *doesn't do any drawing*.

X has two drawing APIs. One of these is a part of the core X11 protocol, which is ancient, useless, and nobody uses. The other is the XRender extension which provides modern composite operations, among other things such as gradients. This is what Cairo, for example, uses. X also has font drawing APIs.

Wayland has no drawing APIs. A Wayland client gets a DRM buffer handle, which is basically a pointer to some graphics memory; Wayland doesn't know or care how the client draws to that buffer. In X terms this means that all applications get *direct rendering* - drawing requests don't need to go through the server.

The only rendering Wayland does is to copy the client's buffers onto the screen.

In terms of benefits, Wayland is a lot less complex than X which should make it easier to maintain - although some of this simplicity comes from pushing the complexity (eg: how to *actually* draw onto that buffer, network transparency) to other layers of the stack. By making clients responsible for all of their rendering the clients can be smarter about things like double-buffering.

There are other benefits outside of graphics. It's much easier to sandbox applications, for example.

---

[Answer](#)  by [tgm](#)

The major difference in my eyes is that Wayland is closer to the kernel than X-Server. With the move of graphics drivers from X to the kernel (known as kernel mode setting, KMS), Wayland plans to use this new functionality to replace X. You could expect to see the following...

Less of a footprint than X - because the display is handled by the kernel Wayland will not have to implement as much to become usable. This goes both ways as I suspect X forwarding (look at one screen on another PC) may go away with X.

KMS features: Being able to change screen resolution without restarting X server (though I believe this was fixed in X a while back, at least for nvidia), debug console on kernel panic for intel chipsets (moving to nouveau) if you're into that sort of thing.

Can anyone correct me on any of this if I'm wrong?

---

**Tags:** [xorg](#) ([Next Q](#))

---

## **[Q: How do I disable X at boot time so that the system boots in text mode?](#)**

**Tags:** [xorg](#) [boot](#) ([Next Q](#))

Is it possible to disable X at boot time? I'm setting up a server so it would be nice if it wouldn't load the graphical interface every time I boot.

**Tags:** [xorg](#) [boot](#) ([Next Q](#))

User: [olivier-lalonde](#)

---

[Answer](#) by [bruno-pereira](#)

## For Ubuntu 11.10 and higher

Edit /etc/default/grub with your favorite editor,

```
sudo nano /etc/default/grub
```

Find out this line:

```
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash"
```

Change it to:

```
GRUB_CMDLINE_LINUX_DEFAULT="text"
```

Update Grub:

```
sudo update-grub
```

No need to remove / disable lightdm upstart conf, [it already does that for you](#).

lightdm.conf

```
# Check kernel command-line for inhibitors, unless we are being called
# manually
for ARG in $(cat /proc/cmdline); do
    if [ "$ARG" = "text" ]; then
        plymouth quit ||
        stop
        exit 0
    fi
done
```

---

You will still be able to use X by typing startx after you logged in.

[Answer](#) by [xiao-long-chen](#)

Installing the GUI will probably cause it to start automatically, but it's very easy to boot to text mode in Ubuntu. Just open /etc/default/grub as root and add text to the

```
GRUB_CMDLINE_LINUX_DEFAULT=
```

line. Then run:

```
sudo update-grub
```

Your system will then always boot to text mode.

If you want to boot to the GUI, just press e in the boot menu and remove text from the kernel line.

If you want to start the GUI after boot, just run:

```
sudo /etc/init.d/lightdm start
```

Hope this helps :)

---

[Answer](#) by [karthick87](#)

# For 11.04 and previous versions (and perhaps later)

If you want to boot into text mode:

Edit /etc/default/grub. For example:

```
sudo gedit /etc/default/grub
```

Find this line:

```
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash"
```

Add text:

```
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash text"
```

Then update Grub:

```
sudo update-grub
```

**Note:** Removing quiet splash (i.e. GRUB\_CMDLINE\_LINUX\_DEFAULT="") will show text during boot but then show a graphical login screen as usual. Replacing quiet splash with text will leave you at a login prompt; to start a GNOME session, use sudo /etc/init.d/gdm start or startx.

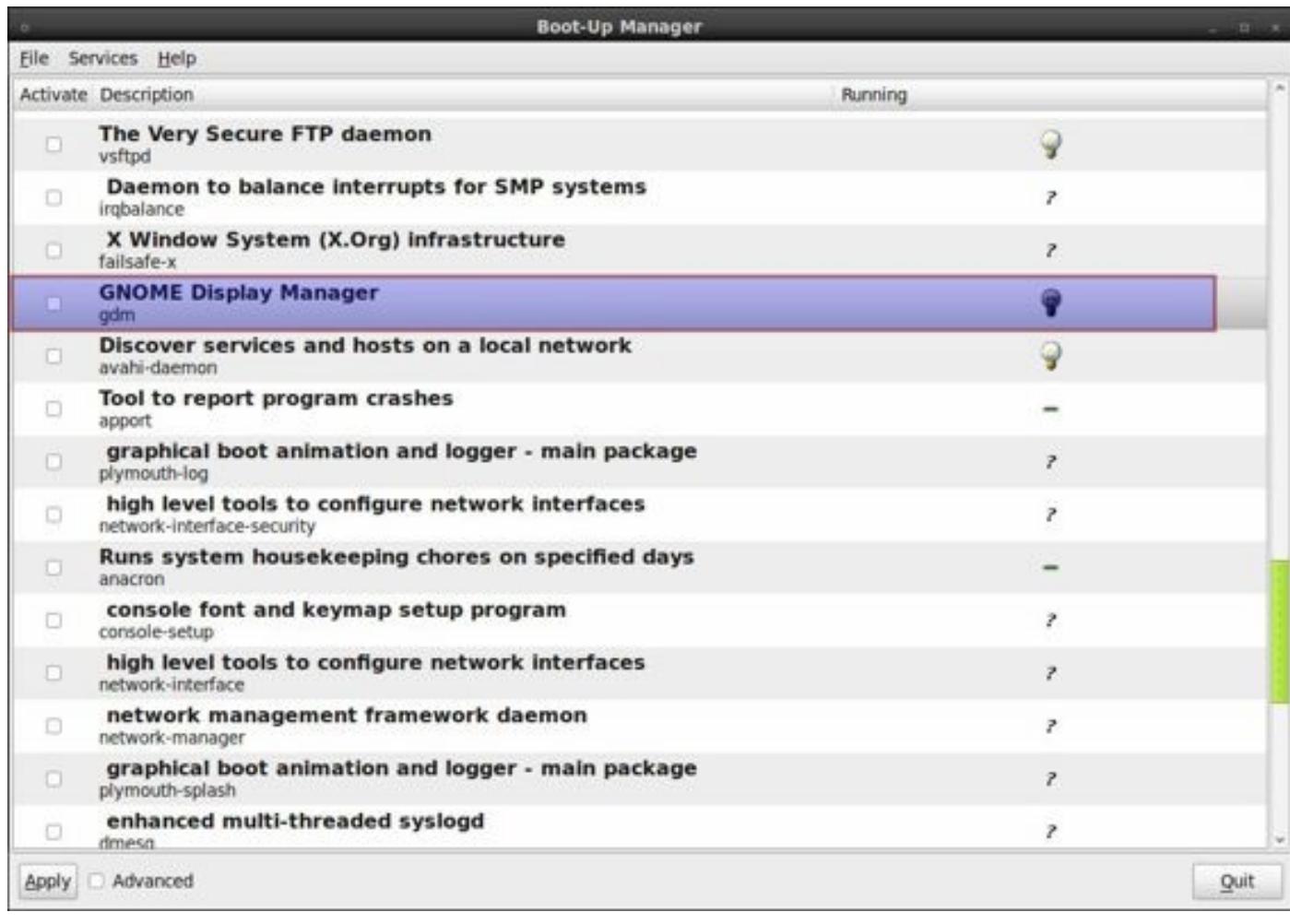
To disable GDM:

Install [bum](#) 

# Missing Image

After installation it will be found under **System>>Administration>>Bootup-Manager**

**Uncheck Gnome Display Manager**



**Tags:** [xorg](#) [boot](#) ([Next Q](#))

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[Q: How do I disable middle mouse button click paste?](#)

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[Q: Where is the X.org config file? How do I configure X there?](#)

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[Q: Why is Wayland better?](#)

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[Q: How do I disable X at boot time so that the system boots in text mode?](#)

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[Q: How do I remap certain keys or devices?](#)

---

[Q: Higher screen resolution for VirtualBox?](#)

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# Nautilus

[Skip to questions](#), Wiki by user [alvin-row](#)



# Nautilus

This tag is for Nautilus, the standard file manager for Ubuntu.

- [Home page](#) 
- [User Guide](#) 
- [Screenshots](#) 

As the file manager, Nautilus provides file browser windows (“folder windows”), and also the folder-like functionality of the desktop (its ability to contain and manipulate files and icons that represent them).

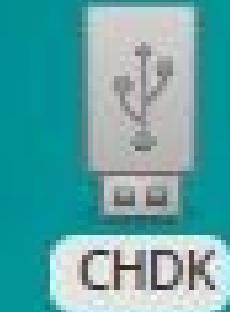
---

# Questions

## **Q: What is the difference between “Unmount”, “Eject”, “Safely Remove Drive” and the eject icon?**

**Tags:** [nautilus](#) ([Next Q](#))

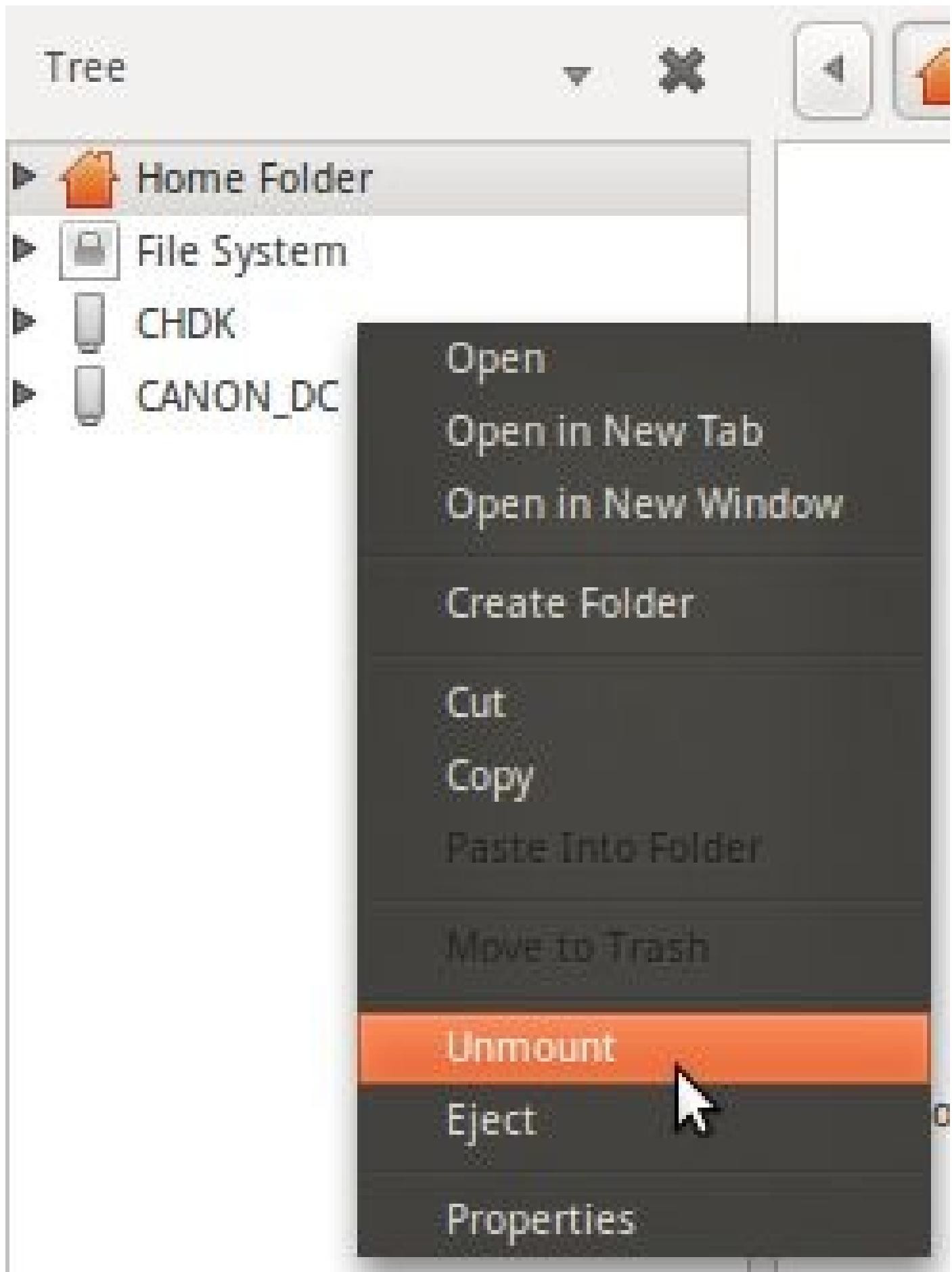
When I right-click the desktop icon for my USB drive or SD card I have the choice to “Eject” or “Safely Remove Drive”:



- [Open](#)
- [Cut](#)
- [Copy](#)
- [Paste Into Folder](#)
- [Make Link](#)
- [Rename...](#)
- [Copy to...](#)
- [Move to...](#)
- [Move to Trash](#)
- [Resize Icon...](#)
- [Restore Icon's Original Size](#)
- [Compress...](#)
- [Send To...](#)
- [Format...](#)
- [Open in Terminal](#)
- [Eject](#)
- [Safely Remove Drive](#)
- [Properties](#)



In the Tree side pane in Nautilus, I can either “Unmount” or “Eject”:

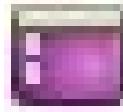


The Places side pane in Nautilus has some kind of eject icon:

# Places



ak



Desktop



File System



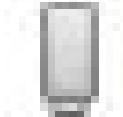
Network



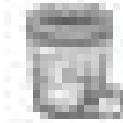
Windows



CANON\_DC



CHDK



Trash



What do all of these do?

Specifics I've been wondering about include:

- What happens when a drive has multiple partitions mounted?
- Under what conditions is a prompt to empty the trash displayed?
- Do any of these result in a state in which the drive cannot be mounted again without first being physically reconnected?

**Tags:** [nautilus](#) ([Next Q](#))

**User:** [Ã'ndrÃ¼k](#)

---

[Answer](#) by [greyfade](#)

When a drive is connected and its filesystem loaded, it is mounted, as if with the `mount` (or `pmount`) command, to a location on the root filesystem (usually somewhere inside

/media). When the filesystem is no longer needed, it can be unmounted (as if with the `umount` or `pumount` commands), which flushes any pending writes to disk, so that you can remove the drive safely. If the drive is removed *without* doing this, some pending writes will be lost, and the drive can potentially be rendered unreadable or otherwise lose data.

“Safely Remove Drive” and “Eject” are basically equivalent and do two things: It first unmounts the filesystem (as if the `umount` command were used), *then* it issues a SCSI eject command (which is accepted by things like CD-ROM drives, and ignored by almost everything else). It works the same as the command-line command `eject`. Many USB devices seem to respond to the eject command by shutting down or de-registering themselves from the USB host.

For most devices, **all of these commands are functionally equivalent**. For CD-ROM, DVD, Blu ray, etc. devices, “Eject” additionally physically ejects the media.

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**Tags:** [nautilus](#) ([Next Q](#))

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## [Q: How to restart nautilus without logging out?](#)

**Tags:** [nautilus](#) ([Next Q](#))

How do I just restart the nautilus after adding a nautilus script without having to log out.

**Tags:** [nautilus](#) ([Next Q](#))

**User:** [riyaz-mohammed-ibrahim](#)

---

[Answer](#)  by [karthick87](#)

To restart nautilus...

- First, type the following in your terminal to quit nautilus:  
`nautilus -q` or `killall nautilus`
  - Then, open nautilus via Unity menu (press the Super key) or using the run command (Alt+F2)
- 

**Tags:** [nautilus](#) ([Next Q](#))

---

## [Q: Traditional search-as-you-type on newer Nautilus versions?](#)

**Tags:** [nautilus](#)

Until now I was using a “traditional” version of Nautilus: that comes with Ubuntu 10.10. Now I’m using 3.6.3, included with Ubuntu 13.04 (most likely any recent version is

equivalent for the scope of my question, anyway).

One major difference between the two is the search-as-you-type behavior: in classic versions of Nautilus, when you typed an input, the file with the closest alphabetical match would become the selected one, the eligible files/folders being restricted to the current directory.

The new behavior is to perform an optionally-global search instead.

## Can one configure Nautilus to provide the previous functionality?

Tags: [nautilus](#)

User: [vemy](#)

---

[Answer](#) by [fernando4870](#)

### Ubuntu 13.04 and 13.10

As far as I know the new Nautilus 3.6.X cuts many features from the 3.4 and older versions. Canonical decided to keep using nautilus 3.4.2 in Ubuntu 12.10 because if this even though Nautilus 3.6 was already released. I don't think it is possible to get the old search behaviour in 3.6 but what I did was to install the [SolusOS patched Nautilus](#) (also [works for Ubuntu 13.04](#)) which includes all the features from 3.4.2 (it really is Nautilus 3.4.2) while maintaining the Nautilus 3.6 skin. I've tested this particular package and it works fine in Ubuntu 12.10 and 13.04.

Alternatively you could install [Nemo File Explorer](#) which is a fork of Nautilus 3.4 that was made due to the Cinnamon dev team being disappointed with Nautilus 3.6, you can [get the install instructions here](#).

Making it your default file browser is a bit more tricky, [this blog post](#) worked for me in Ubuntu 12.10 but some users reported the method not to work properly.

There are alternative methods however. See the following question:

- [Make nemo as default file browser](#)

### Ubuntu 14.04 and up

With the upcoming new Ubuntu LTS release [type-ahead-find will be the default behaviour in Nautilus again](#).

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Tags: [nautilus](#)

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[Q: Nautilus Git integration](#)

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[Q: What is the difference between “Unmount”, “Eject”, “Safely Remove Drive” and the eject icon?](#)

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[Q: How to restart nautilus without logging out?](#)

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[Q: Unable to mount Windows \(NTFS\) filesystem due to hibernation](#)

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[Q: How to add “Open terminal here” to Nautilus’ context menu?](#)

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[Q: Traditional search-as-you-type on newer Nautilus versions](#)

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# Networking

[Skip to questions](#), Wiki by user [micheal-harker](#)

Use this tag for general questions about network connectivity:

- configuring network interfaces
- diagnosing network issues
- establishing a network connection
- etc.

Questions about networking between Ubuntu and a non-Ubuntu system are on-topic unless the issue is clearly on the non-Ubuntu side.

Most questions should also have one or more tag to identify the aspect or protocol that the question is about:

- Physical protocols and interfaces: [ethernet](#), [wifi](#),
- Link and transport protocols: [ppp](#), [ip](#), [ipv6](#), [ipsec](#), [ssl](#), [pptp](#),
- Application protocols: [bittorrent](#), [dhcp](#), [dns](#), [ftp](#), [https](#), [ntp](#), [samba](#),  
[smtp](#), [snmp](#), [ssh](#),

Do not use the [networking](#) tag if your question is specifically about a networked application and not about network configuration. For example:

- How do I configure my Linux firewall to let FTP through? [ftp](#) [networking](#) [iptables](#)
  - How can I upload only files that are more recent than the remote version over FTP?  
[ftp](#)
-

# Questions

## [Q: How do I clear the DNS cache?](#)

**Tags:** [networking](#) ([Next Q](#))

I just updated the DNS record (ns1, ns2, ns3.myhostingcompany.com) for a site I've got hosted, but I still get the domain registrar parking page. I'd like to see if the problem is Ubuntu's cached DNS records. Is there a way to clear Ubuntu's DNS cache? (if such a thing exists?)

**Tags:** [networking](#) ([Next Q](#))

**User:** [jono](#)

---

[Answer](#)  by [li-lo](#)

## For 11.10 and below

Ubuntu doesn't cache dns records by default so unless you've installed a dns cache there isn't anything to clear.

DNS records are likely cached by your provider's DNS servers so if you want to check if the DNS changes you made were successful you can interrogate a DNS server from your domain hosting service with dig:

```
dig -t a ns1.myhostingcompany.com @domain_registrar_dns_server
```

If you want Ubuntu to start caching dns I recommend installing pdnsd together with resolvconf. nscd is buggy and not advisable.

---

[Answer](#)  by user76204

## 12.04

Ubuntu 12.04 uses [dnsmasq](#) which is built into network-manager, but it **doesn't** cache dns so there is no need to flush it. Here is a sample line from my syslog to prove that point:

```
dnsmasq[2980]: started, version 2.59 cache disabled
```

There is also no need for any configuration of dnsmasq. If you are running with stock settings it won't be caching dns, as for it to do so you have to explicitly set it up as this [Ubuntu article](#) describes.

If you wanted to refresh your settings you could disable and then enable networking or run

```
sudo service network-manager restart
```

This restarts dnsmasq because it is built in to network-manager; check your syslog for the evidence for this.

If you are using a wired connection with dhcp network manager will be taking the settings direct from your router and your connection will be automatically established when you login to Ubuntu. You could check that the settings are correct in your router if you can access it via the web interface, and perhaps reboot it if necessary. If it is a general problem with dns, you could try using Google dns instead of your isp dns, and more information on that is [detailed here](#).

---

[Answer](#) by [zechariah](#)

## For 12.04:

Ubuntu 12.04 does cache DNS using dnsmasq ( see `man dnsmasq`). Use the following to clear the cache:

```
sudo kill -HUP $(pgrep dnsmasq)
```

---

**Tags:** [networking](#) ([Next Q](#))

---

## [Q: How do I find out which process is eating up my bandwidth?](#)

**Tags:** [networking](#) ([Next Q](#))

I think I'm being the victim of a bug here. Sometimes while I'm working (I still don't know why), my network traffic goes up to 200 KB/s and stays that way, even though I'm not doing anything internet-related.

This sometimes happens to me with the CPU usage. When it does, I just run a `top` command to find out which process is responsible and then `kill` it. Problem is: I have no way of knowing which process is responsible for my high network usage. Both the resource monitor and the `top` command only tell me my total network usage, neither of them tells me process specific network info.

I've found questions here about monitoring total bandwidth usage, but, as I mentioned, that's not what I need. Is there another command I can use to find out which process is getting out of hand?

The command `iftop` gives results that disagree entirely with the information reported by System Monitor. While the latter claims there's high network traffic, the former claims there's barely 1 KB/s.

I've already tried killing all the obvious ones (Firefox, update-manager, Pidgin, etc) with no luck. So far, restarting the machine is the only way I found of getting rid of the issue.

**Tags:** [networking](#) ([Next Q](#))

---

**User:** [malabarba](#)

---

[Answer](#)  by [ben](#)

I've had a lot of success with **nethogs**. It has to run as root but there are different ways you can sort the statistics (like KB/s or total bandwidth monitored since nethogs started).

Also, if you use wireless you need to pass the device to it.

Install it with command: `sudo apt-get install nethogs`

Example: `sudo nethogs wlan0`

---

[Answer](#)  by [li-lo](#)

Use `iftop` to locate the TCP port on your machine that is receiving the most traffic. Then use `sudo netstat -tup` to locate the process "owning" that port.

That's the process you're looking for.

PS: Should work for UDP too.

---

**Tags:** [networking](#) ([Next Q](#))

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## [Q: Best way to cache apt downloads on a LAN?](#)

**Tags:** [networking](#) ([Next Q](#))

I have multiple Ubuntu machines at home and a pretty slow internet connection, and sometimes multiple machines need to be updated at once (especially during new Ubuntu releases.)

Is there a way where only one of my machines needs to download the packages, and the

other machines can use the first machine to get the debs? Does it involve setting up my own local mirror? Or a proxy server? Or can it be made simpler?

**Tags:** [networking](#) ([Next Q](#))

**User:** [ken-simon](#)

---

[Answer](#)  by [jorge-castro](#)

I did some research into a bunch of solutions and some Ubuntu developers came up with a proxy configuration (based on Squid) for 10.04 and later. It's called `squid-deb-proxy`. It only requires a machine to act as the server. Large organizations usually run their own full mirrors but for most people the on demand mirroring is enough.

## Why squid-deb-proxy?

- No editing of files on the client side.
- Use zeroconf so that clients were “zero config”
- Use an existing, solid proxy solution instead of writing a new tool.
- Easy to set up for a typical Linux administrator.

## Server Config

On the machine you want to act as a server install the tool with:

```
sudo apt-get install squid-deb-proxy avahi-utils
```

Now start the service bits:

```
sudo start squid-deb-proxy
```

And the avahi bits (You don't need this if you're on 12.04+):

```
sudo start squid-deb-proxy-avahi
```

This will install the proxy server (which listens to port 8000 by default) and the avahi tools needed for the server to advertise itself on your network via zeroconf.

## Client Config

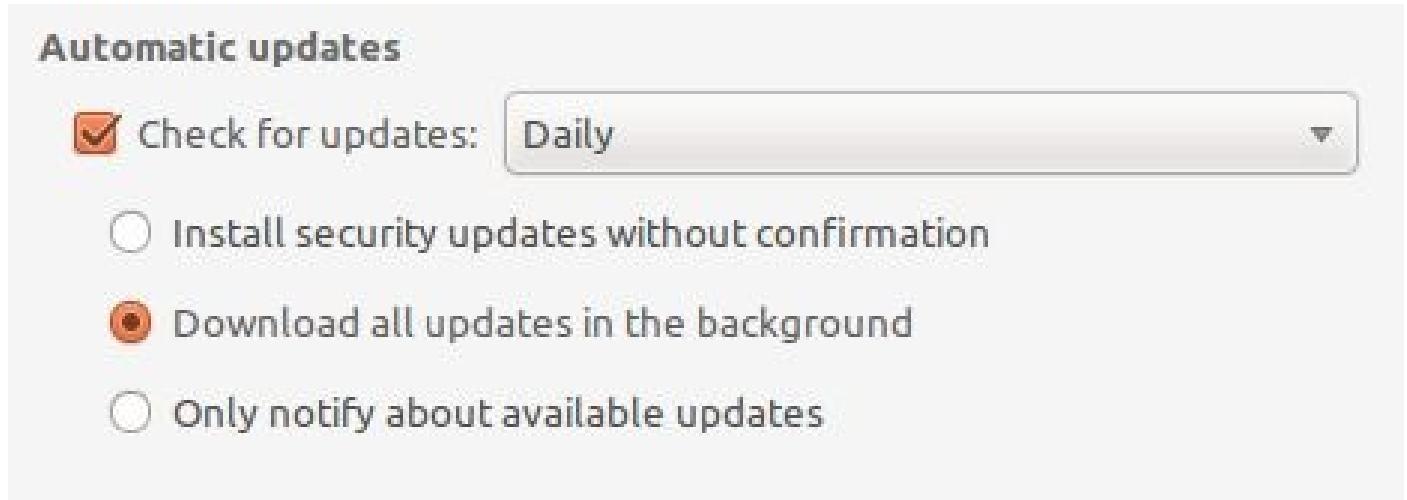
On *each of the computers* that you want to use the cache (the clients, and the server itself so it can use the cache too), you need to install the client side tool that let's apt look for the server automatically, have them click here:

**Missing Image**

or via command line:

```
sudo apt-get install squid-deb-proxy-client
```

**Optional:** For maximum efficiency you should set one machine to automatically download updates, so that when your other machines need it it's already in the cache. You can do this by going to System->Administration->Update Manager, then click on the "Settings..." button, in the Update tab set it to automatically download all the updates.



## Caching 3rd Party Sources

By default the cache is set up to only cache official Ubuntu repositories. To add more you need to add them to the list of sources at `/etc/squid-deb-proxy/mirror-dstdomain.acl`. This is where you can add `ppa.launchpad.net`, or other services you might use. After making changes to this file, you must run `sudo restart squid-deb-proxy` in order for the changes to be effective.

## Manual Config

If for some reason you do not want to use zeroconf (for network reasons or whatever), you can manually set a client to use the proxy by editing `/etc/apt/apt.conf` and adding the following stanza, (replace the `0.0.0.0` with the IP address of the server):

```
Acquire {  
    Retries "0";  
    HTTP { Proxy "http://0.0.0.0:8000"; };  
};
```

## Confirming it Works

First tail the log on the server so you can look at it: `tail -F /var/log/squid-deb-proxy/access.log` and then run an update on any machine that has the client installed; the log should start to scroll with entries like this:

```
1307310795.647      32 192.168.1.106 TCP_MISS/302 768 GET  
http://us.archive.ubuntu.com/ubuntu/dists/natty-proposed/universe/i18n/Translation-en.xz -
```

```
DIRECT/141.210.26.10 text/html
1307310795.683      34 192.168.1.106 TCP_MISS/302 752 GET
http://us.archive.ubuntu.com/ubuntu/dists/natty/main/i18n/Translation-en_US.lzma -
DIRECT/141.210.26.10 text/html
1307310795.716      32 192.168.1.106 TCP_MISS/302 746 GET
http://us.archive.ubuntu.com/ubuntu/dists/natty/main/i18n/Translation-en.lzma - DIRECT/141.210.26.10
text/html
1307310795.750      32 192.168.1.106 TCP_MISS/302 764 GET
http://us.archive.ubuntu.com/ubuntu/dists/natty/multiverse/i18n/Translation-en_US.lzma -
DIRECT/141.210.26.10 text/html
1307310795.784      32 192.168.1.106 TCP_MISS/302 758 GET
http://us.archive.ubuntu.com/ubuntu/dists/natty/multiverse/i18n/Translation-en.lzma -
DIRECT/141.210.26.10 text/html
1307310795.817      32 192.168.1.106 TCP_MISS/404 657 GET http://us.archive.ubuntu.com/dists/natty-
proposed/multiverse/i18n/Translation-en_US.xz - DIRECT/141.210.26.10 text/html
```

Which means the clients see the cache but are missing it, which is expected since it hasn't cached anything yet. Each subsequent run should show up as TCP\_HIT. You can find the squid cache files themselves in /var/cache/squid-deb-proxy.

## Using it

From then on all the machines on your network will check the cache before hitting the outside network to fetch packages. If there are new packages available then the first machine will download it from the net, after that subsequent requests for that package will come from the server to the clients.

## TODO

We still need to enable apt to just use an advertised cache on the network out of the box and by default so you don't need to install the client piece. We also need to fix [the bug](#) that 403's deb's not in the mirror list.

---

[Answer](#) by [piskvor](#)

[apt-cacher-ng](#) is the answer for me - I haven't encountered any problems in smallish environments (approx. 20 clients), so I suppose the issues [@MagicFab](#) mentions were solved in current version (installed on Ubuntu 10.04 and 10.10). There is no config necessary for the server, and you only need to instruct your clients to use the server as their package manager proxy.

The server is completely installed and configured by installing the apt-cacher-ng package.

The clients need to be configured by setting up APT proxy - by adding the file /etc/apt/conf.d/01proxy, containing this (where "your-apt-server" is your server's name or IP address):

```
Acquire::http { Proxy "http://your-apt-server:3142"; };
```

**Done** - now the packages will be cached by the server, no matter what sources you use or what system version you have (e.g. a 10.04 server can be used by 9.10,10.04 and 11.04 clients without any problems or conflicts).

If you have client laptop(s) that roam between networks, it gets a bit more complex - I've made a script that sets the right proxy depending on the network address; the script is executable and in /etc/network/if-up.d/apt-proxy. Upon receiving an IPv4 address from a DHCP server, the script will set the right apt-cacher server for the respective network:

[Skip code block](#)

```
#!/bin/sh

set -e
# Don't bother when lo is configured.
if [ "$IFACE" = lo ]; then
    exit 0
fi
# Only run from ifup.
if [ "$MODE" != start ]; then
    exit 0
fi
# currently only cares about IPv4
if [ "$ADDRFAM" != inet ] && [ "$ADDRFAM" != NetworkManager ]; then
    exit 0
fi
# only run for DHCP-assigned addresses
if [ "$DHCP4_IP_ADDRESS" = "" ]; then
    exit 0
fi

# we're matching on network *broadcast* address,
# not the specific IP address we were assigned
case "$DHCP4_BROADCAST_ADDRESS" in
    10.3.141.255)
        PROXY='Acquire::http::Proxy "http://my-home-server:3142";'
        ;;
    192.168.154.255)
        PROXY='Acquire::http::Proxy "http://work-server.foo.bar.example.com:3142";'
        ;;
    # add as needed
    *)
        # unknown, no proxying
        PROXY=""
        ;;
esac

# set the proxy
FNAME="/etc/apt/apt.conf.d/01proxy"
echo -n "$PROXY">$FNAME

exit 0
```

---

Tags: [networking](#) ([Next Q](#))

---

## **[Q: How do I setup an Icecast server for broadcasting audio in my network?](#)**

Tags: [networking](#) ([Next Q](#))

Broadcasting the output of the soundcard as an internet radio stream is a reliable way to stream audio in a network. This can nicely be used to e.g. transmit audio in a wireless LAN to another computer or any other device capable of playing internet radio streams.

However I did not find an easy step by step guide on how to set this up.

**Tags:** [networking](#) ([Next Q](#))

**User:** [takkat](#)

---

[Answer](#)  by [takkat](#)

# Broadcast audio with Icecast2

---

1. Install [Icecast2](#)

# Missing Image

---

## 2. Edit Icecast2 configuration

Open the file /etc/icecast2/icecast.xml as root in an editor. For security reasons you should setup passwords in the <authentication> section:

```
<admin-user>admin</admin-user>
<admin-password>hackme</admin-password>
```

If you changed the <source-password> or <relay-password> you need to do so on the source or relay side as well. That means leave it default or change it in the ices2.xml file (see below) as well. The same will need to be done in the Ices or Darkice configuration files.

You also need to define the hostname where your stream can be reached:

```
<hostname>localhost</hostname>
```

Leave it as *localhost* (no need to give a resolved IP there) when you only want to stream in your local network. The default port to listen to is 8000. Change it only when needed.

---

---

### 3. Edit defaults

Open the /etc/default/icecast2 file as root in an editor. The last line needs to be changed to

```
ENABLE=true
```

That's all for Icecast2. Of course there are many more settings you can play with. In the configurations files there are explanatory notes on parameters.

## 4. Start/Stop Icecast

The server is started and stopped by the following commands:

```
/etc/init.d/icecast2 start  
/etc/init.d/icecast2 stop
```

While running the Icecast server can be administrated from any browser at <http://localhost:8000/admin/> after entering your administrator credentials defined in step 1. Further documentation is available from [Icecast.org](http://Icecast.org).

[Stream2ip](#) is a graphical frontend to quickly start and stop streams where a basic setup for Ices2, Ices or Darkice has already been done.

---

# Missing Image

## for streaming OGG Vorbis audio from a local soundcard

To set up of pulseaudio to enable recording from the soundcard see note for Darkice below.

### Make directories for Ices2

```
mkdir /var/log/ices    # in case you need logfiles.  
mkdir /etc/ices2      # for putting ices stuff in.
```

### Edit the Ices2 configuration .xml

Ices2 will run using an .xml file for settings. Verbous examples of configurations can be found in /usr/share/doc/ices2/examples/. These files need to be edited to meet your needs and can be copied anywhere, best in your home directory. Depending on the configuration file Ices2 uses a playlist in **Ogg Vorbis** format (ices-playlist.xml) or the output from your soundcard (ices-alsa.xml) as streaming source for Icecast2.

In the section <input> you may need to replace the device if you have setup your sound system to PulseAudio. To do this edit the corresponding line to:

```
<param name="device">pulse</param>
```

The name of the stream for the receiving client is defined in the following section.

```
<mount>/example1.ogg</mount>
```

### Start Streaming

Streams from your soundcard will be started by first running the Icecast2 server, and then running Ices2 using the following commands:

```
/etc/init.d/icecast2 start  
ices2 /home/user/somewhere/ices-pulse.xml # or any other name from .xml file
```

### Setup Receiver

On the receiver side your radio “station” tunes on: <server IP>:8000/example1.ogg where <server IP> is the IP of your streaming server followed by the port you defined in the icecast.xml file (default 8000).

## Terminate Streaming

Streams are terminated by killing Ices2 and/or stop running the Icecast2 server:

```
killall ices2  
/etc/init.d/icecast2 stop
```

# IcesS for broadcasting mp3 playlists

Broadcasting a playlist containing **mp3 files** can not be done with Ices2. We need to install **IceS**, which is also available from the [Medibuntu repository](#).

After having set up the configuration file with server address, password and streaming properties (well documented example will be found in `/usr/share/doc/ices/examples`) we can stream mp3 audio files from playlists (e.g. in .m3u format) over an Icecast2 server by:

```
/etc/init.d/icecast2 start  
ices -c <path_to_config_file> -F <path_to_playlist>
```

For further options read the documentation in the quite elaborate man page from `man ices`.

---

# Missing Image

## for live streaming

We can stream the output of the local sound card as OGG Vorbis or as mp3 stream using **Darkice**. To enable streaming of the local soundcard we may need to define the recording device for Darkice in pulseaudio first. This can be done with [pavucontrol](#) 

# Missing Image

. In the *Recording* tab choose Monitor of <your soundcard> for the “*ALSA plug-in [darkice]*”.

The configuration file (well documented example given in /usr/share/doc/darkice/examples) needs to be adapted to the Icecast server and the local sound environment:

### [Skip code block](#)

```
[general]
duration      = 0          # duration in s, 0 forever
bufferSecs    = 1          # buffer, in seconds
reconnect     = yes        # reconnect if disconnected

[input]
device        = pulse      # for Pulseaudio
sampleRate    = 44100     # sample rate 11025, 22050 or 44100
bitsPerSample = 16         # bits
channel       = 2          # 2 = stereo

[icecast2-0]
bitrateMode   = vbr        # variable bit rate ('cbr' constant, 'abr' average)
quality       = 1.0        # 1.0 is best quality
format        = mp3        # format. Choose 'vorbis' for OGG Vorbis
bitrate       = 256        # bitrate
server        = localhost  # or IP
port          = 8000       # port for IceCast2 access
password      = hackme     # source password to the IceCast2 server
mountPoint    = mystream.mp3 # mount point on the IceCast2 server .mp3 or .ogg
name          = mystream
```

After saving this configuration (e.g. in ~/music/darkice.cfg) we first run the Icecast server and are then able to stream pulseaudio output from the local sound card by invoking:

```
/etc/init.d/icecast2 start
darkice -c ~/music/darkice.cfg
```

On the receiver we tune to <http://localhost:8000/mystream.mp3> for listening.

<localhost> is the IP of the Icecast server.

---

**Tags:** [networking](#) ([Next Q](#))

---

## [Q: Command for determining my public IP?](#)

**Tags:** [networking](#) ([Next Q](#))

If I check with [google](#) , I can see my public IP. Is there something on the Ubuntu command-line which will yield me the same answer?

**Tags:** [networking](#) ([Next Q](#))

**User:** [kfmfe04](#)

---

[Answer](#)  by [saji89](#)

For finding the external ip, you can either use external web-based services, or use system based methods. The easier one is to use the external service, also the `ifconfig` based solutions will work in your system only if you're not behind a NAT. the two methods has been discussed below in detail.

# Finding external IP using external services

The easiest way is to use an external service via a commandline browser or download tool. Since wget is available by default in Ubuntu, we can use that.

To find your ip, use-

```
wget -qO- http://ipecho.net/plain ; echo
```

Courtesy:

- <http://hawknotes.blogspot.in/2010/06/finding-your-external-ip-address.html> 
- <http://ipecho.net/plain> 

You could also use lynx(browser) or curl in place of wget with minor variations to the above command, to find your external ip.

Using curl to find the ip:

```
curl ipecho.net/plain
```

For a better formatted output use:

```
curl ipecho.net/plain ; echo
```

# Finding external IP without relying on external services

- If you know your network interface name

Type the following in your terminal:

```
ifconfig <interface_name> | grep "inet addr" | awk -F: '{print $2}' | awk '{print $1}'
```

In the above, replace <interface\_name> with the name of your actual interface, e.g: eth0, eth1, ppp0, etc...

## Example Usage:

```
saji@geek-lap:~$ ifconfig ppp0 | grep "inet addr" | awk -F: '{print $2}' | awk '{print $1}'  
111.222.333.444
```

- If you don't know your network interface name

Type the following in your terminal (this gets the ip address of every network interface in your system):

```
ifconfig |grep -B1 "inet addr" |awk '{ if ( $1 == "inet" ) { print $2 } else if ( $2 == "Link" ) {  
printf "%s:", $1 } }' |awk -F: '{ print $1 ":" " $3 }'
```

## Example Usage:

```
saji@geek-lap:~$ ifconfig |grep -B1 "inet addr" |awk '{ if ( $1 == "inet" ) { print $2 } else if ( $2 == "Link" ) { printf "%s:", $1 } }' |awk -F: '{ print $1 ":" " $3 }'  
lo: 127.0.0.1  
ppp0: 111.222.333.444
```

N.B: Outputs are indicative and not real.

Courtesy: <http://www.if-not-true-then-false.com/2010/linux-get-ip-address/>

---

Answer  by [bodhi.zazen](#)

My favorite has always been :

```
curl ifconfig.me
```

simple, easy to type.

You will have to install curl first ;)

---

Answer  by [yuri-prezument](#)

[icanhazip.com](http://icanhazip.com)  is my favorite.

```
curl icanhazip.com
```

You can request IPv4 explicitly:

```
curl ipv4.icanhazip.com
```

Or IPv6:

```
curl ipv6.icanhazip.com
```

If you don't have curl you can use wget instead:

```
wget -qO- icanhazip.com
```

**Tags:** [networking](#) ([Next Q](#))

## [Q: How to display network traffic in terminal](#)

**Tags:** [networking](#)

how to display the actual network traffic (wireless) in a terminal?

Additionally: Is it possible to add this info to the chart of top?

**Tags:** [networking](#)

**User:** [indexoutofboundsexception](#)

[Answer](#)  by [tomodachi](#)

Here are some nice tools in the Ubuntu repositories for command line bandwidth monitoring:

**bmon** - shows multiple interfaces at once

mamo@xerxes: ~/Downloads/idea-IC-123.169/bin

interface: eth4 at xerxes bmon 2.0.1

| #  | Interface | RX Rate  | RX #     | TX Rate   | TX # |
|--|-----------|----------|----------|-----------|------|
| xerxes (source: local)   |           |          |          |           |      |
| 0  | eth4      | 0.00B    | 0        | 0.00B     | 0    |
| 1  | eth5      | 1.20MiB  | 832      | 58.81KiB  | 634  |
| 2  | lo        | 0.00B    | 0        | 0.00B     | 0    |
| 3  | virbr0    | 0.00B    | 0        | 0.00B     | 0    |
| <hr/> Press g to enable graphical statistics                                 |           |          |          |           |      |
| Bytes:   |           | RX 0.0 B | TX 0.0 B | Packets:  |      |
| Errors   |           | 0        | 0        | Dropped   |      |
| FIFO Err   |           | 0        | 0        | Frame Err |      |
| Compressed   |           | 0        | 0        | Multicast |      |
| <hr/> ^ prev interface, v next interface, <- prev node, -> next node, ? help |           |          |          |           |      |

slurm - has nice colored graphs

mamo@xerxes: ~/Downloads/idea-IC-123.169/bin

-= slurm 0.4.0 on xerxes =-

|                                 |   |     |     |                  |                                 |   |   |   |   |
|---------------------------------|---|-----|-----|------------------|---------------------------------|---|---|---|---|
| X                               | X | X X | X X | XXXXXX XXXXXX XX | XXXXX XXXXX X                   | X | X | X | X |
|                                 |   |     |     |                  |                                 |   |   |   |   |
| Active Interface: eth5          |   |     |     |                  | Interface Speed: unknown        |   |   |   |   |
| Current RX Speed: 0.04 KB/s     |   |     |     |                  | Current TX Speed: 0.00 KB/s     |   |   |   |   |
| Graph Top RX Speed: 2.94 KB/s   |   |     |     |                  | Graph Top TX Speed: 5.36 KB/s   |   |   |   |   |
| Overall Top RX Speed: 2.94 KB/s |   |     |     |                  | Overall Top TX Speed: 5.36 KB/s |   |   |   |   |
| Received Packets: 721223        |   |     |     |                  | Transmitted Packets: 483855     |   |   |   |   |
| MBytes Received: 953.789 MB     |   |     |     |                  | MBytes Transmitted: 48.550 MB   |   |   |   |   |
| Errors on Receiving: 2          |   |     |     |                  | Errors on Transmission: 136     |   |   |   |   |

**tcptrack** - A favorite. Tells how much bandwidth is being used and also what protocol (service/port) and destination the transmission is taking place to. Very helpful when you want to know exactly what is using up your bandwidth

The screenshot shows a terminal window titled "mamo@xerxes: ~/Downloads/idea-IC-123.169/bin". It displays a table of network connections with the following columns: Client, Server, State, Idle, A, and Speed. There are 10 connections listed, all in ESTABLISHED state. The total bandwidth usage is shown as 1 MB/s.

| Client           | Server              | State       | Idle | A | Speed |
|------------------|---------------------|-------------|------|---|-------|
| 10.0.3.139:55575 | 173.194.32.5:443    | ESTABLISHED | 26s  | 0 | B/s   |
| 10.0.3.139:47602 | 173.194.71.103:443  | ESTABLISHED | 1s   | 0 | B/s   |
| 10.0.3.139:36024 | 207.97.227.239:443  | ESTABLISHED | 0s   | 1 | MB/s  |
| 10.0.3.139:43994 | 198.252.206.25:80   | ESTABLISHED | 7s   | 0 | B/s   |
| 10.0.3.139:43908 | 198.252.206.25:80   | ESTABLISHED | 37s  | 0 | B/s   |
| 10.0.3.139:39054 | 173.194.69.125:5222 | ESTABLISHED | 42s  | 0 | B/s   |
| 10.0.3.139:51101 | 173.194.32.22:443   | ESTABLISHED | 10s  | 0 | B/s   |
| 10.0.3.139:36773 | 213.114.173.171:22  | ESTABLISHED | 50s  | 0 | B/s   |
| 10.0.3.139:59852 | 173.194.32.8:443    | ESTABLISHED | 26s  | 0 | B/s   |
| 10.0.3.139:51107 | 173.194.32.22:443   | ESTABLISHED | 13s  | 0 | B/s   |

TOTAL 1 MB/s  
Connections 1-10 of 10 Unpaused Unsorted

[Answer](#) by [tribaal](#)

It's quite easy! install "iftop" with:

```
sudo apt-get install iftop
```

Then run

```
sudo iftop
```

from any terminal!

Enjoy!

[Answer](#) by [arsakasra](#)

Someone should also have mentioned Nethogs, so I'm that one. The thing that's different and maybe is cooler about this one is that it shows traffic *per process*, like the image shows

| PID   | USER | PROGRAM                  | DEV   | SENT  | RECEIVED     |
|-------|------|--------------------------|-------|-------|--------------|
| 3027  | arsk | /usr/lib/firefox/firefox | kvnet | 0.026 | 0.026 KB/sec |
| ?     | root | unknown TCP              |       | 0.000 | 0.000 KB/sec |
| TOTAL |      |                          |       | 0.026 | 0.026 KB/sec |

NetHogs version 0.8.0

http://nethogs.sourceforge.net/nethogs.png

e should also have mentioned netHogs, so I'm that one. The thing that's different and maybe about this one is that it shows traffic per process, like the image shows.

Take a look at [the page](#)

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**Tags:** [networking](#)

---

[\*\*Q: How do I clear the DNS cache?\*\*](#)

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[\*\*Q: How do I find out which process is eating up my bandwidth?\*\*](#)

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[\*\*Q: Best way to cache apt downloads on a LAN?\*\*](#)

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[\*\*Q: How do I setup an Icecast server for broadcasting audio in my network?\*\*](#)

---

[\*\*Q: Command for determining my public IP?\*\*](#)

---

[\*\*Q: How to display network traffic in terminal\*\*](#)

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# Power Management

## Questions

**Q: How can I tell Ubuntu to do nothing when I close my laptop lid?** 

**Tags:** [power-management](#) ([Next Q](#))

I would like closing the laptop lid to be a no-op. How can I do that?

**Tags:** [power-management](#) ([Next Q](#))

**User:** [badp](#)

---

[Answer](#)  by [tasos-koutoumanos](#)

## For 13.10 or newer:

To make Ubuntu do nothing when laptop lid is closed:

1. Open the `/etc/systemd/logind.conf` file in a text editor as root, for example,

```
sudo -H gedit /etc/systemd/logind.conf
```

2. Add a line `HandleLidSwitch=ignore` (make sure it's not commented out!),
3. Restart the systemd daemon with this command:

```
sudo restart systemd-logind
```

See also: [Ubuntu Server 13.10 now goes to sleep when closing laptop lid](#)

---

[Answer](#) by [sid](#)

# For 11.04 and earlier:

**Do nothing when laptop lid is closed** (helpful when an external monitor is connected):

- Alt + F2 and enter this: gconf-editor
- apps > gnome-power-manager > buttons
- Set lid\_ac and lid\_battery to nothing



OR

1. When on AC Power, do nothing when laptop lid is closed:

```
gconftool-2 -t string -s /apps/gnome-power-manager/buttons/lid_ac nothing
```

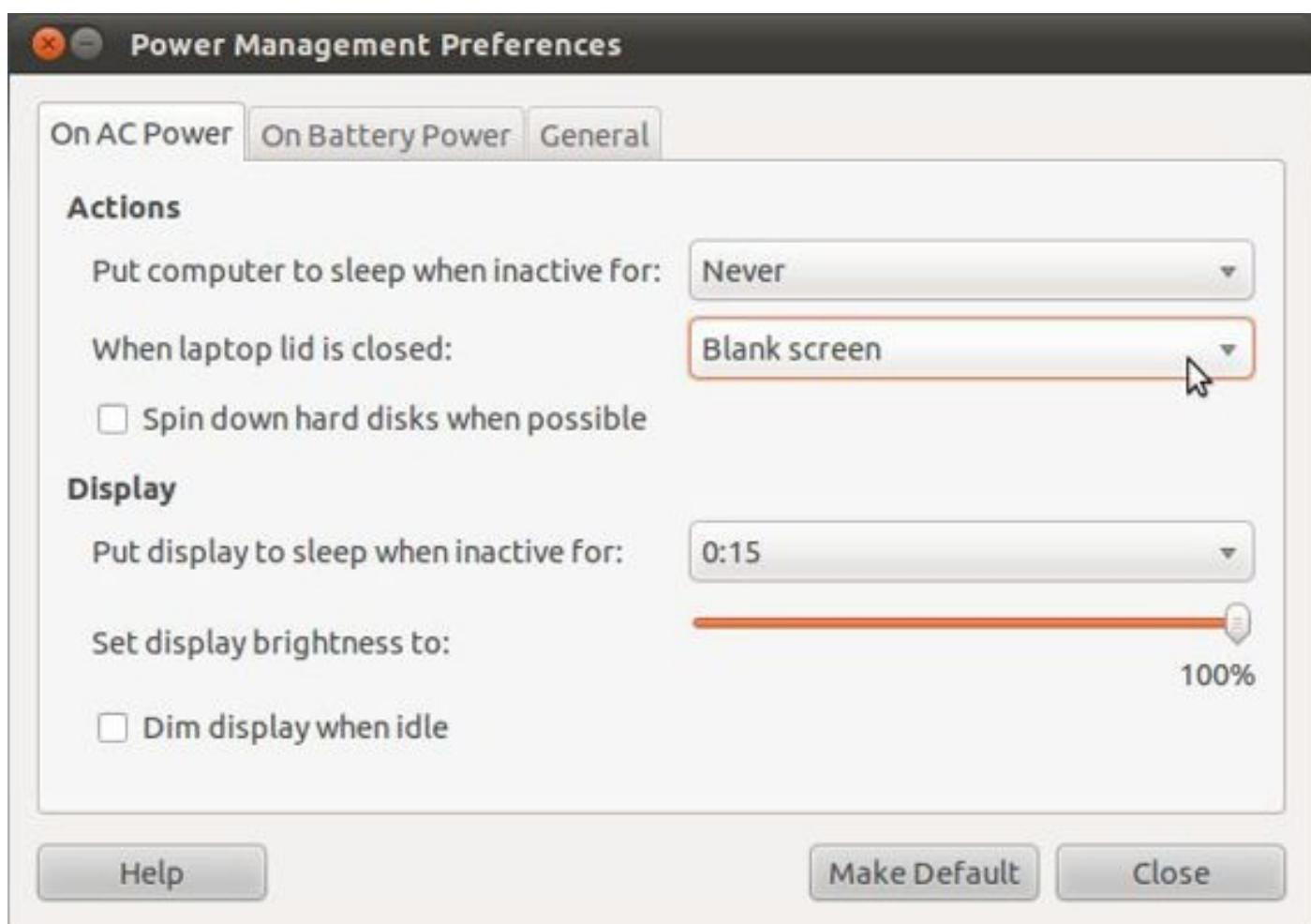
2. When on Battery Power, do nothing when laptop lid is closed:

```
gconftool-2 -t string -s /apps/gnome-power-manager/buttons/lid_battery nothing
```

---

**Blank screen when laptop lid is closed** (preferable when no external monitor is connected):

- System > Preferences > Power Management
- On AC Power (On Battery Power) > Actions
- When laptop lid is closed: Blank screen



OR

1. When on AC Power, blank screen when laptop lid is closed:

```
gconftool-2 -t string -s /apps/gnome-power-manager/buttons/lid_ac blank
```

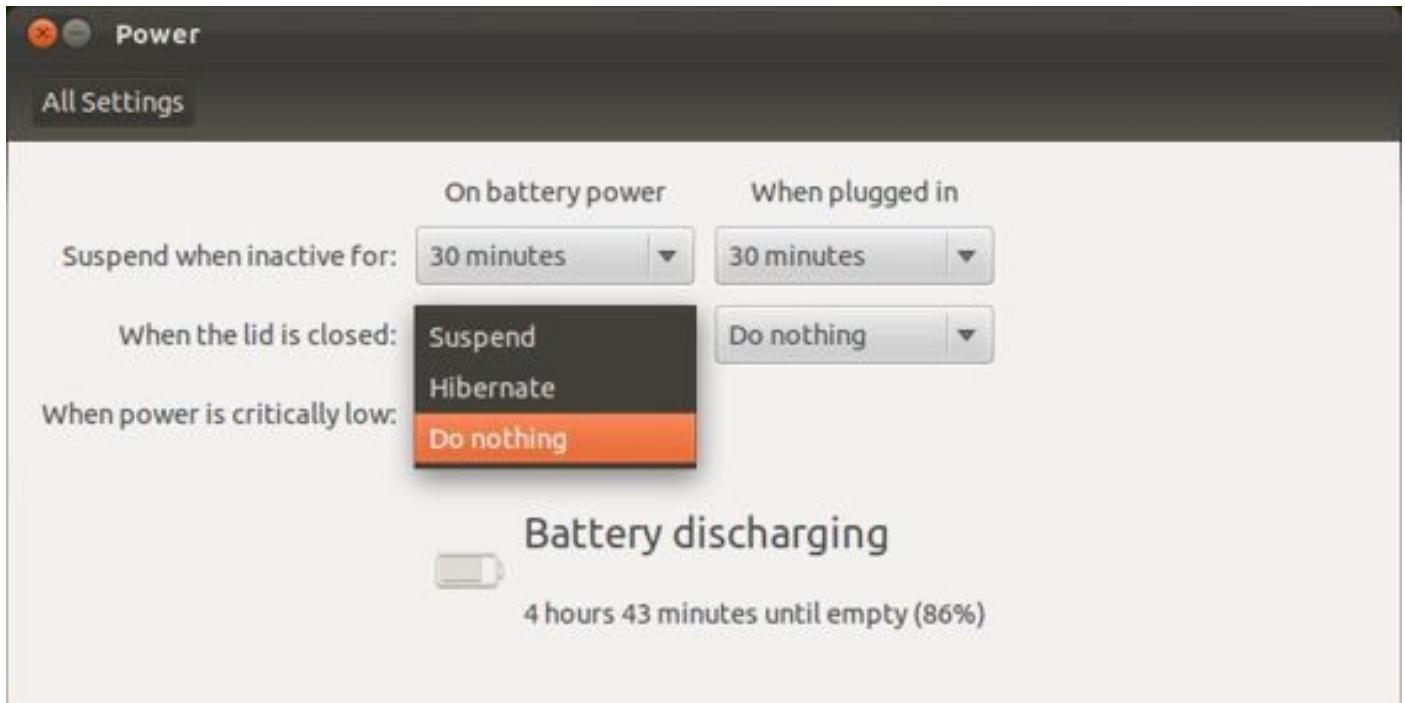
2. When on Battery Power, blank screen when laptop lid is closed:

```
gconftool-2 -t string -s /apps/gnome-power-manager/buttons/lid_battery blank
```

[Answer](#) by [jorge-castro](#)

## For 11.10 and newer:

You can select “Do Nothing” in the power settings. Open the dash (super key), search for “power” and then select the correct option in the dropdown. Note that closing the lid will actually turn off the screen though plus any external monitors:



If you move the mouse then any connected monitors will power back up with the laptop closed. This will then become the primary monitor.

---

**Tags:** [power-management](#) ([Next Q](#))

---

## Q: How to control fan speed?

**Tags:** [power-management](#) ([Next Q](#))

How can I control fan speed? On windows there is wonderful program called speedfan.

**Tags:** [power-management](#) ([Next Q](#))

**User:** [grizzly](#)

---

[Answer](#)  by [grizzly](#)

# Note before starting:

This functionality depends on both your hardware and software. If your hardware doesn't support fan speed controls, or doesn't show them to the OS, it is very likely that you could not use this solution. If it does, but the software (aka kernel) doesn't know how to control it, you are without luck.

---

1. Install the [lm-sensors](#)

# Missing Image

and [fancontrol](#)

# Missing Image

packages.

2. Configure **lm-sensors**

1. In terminal type `sudo sensors-detect` and answer YES to all YES/no questions.
2. At the end of `sensors-detect`, a list of modules that need to be loaded will be displayed. Type “yes” to have `sensors-detect` insert those modules into `/etc/modules`, or edit `/etc/modules` yourself.
3. Run `sudo service module-init-tools restart`. This will read the changes you made to `/etc/modules` in step 3, and insert the new modules into the kernel.
  - **Note:** If you’re running Ubuntu 13.04 or higher, this 3rd step command should be replaced by `sudo service kmod start`.

3. Configure **fancontrol**

1. In terminal type `sudo pwmconfig`. This script will stop each fan for 5 seconds to find out which fans can be controlled by which PWM handle. After script loops through all fans, you can configure which fan corresponds to which temperature.
2. In my case I set interval to 2 seconds.

4. Set up **fancontrol** service

1. Run `sudo service fancontrol start`. This will also make the `fancontrol` service run automatically at system startup.

In my case for CPU I used:

```
Settings for hwmon0/device/pwm2:  
Depends on hwmon0/device/temp2_input
```

```
Controls hwmon0/device/fan2_input
MINTEMP=40
MAXTEMP=60
MINSTART=150
MINSTOP=0
MINPWM=0
MAXPWM=255
```

---

Tags: [power-management](#) ([Next Q](#))

---

## **[Q: How do I modify the options for the power button?](#)**

Tags: [power-management](#) ([Next Q](#))

When I press the power button a dialog opens, but I want to shutdown the system without receiving “Do you really really want to shutdown?”. How can I choose a direct shutdown action on a pressed power button?

I had the same problem with the 11.04 version, but I don't remember the solution and yesterday I upgraded to Ubuntu 11.10.

Tags: [power-management](#) ([Next Q](#))

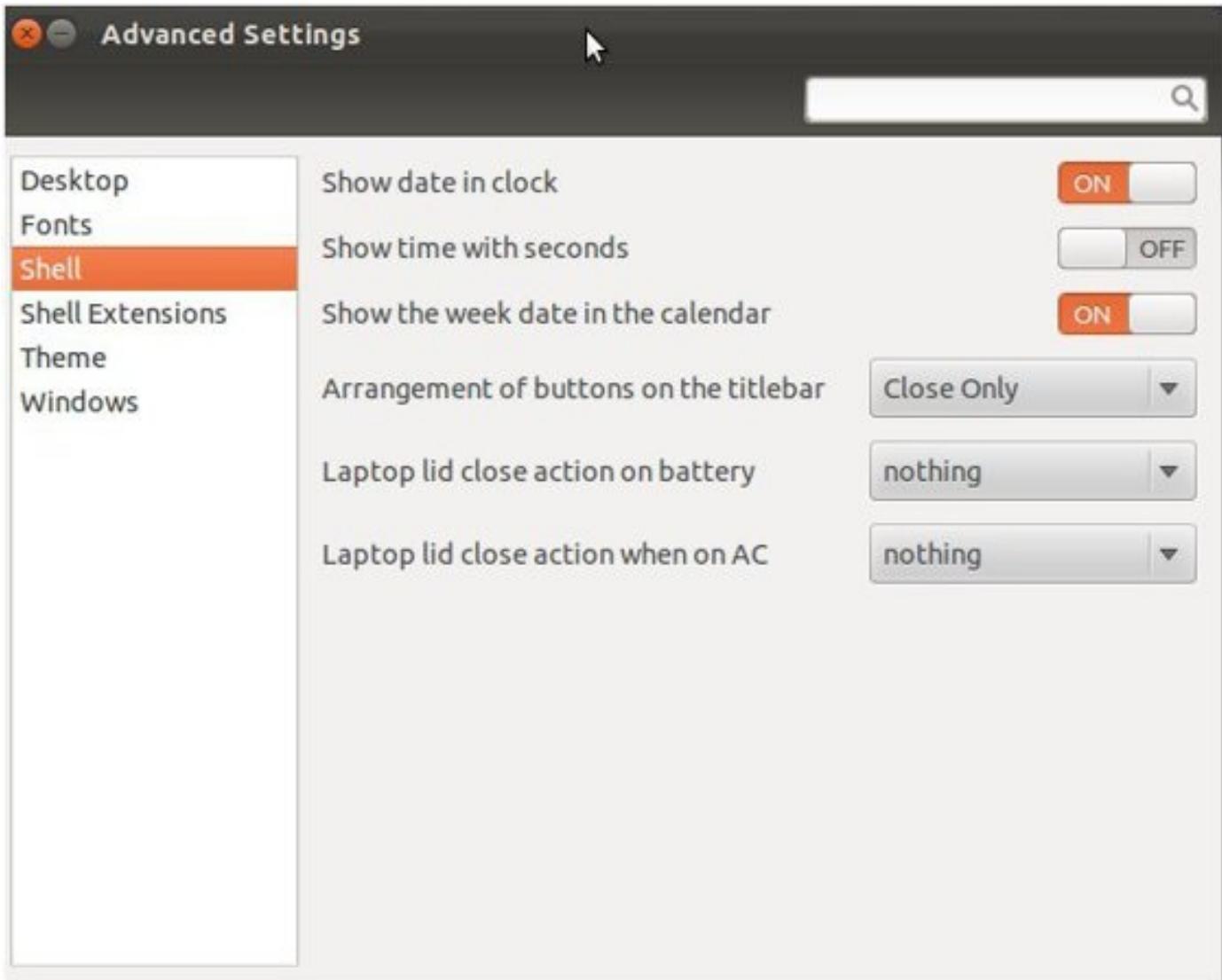
User: [nan](#)

---

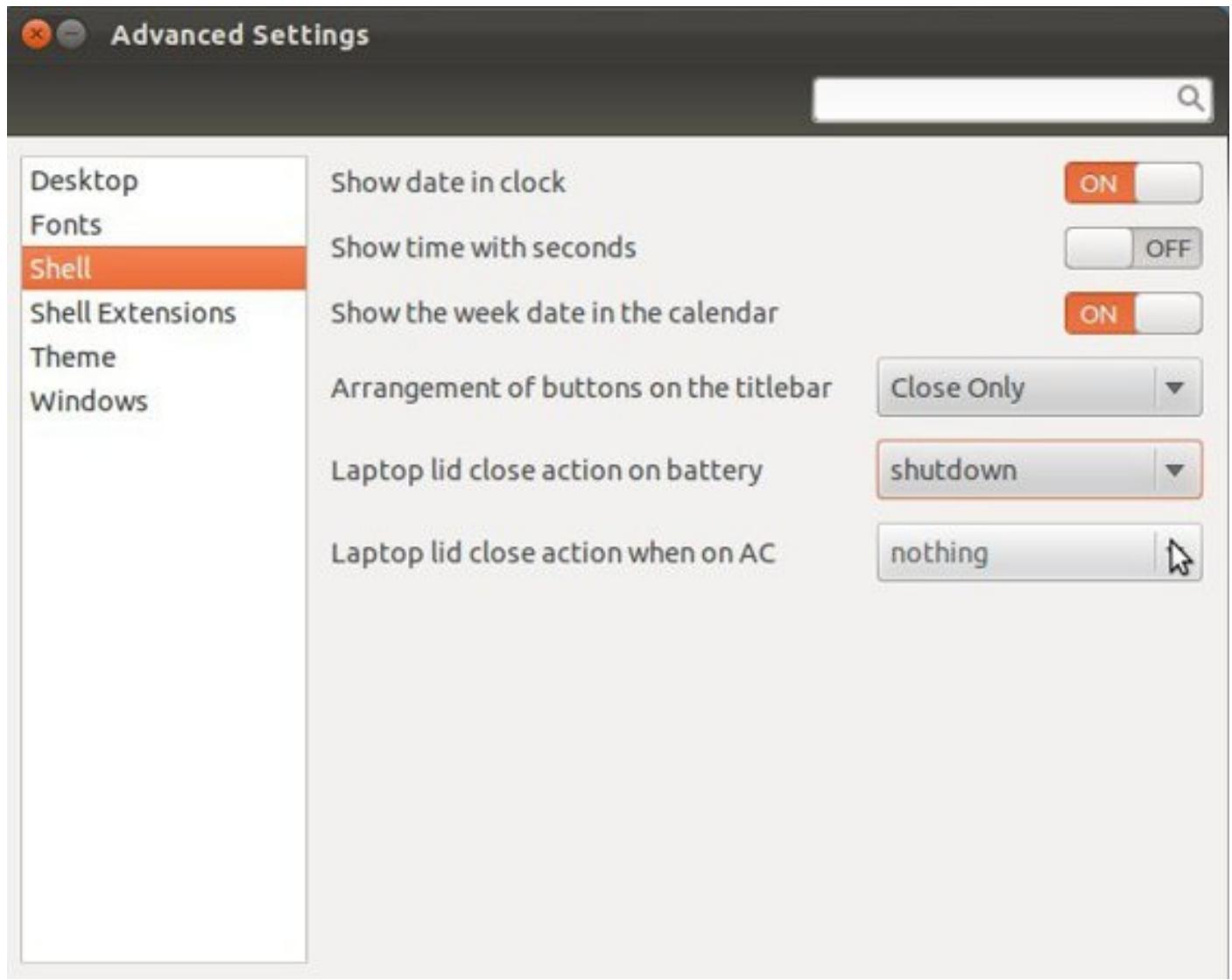
Answer  by [bruno-pereira](#)

### **Lid Close Action**

To set up the Laptop Lid Close Action you have to install Advanced Setting (or the Gnome Tweak Tool). It is in the USC (Ubuntu Software Center) under either tweak or Advanced Settings. If installed press the super button and type in tweak or advanced and choose the Advanced Settings. When it opens choose the shell tab;



Press the arrows and choose you desired on both on AC and on battery;



## Default buttons behavior

Install dconf-tools:

```
sudo apt-get install dconf-tools
```

Press alt+f2 and open dconf-editor (or in a terminal type dconf-editor)

Navigate to org.gnome.settings-daemon.plugins.power and set your default button-power action there:

Configuration Editor

| Name                           | Value                               |
|--------------------------------|-------------------------------------|
| active                         | <input checked="" type="checkbox"/> |
| button-hibernate               | hibernate                           |
| <b>button-power</b>            | <b>suspend</b>                      |
| button-sleep                   | hibernate                           |
| button-suspend                 | suspend                             |
| <b>critical-battery-action</b> | shutdown                            |
| idle-brightness                | 30                                  |
| idle-dim-ac                    | <input type="checkbox"/>            |
| idle-dim-battery               | <input checked="" type="checkbox"/> |
| idle-dim-time                  | 10                                  |
| <b>lid-increase-action</b>     | <b>restart</b>                      |

Schema: org.gnome.settings-daemon.plugins.power  
 Summary: Power button action

Description: The action to take when the system power button is pressed.

Type: String  
 Default: 'suspend'

[Set to Default](#)

On some systems you will also need to mark the item suppress-logoff-restart-shutdown.

---

[Answer](#) by [david-lpez](#)

I'm afraid that the first answers didn't work for me, I think that the 'graphical solutions' only work for the upper right indicator, not for the power button. rulet solution works for me, I think I can improve it and make the prompt completely disappear. Instead of creating a new file you can use existing /etc/acpi/events/powerbtn file

- 1.- sudo gedit /etc/acpi/events/powerbtn
- 2.- Add # to comment line: #action=/etc/acpi/powerbtn.sh
- 3.- Add a new line: action=/sbin/poweroff
- 4.- Save file
- 5.- Open a console and type: sudo acpid restart

That works for me AND the prompt has gone, just like in ubuntu 11.04. Wish this helps.

---

[Answer](#) by [phord](#)

This is the quick, simple answer I needed:

```
gsettings set org.gnome.settings-daemon.plugins.power button-power 'hibernate'
```

If you want to see your settings first, try this:

```
gsettings list-recursively org.gnome.settings-daemon.plugins.power
```

**Tags:** [power-management](#) ([Next Q](#))

## [Q: How to enable hibernation?](#)

**Tags:** [power-management](#) ([Next Q](#))

In Ubuntu 12.04 and newer, [hibernation has been disabled by default in policykit](#). How can I enable this back?

**Tags:** [power-management](#) ([Next Q](#))

**User:** [dima](#)

[Answer](#)  by [dima](#)

**If this answer does not work in Ubuntu 13.10, see [here](#) for an alternative answer**

You can follow official documentation [here](#). Hibernation was [disabled](#) on 12.04 for machines that are not certified with Ubuntu.

In order to enable hibernation you need to test whether it works correctly by running `sudo pm-hibernate` in a terminal. The system will try to hibernate. If you are able to start the system again then you are more or less safe to add an override.

To do so, start editing:

```
sudo nano /etc/polkit-1/localauthority/50-local.d/com.ubuntu.enable-hibernate.pkla
```

Fill it with this:

```
[Re-enable hibernate by default]
Identity=unix-user:*
Action=org.freedesktop.upower.hibernate
ResultActive=yes
```

Save by pressing `Ctrl-O` then `enter` and then exit nano by pressing `Ctrl-X`.

Restart and hibernation is back!

Or run `killall unity-panel-service` to just reset the menu.

Some users will then need to run `sudo update-grub` to get the hibernate option to be available in the power menu. Some users may also have to at least log out then log in to get it to appear in the (upper right) power menu.

[Answer](#)  by [nacs](#)

Additionally, for those who want to disable the suspend button (for various reasons), proceed analogously...

Choose any file name, but this is one is verbose/convention:

```
sudoedit /etc/polkit-1/localauthority/50-local.d/com.ubuntu.disable-suspend.pkla
```

Fill it with this:

```
[Disable suspend by default]
Identity=unix-user:*
Action=org.freedesktop.upower.suspend
ResultActive=no
```

Ctrl+O, Enter, Ctrl+X

No need to restart, it should be gone as soon as you go into the shutdown menu.

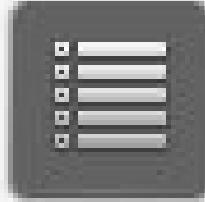
---

[Answer](#)  by [mreq](#)

One more thing:

When you want to add the hibernation option to **XFCE**'s panel, you have to right-click your name (topright) and select properties.

After that a screen pops up:



## Action Buttons

### General

Appearance: Session Menu



- Invert buttons orientation
- Show confirmation dialog

### Actions

| Visible                             | Action      |
|-------------------------------------|-------------|
| <input checked="" type="checkbox"/> | Lock Screen |
| <input type="checkbox"/>            | Switch User |
| <input checked="" type="checkbox"/> | Separator   |
| <input checked="" type="checkbox"/> | Suspend     |
| <input checked="" type="checkbox"/> | Hibernate   |
| <input type="checkbox"/>            | Separator   |
| <input checked="" type="checkbox"/> | Shut Down   |

Help

Close

Make sure, you check Hibernate like I did.

---

Tags: [power-management](#) ([Next Q](#))

---

## **Q: How to prevent my screen from either dimming or the screen-lock starting when watching YouTube?**



Tags: [power-management](#)

My screen brightness used to dim after a few seconds to preserve battery. This is default in Ubuntu 12.04. However when watching video it should not dim.

This works correctly when I watch videos using native applications like VLC. With in-browser video, however, the screen is not prevented from dimming. This is very annoying as you have to move your cursor every 10 seconds or so.

I used to use Mac OSX where I had the same dimming settings and Flash videos were taken into account correctly.

**Anyone an idea how you can make YouTube prevent your screen from dimming?**

Tags: [power-management](#)

User: [steven-roose](#)

---

Answer by [njallam](#)

### **HOWTO: Disable screen saver while Flash is running**

Run the following command in terminal:

```
mkdir -p ~/bin
```

Open gedit, or your preferred text editor and type this:

[Skip code block](#)

```
#!/bin/bash

# Cleanup any bad state we left behind if the user exited while flash was
# running
gconftool-2 -s /apps/gnome-screensaver/idle_activation_enabled --type bool true

we_turned_it_off=0

while true; do
    sleep 60
    flash_on=0

    for pid in `pgrep firefox` ; do
        if grep libflashplayer /proc/$pid/maps > /dev/null ; then
            flash_on=1
        fi

        ss_on=`gconftool-2 -g /apps/gnome-screensaver/idle_activation_enabled`

        if [ "$flash_on" = "1" ] && [ "$ss_on" = "true" ]; then
            gconftool-2 -s /apps/gnome-screensaver/idle_activation_enabled \
                --type bool false
            we_turned_it_off=1
        fi
    done
done
```

```

    elif [ "$flash_on" = "0" ] && [ "$ss_on" = "false" ] \
        && [ "$we_turned_it_off" = "1" ]; then
        gconftool-2 -s /apps/gnome-screensaver/idle_activation_enabled \
            --type bool true
        we_turned_it_off=0
    fi

done
done

```

Save this file as “~/bin/flash\_saver.sh”

Go back into terminal and run:

```
chmod +x ~/bin/flash_saver.sh
```

To run this, go into terminal and type:

```
~/bin/flash_saver.sh
```

If you prefer, you can set this script to run at logon by doing the following:

1. Run the program “Startup Applications”
2. Click “Add”
3. Under name type “FlashMonitor” or something you will recognise
4. Under command type “~/bin/flash\_saver.sh”
5. Under comment (if you want) type a brief description. E.g. “Stops screen turning off when Flash is running”

**Source:** [HOWTO: Disable screen saver while Flash is running - ubuntuforums](#)

[Answer](#) by [salem](#)

## EDIT

This probably will not work if you are using an Ubuntu version newer than 12.04 (have tried in 13.04 and 13.10 and it just does not work at all). It seems the main developer is not working anymore in this project, so the chances of it being fixed are not good.

In my system (Ubuntu 11.10) i use [Caffeine](#). You can try if it works in Xubuntu too. It adds a notification area icon where you can enable/disable screensaver for some programs. To install Caffeine, do the following:

```

sudo add-apt-repository ppa:caffeine-developers/ppa
sudo apt-get update
sudo apt-get install caffeine

```

Then execute in a terminal:

```
caffeine -p &
```

You can then choose the programs that should disable the screensaver:

vlc for VLC, mplayer for Movie Player, etc.



## Preferences

### Autostart

Start Caffeine on login

### Automatic activation

Caffeine can activate automatically whenever certain programs are running.

List of programs that Caffeine activates for:

#### Process Name

 mplayer

 vlc

[Remove](#)

[Add](#)

Activate for Flash video

Activate for Quake Live

### Tray icon

Show tray icon

Show notification on startup

[Close](#)

Hope it helps.

---

Tags: [power-management](#)

---

[Q: How can I tell Ubuntu to do nothing when I close my laptop lid?](#)

---

[Q: How to control fan speed?](#)

---

[Q: How do I modify the options for the power button?](#)

---

[Q: How to enable hibernation?](#)

---

[Q: How to prevent my screen from either dimming or the screen-lock starting when watching YouTube?](#)

---

[Q: Is there a power saving application similar to Jupiter?](#)

---

# Services

[Skip to questions](#), Wiki by user [hexafraction](#)

[Daemons](#) are programs that run in the background and either service requests or poll for various environment indicators, and then act accordingly. Once a request is received, it may be queued up or forked to run in a different thread or process. Daemons are often started via Upstart or init, which are started by the kernel in early startup.

The [service](#) command will run init scripts in [/etc/init.d](#) with a command. Usually, it is status, start, stop, or reload. [Upstart](#) (which provides Ubuntu's [init](#)) is in charge of managing these daemons automatically.

*Daemons* are also called *services* (especially [in a Windows context](#), where the term “daemon” is rarely if ever used), but should not be confused with the concepts of [online services](#), [services in systems architecture](#), nor (though related) “[software as a service](#)”.

---

# Questions

## [Q: What's the difference between “Service” and “/etc/init.d/”?](#)

Tags: [services](#) ([Next Q](#))

I've been managing server installations both on and off Ubuntu flavor for some time - I've become quite adjusted to /etc/init.d/ for restarting services. Now I get this message:

```
root@tatooine:~# /etc/init.d/mysql status
Rather than invoking init scripts through /etc/init.d, use the service(8)
utility, e.g. service mysql status

Since the script you are attempting to invoke has been converted to an
Upstart job, you may also use the status(8) utility, e.g. status mysql
mysql start/running, process 14048
```

This seems to have been brought about in the latest LTS of Ubuntu - why? What's so bad about /etc/init.d/ and what/is there a difference between service and /etc/init.d/?

Tags: [services](#) ([Next Q](#))

User: [marco-ceppi](#)

---

Answer  by [txwikinger](#)

/etc/init.d scripts are the old way of doing things. They come from the System V standard. However, those scripts are fired only in a particular sequence, no real dependencies can be established.

Therefore, upstart has been developed with the intent to substitute all the /etc/init.d scripts with upstart scripts (in /etc/init).

service allows the smooth transition from /etc/init.d scripts to upstart scripts. When in the future more and more scripts are transferred to upstart, service will still work, because it finds both possibilities.

- [What's the recommended way to enable / disable services?](#)
- 

Answer  by [joe-marty](#)

Also check the man page for the service command: `man service`

service runs a script in a predictable environment (working directory is / and only 2 environment variables are set: LANG and TERM). It also adds the ability to do --full-restart. So to sum up:

1. service may run scripts from either /etc/init or /etc/init.d (upstart or System V)
2. service runs scripts in a predictable environment.

The “predictable environment” aspect can cause you problems if your script depends on an environment variable for some reason. There is probably a way to get around that, but I don’t know what it is, and that’s beyond the scope of this question :)

---

**Tags:** [services](#) ([Next Q](#))

---

## **Q: How can I configure a service to run at startup**



**Tags:** [services](#) ([Next Q](#)), [autostart](#) ([Next Q](#))

I have a daemon that runs fin if I start it manually with the service command:

```
ricardo@ricardo-laptop:~$ sudo service minidlna start
* Starting minidlna minidlna [ OK ]
```

but it's not configured to auto start when the PC reboots.

How can I configure it to start automatically, even if no one is logged into the PC?

**Tags:** [services](#) ([Next Q](#)), [autostart](#) ([Next Q](#))

**User:** [ricardo-reyes](#)

---

[Answer](#) by [source-lab](#)

```
sudo update-rc.d minidlna defaults
```

This should add the service to the automatic startup system. For further detail look at the man page for update-rc.d by typing the command `man update-rc.d`

---

[Answer](#) by [hhlp](#)

Sometimes you need to run a script on boot process, for example run an iptables config at boot process. So you dont have to run the script manually every rebooting.

You can run your script on boot process in Ubuntu by adding it to /etc/init.d/rc.local file. Look the steps below.

1. Open /etc/rc.local file with this command:

```
vim /etc/rc.local
```

1. Add your script that you want to run on boot process there, for example:

```
sh /home/ivan/iptables.sh echo 'Iptable Configured!'
```

1. Review the comments included in that file and make sure a exit 0 is at the end.
  2. Save the files. And your script will run on boot process.
- 

**Tags:** [services](#) ([Next Q](#)), [autostart](#) ([Next Q](#))

---

## Q: How to enable or disable services?

**Tags:** [services](#)

I read about how to enable and disable services in Ubuntu and it seems that there are different possibilities to manage them.

The first method I found is update-rc.d to add new services to startup, which aims on the /etc/init.d folder and its contents.

The other one I found is to edit .conf files in the /etc/init folder.

What's the recommended way to enable / disable / add services and why?

Could you please give a short bulletproof step by step example on how to add a service in Ubuntu and enable and disable it?

**Tags:** [services](#)

**User:** [nes](#)

---

[Answer](#) by [luis-alvarado](#)

I can show you several ways which are documented on this excellent [Upstart Cookbook](#). There are services that can be enabled/disabled using the GUI (Like the startup application) and then other ways of doing the same through the terminal.

For the Terminal you have several options. Open a terminal (Type “terminal” in the dash for example and open it) and keep on reading:

# Enabling / Disabling a service

To toggle a service from starting or stopping permanently you would need to:

```
echo manual | sudo tee /etc/init/SERVICE.override
```

where the stanza **manual** will stop Upstart from automatically loading the service on next boot. Any service with the **.override** ending will take precedence over the original service file. You will only be able to start the service manually afterwards. If you do not want this then simply delete the **.override**. For example:

```
echo manual | sudo tee /etc/init/mysql.override
```

Will put the MySQL service into “manual” mode. If you do not want this, afterwards you can simply do

```
sudo rm /etc/init/mysql.override
```

and Reboot for the service to start automatically again. Of course to enable a service, the most common way is by installing it. If you install Apache, Nginx, MySQL or others, they automatically start upon finishing installation and will start every time the computer boots. Disabling as mentioned above will make state of the service “manual”.

# Temporary enabling/disabling services

To stop and start services *temporarily* (Does not enable / disable them for future boots), you can type `sudo /etc/init.d/SERVICE_NAME`. For example:

`sudo /etc/init.d/apache2 stop` (Will **STOP** the Apache service until Reboot or until you start it again).

`sudo /etc/init.d/apache2 start` (Will **START** the Apache service assuming it was stopped before.).

`sudo /etc/init.d/apache2 status` (Will tell you the **STATUS** of the service, if it is either enabled/running or disabled/NOT running.).

`sudo /etc/init.d/apache2 restart` (Will **RESTART** the service. This is most commonly used when you have changed, a config file. For example in this case, if you have changed either a PHP configuration or a Apache configuration. Restart will save you from having to stop/start with 2 command lines)

`sudo /etc/init.d/apache2` (In this case, since you did not mention the ACTION to execute for the service, so it will show you all options available for that specific service

This of course can vary depending on the service, for example, with MySQL it would only mention that it is missing a parameter. For other services like networking service it would mention the small list of all options available.

**IF** the service was already converted to Upstart, you should see a message recommending to use the `service` command

## UPSTART

As you can see it varies in several details when using the `/etc/init.d/SERVICE` way. If we would wanted to use the official upstart way (Note that, for the moment, not all services have been converted to upstart), we could use the following commands:

`status SERVICE` - This will tell us if a converted service is running or not. Note that this is deprecated in favor of `start`, `stop`, `status` & `restart`. It will also tell us if a service was not yet been converted to upstart:

A converted service would typically output the current status (Starting, Running, Stopping...) and process ID. A non converted service would give an error about an **unknown job**.

With upstart with have a simpler way to accessing the service options as you can see in the following examples:

`sudo service mysql start` (Would **START** a service)

`sudo service mysql stop` (Would **STOP** a service until reboot or start it again)

`sudo service mysql restart` (Would **RESTART** the service)

`sudo service mysql status` (Would show the current **STATUS** of the service)

But upstart is not limited to only converted services, it can also pass the instructions to non converted services because it offers compatibility with them.

Some shortcuts for the upstart service are:

## START

```
sudo start mysql
```

## STOP

```
sudo stop mysql
```

## RESTART

```
sudo restart mysql
```

## STATUS

```
sudo status smbd
```

## OTHERS

There are other commands like **initctl** which can do nice things like list all services with the status for each of them: `initctl list`. It can also start, stop, restart a job as many other options found when you execute `initctl help`.

Now, what is the recommended way you ask, for Ubuntu it is Upstart, is an easy to use, easy to manage way to access and work with services, in the present and future of Ubuntu.

Upstart in the future will include options that could replace cron. For example, creating a timed based starting/stopping of services in a very user friendly way. A good guide is found here as the cookbook for upstart: <http://upstart.ubuntu.com/cookbook/>

---

[Answer](#) by [spamaps](#)

Currently there are actually 2 different ways for software to be started as a service in Ubuntu. A service is defined here as a program run by the system in the background, as opposed to one started and run directly by the user.

The traditional way to start services in Linux was to place a script in /etc/init.d, and then use the `update-rc.d` command (or in RedHat based distros, `chkconfig`) to enable/disable it. This command, btw, uses some mildly complicated logic to create symlinks in `/etc/rc#.d`, that control the order of starting services. If you run `ls /etc/rc2.d` you can see the order that services will be killed (K##xxxx) and started (S##xxxx).

The issue with that was that when booting the system, everything had to be done in serial, one thing after another, making system boot times really slow. Attempts were made to parallelize this, but they were haphazard and hard to take full advantage of. This was the main reason that Upstart was created.

Upstart uses job definition files in /etc/init to define on what events a service should be started. So, while the system is booting, upstart processes various events, and then can start multiple services in parallel. This allows them to fully utilize the resources of the system, for instance, by starting a disk-bound service up while another CPU-bound service runs, or while the network is waiting for a dynamic IP address to be assigned.

You can see all of the upstart job files by running `ls /etc/init/*.conf`

Let me just stop here and say that if you don't know what a service is, or what it does, DO NOT disable it!

Not all services have been converted to upstart. While working on the server team at Canonical for the past few months, I've worked on a number of converted job files, and the nicest part is that it allows one to get rid of all the script "magic" and just put in a few commands here and there to define exactly how to start the service, and nothing more. But for now, only a handful of traditional network services, like squid and samba, have been converted.

In order to figure out if a service is upstart based, you can run the status command:

```
status servicename
```

If its an upstart job, it will show this:

```
$ status statd
statd start/running, process 942
```

But if its not, you'll see something more like this:

```
$ status apache2
status: Unknown job: apache2
```

In this case, apache2 has not been converted to upstart. So, to disable apache2 you just run

```
sudo update-rc.d apache2 disable
sudo service apache2 stop
```

Upstart job definitions do not have an update-rc.d command. To disable the job, you need to edit the job file directly to disable it. There are two ways to do this.

If you want to still be able to manually start it, then you need to comment out the 'start on' condition. Say you want to install samba, but not have it start automatically.. here is its job file (in natty):

#### [Skip code block](#)

```
description "SMB/CIFS File Server"
author      "Steve Langasek <steve.langasek@ubuntu.com>

start on local/filesystems
stop on runlevel [!2345]

respawn

pre-start script
  RUN_MODE="daemons"
  [ -r /etc/default/samba ] && . /etc/default/samba
  [ "$RUN_MODE" = inetd ] && { stop; exit 0; }

  install -o root -g root -m 755 -d /var/run/samba
end script

exec smbd -F
```

To disable it, you can just put a # in front of the 'start on local/filesystems'. Note that while it won't start back up on boot, you still need to stop it this time with

```
sudo service smbd stop
```

If, however, you never want it to start, I'd suggest actually removing the package. If, however, you want it installed, but not startable, you can also do:

```
mv /etc/init/smbd.conf /etc/init/smbd.conf.disabled
```

Starting with the version of upstart that will be in 11.04, there is a new keyword that disables the 'start on' and 'stop on' stanzas, it is 'manual'. So another way to disable the service as of 11.04 is to do:

```
command using sudo
echo 'manual' | sudo tee /etc/init/mysql.override

command from root shell
echo manual >> /etc/init/mysql.override
```

And, hopefully real soon, you will be able to create an "override" file to disable a service without editing the job definition at all, by just putting the 'manual' keyword in it.

---

[Answer](#)  by [atenz](#)

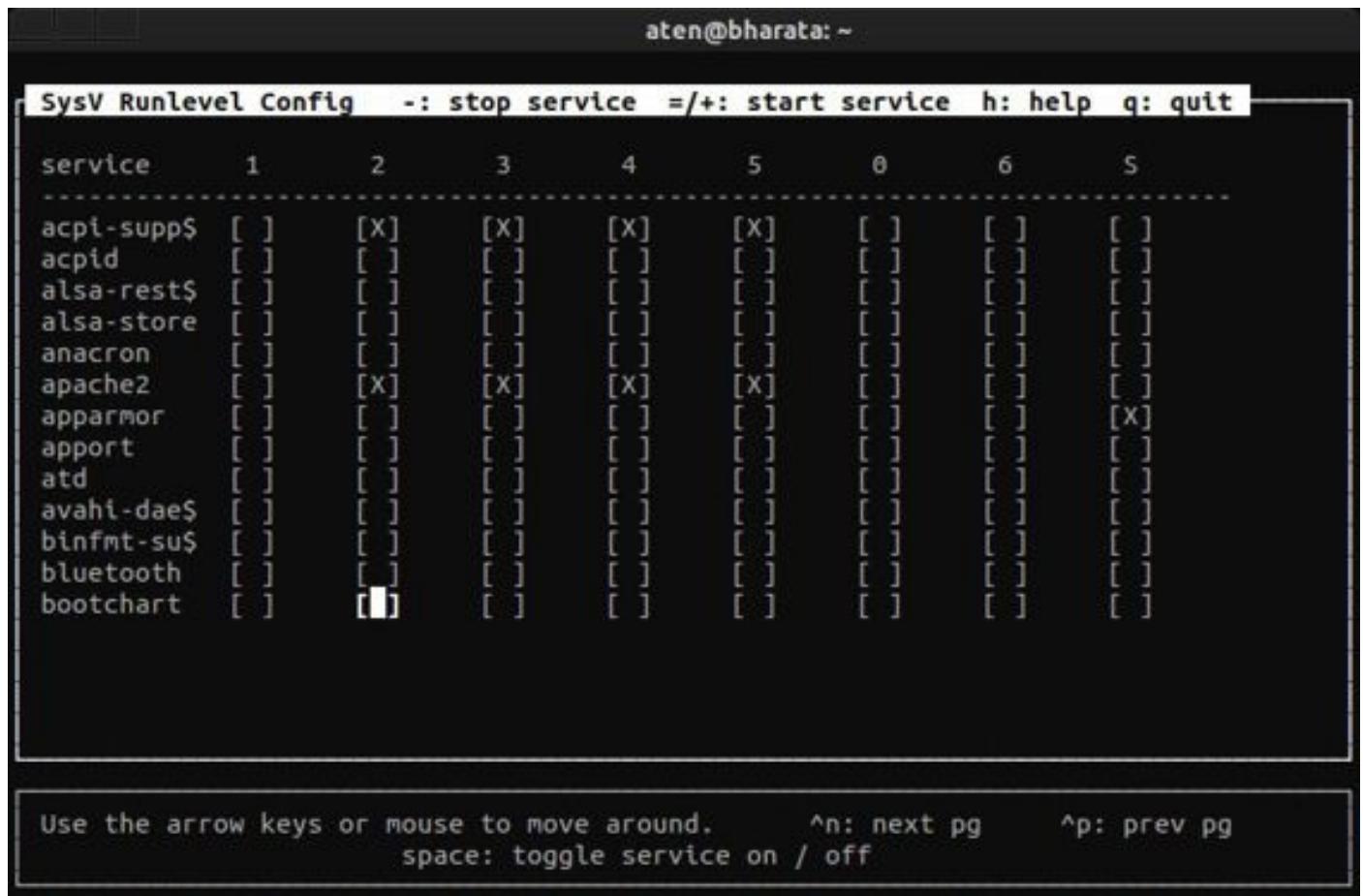
Try using **sysv-rc-conf**

```
sudo apt-get install sysv-rc-conf
```

and to start managing the services, execute

```
sudo sysv-rc-conf
```

Which will bring up interactive window like this



The screenshot shows a terminal window titled "SysV Runlevel Config". The title bar includes the command "-: stop service =/+: start service h: help q: quit". The main area is a table with columns for "service" and runlevels 1 through S. Services listed include acpi-supps, acpid, alsa-rest\$, alsa-store, anacron, apache2, apparmor, apport, atd, avahi-dae\$, binfmt-su\$, bluetooth, and bootchart. The "bootchart" service is currently selected, indicated by a highlighted row. The bottom of the window contains navigation instructions: "Use the arrow keys or mouse to move around.", "^n: next pg", "^p: prev pg", and "space: toggle service on / off".

| service     | 1   | 2   | 3   | 4   | 5   | 6   | S   |
|-------------|-----|-----|-----|-----|-----|-----|-----|
| acpi-supps  | [ ] | [X] | [X] | [X] | [X] | [ ] | [ ] |
| acpid       | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| alsa-rest\$ | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| alsa-store  | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| anacron     | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| apache2     | [ ] | [X] | [X] | [X] | [X] | [ ] | [ ] |
| apparmor    | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [X] |
| apport      | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| atd         | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| avahi-dae\$ | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| binfmt-su\$ | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| bluetooth   | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |
| bootchart   | [ ] | [■] | [ ] | [ ] | [ ] | [ ] | [ ] |

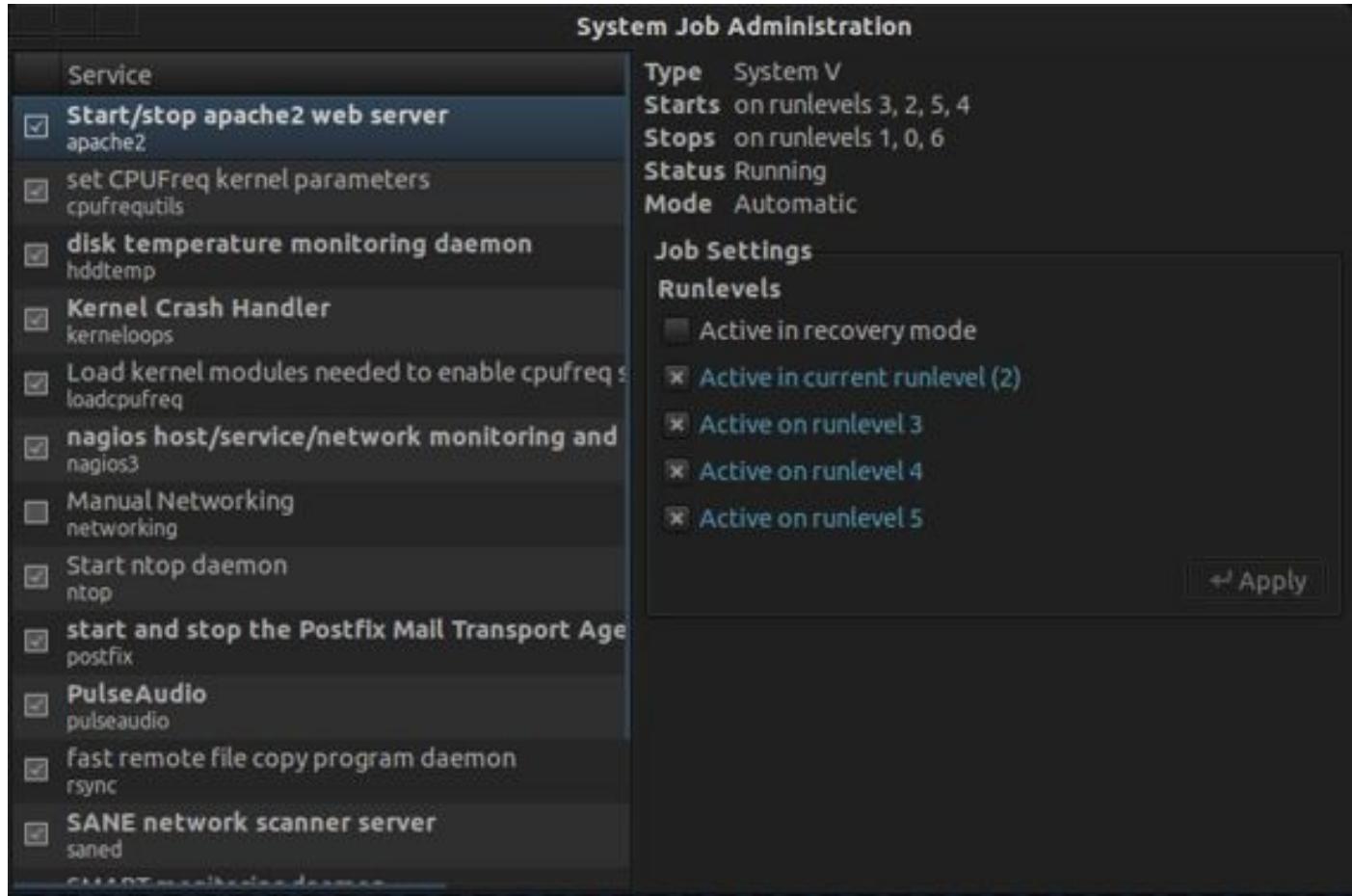
Use the arrow keys or mouse to move around. ^n: next pg ^p: prev pg  
space: toggle service on / off

You can further navigate through pages using Ctrl+n for next page and Ctrl+p for previous page .You can enable and disable services by selecting **SPACE** on desired runlevels.

Another alternate would be **Jobs-Admin** by installing through

```
sudo apt-get install jobs-admin
```

Which also provides GUI like this



For showing more jobs , you have to tick the **Show Protected Jobs** from its menu.

And third option would be **chkconfig**,

```
sudo apt-get install chkconfig
```

It can be used via CLI `chkconfig`, showing list of On/Off jobs. Also we can view system services using `chkconfig list`

Services can be turned on using

```
chkconfig <service> on
```

Services can be turned off using

```
chkconfig <service> off
```

And we can even add our own service, using a proper init script with proper headings.

```
chkconfig --add <service>
```

And another option can be referred [here update-rc.d](#), explained briefly [here](#).

Note that for Ubuntu Server 12.04, `update-rc.d` is used instead of `chkconfig`.

---

**Tags:** [services](#)

---

[Q: What's the difference between "Service" and "/etc/init.d/"?](#)

---

[Q: Chkconfig alternative for Ubuntu Server?](#)

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[Q: How do you restart Apache?](#)

---

[Q: How can I configure a service to run at startup](#)

---

[Q: How to enable or disable services?](#)

---

[Q: Disable autostart for a service without uninstalling?](#)

---

# Release Management

## Questions

### [Q: How can I find the version of Ubuntu that is installed?](#)

Tags: [release-management](#) ([Next Q](#))

I installed some version of Ubuntu on my VMware, but I don't know what version exactly it is. How can I find it out?

Tags: [release-management](#) ([Next Q](#))

User: [am1rr3za](#)

---

[Answer](#)  by [paweł-karpiński](#)

Your version of Ubuntu can be determined by opening **System Settings** and then opening the **System Info** or **Details** (from 12.04) section:



This page will also tell you whether you have the 32- or 64-bit version of Ubuntu installed, as well as what processor and graphics you have, the amount of RAM installed, and your disk capacity.

You can get this info from a terminal with the command:

```
lsb_release -a
```

Credit in part to [htorque](#) and [WarriorIng64](#)

[Note: for versions before 11.10, e.g. 11.04 this is not available this way, but see [Roland's answer](#) below for workable option (basically use the 'System Monitor' icon instead)]

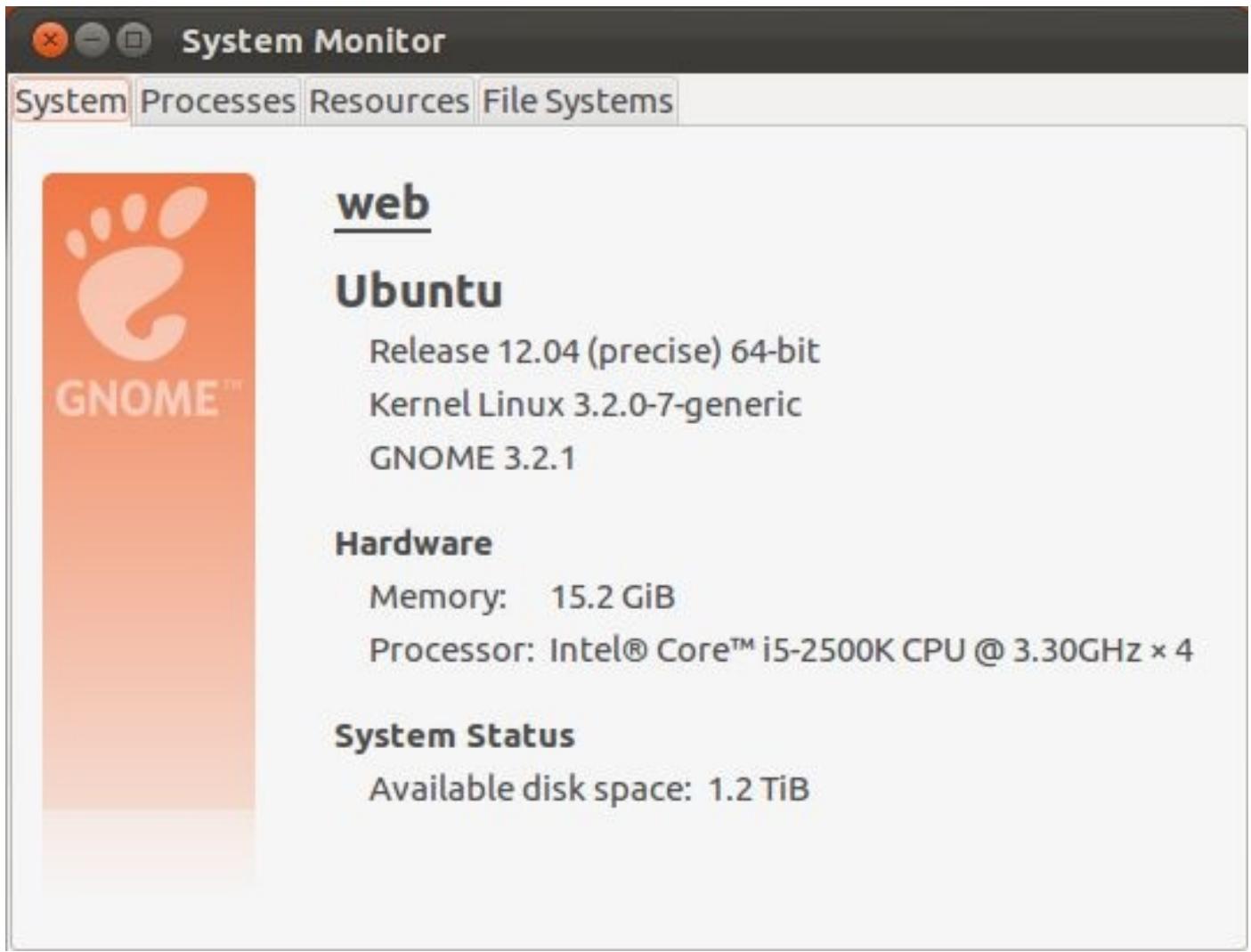
---

[Answer](#) by [htorque](#)

Apart from:

- `lsb_release -a` and
- `cat /etc/issue`,

you can also see the version in the *GNOME System Monitor* (press Alt + F2, type `gnome-system-monitor`, and hit Enter):

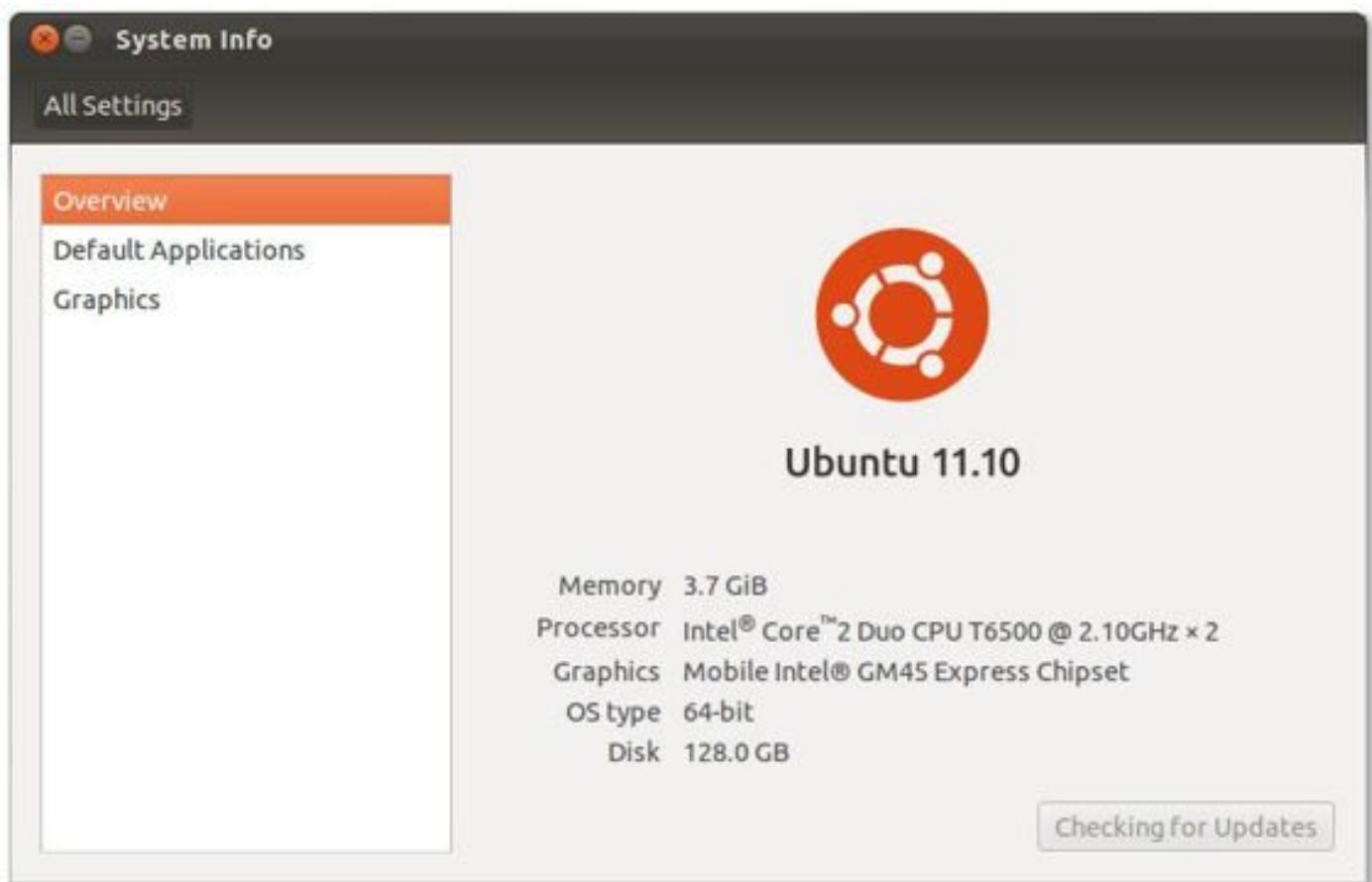


---

[Answer](#) by [warrioring64](#)

In Ubuntu 11.10 onwards, the version of Ubuntu installed can be found by entering **System Settings > System Info** (*in newer versions like 14.04 LTS, this tab might be*

called **Details** instead):



This page will also tell you whether you have the 32- or 64-bit version of Ubuntu installed, as well as what processor and graphics you have, the amount of RAM installed, and your disk capacity.

---

**Tags:** [release-management](#) ([Next Q](#))

---

## **Q: What's the difference between a Long Term Support Release and a Normal Release?**

**Tags:** [release-management](#) ([Next Q](#))

What are the differences between an Ubuntu Long Term Support release (LTS) and a normal release?

**Tags:** [release-management](#) ([Next Q](#))

**User:** [olivier-lalonde](#)

---

**Answer** by [stefano-palazzo](#)

There is a new release every 6 months (apart from Dapper, which was delayed 2 months). Every two years, the release is a Long Term Support version.

- **Normal releases** before 13.04 are supported for 18 months.

- Starting with 13.04, **normal releases** are only supported for 9 months.
- **LTS releases** before 12.04 are supported for **three years** on the desktop and **five years** on the server.
- **LTS releases** 12.04 and later are now supported for **five years** on both the desktop and the server.

Now, support means:

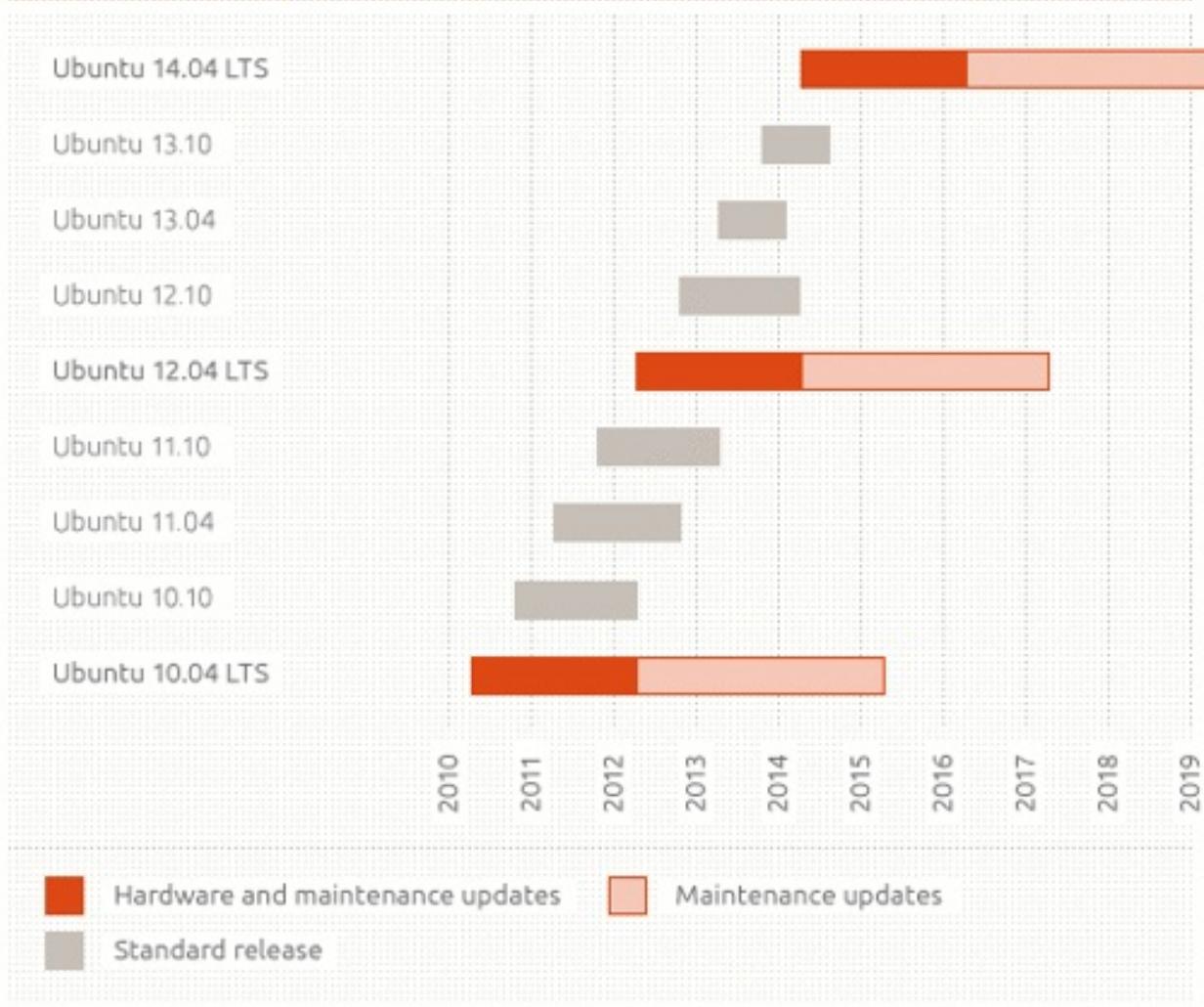
- Updates for potential security problems and bugs (not new versions of software)
- Availability of Commercial support contracts from Canonical
- Support by Landscape, Canonical's enterprise oriented server management tool set

**The Desktop** refers to the packages that are in the **main** and **restricted** repositories, these are the ones that have the little Ubuntu icon next to them in Synaptic or are marked as Supported in the Software-Centre respectively.

**The Server** packages are the ones in the “server-ship” and “supported-common” seeds (there’s a [directory of all of the different seeds](#) available).

This is what this looks like:

### Ubuntu LTS release cycle



via the [Release end of life info page | Ubuntu](#)

The primary reason for using an LTS release is that you can **depend on it** being updated regularly and therefore secure and stable.

As you can see from the diagram, people who have installed the *8.04 LTS* server don't need to worry about replacing it for still another 2 years! Fantastic. :-)

As if this wasn't enough, Ubuntu release an additional version of the last LTS between releases - such as **8.04.1**, that incorporates all of the updates up to this point. This is called a Point-Release (or sometimes *snapshot*). Those are released every quarter to half year, as needed.

In addition to support, there are Development strategies that differentiate an LTS release:

- The *base* of the operating system, Debian, comes in three versions: Stable, Testing and Unstable. Normally, Ubuntu is based on Unstable; the LTS releases are based on Testing. [Starting with 14.04 LTS](#) , all new releases will be based on Debian

*Unstable.*

- The Development effort for an LTS release is focussed on providing a *rock solid* base, not only for customers who want the LTS release, but also for the next Three Ubuntu versions to come.
- 

Thanks to Oli for demystifying that last part, I wasn't quite sure about it.

---

[Answer](#)  by [oli](#)

# **Support cycle**

An LTS gets package updates for supported software for 3 years for desktop packages and 5 years for server packages, compared to 18 months support for standard releases. Current to 14.04, Ubuntu LTS gets package updates for supported software for 5 years, compared to 9 months support for standard releases. Current to 14.04, Xubuntu LTS and Lubuntu LTS get package updates for supported software for 3 years.

This means you can guarantee a system for a long time. Applications won't jump versions, so it makes a very solid deployment platform.

# Package imports

Ubuntu syncs with Debian at the beginning of a new development cycle. On a normal release this pulls in packages from `debian-unstable`, whereas in an LTS cycle, packages come from `debian-testing`.

These packages have usually had more time with Debian and should therefore reflect a better quality product (albeit at the cost of bleeding edge features).

# Development style

There is supposedly more focus on bug fixing for an LTS release, whereas an LTS+1 might focus on adding features, LTS+2 focuses on performance and LTS+3 on stability before rounding it off for the next LTS.

This is less formal than the other points as it's frequently ignored.

---

**Tags:** [release-management](#) ([Next Q](#))

---

## [Q: How to roll back Ubuntu to a previous version?](#)

**Tags:** [release-management](#) ([Next Q](#))

I just installed a new version of Ubuntu and I want to roll it back to the previous version.

How can I do that? Is that even possible?

**Tags:** [release-management](#) ([Next Q](#))

**User:** [run](#)

---

[Answer](#)  by [oli](#)

Downgrading releases is possible to some extent. With enough fighting, it can be done (see some of the other answers here for the the technical details).

However the result you end up with is not the same as what you had before the upgrade. During an upgrade certain one-way changes are made to make new packages happy and downgrading them won't reverse those edits. It's impossible to guarantee a downgrade will work at all, let alone if it'll be stable.

In short, your easiest option is always going to be a reinstall. Don't think of it as a chore, look at it as a nice opportunity to trim down on packages and configure things better.

If you want to test things in the future and you fear you might have issues, always make sure you do the following:

- Test the LiveCD first. If you're going to have immediate hardware issues, this should let you know.
- Back up before you do anything. I know everybody and their mother has already told you to do this, but it's really important if you think you're going to have issues. If you can't do without your machine for more than 20 minutes, consider some full-disk cloning tools like [Clonezilla](#)  so you can just restore a previous version of the disk. There are other tools that can offer similar results.
- Keep your data separate. Having your `/home/` within the same partition as your installation is a recipe for a headache if you're constantly upgrading/downgrading things. Push it off to another disk or at least another partition so that when you do

need to reinstall, you really just need to set up the mount.

- There was a [critical bug](#) for downgrading that was fixed by the Ubuntu QA team. Make sure you read up on that, as some people will recommend you just stick in an older CD and “upgrade” to it, but this is a bad idea.
- 

[Answer](#) by [sergey](#)

There's a saying in my language which can be roughly translated as “You can't turn mince back into meat by rotating the mincer's handle in the opposite direction” :)



The upgrade procedure is one-way - while installing new versions of software, your configuration files and settings are modified by packages' post-install scripts to use new format which is required by new software. Basically, there's no opposite procedure - to make a newer configuration file compatible with old software.

---

[Answer](#) by [gilles](#)

It's **possible** at the level of the packaging tools (apt). But **the resulting system may not be equivalent to doing a reinstall, and you may get errors along the way**. This is because many packages contain specific support for upgrades (e.g. handling changes in configuration files) but not for downgrades.

Normally, apt prefers to install the most recent version of a package. But you can change this through pinning: you can declare that packages from the old release have higher priority than the installed packages, so that they will be downgrades when you do `aptitude dist-upgrade`.

Change your `/etc/apt/sources.list` to include only the old release (either edit the file or use your favorite GUI), and run `aptitude update`. Then edit `/etc/apt/preferences` (documented in the [apt preferences man page](#)) and add the following lines (to downgrade to lucid):

```
Package: *
Pin: release v=10.04
Pin-Priority: 1001
```

Then run `aptitude dist-upgrade`. Every package has a priority greater than 1000, so every package that is present in 10.04 and installed on your system will be downgraded. You'll have to remove packages that weren't in 10.04 manually; they'll be listed under Obsolete and locally created packages in aptitude.

---

**Tags:** [release-management](#) ([Next Q](#))

---

## [Q: How to install software or upgrade from old unsupported release?](#)

**Tags:** [release-management](#) ([Next Q](#))

Recently I have installed an older version of Ubuntu on my old machine. When ever I am trying to install any software it is giving error

```
sudo -i apt-get install vlc
```

The error being flagged is under below.

```
Reading package lists... Done
Building dependency tree
Reading state information... Done
E: Couldn't find package vlc
```

**Tags:** [release-management](#) ([Next Q](#))

**User:** [made\\_in\\_india](#)

---

[Answer](#) by [fossfreedom](#)

The repositories for older releases that are not supported (like 11.04, 11.10 and 13.04) get moved to an archive server. There are repositories available at <http://old->

[releases.ubuntu.com](https://releases.ubuntu.com)

The reason for this is that it is now out of support and no longer receiving updates and security patches.

I would urge you to consider a supported distribution. If your computer is too old in terms of memory or processor then you should consider a distribution such as Lubuntu or Xubuntu.

If you want to continue using an outdated release then edit /etc/apt/sources.list and change archive.ubuntu.com to old-releases.ubuntu.com

You can do this with sed

```
sudo sed -i -e 's/archive.ubuntu.com\|security.ubuntu.com/old-releases.ubuntu.com/g'  
/etc/apt/sources.list
```

then update with

```
sudo apt-get update && sudo apt-get dist-upgrade
```

Sometimes, it might be faster to create backups of your system and reinstall using supported release instead.

[source](#)

See also:

- [EOLUpgrades - Community Help Wiki](#)

---

[Answer](#) by [aditya](#)

# What are 404 errors



The 404 or Not Found error message is a HTTP standard response code indicating that the client was able to communicate with the server, but the server could not find what was requested.

The web site hosting server will typically generate “404 - Page Not Found” web page, when users attempts to follow a broken or dead link.

# Why are we facing 404 errors

Ubuntu follows the approach of two different [release cycles](#):

**Normal Ubuntu releases** are supported for 9 months. **LTS releases** are supported for 5 years.

Past releases may have different support schedules (for example, normal releases (before 13.04) used to be supported for 18 months, while LTS releases (before 12.04) used to be supported for 3 years on the desktop and 5 years on the server).

**EOL:** Once the support period for a particular release is over; they are called [End Of Life \(EOL\)](#) and all the updates and package repositories for that Release are transferred to a different server which results in 404 errors while running `sudo apt-get update`. You can confirm if your release has become EOL by going to [this page](#). If your Ubuntu release is mentioned under “End Of Life (EOL)” Table, then the release is no longer supported and you should try to upgrade to a [newer supported release](#). However, if you wish to continue using this unsupported release, you would have to make necessary modifications in `/etc/apt/sources.list` to point to the old-releases server of Ubuntu.

# Steps to make necessary modifications

## 1. Open your Terminal:

- Press **Ctrl + Alt + T**; OR
- If you have Gnome: Applications → Accessories → Terminal; OR
- If you have Unity: press Super (the key between Left **Ctrl** and Left **Alt**) and query for Terminal.

## 2. Run the following command:

```
gksudo gedit /etc/apt/sources.list
```

input your user password and press Enter.

## 3. Find the first line which **doesn't** start with #. Suppose you are running Karmic Koala (Ubuntu 9.10): it should be like the following line:

```
deb <siteurl> karmic main restricted
```

where, **<siteurl>** is your preferred server -

<http://gb.archive.ubuntu.com/ubuntu> in your case (for example).

## 4. Press **Ctrl + H** to replace your **<siteurl>** with <http://old-releases.ubuntu.com/ubuntu>.

- Search for: <http://gb.archive.ubuntu.com/ubuntu> ie; **<siteurl>**
- Replace with: <http://old-releases.ubuntu.com/ubuntu> and
- Press Replace All

## 5. Once again:

- Search for: <http://security.ubuntu.com/ubuntu> (this exact url for all the Ubuntu Releases — whatever be the present server that you are using)
- Replace with: <http://old-releases.ubuntu.com/ubuntu>
- Press Replace All

## 6. Save your file and exit Gedit.

## 7. Run the following command:

```
sudo apt-get update
```

There you go. No 404 Errors this time. You can now install all the available packages for your Ubuntu Release. You can also run `sudo apt-get dist-upgrade` to install any Security/Bug-fix updates which have not yet been installed but you won't get any further Security/Bug-fix updates from Ubuntu.

---

[Answer](#)  by [radu-rÄfdeanu](#)

The short answer is to add the next apt repository to the **Third-Party Software** (or **Other Software** in newer versions) in **Software Sources** (or **Software & Updates** in newer

versions):

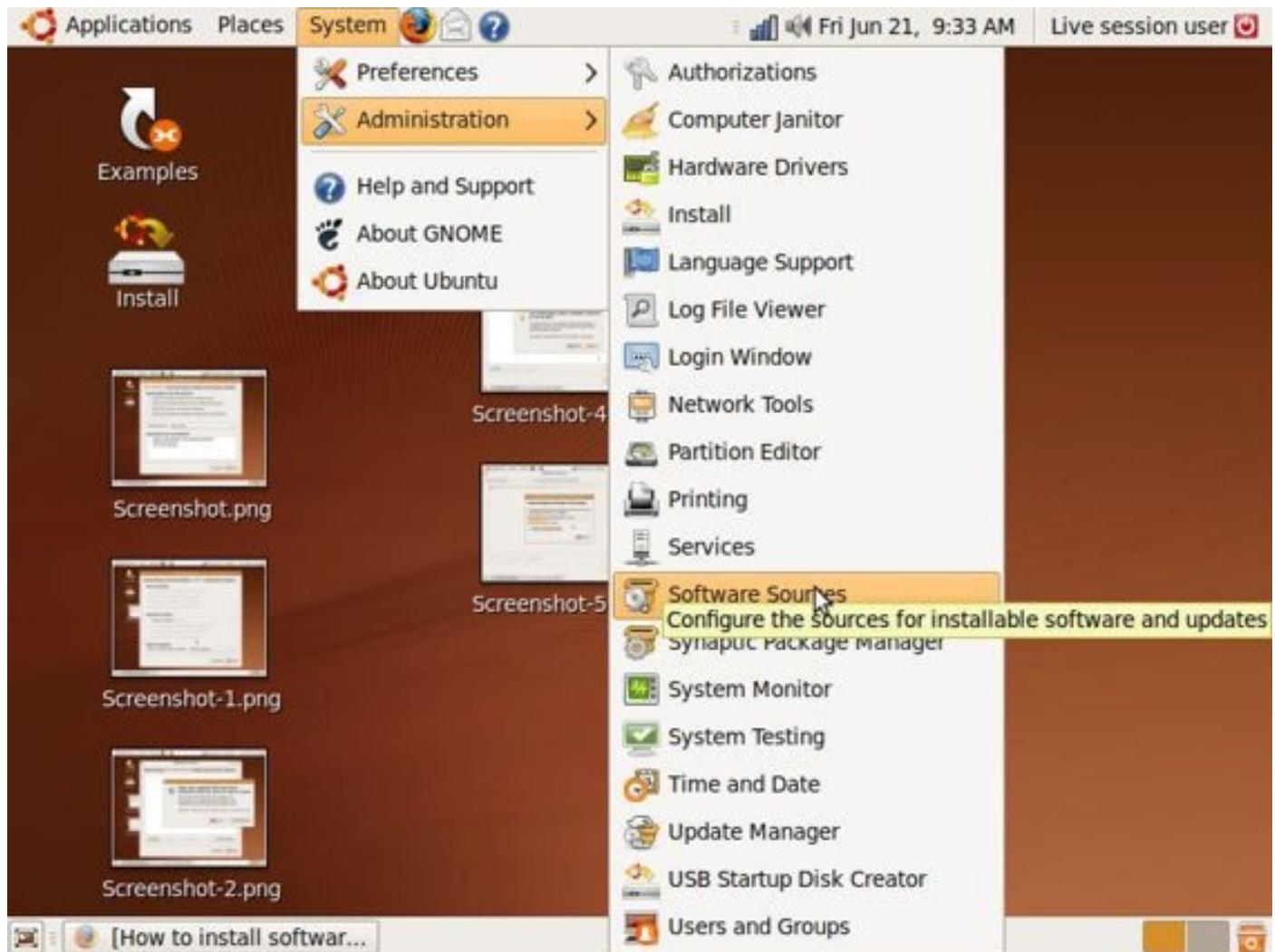
```
deb http://old-releases.ubuntu.com/ubuntu code_name main restricted universe multiverse
```

The long answer...

# GUI Method

Well, actually we will do this without to use any [terminal](#). Not even once. Just GUI, *I promise* ;)

First, open **Software Sources** (or **Software & Updates** in newer versions). It does not matter how old is your Ubuntu, there is certainly something like this. For Ubuntu 9.04 (Jaunty Jackalope) look at next image to see where is located:



After **Software Sources** (or **Software & Updates**) it is open, go in **Ubuntu Software** and **Updates** tabs and unselect everytiyng like in next pictures. You don't need this things anymore since your Ubuntu version is [End of Life](#):

# Software Sources

Ubuntu Software    Third-Party Software    Updates    Authentication    Statistics

## Downloadable from the Internet

- Canonical-supported Open Source software (main)
- Community-maintained Open Source software (universe)
- Proprietary drivers for devices (restricted)
- Software restricted by copyright or legal issues (multiverse)
- Source code

Download from: Main server 

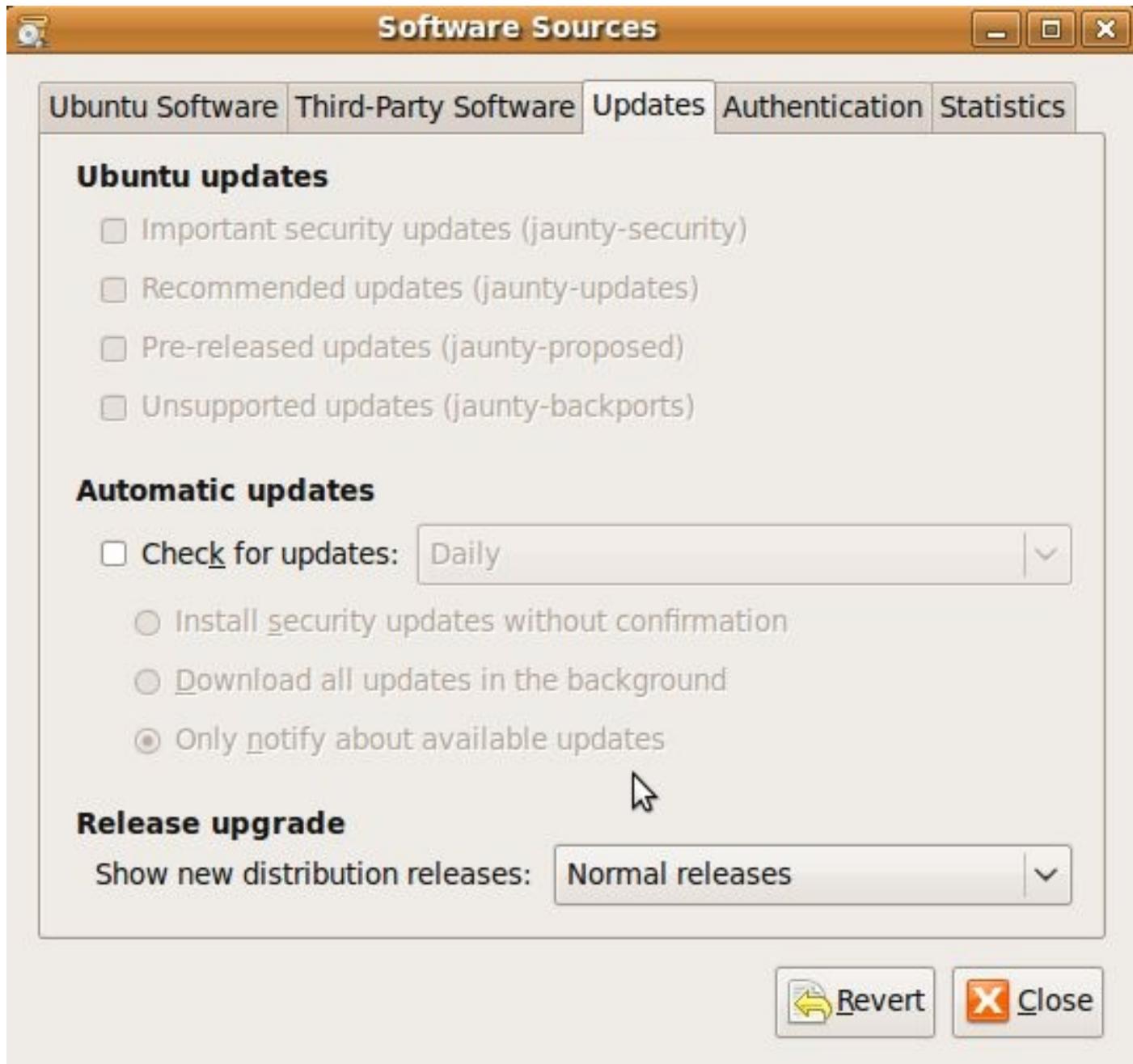
## Installable from CD-ROM/DVD

### Cdrom with Ubuntu 9.04 'Jaunty Jackalope'

- Officially supported
- Restricted copyright

 Revert

 Close



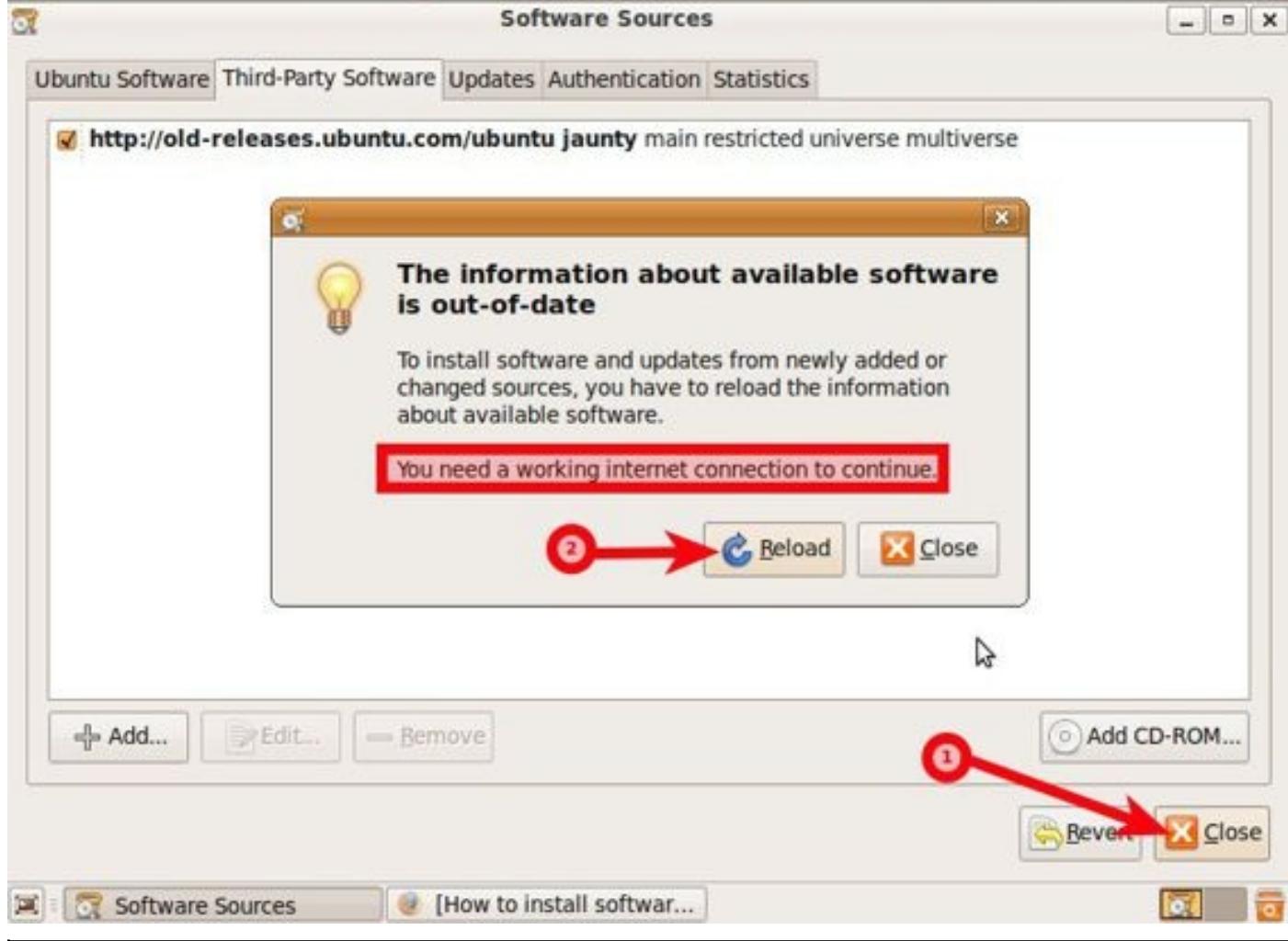
Without closing **Software Sources** (or **Software & Updates**), go in **Third-Party Software** (for newest releases this tab is named **Other Software**) tab and add a new apt repository. Insert exactly next line when you are asked:

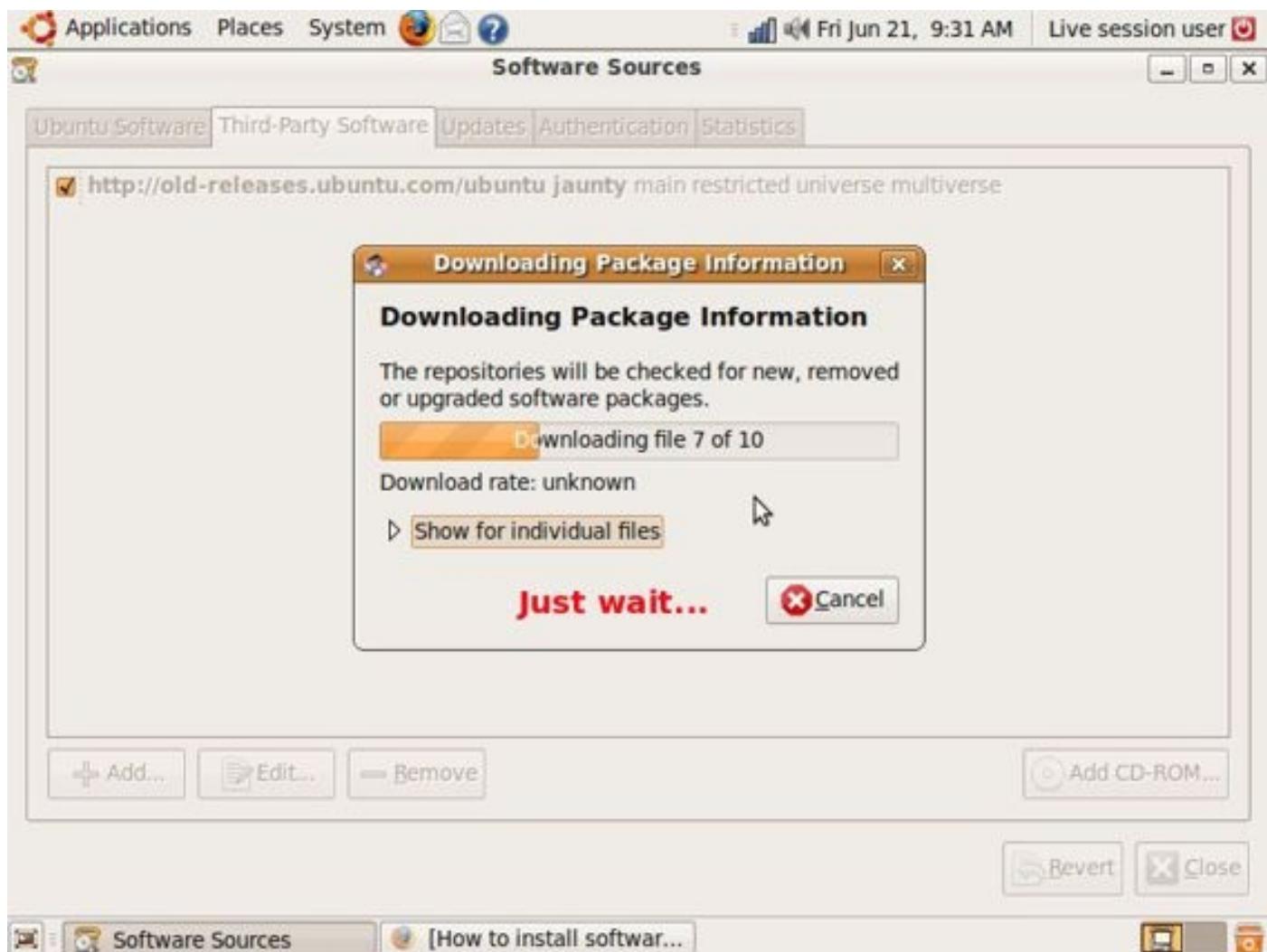
```
deb http://old-releases.ubuntu.com/ubuntu jaunty main restricted universe multiverse
```

If your version of Ubuntu is other than 9.04, replace in the above line jaunty with your Ubuntu codename (for example if you have Ubuntu 9.10, replace with karmic and so on):



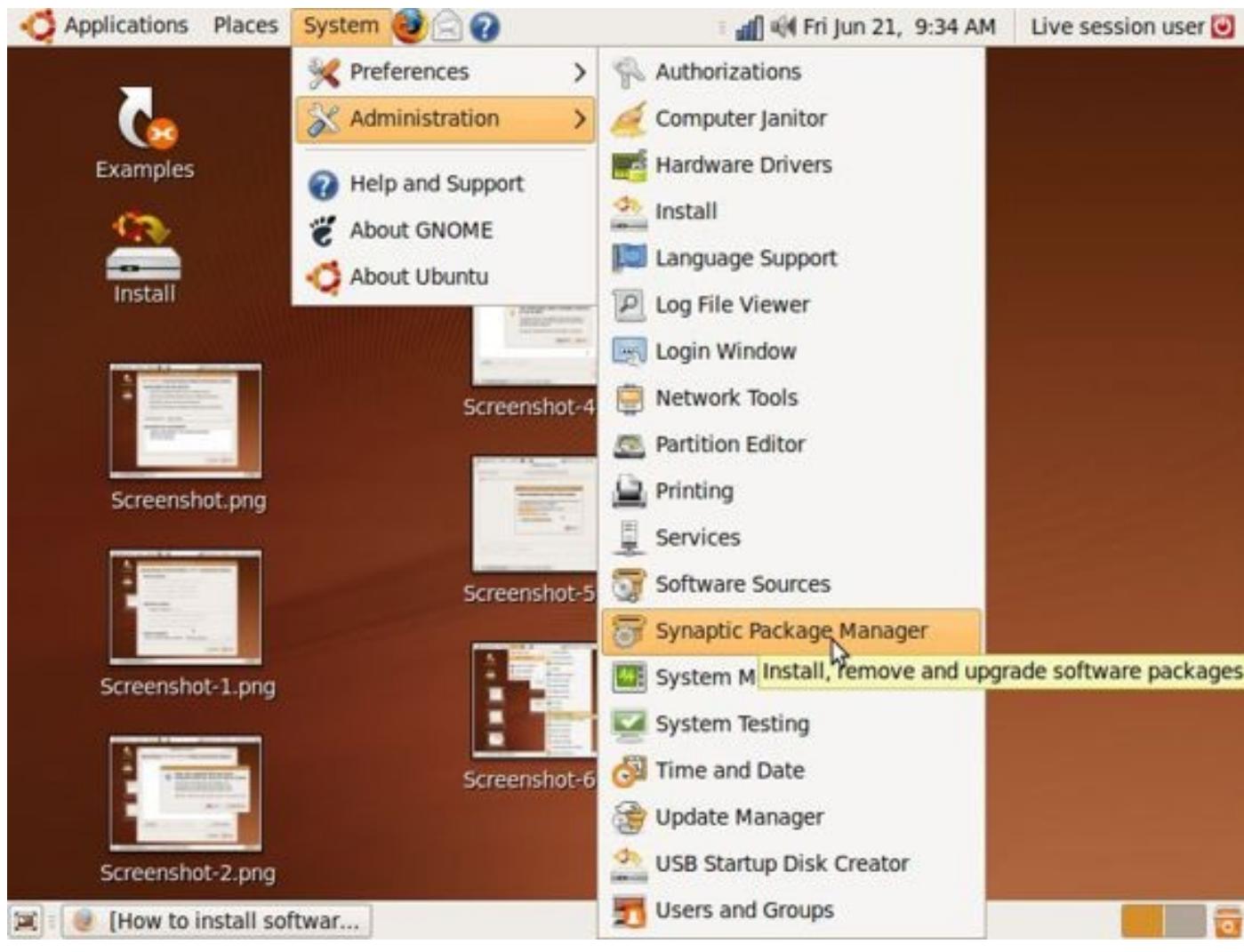
Now, when you will close **Software Sources** (or **Software & Updates**) you will be asked to reload the information about available software. Just be sure that you have a working internet connection:

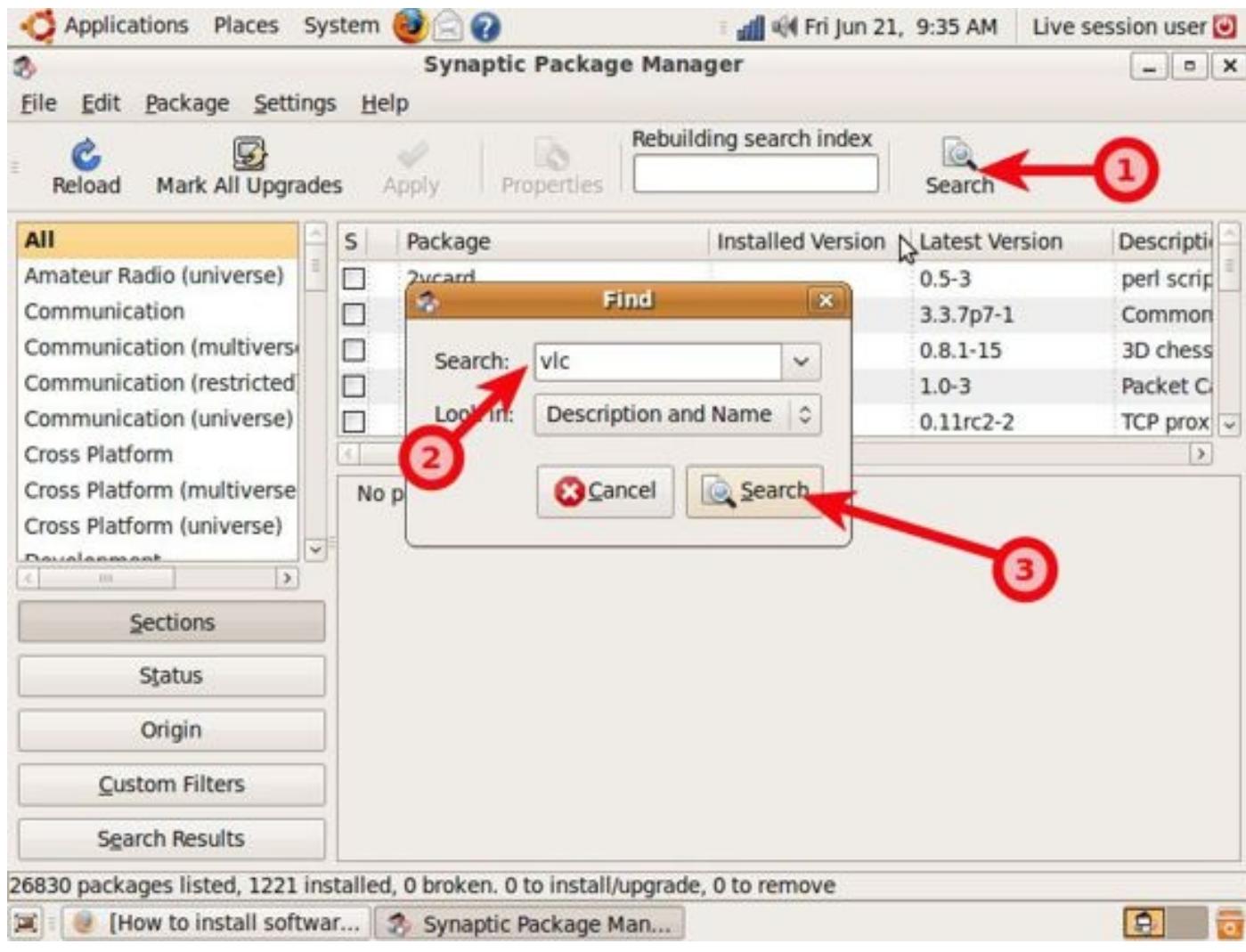




And now you are free to download almost whatever you want. For 9.04 you can use **Synaptic Package Manager**. For newest releases there is **Ubuntu Software Center**.

For example to install VLC in Ubuntu 9.04 using Synaptic Package Manager, follow the instructions in the following pictures:





Applications Places System Fri Jun 21, 9:37 AM Live session user

Synaptic Package Manager

File Edit Package Settings Help

Reload Mark All Upgrades Apply Properties Quick search Search

| All | S                        | Package      | Installed Version | Latest Version | Description    |
|-----|--------------------------|--------------|-------------------|----------------|----------------|
| vlc | <input type="checkbox"/> | videolan-doc |                   | 20070626-1     | documentati... |
|     | <input type="checkbox"/> | vlc          |                   | 0.9a-2ubuntu1  | multimed...    |
|     | <input type="checkbox"/> | vlc-data     |                   | 0.9a-2ubuntu1  | Common...      |
|     | <input type="checkbox"/> | vlc-dbg      |                   | 0.9a-2ubuntu1  | debuggin...    |
|     | <input type="checkbox"/> | vlc-nox      |                   | 0.9a-2ubuntu1  | multimed...    |
|     | <input type="checkbox"/> | vlc-plugi    |                   | 0.9a-2ubuntu1  | Esound a...    |
|     | <input type="checkbox"/> | vlc-plugi    |                   | 0.9a-2ubuntu1  | GGI vide...    |
|     | <input type="checkbox"/> | vlc-plugi    |                   | 0.9a-2ubuntu1  | Jack audi...   |

Sections Status Origin Custom Filters Search Results

Mark Recommended for Installation  
Mark Suggested for Installation >

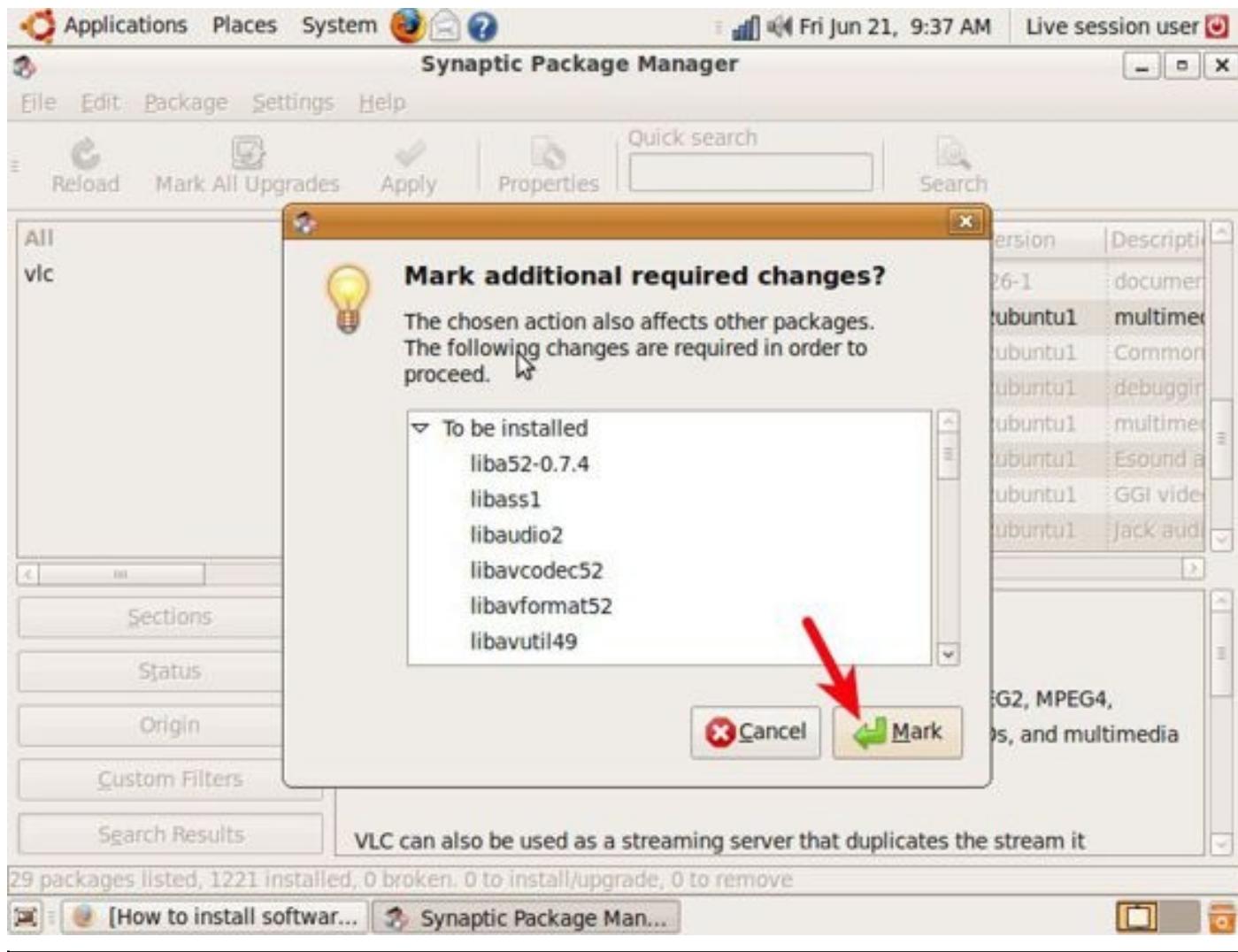
VLC is the VideoLAN project's media player. It plays MPEG, MPEG2, MPEG4, DivX, MOV, WMV, QuickTime, mp3, Ogg/Vorbis files, DVDs, VCDs, and multimedia streams from various network sources.

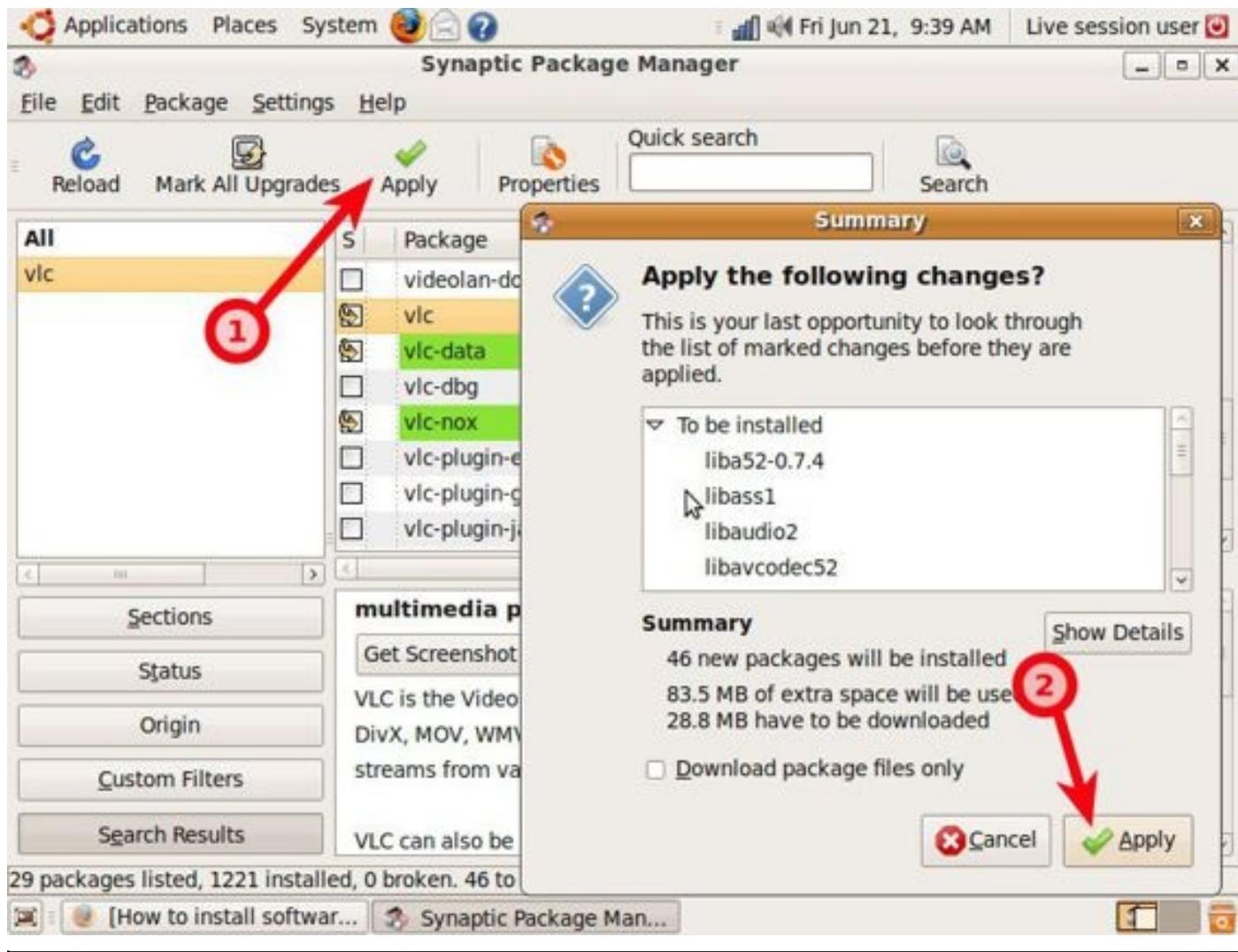
VLC can also be used as a streaming server that duplicates the stream it

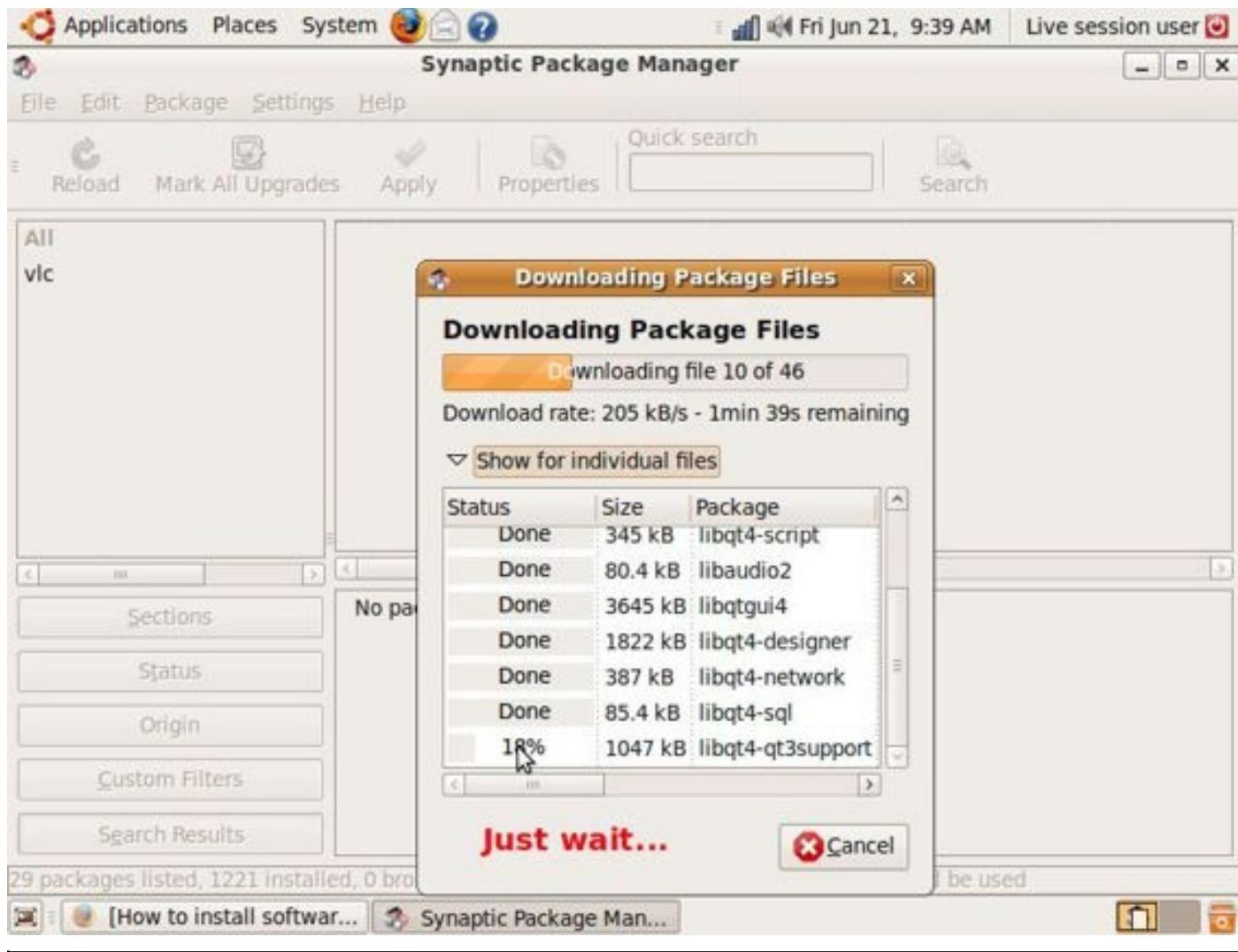
29 packages listed, 1221 installed, 0 broken. 0 to install/upgrade, 0 to remove

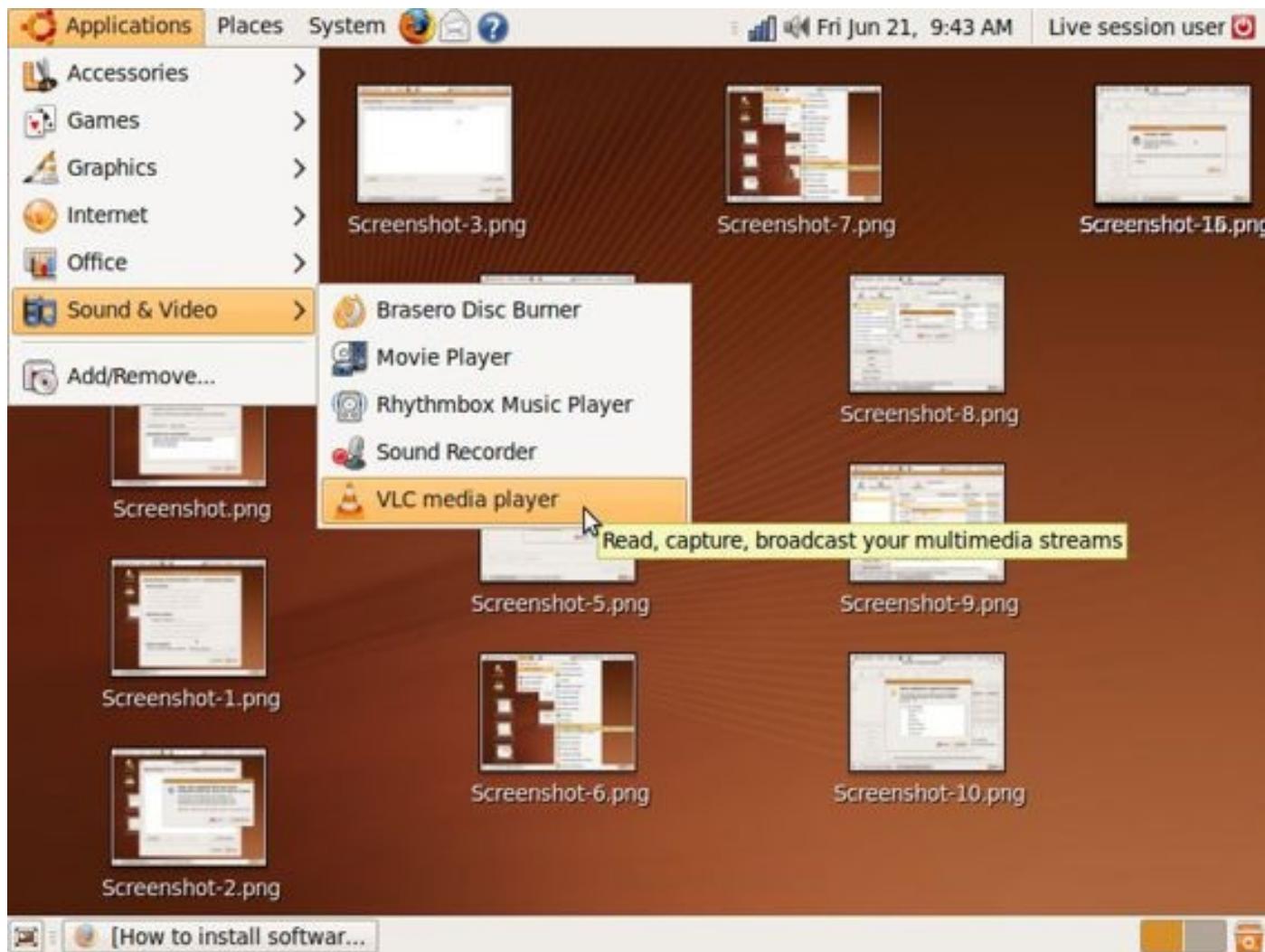
[How to install software... Synaptic Package Manager]



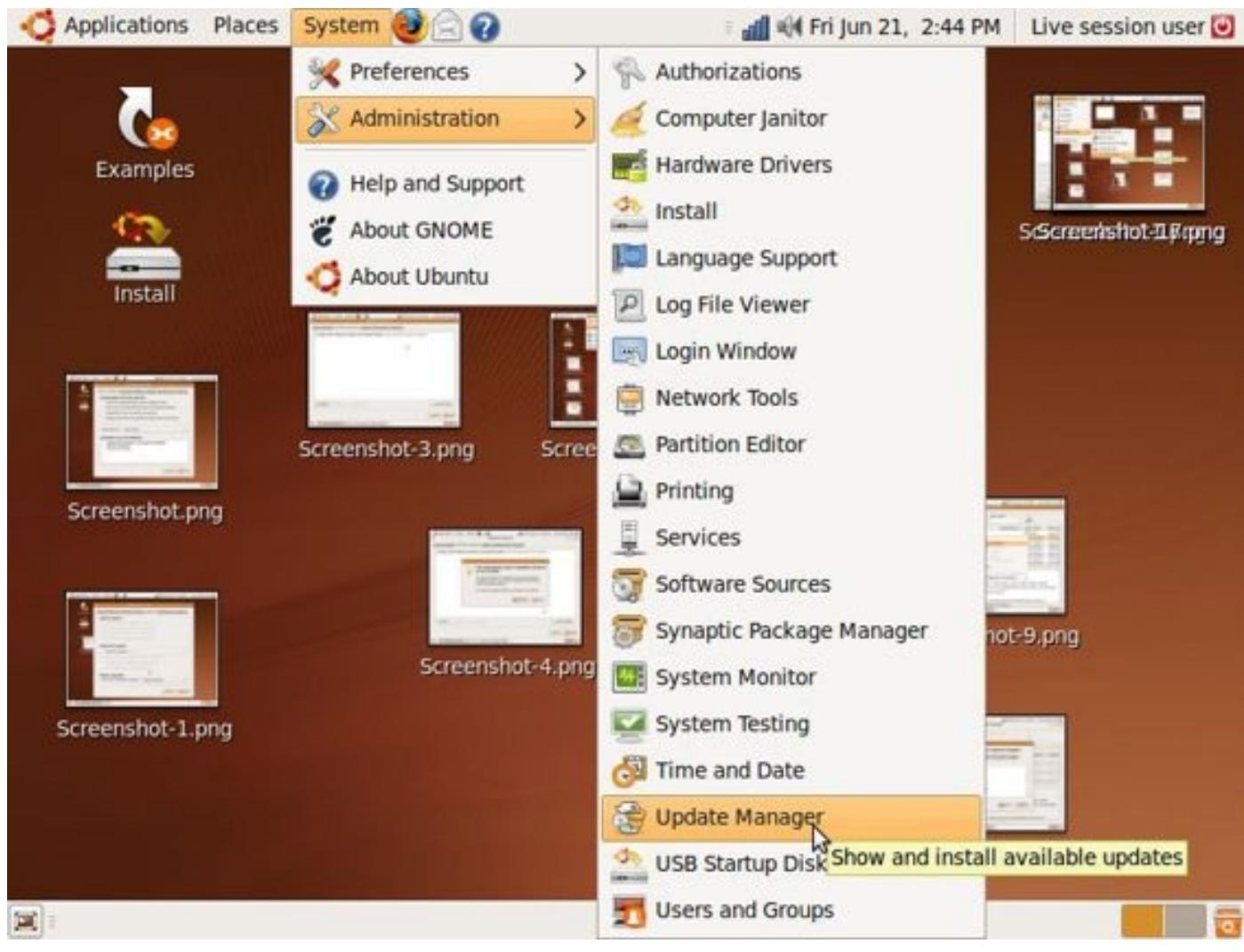


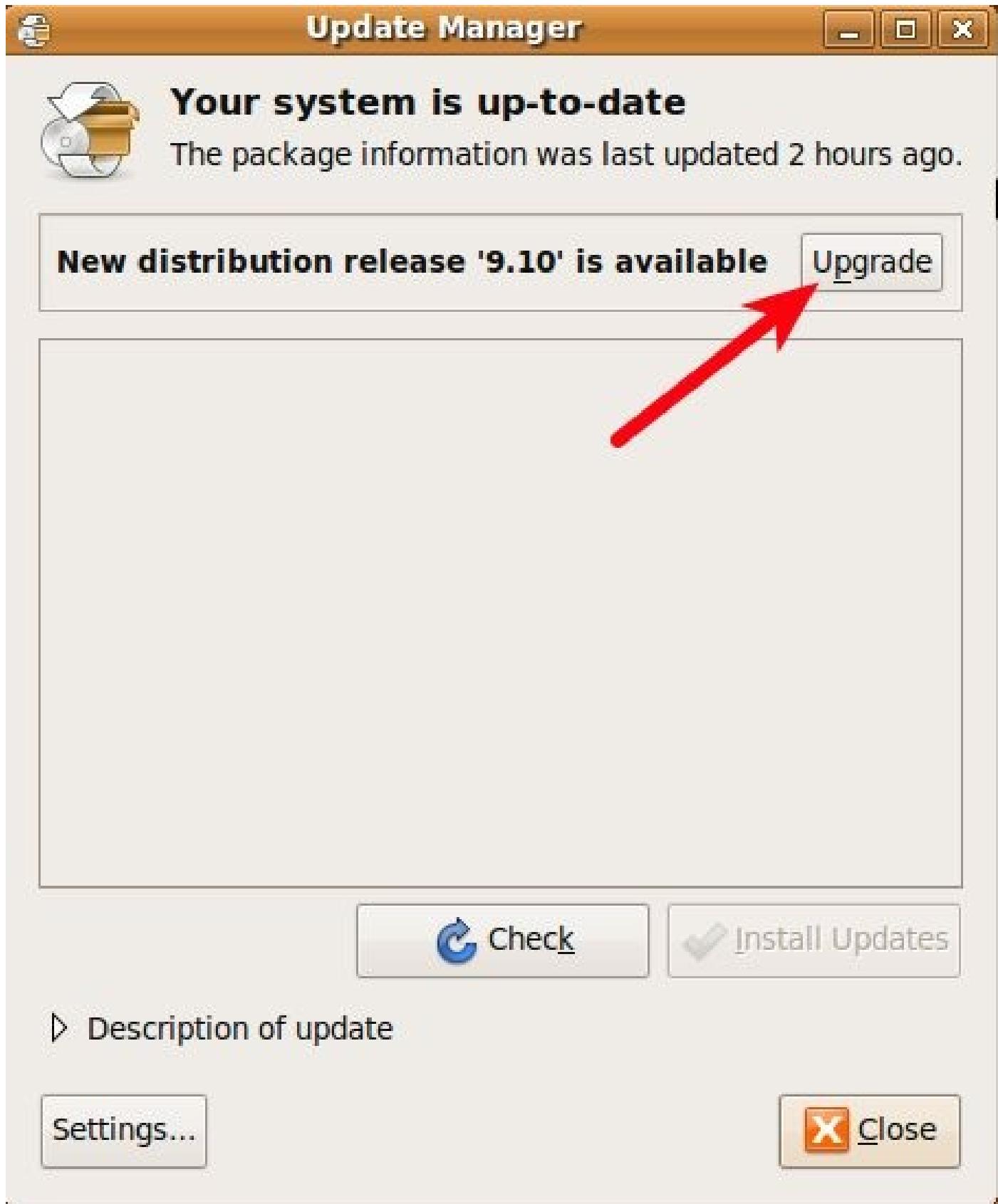






If you want to Update your Ubuntu to a new release, just go to **System > Update Manager**:





I tested this method from a live session of Ubuntu 9.04 (Jaunty Jackalope) and as you can see from these pictures it worked. If you are on an installed session of Ubuntu you will be asked sometimes for root or admin password. Just insert your personal user password when you are asked.

---

Tags: [release-management](#) ([Next Q](#))

---

## [Q: What will happen when the Code Names of the Ubuntu releases get to Z](#)

**Tags:** [release-management](#) ([Next Q](#))

The last release was **Natty Narwhal** (Letter N) for the 11.04. Then it was **Oneiric Ocelot** (Letter O) for the 11.10. This time, the newest one will be **Precise Pangolin** (Letter P) for the 12.04.

At this pace, what will happen when Ubuntu gets to Z. Will it start with numbers (007 Edition), will it start with double letters (AA Battery), will it start from the beginning (Amazing Apple). What will happen?

**Tags:** [release-management](#) ([Next Q](#))

**User:** [luis-alvarado](#)

---

[Answer](#)  by [fossfreedom](#)

# Astonishing Antelope

As questions go - this is pretty much will be a decision will be made by Mark Shuttleworth himself.

Maybe we could start doubling the initial like in Aalenian Aal or Aalenian Aardvark  
We could restart using flowers or plants instead of animals. e. g. Apologetic Anemone For release 17.10 i suggest Ambitious Aye Aye Maybe: Awesome Alebrije? I like the idea of using plants next. Or perhaps rocks/minerals.

Thus as you have indicated we are in the realms of speculation.

On the link below - the wrap around to A is described upto F - **Flying Fox** etc i.e. **ubuntu 20.04**

What is beyond that - happy speculating.

---

Useful link:

1. <https://wiki.ubuntu.com/DevelopmentCodeNames> 
- 

[Answer](#)  by [oli](#)

# Aahing Aardvark

That gets a lot tougher after AA.

But seriously, there are plenty of other verbs, adjectives and animals for each letter, so I expect it stay the same for 17.10.

And remember that is a *long* time (that's like a hundred years in Internet years) so Ubuntu might be doing something completely different by then.

Note: I look forward to you accepting (or down-voting) this in ~60 months time. *Puts it on his calendar!*

---

[Answer](#)  by [keith-thompson](#)

It could just follow ASCII, and ultimately Unicode, order.

- ...
- Xenophobic Xenopus
- Yawning Yak
- Zealous Zebra
- [lumsy [aribou
- \ashful \ackslash
- ]ashing ]oberman
- ...
- 
- ...

This may eventually require genetic engineering to breed new animals with appropriate names.

---

**Tags:** [release-management](#) ([Next Q](#))

---

## [Q: Why don't the Ubuntu repositories have the latest versions of software?](#)

**Tags:** [release-management](#)

Why are packages in the official Ubuntu repositories older than the latest (upstream) versions from Debian Sid, PPAs, the authors, etc.?

**Tags:** [release-management](#)

**User:** [thomas-w.](#)

---

[Answer](#)  by [bruno-pereira](#)

An Ubuntu release goes through several stages before it actually makes it to the public as

a finished product:

- Some time before Ubuntu launches a release it freezes its packages at a certain point.
- Before a release is out but after the package freezing, work is done mostly to fix all the bugs and issues that there might be in those packages. New package versions are not imported into the repositories anymore after package or feature freezing.
- Once the release happens additional changes to those packages only happen for bug fixing and security issues. There are no more upgrades done to the packages in the official repository even if new versions of the packages are released.

**New version of packages are consistently being imported (from Debian) for the next release of Ubuntu, until the next freeze happens and the same process repeats itself.**

As an example, you can have a look at the [release schedule of 12.04](#) .

You can see that even though 12.04 was released in April, in January 12 something called [Debian Import Freeze](#)  happened.

This is just the first of many freeze stages happening before the actual release and means that at that point the import of packages from Debian testing or unstable stops and work starts on them to customize and fix issues with them.

No upgrades are done after that point in a lot of packages and the version that package had at that point is the version present and maintained through a release's lifetime.

So even though there are higher versions of the same package in developers' PPAs or in Ubuntu+1 repositories **those will only be included in the next release of Ubuntu.**

This is done for stability, security and functionality. New bleeding packages being imported all the time to the main repository would mean issues and a lot more problems to be solved. A freeze in the packages version helps to sort that out and make Ubuntu safer and more stable for the end user.

A new version of Ubuntu is released every 6 months, so every 6 months new packages are prepared, tested, customized and released with a new version. Future versions of a packages can be installed in your system via a PPA or just by downloading it from a web site, but the version of the package in the official repository remains the same.

For more understanding and an interesting overview of what happened to Ubuntu from 10.04 until the launch of 12.04 have a look at [ReleaseSchedule - LTS to LTS](#)  and [Stable Release Updates page](#)  for a complete overview and explanation of an Ubuntu stable release.

---

**Tags:** [release-management](#)

---

[Q: How can I find the version of Ubuntu that is installed?](#)

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[Q: What's the difference between a Long Term Support Release and a Normal Release?](#)

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[Q: How to roll back Ubuntu to a previous version?](#)

---

[Q: How to install software or upgrade from old unsupported release?](#)

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[Q: What will happen when the Code Names of the Ubuntu releases get to Z](#)

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[Q: Why don't the Ubuntu repositories have the latest versions of software?](#)

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# Upgrade

[Skip to questions](#), Wiki by user [jrg](#)

# **What Questions Should Have this Tag?:**

Any and all questions about:

- Upgrading packages
  - Upgrading your system
  - Upgrading your hardware.
-

# **Some Basic Definitions:**

Version - an identifier (usually a number and/or name) which helps to distinguish where the program is in development. Earlier forms (and/or non finished products) may have numbers or names like:

- 0.01
- Alpha
- Unstable
- Testing
- 0.90
- Beta
- Etc.

Later forms may be:

- 1.0
  - Release
  - Stable
  - Etc.
-

# **Brief Introduction to the Subject:**

The version name of a program usually will increase in value, from 1 - 1.01 for minor releases, and 1.99 - 2.0. With versions of Ubuntu (and other programs/operating systems) the releases are tied to a date, and are given a name (such as Saucy, Lucid, etc.) There are also working versions which will be given terms such as Stable, Unstable, and Testing (when looking at Debian GNU/Linux). This determines what software is available in the repositories, and often is tied into the amount of testing which has gone into the system as a whole.

When a version of anything comes out it must be tested if it is to be released to the public. This is where quality assurance/testing comes into play. During the initial phase the testing may be put into Alpha stage for testing with a small amount of people. After improvements the program may be put into Beta phase, which may open the program up for testing to the public, or a closed group of testers. Then it may go to release. This is not **always** the case, but it is an example.

Moving from one version of a program to another is called “upgrading”. It does not always mean that the new program is better, but usually there is a reason the program has been “upgraded”.

---

## Important Links for Learning More:

- [How do I upgrade to a newer version of Ubuntu?](#) 
  - [How to upgrade a single package using apt-get?](#)
  - -
-

# Questions

## **Q: Is it possible to “upgrade” from a 32bit to a 64bit installation?**

**Tags:** [upgrade](#) ([Next Q](#)), [64-bit](#) ([Next Q](#))

As per title, I wish to know if I can, after a successful 32bit setup and consequent software installations, update to a 64bit version.

I know how to partition (actually one of the solutions is to set /, /etc, /home, /var/www, and /opt as separate partitions) and I know that a clean install is way better than a dirty one, yet I would like to know if/how it's possible to do that.

**Tags:** [upgrade](#) ([Next Q](#)), [64-bit](#) ([Next Q](#))

**User:** [dag729](#)

---

[Answer](#)  by [8128](#)

You will find a clean install a lot less hassle than any other unusual, obscure, unsupported method.

Your suggest of partitioning the config files, home directories, etc is probably the best idea, and it is possible to [install the same packages on a clean install as on another install](#) .

On the other hand, what you requested is possible, there is a little guide for [Debian based systems](#)  but remember “this really is for professional-level sysadmins” and “this procedure is, in every possible respect, a bad idea. If it eats your firstborn, please don’t come crying to me”... (so good luck)

---

[Answer](#)  by [scott-ritchie](#)

This might be a much more reasonable thing to do once the multiarch spec is implemented. <https://wiki.ubuntu.com/MultiarchSpec>  — currently postponed to 11.04, but keep in mind it’s been postponed for about 6 releases now. That said, actual progress was made in 10.10, so maybe it’ll happen this time.

Until then, don’t bother. Backup your data, repartition if you want, and reinstall.

---

**Tags:** [upgrade](#) ([Next Q](#)), [64-bit](#) ([Next Q](#))

---

## **Q: Why use apt-get upgrade instead of apt-get dist-upgrade?**

## Tags: [upgrade](#)

I usually use `apt-get update && apt-get upgrade` to run my updates and upgrades instead of the GUI because it seems to run more quickly.

However, I've noticed lately that I often get a message that one of my upgrades was held back. I then usually run `dist-upgrade` to run it through and it works fine. As far as I can tell after reading [this question](#) and its answers, `dist-upgrade` does all the same things and then some.

So, my question is: Why use `apt-get upgrade` at all? Why not use `apt-get dist-upgrade` all the time? Why does `apt-get upgrade` even exist?

## Tags: [upgrade](#)

### User: [jimirings](#)

---

[Answer](#) by [rduplain](#)

I typically upgrade my machines with:

```
sudo apt-get update && time sudo apt-get dist-upgrade
```

Below is an excerpt from `man apt-get`. **Using upgrade keeps to the rule: under no circumstances are currently installed packages removed, or packages not already installed retrieved and installed.** If that's important to you, use `apt-get upgrade`. If you want things to "just work", you probably want `apt-get dist-upgrade` to ensure dependencies are resolved.

To expand on why you'd want *upgrade* instead of *dist-upgrade*, if you are a systems administrator, you need predictability. You might be using advanced features like [apt pinning](#) or pulling from a collection of [PPAs](#) (perhaps you have an in-house PPA), with various automations in place to inspect your system and available upgrades instead of always eagerly upgrading all available packages. You would get very frustrated when apt performs unscripted behavior, particularly if this leads to downtime of a production service.

### [Skip code block](#)

```
upgrade
upgrade is used to install the newest versions of all packages
currently installed on the system from the sources enumerated in
/etc/apt/sources.list. Packages currently installed with new
versions available are retrieved and upgraded; under no
circumstances are currently installed packages removed, or packages
not already installed retrieved and installed. New versions of
currently installed packages that cannot be upgraded without
changing the install status of another package will be left at
their current version. An update must be performed first so that
apt-get knows that new versions of packages are available.

dist-upgrade
dist-upgrade in addition to performing the function of upgrade,
also intelligently handles changing dependencies with new versions
of packages; apt-get has a "smart" conflict resolution system, and
it will attempt to upgrade the most important packages at the
expense of less important ones if necessary. So, dist-upgrade
command may remove some packages. The /etc/apt/sources.list file
contains a list of locations from which to retrieve desired package
files. See also apt_preferences(5) for a mechanism for overriding
the general settings for individual packages.
```

**Tags:** [upgrade](#)

---

[Q: Is it possible to “upgrade” from a 32bit to a 64bit installation?](#)

---

[Q: How to upgrade a single package using apt-get?](#)

---

[Q: What is “dist-upgrade” and why does it upgrade more than “upgrade”?](#)

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[Q: Can’t upgrade due to low disk space on /boot](#)

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[Q: Why use apt-get upgrade instead of apt-get dist-upgrade?](#)

---

# Boot

[Skip to questions](#), Wiki by user [jorge-castro](#)

Consider using the boot info script when asking your question:

- [How do I investigate boot and partition issues?](#) 
-

# Questions

## [Q: Enabling Nvidia driver messes up splash screen](#)

**Tags:** [boot](#) ([Next Q](#)), [nvidia](#) ([Next Q](#))

When you boot from live CD, or doing the first boot after installing Ubuntu, splash screen looks awesome. But as soon as you enable nvidia-current driver, installed with apt-get, splash screen goes all crazy.

With crazy I mean that resolution is very low, font(I assume) is very weird and it all looks like it's been broken.

This happened with 10.04 and now again with 10.10.

How do I fix splash screen after enabling nvidia drivers?

**Tags:** [boot](#) ([Next Q](#)), [nvidia](#) ([Next Q](#))

**User:** [neziric](#)

---

[Answer](#)  by [user3243](#)

That is easy. First of all:

```
sudo apt-get install v86d hwinfo  
sudo hwinfo --framebuffer
```

This will show you your supported resolutions. **Take note.**

**Then:**

```
gksudo gedit /etc/default/grub
```

Search for - GRUB\_GFXMODE=

below this you need to type: GRUB\_GFXPAYLOAD\_LINUX=1024x768 <- **your-resolution-here**

Save the file and then:

```
echo FRAMEBUFFER=y | sudo tee /etc/initramfs-tools/conf.d/splash  
sudo update-grub2  
sudo update-initramfs -u
```

---

**Tags:** [boot](#) ([Next Q](#)), [nvidia](#) ([Next Q](#))

---

## [Q: How do I free up more space in /boot?](#)

**Tags:** [boot](#) ([Next Q](#)), [disk-usage](#) ([Next Q](#))

My /boot partition is nearly full and I get a warning every time I reboot my system. I already deleted old kernel packages (linux-headers...), actually I did that to install a newer

kernel version that came with the automatic updates. After installing that new version, the partition is nearly full again. So what else can I delete? Are there some other files associated to the old kernel images?

Here is a list of files that are on my /boot partition:

[Skip code block](#)

```
:$ ls /boot/
abi-2.6.31-21-generic      lost+found
abi-2.6.32-25-generic      memtest86+.bin
abi-2.6.38-10-generic      memtest86+_multiboot.bin
abi-2.6.38-11-generic      System.map-2.6.31-21-generic
abi-2.6.38-12-generic      System.map-2.6.32-25-generic
abi-2.6.38-8-generic       System.map-2.6.38-10-generic
abi-3.0.0-12-generic       System.map-2.6.38-11-generic
abi-3.0.0-13-generic       System.map-2.6.38-12-generic
abi-3.0.0-14-generic       System.map-2.6.38-8-generic
boot                      System.map-3.0.0-12-generic
config-2.6.31-21-generic   System.map-3.0.0-13-generic
config-2.6.32-25-generic   System.map-3.0.0-14-generic
config-2.6.38-10-generic   vmcoreinfo-2.6.31-21-generic
config-2.6.38-11-generic   vmcoreinfo-2.6.32-25-generic
config-2.6.38-12-generic   vmcoreinfo-2.6.38-10-generic
config-2.6.38-8-generic    vmcoreinfo-2.6.38-11-generic
config-3.0.0-12-generic   vmcoreinfo-2.6.38-12-generic
config-3.0.0-13-generic   vmcoreinfo-2.6.38-8-generic
config-3.0.0-14-generic   vmcoreinfo-3.0.0-12-generic
extlinux                  vmcoreinfo-3.0.0-13-generic
grub                      vmcoreinfo-3.0.0-14-generic
initrd.img-2.6.31-21-generic vmlinuz-2.6.31-21-generic
initrd.img-2.6.32-25-generic vmlinuz-2.6.32-25-generic
initrd.img-2.6.38-10-generic vmlinuz-2.6.38-10-generic
initrd.img-2.6.38-11-generic vmlinuz-2.6.38-11-generic
initrd.img-2.6.38-12-generic vmlinuz-2.6.38-12-generic
initrd.img-2.6.38-8-generic vmlinuz-2.6.38-8-generic
initrd.img-3.0.0-12-generic vmlinuz-3.0.0-12-generic
initrd.img-3.0.0-13-generic vmlinuz-3.0.0-13-generic
initrd.img-3.0.0-14-generic vmlinuz-3.0.0-14-generic
```

Currently, I'm using the 3.0.0-14-generic kernel.

**Tags:** [boot](#) ([Next Q](#)), [disk-usage](#) ([Next Q](#))

**User:** [user6722](#)

---

[Answer](#)  by [lekensteyn](#)

You've a lot unused kernels. Remove all but the last kernels with:

```
sudo apt-get purge linux-image-{3.0.0-12,2.6.3{1-21,2-25,8-{1[012],8}}}
```

This is shorthand for:

```
sudo apt-get purge linux-image-3.0.0-12 linux-image-2.6.31-21 linux-image-2.6.32-25 linux-image-2.6.38-10 linux-image-2.6.38-11 linux-image-2.6.38-12 linux-image-2.6.38-8
```

Removing the `linux-image-x.x.x-x` package will also remove `linux-image-x.x.x-x-generic`.

The headers are installed into `/usr/src` and are used when building out-tree kernel modules (like the proprietary nvidia driver and virtualbox). Most users should remove these header packages if the matching kernel package (`linux-image-*`) is not installed.

To list all installed kernels, run:

```
dpkg -l linux-image-* | grep ^ii
```

One command to show all kernels and headers that can be removed, excluding the **current** running kernel:

```
kernelver=$(uname -r | sed -r 's/-[a-z]+//')  
dpkg -l linux-{image,headers}-"[0-9]*" | awk '/ii/{print $2}' | grep -v $kernelver
```

It selects all packages named starting with `linux-headers-<some number>` or `linux-image-<some number>`, prints the package names for installed packages and then excludes the **current loaded/running kernel** (not necessarily the **latest** kernel!). This fits in the recommendation of testing a newer kernel before removing older, known-to-work kernels.

So, after upgrading kernels and rebooting to test it, you can remove all other kernels with:

```
sudo apt-get purge $(dpkg -l linux-{image,headers}-"[0-9]*" | awk '/ii/{print $2}' | grep -v  
"$(uname -r | sed -r 's/-[a-z]+//')")
```

---

[Answer](#) by [dward](#)

Your boot partition is full. Since this is a kernel update, these files will be copied to the boot partition so you need to clean in out. Here is a [blog post](#) that will show you how to clear the old kernel images with one command. I'll give a basic synopsis of the method. Use this command to print out the current version of your kernel:

```
uname -r
```

Then use this command to print out all the kernels you have installed that aren't your newest kernel:

```
dpkg -l linux-* | awk '/^ii/{ print $2}' | grep -v -e `uname -r | cut -f1,2 -d"-"` | grep -e [0-9]
```

Make sure your current kernel isn't on that list. Notice how this is the majority of the final command (down below). To uninstall and delete these old kernels you will want to pipe these arguments to:

```
sudo apt-get -y purge
```

Now we can do everything we want by combining these last two commands into this unholy mess:

```
dpkg -l linux-* | awk '/^ii/{ print $2}' | grep -v -e `uname -r | cut -f1,2 -d"-"` | grep -e [0-9] |  
xargs sudo apt-get -y purge
```

And that one command will take care of everything for you. I will confirm that this does work perfectly but never trust anybody on the internet. :) For more info, the blog post gives a very good explanation of what each part of the command does so read through it so you are satisfied that it does what you want it to do.

---

[Answer](#) by [omni](#)

Thank you for your detailed post of your problem, this got me going in the right direction. Although it is useful to keep previous kernel files you can remove all of them in one go, check this post:

[How to Remove All Unused Linux Kernel Headers, Images and Modules](#)

Done via command line. If you are doing this via remote use something like WINSCP to open a terminal session and just paste it in, works very well.

Here it is copied from article link, I suggest you read the full article:

```
dpkg -l 'linux-*' | sed '/^ii/!d;/$(uname -r | sed "s/\(.*\)-\([^\-]*\)\([^\-]*\).*/\1;/[0-9]/!d' | xargs sudo apt-get -y purge
```

---

**Tags:** [boot](#) ([Next Q](#)), [disk-usage](#) ([Next Q](#))

---

## Q: How do I change the GRUB boot order?

**Tags:** [boot](#) ([Next Q](#)), [grub2](#) ([Next Q](#))

I have both Windows 7 and Ubuntu installed on a shared machine. Because a lot of the non-developers use Windows, I'd like to change the boot order to make it easier for them.

Currently the boot order looks like the following:

- Ubuntu 11.10 kernelgeneric \*86
- Ubuntu 11.10 kernelgeneric \*86 (safe boot)
- Memory test
- Memory test
- Windows 7 on /dev/sda6

How do I change the default order so that Windows 7 is at the top of the list?

- Windows 7 on /dev/sda6
- Ubuntu 11.10 kernelgeneric \*86
- Ubuntu 11.10 kernelgeneric \*86 (safe boot)
- Memory test
- Memory test

**Tags:** [boot](#) ([Next Q](#)), [grub2](#) ([Next Q](#))

**User:** [chrisjlee](#)

---

[Answer](#)  by [nitstorm](#)

You can use an easy-to-use the GUI application called [Grub Customizer](#)  to make your life a little bit easier. As the name suggests, you can do much more than just reordering GRUB menu entries with it.

You can install it by:

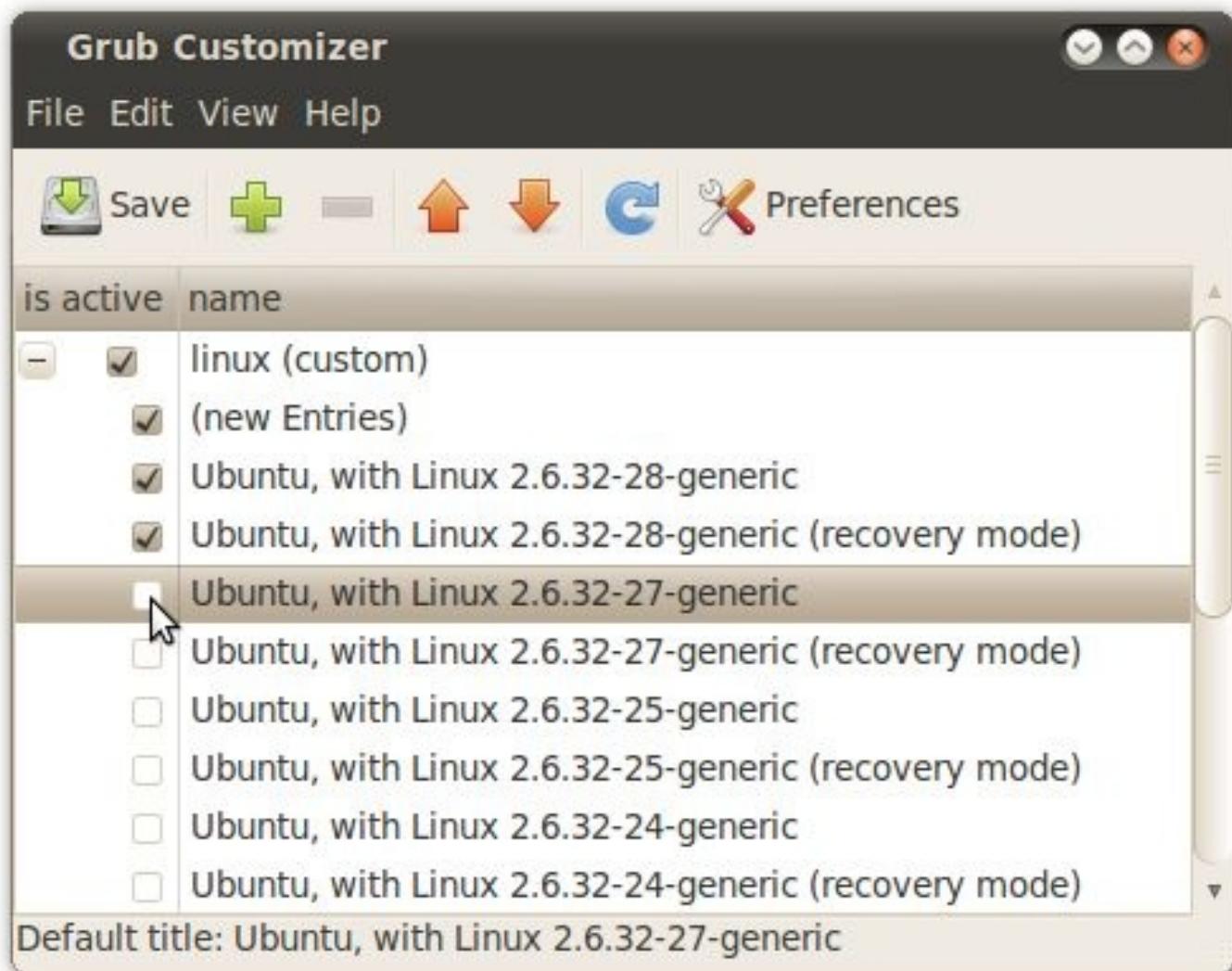
```
sudo add-apt-repository ppa:danielrichter2007/grub-customizer
sudo apt-get update
sudo apt-get install grub-customizer
```

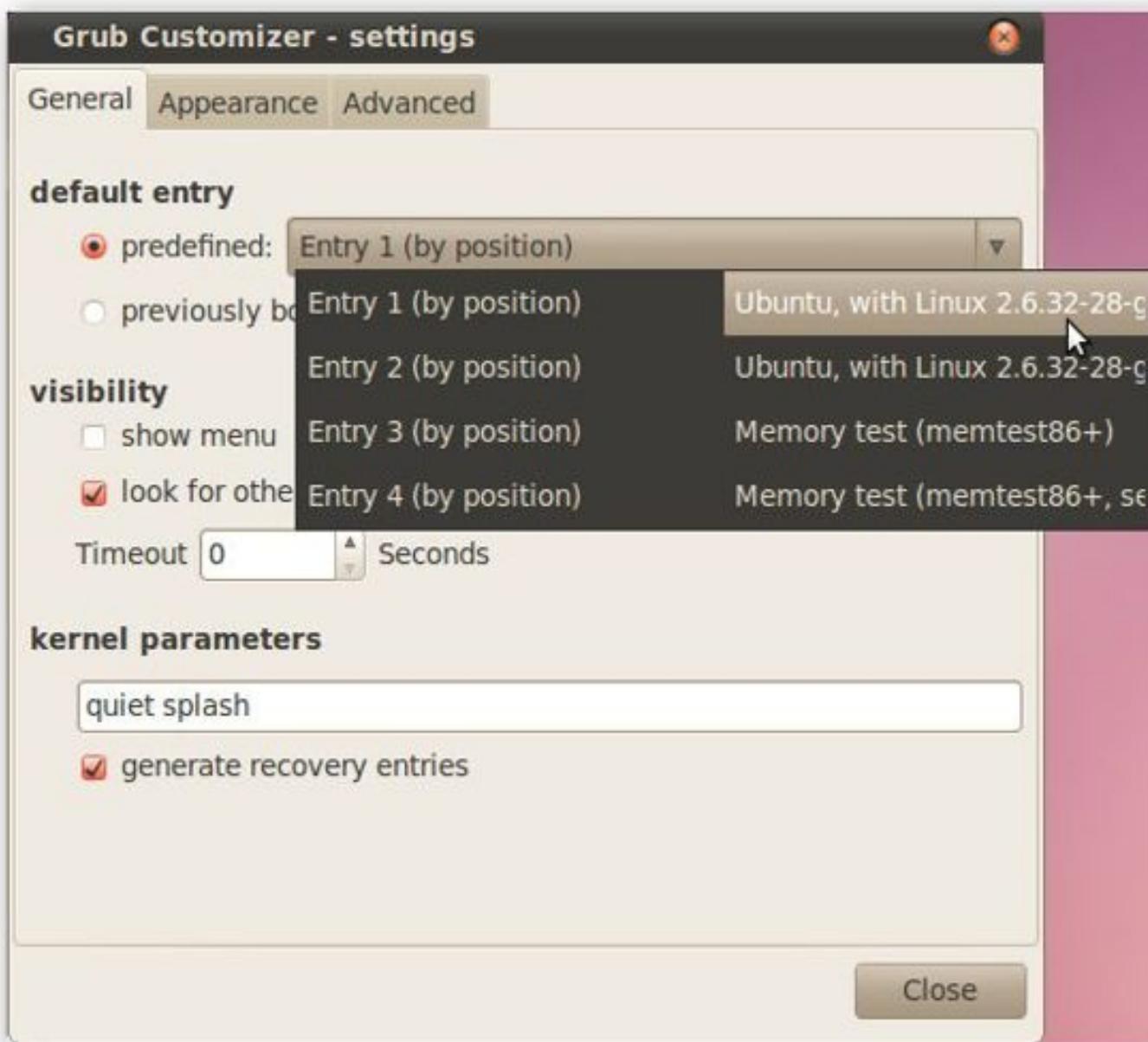
(See Ask Ubuntu question [Are PPA's safe to add to my system and what are some red flags to watch out for?](#).)

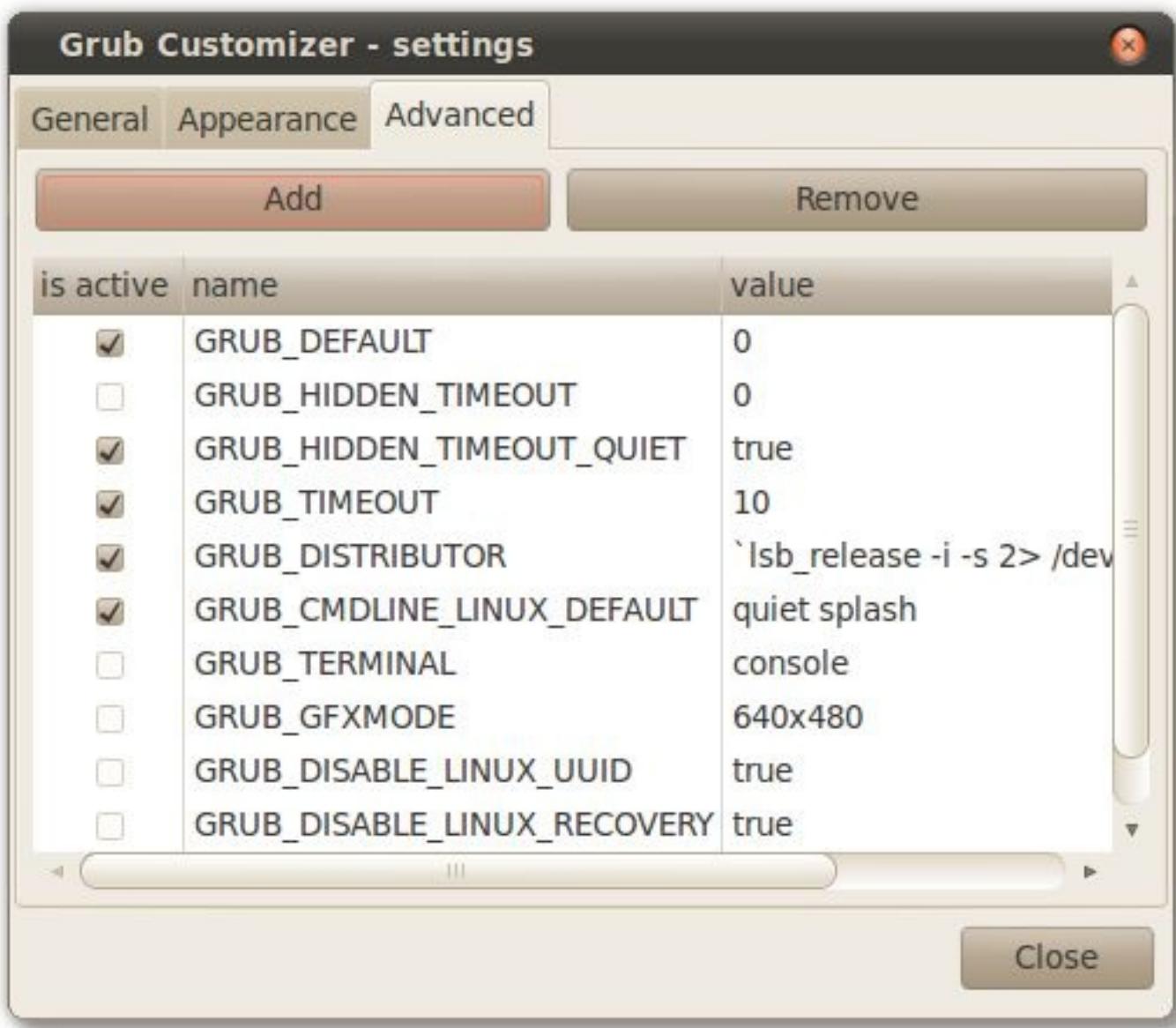
There is an [How-To Geek](#)  article about it, [How to Configure the Linux GRUB 2 Boot Menu the Easy Way](#) . Take a look at it if you're interested. Also, there is a solved thread

on the Ubuntu Forums, [Change boot order in GRUB 2](#) that mentions this tool.

Here are some screenshots:







[Answer](#) by [marve](#)

You can also change the grub default boot entry from the command line without having to install any additional tool. This won't change the order in the list but it will allow a different OS to boot by default, which sounds like what you may want anyway.

First, make a backup copy of `/etc/default/grub`. In case something goes wrong, you can easily revert to the known-good copy.

```
sudo cp /etc/default/grub /etc/default/grub.bak
```

Then edit the file using `vim` or the text editor of your choice.

```
sudo vim /etc/default/grub
```

Find the line that contains `GRUB_DEFAULT=0` and set it to `GRUB_DEFAULT=x` where `x` is the index of grub menu item to which you would like to boot to by default. Note that the menu items are zero-indexed. That means that the first item in the list is `0` and that the sixth item is actually `5`. So to boot to the sixth item in the list, the line would read `GRUB_DEFAULT=5`.

Additionally, if you want to use a kernel in the "Previous Linux Versions" menu, you'll want to change `GRUB_DEFAULT=0` to `GRUB_DEFAULT="2>x"` (make sure to include

the quotations), where x is the placement of the old kernel on the sub-list (assuming the “Previous Linux Versions” is third on the main list). Remember that the list always begins counting at 0.

Then build the updated grub menu.

```
sudo update-grub
```

---

[Answer](#) by [silentk](#)

From the [tombuntu site](#) (article by [Tom](#)):

GRUB can be configured using the /etc/default/grub file. Before you make any changes to it, it may be a good idea to back it up by creating a copy:

```
sudo cp /etc/default/grub /etc/default/grub.bak
```

You can restore the copying the backup over the original:

```
sudo cp /etc/default/grub.bak /etc/default/grub
```

Open the file using the text editor with root privileges:

```
gksu gedit /etc/default/grub
```

The line GRUB\_DEFAULT=0 means that GRUB will select the first menu item to boot. Change this to GRUB\_DEFAULT=saved. This change will make it easier to change the default item later.

Save and close the file. Run this command to apply your changes to GRUB's configuration:

```
sudo update-grub
```

The configuration change we made allows the grub-set-default and grub-reboot commands to be used at any time. These allow you to change the default boot item permanently or only for the next boot, respectively.

Run grub-set-default or grub-reboot (with sudo) with the number of the menu item to boot (the first item is 0). This command will change the default to the second item:

```
sudo grub-set-default 1
```

---

**Tags:** [boot](#) ([Next Q](#)), [grub2](#) ([Next Q](#))

---

## **Q: How do I set the grub timeout and the grub default boot entry?**

**Tags:** [boot](#) [grub2](#) ([Next Q](#))

In Ubuntu 12.04, how do I set the GRUB time and the default OS (that I see at boot time) as I'm dual-booting Windows 7 and Ubuntu 12.04?

**Tags:** [boot](#) [grub2](#) ([Next Q](#))

**User:** [meteors](#)

---

[Answer](#)  by [izx](#)

- Press Alt+F2, type gksudo gedit /etc/default/grub press Enter and enter your password.
- You will see the following contents:

```
GRUB_DEFAULT=0
GRUB_HIDDEN_TIMEOUT=0
GRUB_HIDDEN_TIMEOUT_QUIET=true
GRUB_TIMEOUT=10
GRUB_DISTRIBUTOR=`lsb_release -i -s 2> /dev/null || echo Debian`
GRUB_CMDLINE_LINUX_DEFAULT="quiet splash"
GRUB_CMDLINE_LINUX=""
```

- You can change the default from 0 to any number, corresponding to the entry in the Grub bootup menu (first entry is 0, second is 1, etc.)
- You can change the “hidden timeout” (no menu); and also display the countdown (TIMEOUT\_QUIET=false)
- You can force the grub menu to show by commenting out the two GRUB\_HIDDEN lines with a # at the beginning of the line
- And set the grub menu timeout (default is 10 seconds)
- Make your changes, press Ctrl-S to save and Ctrl-Q to exit.
- **Important:** Open a terminal with Ctrl-Alt-T and type sudo update-grub to apply the changes you just made.
- Reboot and you should see your timeout/default entry change.

---

Linked Question:

- [How do I set Windows to boot as the default in the boot loader?](#) 
- 

[Answer](#)  by [sean](#)

If you read the file that you are editing in the example above (/etc/default/grub), you will notice that the very first couple lines instruct you to run update-grub after making changes in order to update the actual file that grub reads to “get its instructions” (/boot/grub/grub.cfg). Note that you must actually run it with the sudo command first as you need root privileges to actually run the command (which is why the poster above said to type sudo update-grub). This will cause the changes you made to be written to /boot/grub/grub.cfg. The very next couple lines tell you that you can read the full documentation of options in that file (again, /etc/default/grub) by typing info -f grub -n ‘Simple configuration’.

That said, set GRUB\_TIMEOUT to -1 if you want to set the “grub time” to be indefinite. In other words, it will never automatically boot. You will have to make a selection.

Finally, to answer your question, here are the descriptions of those “grub hidden lines” straight from the above-referenced documentation:

```
GRUB_HIDDEN_TIMEOUT
Wait this many seconds for a key to be pressed before displaying
the menu. If no key is pressed during that time, boot
immediately. Unset by default.
```

```
GRUB_HIDDEN_TIMEOUT_QUIET
In conjunction with `GRUB_HIDDEN_TIMEOUT', set this to `true' to
suppress the verbose countdown while waiting for a key to be
pressed before displaying the menu. Unset by default.
```

I hope this helps!

---

---

**Tags:** [boot](#) [grub2](#) ([Next Q](#))

---

---

[Q: Enabling Nvidia driver messes up splash screen](#)

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[Q: How do I disable X at boot time so that the system boots in text mode?](#)

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[Q: How do I free up more space in /boot?](#)

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[Q: How do I change the GRUB boot order?](#)

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[Q: How do I set the grub timeout and the grub default boot entry?](#)

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# Packages

## Questions

### [Q: How do I deal with “unauthenticated sources” errors in the Software Center?](#)

Tags: [packages](#) ([Next Q](#))

Any install that I'm trying through the Software Center is telling me:

**Requires installation of untrusted packages: The action would require the installation of packages from not authenticated sources.**

I did an apt-get update from the command line, then removed the software sources that the keys were bad from (PPAs I added myself), and unchecked them in the software sources for software center, but to no avail. I can't install anything from software center anymore - only> from the command line with apt-get.

Is uninstalling/installing the only option? I don't want to break other PPAs that I have.

# Additional information:

Here's a paste from apt-get update:

```
Reading package lists... Done
W: GPG error: http://ppa.launchpad.net oneiric Release: The following signatures couldn't be verified because the public key is not available: NO_PUBKEY B725097B3ACC3965
W: GPG error: http://us.archive.ubuntu.com oneiric Release: The following signatures were invalid:
BADSIG 40976EAF437D05B5 Ubuntu Archive Automatic Signing Key <ftpmaster@ubuntu.com>
```

I've tried apt-key update, and there was no effect (two keys unchanged).

The output of apt-get update and apt-get upgrade, and the contents of /etc/apt/sources.list, can be found in [this pastebin post](#).

**Tags:** [packages](#) ([Next Q](#))

**User:** [b.-e.-hollenbeck](#)

---

[Answer](#) by [sadi](#)

# Open the Terminal and enter the commands below one by one:

```
sudo apt-get clean  
cd /var/lib/apt  
sudo mv lists lists.old  
sudo mkdir -p lists/partial  
sudo apt-get clean  
sudo apt-get update
```

[Answer](#) by [tom-brossman](#)

This is a common problem with Launchpad PPAs. Common enough that I've copied these commands to use when I reinstall or add new Launchpad PPAs.

```
sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys
```

Then,

```
sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys YOURKEYNUMBERHERE
```

Substitute YOURKEYNUMBERHERE with the problem keys, like this:

```
sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys B725097B3ACC3965
```

And

```
sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys 40976EAF437D05B5
```

The first line is almost the same, minus the keys. It might even be optional, I honestly don't know. All I am sure of is that this method always fixes the problem immediately.

If anyone finds the original answer that I copied these from let me know and I'll link to it and give them the attribution.

\*\*EDIT It's almost certainly [karthik87](#)'s answer [here](#) or [here](#) I got this from. This can probably be closed as a duplicate.

Either way, don't forget to do a

```
sudo apt-get update
```

after, to fix everything.

**Tags:** [packages](#) ([Next Q](#))

## [Q: If I build a package from source how can I uninstall or remove completely?](#)

**Tags:** [packages](#) [uninstall](#) ([Next Q](#))

I used source code to build one package such as below:

```
./configure --prefix=/usr --sysconfdir=/etc --localstatedir=/var --libexecdir=/usr/lib --with-package-name="Myplugin" --with-package-origin="http://www.ubuntu.org/" --enable-gtk-doc --disable-static  
make  
make install
```

But unfortunately, i discovered that its the latest version, and has lot of bugs, so i need to remove it/uninstall it. But how can i do so? I tried `make clean`; `make uninstall` but still i see it exist:

```
# pkg-config --list-all | grep Myplugin  
myplugin-....  
$ ls /usr/lib/myplugin/libXYZ.so  
exist....
```

How do you remove this now?

**Tags:** [packages](#) [uninstall](#) ([Next Q](#))

**User:** [yumyumyum](#)

---

[Answer](#)  by [javier-rivera](#)

Usually you can just use:

```
make uninstall
```

or

```
sudo make uninstall
```

if the app was installed as root.

But this will work only if the developer of the package has taken care of making a good uninstall rule.

In the future to avoid that kind of problems try to use [checkinstall](#)  instead of `make install` whenever possible (AFAIK always unless you want to keep both the compiled and a packaged version at the same time). It will create and install a deb file that you can then uninstall using your favorite package manager.

`make clean` usually cleans the building directories, it doesn't uninstall the package. It's used when you want to be sure that the whole thing is compiled, not just the changed files.

---

[Answer](#)  by [sabacon](#)

I do not think this is a bug, it would be a good idea to read about and learn to use `checkinstall` when installing from source.

you can install `checkinstall` from the repositories, a short description of the package;

`CheckInstall` keeps track of all the files created or modified by your installation script ("make install" "make install\_modules", "setup", etc), builds a standard binary package and installs it in your system giving you the ability to uninstall it with your distribution's standard package management utilities.

These links below may be helpful to get a better understanding.

<http://en.wikipedia.org/wiki/CheckInstall>

<http://checkinstall.izto.org/>

---

[Answer](#) by dv3500ea

This is not a bug - compiling from source is an unsupported method of installing software that bypasses the package management system (which is used by the Software Centre) completely.

There is no standard way that software compiled from source is installed or uninstalled so no way Ubuntu can know what to do. The software is not even listed as an installed program.

You should follow the distributor's instructions for installation and removal of such custom software. You could also contact the developer to ask for them to create a Debian package so that the package management system can be used.

---

**Tags:** [packages](#) [uninstall](#) ([Next Q](#))

---

[Q: How to list all installed packages?](#)

---

[Q: How do I deal with “unauthenticated sources” errors in the Software Center?](#)

---

[Q: If I build a package from source how can I uninstall or remove completely?](#)

---

[Q: How to Downgrade a Package via apt-get?](#)

---

[Q: Requires installation of untrusted packages?](#)

---

# Scripts

[Skip to questions](#), Wiki by user [kris-harper](#)

Shell scripting with a common shell language like Bash, Perl, or PHP. Scripting in Python or other scripting languages are also appropriate topics.

---

# Questions

## [Q: How do I create a deb package for a single python script?](#)

**Tags:** [scripts](#) [python](#) ([Next Q](#)), [packaging](#) ([Next Q](#))

I have a single python script that I want to distribute as a deb package. It is a [indicator](#)  which shows local date in Unity panel. I did follow [create a .deb Package from scripts or binaries](#)  but I could not create a deb package because it fails.

Can someone give me a step-by-step instruction on what I should do? As far as I know this script depends on python-appindicator.

### **NOTE:**

I do not want any links to Debian/Ubuntu packaging instructions. I have seen most of them. I don't find them beginner friendly.

**Tags:** [scripts](#) [python](#) ([Next Q](#)), [packaging](#) ([Next Q](#))

**User:** [sagarchalise](#)

---

[Answer](#)  by [andrewsomething](#)

What follows is a basic example of how a source package for a python script might look. While most of the packaging tutorials are a bit complex, they can really help if you hit a problem. That said, I first learned the basics of Debian packaging by simply looking at Debian packages. `apt-get source` something similar and learn by example.

Here's your basic source package layout:

```
my-script/
-- myScript
-- debian/
    -- changelog
    -- copyright
    -- compat
    -- rules
    -- control
    -- install
```

Run `dch --create` in the directory to create a properly formatted `debian/changelog` entry.

`debian/copyright` should look like:

```
Format: http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: myScript
Upstream-Contact: Name, <email@address>

Files: *
Copyright: 2011, Name, <email@address>
License: (GPL-2+ | LGPL-2 | GPL-3 | whatever)
Full text of licence.

Unless there is a it can be found in /usr/share/common-licenses
```

debian/compat can just be: 7

debian/rules:

```
#!/usr/bin/make -f  
%:  
    dh $@ --with python2
```

debian/control:

Skip code block

```
Source: my-script  
Section: python  
Priority: optional  
Maintainer: Name, <email@address>  
Build-Depends: debhelper (>= 7),  
                python (>= 2.6.6-3~)  
Standards-Version: 3.9.2  
X-Python-Version: >= 2.6  
  
Package: my-script  
Architecture: all  
Section: python  
Depends: python-appindicator, ${misc:Depends}, ${python:Depends}  
Description: short description  
A long description goes here.  
. It can contain multiple paragraphss
```

debian/install:

```
myScript usr/bin/
```

Now build it with debuild --no-tgz-check

This will create a functional deb package. Lintian is going to throw a few warnings regarding the lack of an orig.tar.gz, but unless you plan on creating a proper upstream project that makes tarball releases you'll probably just want to ignore that for now.

---

Answer  by [st-alfas](#)

1. create a folder with any name on your home eg: mymyscript
2. Open the folder and create two folders with names ‘DEBIAN’ and ‘usr’
3. Open the folder DEBIAN. Create a text file (without extension) with name ‘control’ there.
4. Open ‘control’ and type as follows and save it on DEBIAN

```
Package: mymyscript  
Version: 0.01  
Architecture: all  
Maintainer: your name<your mail id>  
Installed-Size: 2  
Depends: python-appindicator  
Section: extras  
Priority: optional  
Homepage: your homepage  
Description: describe
```

5. Back to the folder named mymyscript. Open ‘usr’. Create a folder named ‘bin’. Open ‘bin’ and paste your pythonscript file there.
6. You can also make a menu entry. But that is not essential.

7. Back to the home folder where the folder ‘mypy script’ lies or close the file browser.
8. Open terminal. Be sure that terminal is in the home folder. type `dpkg -b mypy script`. Then press enter. In seconds your deb package is ready

*note:* please fill the ‘control’ file properly. Don’t use apostrophes. It is only for indicating the names.

---

**Tags:** [scripts](#) [python](#) ([Next Q](#)), [packaging](#) ([Next Q](#))

---

[Q: What is the difference between ./ and sh to run a script?](#)

---

[Q: How do I create a deb package for a single python script?](#)

---

[Q: How can I get a list of all repositories and PPAs from the command line?](#)

---

[Q: Is #!/bin/sh read by the interpreter?](#)

---

[Q: Differences between /bin, /sbin, /usr/bin, /usr/sbin, /usr/local/bin, /usr/local/sbin](#)

---

# Google Chrome

[Skip to questions](#), Wiki by user [jorge-castro](#)



# Google Chrome

This tag is for Google's browser, Chrome. For questions on Chromium read and use [chromium](#).

- [Chrome Homepage](#)
- [Download page](#)
- [Features](#)

Chrome is not available in the default Ubuntu repositories, but you can install it by using [Google's PPA](#). Ubuntu ships Chromium, the open source [project](#) that Chrome is built from. See [this for a detailed list of differences](#) between Google Chrome and Chromium.

Since version 28, all Chromium based browsers use a forked version of Webkit, called Blink.

---

# Questions

## [Q: What's the difference between Google Chrome and/or Chromium? What are the advantages/disadvantages to each?](#)



**Tags:** [google-chrome](#) (Next Q), [chromium](#) (Next Q)

I used Google Chrome in Windows, and am now using Chromium in Ubuntu. Is there any difference to the two programs? What are the advantages and disadvantages to each program? Which one seems better?

**Tags:** [google-chrome](#) (Next Q), [chromium](#) (Next Q)

**User:** [runningutes](#)

---

[Answer](#) by [jorge-castro](#)

There are some key differences between Google Chrome and Chromium. First off, Google Chrome is a commercial closed source product made by Google which is based on the open source [Chromium project](#).

Chrome is not available in the default Ubuntu repositories as it's not open source, however Google makes [Chrome available](#) through their own 3rd party repository. Chrome is updated by Google directly, as they run the entire repository and update Chrome on their schedule. Since it doesn't need to be redistributable and open source, Chrome includes things that we can't ship in Ubuntu out of the box, like Flash and H264 support (See the [Ubuntu promise](#)). However you can install this support with a few packages (see below).

[Chromium](#), being open source, is available in the Ubuntu repositories. This is maintained by Ubuntu developers and goes through our [Stable Release Update](#) process. Chromium has a [release process exception](#), which allows the team to upload a Chromium build as soon as a new upstream release is made.

There really aren't any proper "releases" made of Chromium, so Ubuntu developers base their build on what stable version of Chromium the stable Chrome build is based off of. Fabien Tassin has a [blog post](#) about this process that goes into much more detail.

The following packages in Ubuntu install the codecs and features in Chromium that you can find in Chrome:

- [chromium-codecs-ffmpeg](#)

# Missing Image

---

- [chromium-codecs-ffmpeg-extra](#)



- [flashplugin-installer](#)



Really it depends on what you want. If you trust Google to not break your computer and like the convenience of Chrome then you can use that; if you want an open source browser that is the basis of Chrome that is peer reviewed by Ubuntu developers and doesn't require 3rd party sources then you want Chromium.

This [Wikipedia page](#) outlines some of the security/usage tracking differences between the two browsers.

---

[Answer](#) by [zerwas](#)

The official Chromium Wiki provides a [detailed table](#) about the differences between Google Chrome and Chromium. It does not reflect differences of vanilla source versus those that are specific to Chromium packages provided by Ubuntu.

---

**Tags:** [google-chrome](#) ([Next Q](#)), [chromium](#) ([Next Q](#))

---

**Q: YouTube movies are playing too fast with chrome** 

**Tags:** [google-chrome](#) ([Next Q](#))

I've got movies playing in fast forward in YouTube HTML 5 mode if I play it in Google Chrome. If I open it with Firefox, it plays well. Any ideas?

**Tags:** [google-chrome](#) ([Next Q](#))

**User:** [yura-taras](#)

---

[Answer](#) by [jacob](#)

If you're using Chrome from the dev or unstable channels, you probably have a bad

Flash plugin enabled (this affects HTML5 audio as well for some obscure reason).

To fix it, go to chrome://plugins and disable all the flash plugins. Then click +Details to show the individual versions of Flash, enable them one at a time until the problem goes away.

This is the configuration that worked for me:

The screenshot shows the 'Plug-ins' section of the Chrome settings page. There are three entries for the Shockwave Flash plugin:

- Shockwave Flash 11.2 r202** (Enabled):
  - Name: Shockwave Flash
  - Description: Shockwave Flash 11.3 r31
  - Version: 11.3.31.103
  - Location: /opt/google/chrome/PepperFlash/libpepflashplayer.so
  - Type: PPAPI (out-of-process)
  - [Enable](#)
  - MIME types:

| MIME type                     | Description         | File extensions |
|-------------------------------|---------------------|-----------------|
| application/x-shockwave-flash | Shockwave Flash     | .swf            |
| application/futuresplash      | FutureSplash Player | .spl            |
- Shockwave Flash** (Disabled):
  - Name: Shockwave Flash
  - Version: 11.2 r202
  - Location: /usr/lib/adobe-flashplugin/libflashplayer.so
  - Type: NPAPI
  - [Disable](#)
  - MIME types:

| MIME type                     | Description         | File extensions |
|-------------------------------|---------------------|-----------------|
| application/x-shockwave-flash | Shockwave Flash     | .swf            |
| application/futuresplash      | FutureSplash Player | .spl            |
- Shockwave Flash** (Enabled):
  - Name: Shockwave Flash
  - Version: 11.1 r102
  - Location: /usr/lib/mozilla/plugins/libtotem-vegas-plugin.so
  - Type: NPAPI
  - [Enable](#)
  - MIME types:

| MIME type                     | Description     | File extensions |
|-------------------------------|-----------------|-----------------|
| application/x-shockwave-flash | Shockwave Flash | .swf            |

At the bottom, there are buttons for [Disable](#) and  [Always allowed](#).

#### Remoting Viewer

If you none of the versions you have work, you may need to install the adobe-flashplugin package:

```
sudo apt-get install adobe-flashplugin
```

[Answer](#) by [puneet](#)

**Please note:** sometimes if the problem still persists then this may be related to pulseaudio, in such case you can use

```
killall pulseaudio  
pulseaudio
```

And restart the browser and it will work.

If this only works temporarily, you can try [replacing pulse audio with the alsound module](#) for good.

---

[Answer](#) by [fenrig](#)

I found some solutions:

- Reset your sound settings, (apparently if you use hdmi for audio and video there is nothing slowing the playback down) so what you have to do is try changing audio playback device :)
  - One user found that “setting the specific speaker layout fixed my problem (from nothing to 5.1, as that is what I have).”
- 

**Tags:** [google-chrome](#) ([Next Q](#))

---

## [Q: How To Enable WebGL In Chrome On Ubuntu?](#)

**Tags:** [google-chrome](#)

chrome://gpu/

### **Graphics Feature Status**

- Canvas: Software only, hardware acceleration unavailable
- Compositing: Software only, hardware acceleration unavailable
- 3D CSS: Unavailable. Hardware acceleration unavailable
- CSS Animation: Software only, hardware acceleration unavailable
- WebGL: Unavailable. Hardware acceleration unavailable
- WebGL multisampling: Unavailable. Hardware acceleration unavailable
- Flash 3D: Unavailable. Hardware acceleration unavailable
- Flash Stage3D: Unavailable. Hardware acceleration unavailable
- Flash Stage3D Baseline profile: Unavailable. Hardware acceleration unavailable
- Texture Sharing: Unavailable. Hardware acceleration unavailable
- Video Decode: Software only, hardware acceleration unavailable
- Video: Software only, hardware acceleration unavailable
- Panel Fitting: Unavailable. Hardware acceleration disabled.
- Rasterization: Software only. Hardware acceleration disabled.

And <http://webglreport.com/>

# WebGL Report

This browser does not support WebGL.

Check out [Get WebGL](#), or try installing the latest version of [Chrome](#), or [Firefox](#).

Platform:

Linux x86\_64

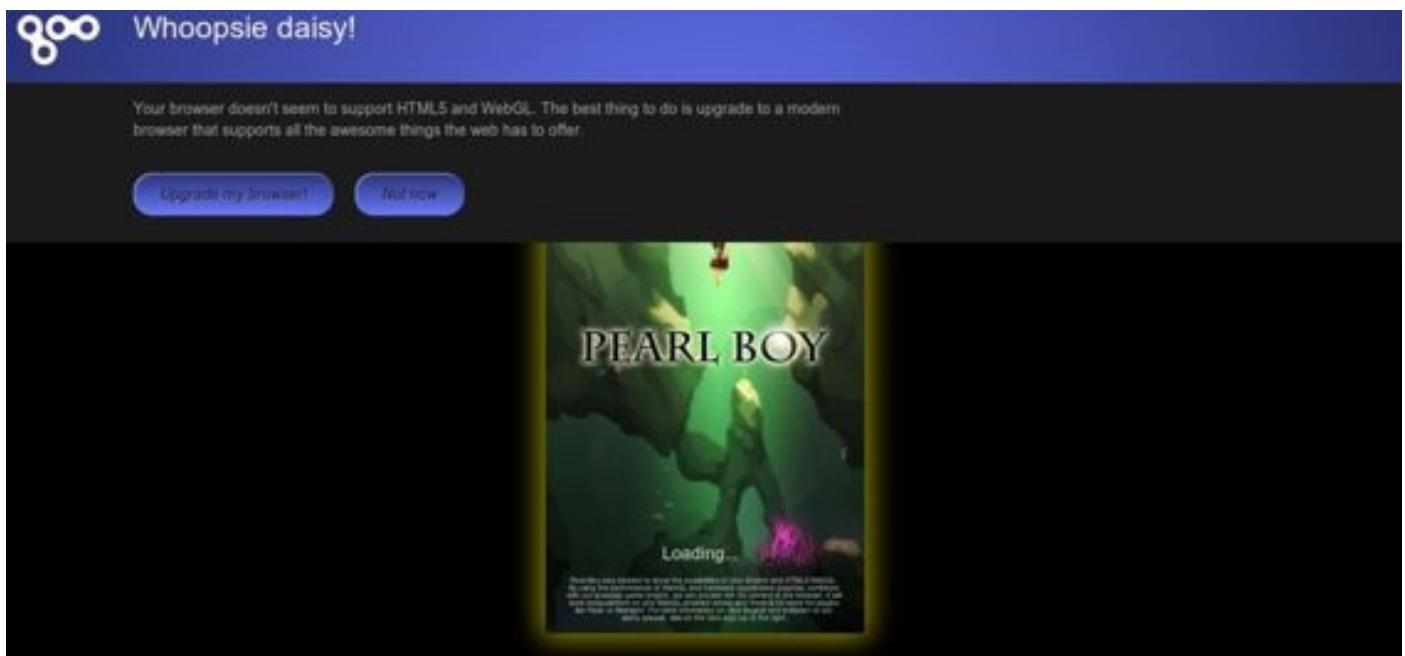
Browser User Agent:

Mozilla/5.0 (X11; Linux x86\_64) AppleWebKit/537.36 (KHTML, like Gecko)

Chrome/27.0.1453.93 Safari/537.36

```
google-chrome --version
Google Chrome 27.0.1453.93
```

<http://www.chromeexperiments.com/webgl> 



How To Enable WebGL In Chrome On Ubuntu ?

**Tags:** [google-chrome](#)

**User:** [qasim](#)

---

[Answer](#)  by [qasim](#)

For WebGL to work in Google Chrome (and Chromium), Here are the steps to enable WebGL in Google Chrome.

Step 1: Open Google Chrome

Step 2: Type `chrome://flags` in the address bar

Step 3: Press `ctrl + f` and type `Rendering list` , Override software rendering list should come up, Now click on Enable and restart the browser.

Step 4: Restart Chrome for the change to take effect.

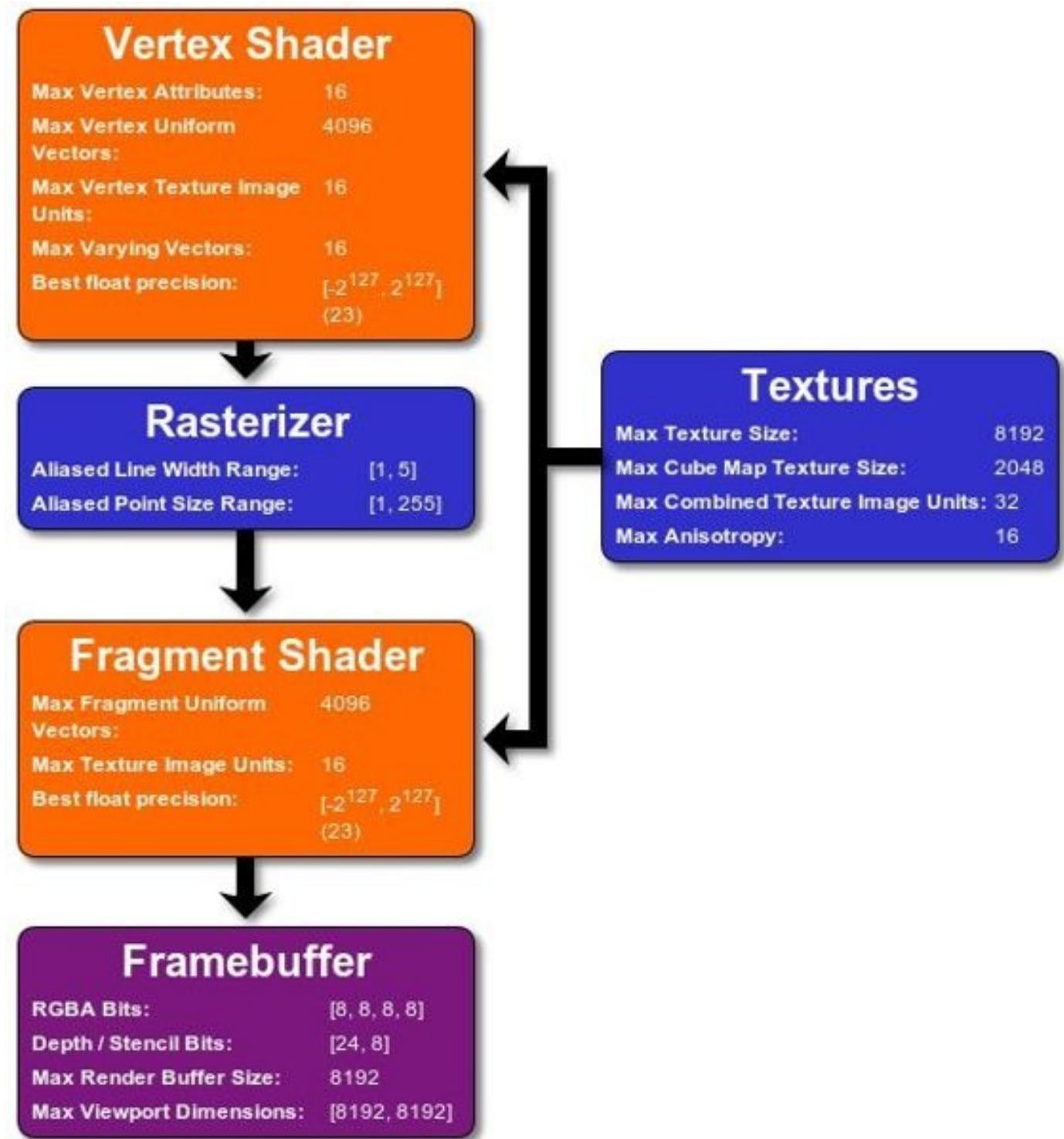


Now check chrome://gpu/

### Graphics Feature Status

- Canvas: **Hardware accelerated**
- Compositing: **Hardware accelerated**
- 3D CSS: **Hardware accelerated**
- CSS Animation: **Accelerated**
- WebGL: **Hardware accelerated**
- WebGL multisampling: **Hardware accelerated**
- Flash 3D: **Hardware accelerated**
- Flash Stage3D: **Hardware accelerated**
- Flash Stage3D Baseline profile: **Hardware accelerated**
- Texture Sharing: **Hardware accelerated**
- Video Decode: **Hardware accelerated**
- Video: **Hardware accelerated**
- Panel Fitting: **Unavailable. Hardware acceleration disabled.**
- Rasterization: **Software only. Hardware acceleration disabled.**

<http://webglreport.com/>



[Source](#)

**Tags:** [google-chrome](#)

[Q: What's the difference between Google Chrome and/or Chromium? What are the advantages/disadvantages to each?](#)

[Q: How do I put a web application on the Launcher?](#)

[Q: How to install Chrome browser properly via command line?](#)

[Q: YouTube movies are playing too fast with chrome](#)

---

[Q: How To Enable WebGL In Chrome On Ubuntu?](#)

---

# LightDM

[Skip to questions](#), Wiki by user [k.-hendrik](#)

## Features of LightDM:

- Low code complexity
- Easily themeable
- Support for 3D

To know more about lightdm and about how it helps the Ubuntu login please refer to this [answer](#).

---

# Questions

## [Q: How do I disable the drum beat sound on the login screen?](#)

**Tags:** [lightdm](#) ([Next Q](#))

I would have expected **System Administration Login Screen Play login sound** to control this, but unchecking it does not prevent the drum beat sound from playing.

**Tags:** [lightdm](#) ([Next Q](#))

**User:** [Andrejs Čainikovs](#)

---

[Answer](#)  by [andrejs-cainikovs](#)

# For 12.04 and 13.04 (LightDM)

unity-greeter versions prior to *0.2.8-0ubuntu1* has no way to disable the lightdm start-up sound. This has been addressed [here](#).

For unity-greeter version *0.2.8-0ubuntu1* and up, start-up sound can be disabled via:

```
sudo sh -c "echo '[com.canonical.unity-greeter]' >> /usr/share/glib-2.0/schemas/50_unity-
greeter.gschema.override; echo 'play-ready-sound = false' >> /usr/share/glib-2.0/schemas/50_unity-
greeter.gschema.override"
sudo glib-compile-schemas /usr/share/glib-2.0/schemas/
```

---

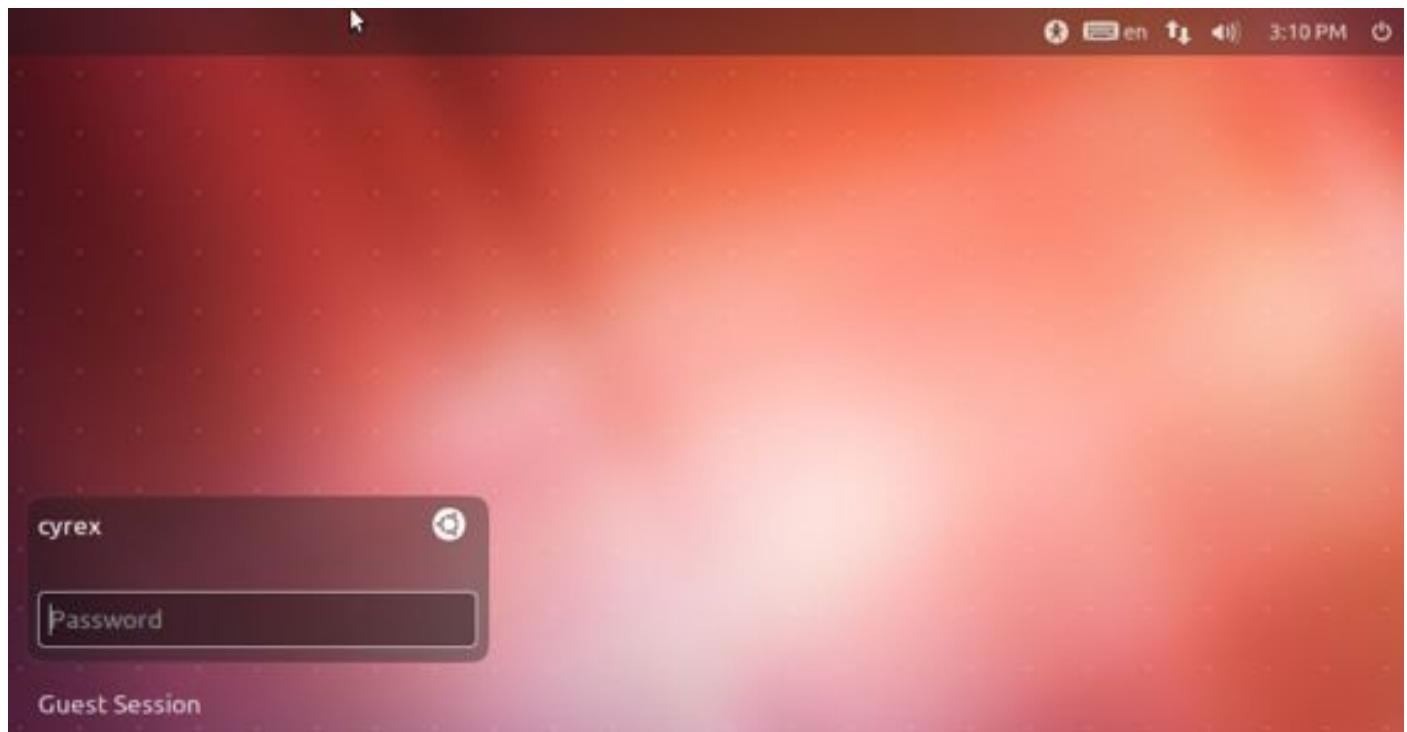
[Answer](#) by [luis-alvarado](#)

# For Ubuntu 12.04+

## LightDM Way

Also known as the FluteFlute Slap, the LightDM Way involves having to logout and on the LightDM Login Screen you can change the volume or even mute the sound.

In the Login Greeter you can see the Volume on the top right. Adjusting the volume there does not affect the volume when the session starts, so you can **MUTE** the sound in the Greeter without muting the sound when your session starts:



## Ubuntu Tweak Way

The Ubuntu Tweak way involves having to download the Ubuntu Tweak app and then disabling the sound from there. Do the following steps and you can do it this way:

```
sudo add-apt-repository ppa:tualatrix/ppa  
sudo apt-get update  
sudo apt-get install ubuntu-tweak
```

Open **Ubuntu Tweak** and on the Tweak Tab select “Login Settings” option, you should see the Play Login Sound option. You need to click on the Lock button above to be able to change this.

# Ubuntu Tweak



## Login Settings

Control the appearance and behaviour of your login screen

Unlock

Search... <Ctrl+F>



Overview

Tweaks

Admins

Janitor



Guest account:

Note: you may need to reboot to take effect

Draw grid:

Play login sound:

Gtk theme: Ambiance

Icon theme: ubuntu-mono-dark

Click the button to change the login screen logo

Click the button to change the login screen background

# For Ubuntu 11.10 and Below

Go to System -> Preferences -> Startup Applications

# Missing Image

Disable the one called **GNOME Login Sound**

(unchecked the box and click close)

# Missing Image

you can also go to System -> Preferences -> Sound and disable the whole sound system (Like windows sounds, alerts, etc..)

In older version you could go to the Sound Preference part and select each sound and what you wanted to do. It was removed around 9.04 or 9.10. It would be good if it came back.

---

[Answer](#)  by [phoenix-stormcrow](#)

# 12.04 & 13.04 (LightDM)

Here is what worked for me after I installed 12.04 last week.

The steps are these:

```
$ gksudo gedit /usr/share/glib-2.0/schemas/50_unity-greeter.gschema.override
```

Add these lines:

```
[com.canonical.unity-greeter]
play-ready-sound = false
```

Save, then run:

```
$ sudo glib-compile-schemas /usr/share/glib-2.0/schemas/
```

Reboot and enjoy. I apologize that I've misplaced the link to the page that provided this information; if I have time later I will try to find it and edit this answer.

Edit: Here is the link:

<http://www.liberiangeek.net/2012/05/disable-the-ready-drum-sound-in-ubuntu-12-04-precise-pangolin/>

Edit2: Tested under Ubuntu 13.04. Still works fine !

---

**Tags:** [lightdm](#) ([Next Q](#))

---

## [Q: How do I disable the guest session?](#)

**Tags:** [lightdm](#) ([Next Q](#))

How do I disable the guest session in Ubuntu 11.10 or higher? I don't want people to be able to use my computer without using a password to log in!

**Tags:** [lightdm](#) ([Next Q](#))

**User:** [jeremy-bicha](#)

---

[Answer](#)  by [jeremy-bicha](#)

If you're using the default LightDM, edit `/etc/lightdm/lightdm.conf` so that it looks like this:

```
[SeatDefaults]
greeter-session=unity-greeter
user-session=ubuntu
allow-guest=false
```

If you're using GDM (which was the default in previous Ubuntu releases), uninstall **gdm-guest-session**.

For Ubuntu 13.10 or higher, the file has moved to /etc/lightdm/lightdm.conf.d/50-unity-greeter.conf

---

[Answer](#)  by [david6](#)

# For Ubuntu 11.10, 12.04 LTS, or 13.10

## *Simplest method.*

Just run this (once) at terminal:

```
sudo /usr/lib/lightdm/lightdm-set-defaults -l false
```

You will no longer have ‘Guest’ as login option, on your next login.

- This simply appends allow-guest=false to /etc/lightdm/lightdm.conf.
- Confirm works on Ubuntu **12.04**; should work for **11.10** and upwards (since those versions use LightDM as well).

To undo (restore Guest option):

```
sudo /usr/lib/lightdm/lightdm-set-defaults -l true
```

# Update, for Ubuntu 14.04 LTS

Adapted from: [Ubuntu Forums - lightdm config files location in 14.04](#) 

Just run this (once) at terminal:

```
sudo sh -c 'printf "[SeatDefaults]\nallow-guest=false\n" >/usr/share/lightdm/lightdm.conf.d/50-no-guest.conf'
```

You will no longer have ‘Guest’ as login option, on your next login.

- Confirm works on Ubuntu **14.04 LTS beta 2**

To undo (restore Guest option), *remove the file created*:

```
sudo rm /usr/share/lightdm/lightdm.conf.d/50-no-guest.conf
```

- Confirm works on Ubuntu **14.04 LTS beta 2**

---

[Answer](#)  by [sarveshlad](#)

Type this in the terminal

```
gksu gedit /etc/lightdm/lightdm.conf
```

You will see the following:

```
[SeatDefaults]
greeter-session=unity-greeter
user-session=ubuntu
```

Add allow-guest=false to the end so your final result should look like:

```
[SeatDefaults]
greeter-session=unity-greeter
user-session=ubuntu
allow-guest=false
```

Save the document and quit the text editor.

Back in the Terminal, restart the display manager. (This will end the graphical login session, immediately quitting all programs running in it, so make sure your work—like any open documents—is saved first!)

```
sudo restart lightdm
```

With the graphical login session ended, you’re returned to the login screen, where you’ll notice that guest account is disabled.

That’s it—the guest account is no longer usable.

---

**Tags:** [lightdm](#) ([Next Q](#))

---

## Q: Ubuntu gets stuck in a Login Loop

**Tags:** [lightdm](#)

My problem: As you can guess my Ubuntu is stuck in a login loop when trying to enter my desktop. Means the screen gets black and soon after that the login screen comes back. I'm a Ubuntu Newbie so if there's any answer please explain in a simply understandable language.

I've already read that the problem might be caused by an error depending on the graphics, so I post my graphics to:

My graphics: ATI Radeon 7670M

**Tags:** [lightdm](#)

**User:** [calvin-wahlers](#)

---

[Answer](#)  by [siddharthart](#)

Press **Ctrl+Alt+F3** and login into the shell.

Now run **ls -lah**. If in the output the line

```
-rw----- 1 root root 53 Nov 29 10:19 .Xauthority
```

then you need to do **chown username:username .Xauthority** and try logging in.

Else, do **ls -ld /tmp**. Check for the first 10 letters in the left: they should read exactly so:  
**drwxrwxrwt**.

```
drwxrwxrwt 15 root root 4096 Nov 30 04:17 /tmp
```

Else, you need to do **sudo chmod a+wt /tmp** and check again.

If not both, I'd recommend you either

1. **dpkg-reconfigure lightdm**
2. or uninstall, reinstall it.

Now press **Alt+->** until you reach the login screen again, and restart.

---

[Answer](#)  by [dan-cundiff](#)

I encountered this exact problem and non of the suggested fixes above worked for me. After almost giving up I looked at the **.xsession-errors** and noticed I had a typo in my **.profile** (I had an extra **}** in the file after I edited it earlier in the day).

That was causing the login loop. It might be another place to look if the other suggested fixes don't work for you.

---

**Tags:** [lightdm](#)

---

[Q: How do I disable the drum beat sound on the login screen?](#)

---

[Q: How do I disable the guest session?](#)

---

[Q: How do I change the default session for when using auto-logins?](#)

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[Q: What happens under the covers to log me in and start up Unity or another Graphical User Interface?](#)

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[Q: Ubuntu gets stuck in a Login Loop](#)

---

# 64 Bit

## Questions

**[Q: Why does Ubuntu Download recommend 32-bit install?](#)** 

Tags: [64-bit](#) ([Next Q](#))

# Update for 13.10: 64-bit version is now the default and 32-bit is labelled “for machines with less than 2GB RAM”

The Ubuntu desktop download screen has a pair of radio buttons you use to select whether you wish to download the 32-bit or 64-bit version. The 64-bit version is labeled “Not recommended for daily desktop usage.” If you have a 64-bit processor, why would you not want to use the 64-bit version of Ubuntu?

Update for 10.10: They’ve removed the “Not recommended” label from the 64-bit version and added a “Recommended” label to the 32-bit version.

Update for 11.04: Same as 10.10.

Update for 12.04: Still says “Recommended” next to 32-bit version of desktop

Update for 12.10: 32-bit version of desktop is still default, says “recommended”

Update for 13.10: 64-bit version is now the default and 32-bit is labelled “for machines with less than 2GB RAM”

**Tags:** [64-bit](#) ([Next Q](#))

**User:** [warren-pena](#)

---

[Answer](#) by [marco-ceppi](#)

This is actually just a mis-wording of sorts. According to [LaunchPad Bug #585940](#) It’s meant to convey that typical desktops are 32-bit whereas more recent desktops are 64-bit. Since the 32bit install will *always* work on both 32bit and 64bit machines it remains “recommended.”

---

[Answer](#) by [bryce](#)

I used to use 64bit Ubuntu on my desktop, and 32bit on my laptops. For the most part I saw no differences, but there were some small niggles:

- As mentioned above, Flash historically hasn’t been very well supported on 64bit. I didn’t think I’d care about this, but actually this was a fairly major annoyance for me. I ended up using the 32bit version of flash, manually installed. Recently Adobe has put out a 64-bit Flash, so possibly this is a thing of the past (I haven’t tested it yet).
- Java (and other software) on 64bit uses more memory, and this can have some performance impacts. I don’t use much java so haven’t really experienced this issue but guess it’s pretty well known.
- It used to be that a lot more people ran 32bit than 64, so once and a while you’d run into a 64-bit specific problem that would tend to take a long time to get fixed. This has gotten a LOT better in recent years though, but for someone that really wants

everything to Just Work, you might prefer 32-bit.

- 64bit means that memory pointers can address higher amounts of memory. If your system has 4gig or more of RAM memory, and you use apps that need lots of RAM, that can be a reason for using 64bit. However, in recent years the PAE kernels for i386 have become standard, and these do permit addressing >4gig.
- If you're a developer and you run 64-bit, you can build both 32-bit and 64-bit executables fairly easily (e.g. with pbuilder). Building 64-bit binaries on 32-bit seems not possible (well, at least not without jumping through some hoops).

[Update 12.04] Just recently I've reinstalled the amd64 version of 12.04, and find it a lot better than it was when I originally wrote the above. I've not tested Java but Flash is definitely working as well as it had on 32bit. Also, completely anecdotally but it seems like people are running 64-bit more often than 32-bit these days.

---

[Answer](#)  by [steve-beattie](#)

One disadvantage to running the 32bit version non-PAE kernel is that your processes aren't protected with the CPUs non-executable (NX) bit, which can make it easier for attackers attempting to exploit flaws in software. See the [Security Team's Features discussion](#)  on it for more details. In recent Ubuntu releases, there's an emulation mode, but it's of limited effectiveness.

Also, the randomization space available for things like [Address Space Layout Randomization \(ASLR\)](#)  is much, much smaller when using 32 bits, potentially to the point of being brute forcible.

---

**Tags:** [64-bit](#) ([Next Q](#))

---

## [Q: What are the differences between 32-bit and 64-bit, and which should I choose?](#)

**Tags:** [64-bit](#) ([Next Q](#))

What is the difference between 32-bit and 64-bit Ubuntu? I've heard the 64-bit platform performs better and can detect more than 4GB of RAM. Also, while some apps haven't ported to 64-bit yet, ia32-libs lets a 64-bit machine run them.

If so, why not promote 64-bit over 32-bit?

**Tags:** [64-bit](#) ([Next Q](#))

**User:** [squallbayu](#)

---

[Answer](#)  by [sergey](#)

I believe the main question when choosing between 32 and 64 bits is not "Does my processor support 64 bits if so then I should use 64 because that's twice as good", but

## **“How much memory do I have?”.**

64-bit programs use about 50% more memory than their 32-bit counterparts. The results of this are:

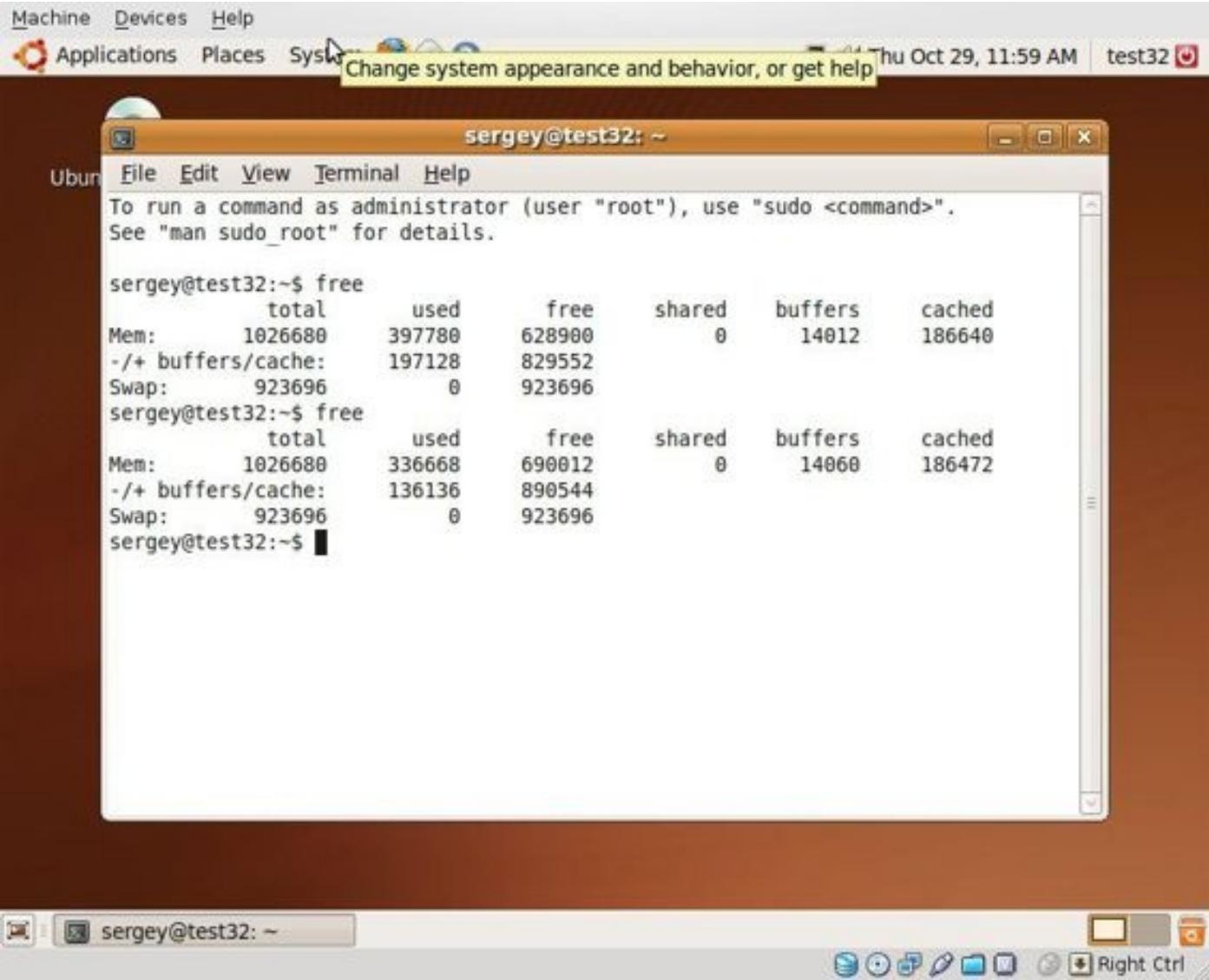
- less code/data can fit into processor caches -> more cache misses -> your super-fast processor waits more for memory controller to fetch data from RAM. Processor also needs to read *more* data because it's more bloated.
- Linux uses non-allocated RAM to cache disks. Less free memory available -> less space for disk caches -> slower disk access
- Once you're out of RAM and the system starts swapping - disk access is thousands times slower than RAM, so any potential benefits of 64-bit code (see below) are flying out of window.

On the other hand, in 64-bit mode processor has more registers, so it doesn't need to access memory that often, also, some calculations (64-bit numbers etc.) are more efficient. So generally, code which is not memory-restricted runs slightly faster in 64-bit mode.

So, if your system has, say, 2GiB of RAM or less then I would definitely choose 32 bits. More than 4GiB - the benefits of 64 bits are becoming more prominent. Around 4GiB is a “grey zone” - you need to make a choice yourself.

Here are screenshots of a (rather old) vanilla Ubuntu running in a VirtualBox with 1GiB RAM:

**32 bit:** uses 388 MiB of RAM right after booting, no additional applications running (from the screenshot, 397780KiB, which is 388MiB)



**64 bit:** uses 491 MiB of RAM (from the screenshot, 503452KiB = 491MiB)

The screenshot shows a desktop environment with a brown background. At the top, there's a menu bar with "Machine", "Devices", "Help", "Applications", "Places", "System", and icons for "Terminal" and "Help". The system tray shows the date "Thu Oct 29, 11:23 AM" and the session name "test64". Below the menu is a terminal window titled "sergey@test64: ~". The window contains the following text:

```
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

sergey@test64:~$ free
      total        used        free      shared      buffers      cached
Mem:   1012540     503452    509088          0     14116    201156
  -/+ buffers/cache:    288180    724360
Swap:  923696          0    923696

sergey@test64:~$ free
      total        used        free      shared      buffers      cached
Mem:   1012540     420956    591584          0     14212    201004
  -/+ buffers/cache:    205740    806800
Swap:  923696          0    923696

sergey@test64:~$
```

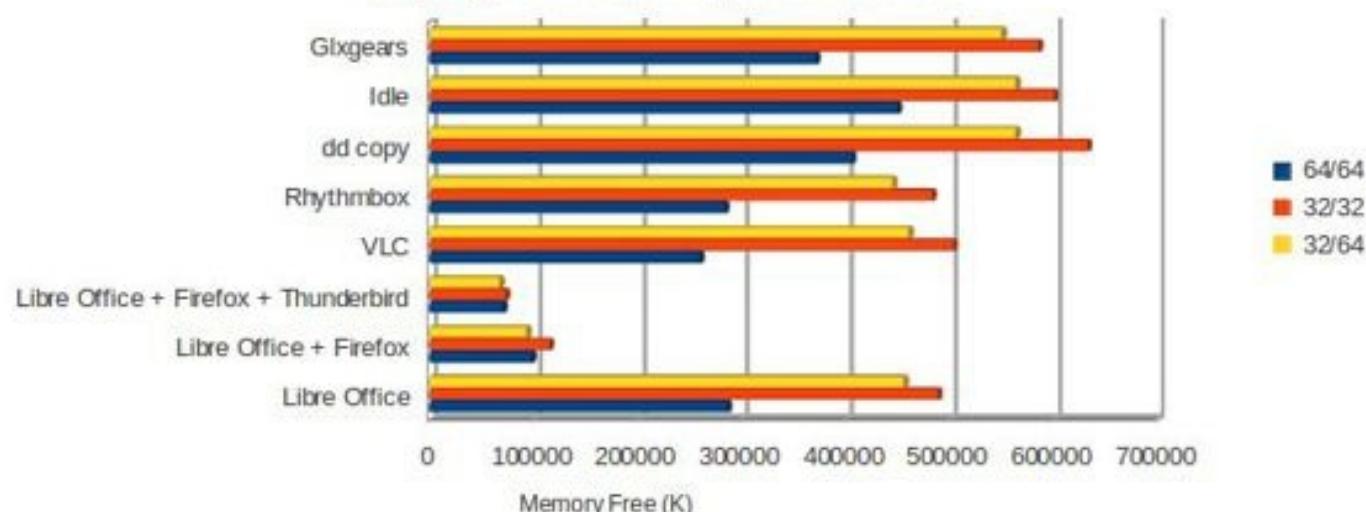
Additionally, in my testing, a web-application written in Python used up to 60% more memory on a 64-bit machine which resulted in a test suite running in 380 secs on a 32-bit machine but taking 523 seconds on a 64-bit one (both with 1GiB of RAM). If the machines were not RAM-limited the results would likely be different (as phoronix tests show).

Here are some more thorough and recent tests:

<http://kernel.ubuntu.com/~cking/x32/Quantal-x32-power-memory-comparisons.ods>

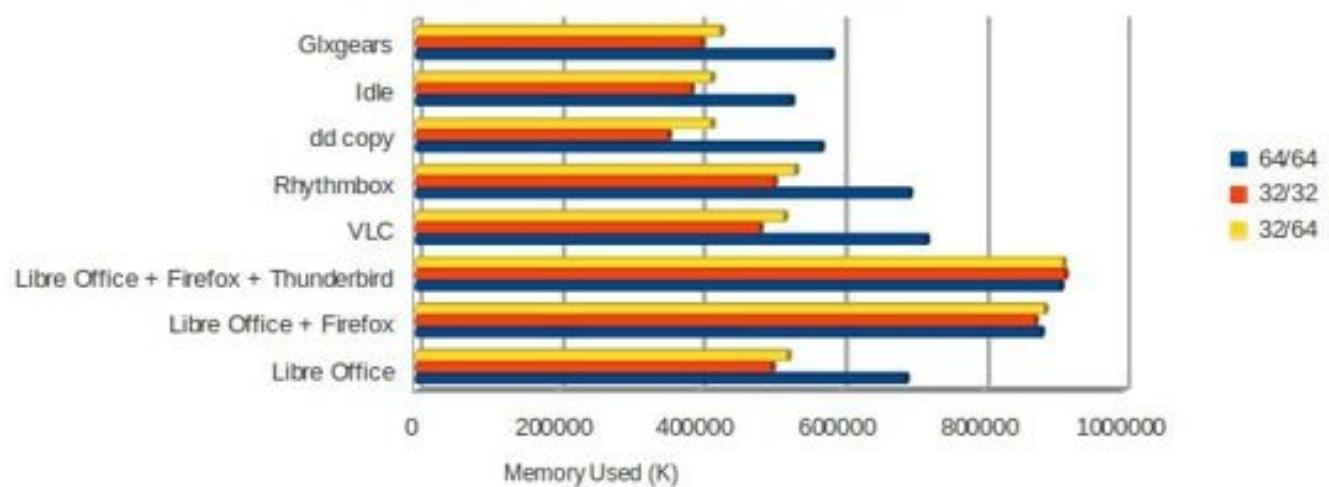
### Memory Free (K) (more is better)

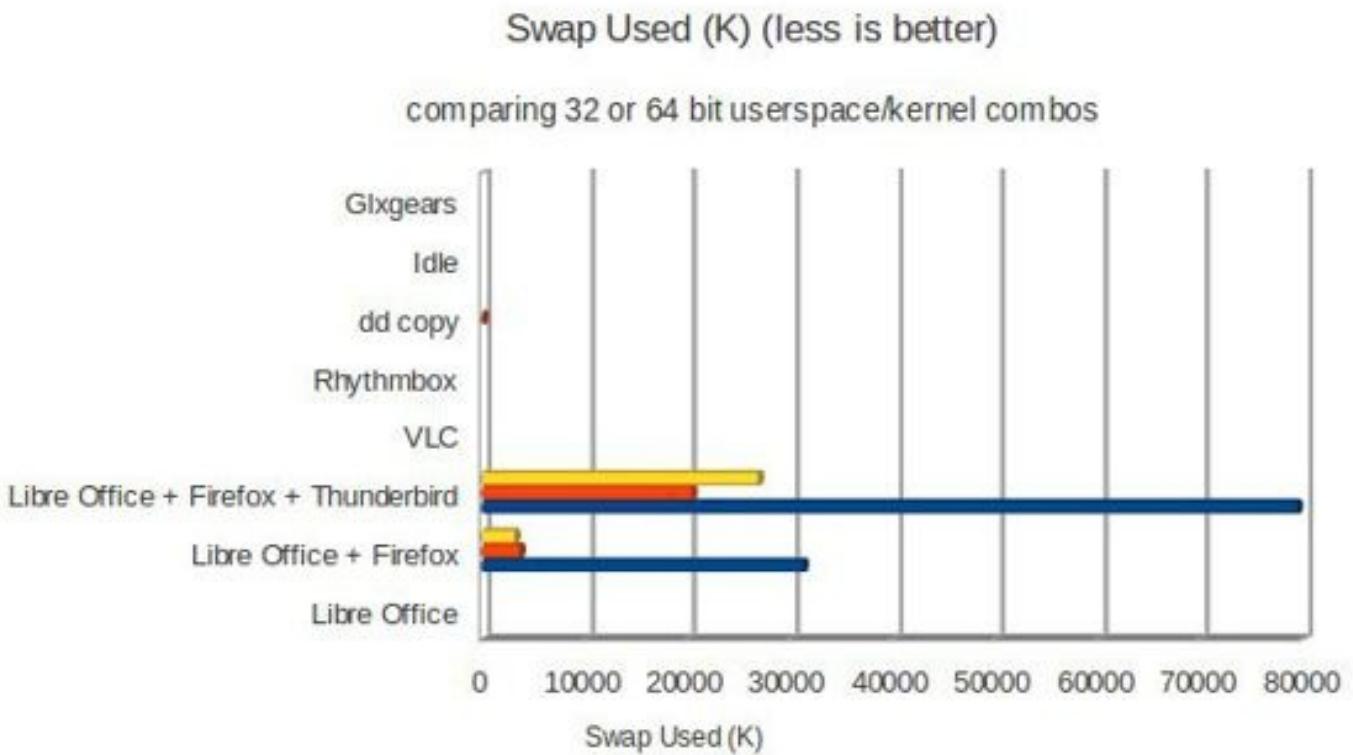
comparing 32 or 64 bit userspace/kernel combos



### Memory Used (K) (less is better)

comparing 32 or 64 bit userspace/kernel combos





**Basically, it's like giving up 30% of your RAM in exchange of possible gain of 10% CPU speed.**

---

[Answer](#) by [mario](#)

**If you don't care to learn the technical details, select the recommended 32-bit version.**

64-bit is generally faster, even if objectively hard to notice. This has less to do with the 64-bit data width, but with the availability of 16 over 8 common CPU registers on the whole instruction set. The disadvantage of wasting more memory for management and larger pointers is thereby mostly levelled out.

The practical problem: not everyone has an AMD64 compatible CPU. Promoting 64-bit over the standard i686 version would lead to more user frustration. Therefore for the next few years, it's less confusing to present the 32-bit version to the average user. It's not exactly a problem for anyone in the know, since the 64-bit version is readily available. And we amd64 users don't have any disadvantage from that situation, except for the initial download. All packages are available in both architectures.

Under the circumstances the Ubuntu download page looks okay to me. It says "32 bit (recommended)", but that "recommended" translates to "fewer issues, if you don't know all the technical details of your computer". For the netbook edition download page, there isn't even the choice, because some Intel atom CPUs are 32-bit only even in 2010! So in conclusion, I think eschewing the compatibility problems is still necessary. However, I agree that there should be at least a shiny footnote along the lines that -64 is faster than -32, and recommended IF (BUT ONLY IF) the target system supports it.

---

[Answer](#) by [mitch](#)

The terms 32-bit and 64-bit refer to the way a computer's CPU handles information. The 64-bit version handles large amounts of RAM more effectively than a 32-bit system.<sup>1</sup>

- To run a 64-bit OS you need support from the 64-bit CPU.
  - To run a 64-bit application you need support from both the 64-bit OS and the 64-bit CPU.

The general rule is that 32-bit (OS and Application) will run on 64-bit, but 64-bit (OS and Application) does not run on 32-bit:

- A 32-bit OS will run on a 32-bit or 64-bit processor without any problem.
- A 32-bit application will run on a 32-bit or 64-bit OS without any problem.
- But a 64-bit application will only run on a 64-bit OS and a 64-bit OS will only run on a 64-bit processor.

A 64-bit compatible CPU is needed to install a 64-bit OS. Check with the manufacturer of your PC to find out if your system is 64-bit compatible.

32-bit systems have a 4 Gigabyte RAM memory limit, which means they cannot address more than 4GB of RAM even if more is installed on the system (Not all of it will be used). Workarounds are available, but hard to do for an average user.

**Note:** Ubuntu 12.10, and newer will support PAE automatically. Prior to 12.10, you have the option to choose PAE support depending on your CPU. PAE extends maximum RAM on 32-bit to 64GB, more information can be found [here](#).

64-bit editions have additional advantages, including an increased bandwidth, hardware enabled DEP (data execution prevention) and better Kernel protection.

The majority of 32-bit applications will continue to work on a 64-bit systems, but some applications do not work at all, or will run slower.

For more information you can look at [32-bit and 64-bit](#)

<sup>1</sup>Source: [Microsoft](#)

---

**Tags:** [64-bit](#) ([Next Q](#))

---

## **Q: Problems with Eclipse and Android SDK**

**Tags:** [64-bit eclipse](#) ([Next Q](#))

I installed Eclipse, openjdk6 and downloaded and extracted the sdk manager file.

Now, When I created an Android project I got the following error:

```
2012-06-06 18:44:40 - contactManager] /home/catia/android-sdks/platform-tools/aapt:  
error while loading shared libraries: libz.so.1: cannot open shared object file:  
No such file or directory
```

And this one when I tried to create an AVD Manager:

```
[2012-06-06 19:00:18 - SDK Manager] /home/catia/android-sdks/tools/mksdcard: error
while loading shared libraries: libstdc++.so.6: cannot open shared object file: No
such file or directory
[2012-06-06 19:00:18 - SDK Manager] Failed to create the SD card.
[2012-06-06 19:00:18 - SDK Manager] Failed to create sdcard in the AVD folder.
```

**Tags:** [64-bit eclipse](#) ([Next Q](#))

**User:** [csbl](#)

---

[Answer](#) by [eliah-kagan](#)

This problem is occurring because the Android SDK is compiled for a 32-bit GNU/Linux system, and your Ubuntu system is a 64-bit GNU/Linux system. The solution should be easy (since Ubuntu fully supports running 32-bit programs on a 64-bit OS)—just install the 32-bit versions of the libraries it needs.

The simplest and easiest way to do this is to install the 32-bit versions of all the most commonly used libraries, by installing the [ia32-libs](#)

# Missing Image

package. You can do this in the Software Center or in the Terminal with:

```
sudo apt-get update
sudo apt-get install ia32-libs
```

Originally `ia32-libs` was provided because Ubuntu, in its default configuration, didn't support installing 32-bit Ubuntu packages on a 64-bit system. Now that this is fully supported by default, the `ia32-libs` package just causes the same 32-bit packages to be installed on your 64-bit system that would be installed on a minimal 32-bit system. (So for anyone who is worried this might not work now that `multarch` is supported by default: it still works.)

**Source:** [Android/Eclipse Installation on Ubuntu 11.04 - aapt and adb not working properly](#)

**See also:** [Eclipse Android Plugin libncurses.so.5](#)

---

[Answer](#) by [martin-konecny](#)

If you are using Debian Jessie (or Ubuntu 13.10+), try

```
sudo apt-get install lib32stdc++6
```

---

[Answer](#) by [ether\\_joe](#)

[This thread](#) was the fix for me.

Specifically, installing this package:

```
sudo apt-get install lib32z1 lib32z1-dev
```

**Tags:** [64-bit eclipse](#) ([Next Q](#))

---

[Q: Why does Ubuntu Download recommend 32-bit install?](#)

---

[Q: Is it possible to “upgrade” from a 32bit to a 64bit installation?](#)

---

[Q: What are the differences between 32-bit and 64-bit, and which should I choose?](#)

---

[Q: Problems with Eclipse and Android SDK](#)

---

# PHP

[Skip to questions](#), Wiki by user [itsols](#)

PHP initially stood for Personal Home Page but as it evolved into a full-fledged server-side language, it was renamed with a recursive title “PHP Hypertext Pre-processor”.

The language uses a syntax similar to conventional C, but it has its own set of functions.

Being a server-side language, PHP cannot receive user inputs. However, inputs sent from a program such as a web browser can be received by PHP on the server.

After PHP version 5, the language became truly object-oriented. Other languages that fall into the same category include

- ASP (Active Server Pages) - a more Windows-oriented language.
- JSP (Java Server Pages)

From the inception, PHP has been used with MySQL for building database applications. Both being open-source tools, have made the duo like bread and butter. However, in recent years, more DB platforms have got popular with PHP and these include MS-SQL Server, PostgreSQL and more.

---

# Questions

## [Q: How do I install curl in php5?](#)

**Tags:** [php](#) ([Next Q](#))

I currently have PHP 5.3 installed with Apache in 10.04 Lucid. How can I add the PHP Curl libraries? Do I need to install any other dependencies for curl?

**Tags:** [php](#) ([Next Q](#))

**User:** [darren-newton](#)

---

[Answer](#)  by [kfro](#)

I believe that the package php5-curl should do the trick. Use the package manager of your choice and the deps should be taken care of.

```
sudo apt-get install php5-curl
```

You will need to restart the server afterwards:

```
sudo service apache2 restart
```

Alternatively, if you are using php-fpm, you'll need to restart php5-fpm instead

```
sudo service php5-fpm restart
```

---

**Tags:** [php](#) ([Next Q](#))

---

## [Q: What is the easiest way to enable PHP on nginx?](#)

**Tags:** [php](#)

What is the easiest way to enable PHP on nginx on Ubuntu 12.04?

Best solution is the one that request minimal work, ideally just a package installation :)

**Tags:** [php](#)

**User:** [sorin](#)

---

[Answer](#)  by [papashou](#)

The following method will get you started fast on Ubuntu 12.04:

Install the dependences:

```
sudo apt-get install php5-common php5-cli php5-fpm
```

Install nginx:

```
sudo apt-get install nginx
```

Start nginx:

```
sudo service nginx start
```

Test that it's working (should see "Welcome to nginx!")

```
sudo service nginx stop
```

In your nginx site configuration (/etc/nginx/sites-available/default), uncomment the lines in the server {} section starting with

listen for ipv4 / ipv6 both.

scroll down to where it says "location ~ .php {" and uncomment lines so it looks like this:

```
location ~ \.php$ {  
    fastcgi_split_path_info ^(.+\.php)(/.+)$;  
    fastcgi_pass 127.0.0.1:9000;  
    fastcgi_index index.php;  
    include fastcgi_params;  
}
```

```
sudo service php5-fpm restart sudo service nginx restart
```

Your default web root is located at /usr/share/nginx/www (per the config file). (See root /usr/share/nginx/www;

(Note: For Ubuntu 12.10 or newer, you will need to replace the fastcgi\_pass 127.0.0.1:9000; line with this to make it work: fastcgi\_pass unix:/var/run/php5-fpm.sock;)

---

[Answer](#)  by [olibre](#)

The answer of @papashou is correct.

As I use Ubuntu 12.10, the configuration is a bit different. Here is what I did:

## Install

```
sudo apt-get install nginx php5-fpm
```

## Enable PHP

Uncomment the following lines in configuration file /etc/nginx/sites-available/default

### [Skip code block](#)

```
location ~ \.php$ {  
    fastcgi_split_path_info ^(.+\.php)(/.+)$;  
    # NOTE: You should have "cgi.fix_pathinfo = 0;" in php.ini  
  
    # # With php5-cgi alone:  
    # fastcgi_pass 127.0.0.1:9000;  
    # With php5-fpm:  
    fastcgi_pass unix:/var/run/php5-fpm.sock;  
    fastcgi_index index.php;  
    include fastcgi_params;  
}
```

## Start (or restart)

```
sudo service php5-fpm restart  
sudo service nginx restart
```

## **Test nginx**

Opening this link `http://localhost` should display “*Welcome to nginx!*”

## **Test php**

Create a php file:

```
> grep -w '^#[^#]*root' /etc/nginx/sites-available/default
    root /usr/share/nginx/www;
> cd /usr/share/nginx/www
> sudo su
# echo '<?php phpinfo(); ?>' > info.php
```

Opening `http://localhost/info.php` should display the PHP information page.

---

**Tags:** [php](#)

---

[Q: What's the easiest way to set up a LAMP stack?](#)

---

[Q: How do I install curl in php5?](#)

---

[Q: How do I install latest PHP in supported Ubuntu versions \(like 5.4.x in Ubuntu 12.04\)?](#)

---

[Q: What is the easiest way to enable PHP on nginx?](#)

---

# Permissions

## Questions

### [Q: How do I use ‘chmod’ on an NTFS \(or FAT32\) partition?](#)

Tags: [permissions](#)

I have a script that I need to execute on an NTFS partition. The script's permission is set to 600.

I attempted to modify the permissions by running `chmod 755 script.sh`, which doesn't report a failure or anything - but it also doesn't change the permissions on the file:

[Skip code block](#)

```
$ stat script.sh
  File: `script.sh'
  Size: 297070      Blocks: 584          IO Block: 4096   regular file
Device: 811h/2065d  Inode: 35515        Links: 1
Access: (0600/-rw-----) Uid: ( 1000/  xxxxxxxx)  Gid: ( 1000/  xxxxxxxx)
Access: 2010-09-30 14:05:16.041621000 -0700
Modify: 2010-09-30 14:05:05.070157000 -0700
Change: 2010-09-30 14:05:05.070475000 -0700

$ chmod 755 script.sh
$ stat script.sh

  File: `script.sh'
  Size: 297070      Blocks: 584          IO Block: 4096   regular file
Device: 811h/2065d  Inode: 35515        Links: 1
Access: (0600/-rw-----) Uid: ( 1000/  xxxxxxxx)  Gid: ( 1000/  xxxxxxxx)
Access: 2010-09-30 14:05:16.041621000 -0700
Modify: 2010-09-30 14:05:05.070157000 -0700
Change: 2010-09-30 14:05:05.070475000 -0700
```

As you can see, it remains unchanged.

Tags: [permissions](#)

User: [nathan-osman](#)

---

[Answer](#)  by [htorque](#)

The mode is determined by the partition's mount options (you cannot change it via `chmod`).

For '755' on files and '777' on directories you would use something like

```
sudo mount -t ntfs -o rw,auto,user,fmask=0022,dmask=0000 /dev/whatever /mnt/whatever
```

---

[Answer](#)  by [janc](#)

Contrary to what most people believe, NTFS is a POSIX-compatible filesystem, and **it is**

## **possible to use permissions on NTFS.**

To enable this, you need a “User Mapping File” or just give the permissions option when mounting (when no compatibility with Windows is needed). This maps linux users on your system with the user IDs like NTFS/Windows use them internally.

See the [ntfs-3g manpage](#) for some info and some examples. If you need more information, see the [ntfs-3g advanced documentation about ownership and permissions](#).

(Note that this does not work on FAT filesystems.)

Yes, it can also store filenames that are valid in linux/unix but not under Windows, supports symlinks & hardlinks, etc.

---

[Answer](#) by [dbrews](#)

In addition to setting the fmask and/or dmask in htorque’s answer above, if you want to execute scripts on the drive, I had to also set the “exec” mount option.

So the example would be:

```
sudo mount -t ntfs -o rw,auto,user,fmask=0022,dmask=0000,exec /dev/whatever /mnt/whatever
```

---

**Tags:** [permissions](#)

---

[Q: Change folder permissions and ownership](#)

---

[Q: How do I use ‘chmod’ on an NTFS \(or FAT32\) partition?](#)

---

[Q: How do I change my username?](#)

---

[Q: How can I get octal file permissions from command line?](#)

---

# Themes

## Questions

### [Q: Gdk Gtk warnings and errors from the command line](#)

Tags: [themes](#)

In the newest version of Ubuntu (11.10) when I run from the command line Gtk complains loudly (over several lines) each time a window is opened. The problem is clearly with the theme - if I change the default from Ambiance to High-Contrast this goes away. Some examples:

[Skip code block](#)

```
travis@hydrogen:~$ emacs foo.txt
(emacs:1550): Gtk-WARNING **: Unable to locate theme engine in module_path: "pixmap",
(emacs:1550): Gtk-WARNING **: Unable to locate theme engine in module_path: "pixmap",
(emacs:1550): Gtk-WARNING **: Unable to locate theme engine in module_path: "pixmap",
(emacs:1550): Gtk-WARNING **: Unable to locate theme engine in module_path: "pixmap",
(emacs:1550): Gtk-WARNING **: Unable to locate theme engine in module_path: "pixmap",
(emacs:1550): Gtk-WARNING **: Unable to locate theme engine in module_path: "pixmap",
(emacs:1550): Gtk-WARNING **: Unable to locate theme engine in module_path: "pixmap",
(emacs:1550): Gtk-WARNING **: Unable to locate theme engine in module_path: "pixmap",
(emacs:1550): Gtk-WARNING **: Unable to locate theme engine in module_path: "pixmap",

travis@hydrogen:~$ evince test.pdf
(evince:1566): GLib-GObject-WARNING **: g_object_set_valist: construct property "enable-gestures"
for object 'EvView' can't be set after construction
(evince:1566): Gdk-CRITICAL **: gdk_window_get_pointer: assertion `GDK_IS_WINDOW (window)' failed
(evince:1566): Gdk-CRITICAL **: gdk_window_get_pointer: assertion `GDK_IS_WINDOW (window)' failed
(evince:1566): Gdk-CRITICAL **: gdk_window_get_pointer: assertion `GDK_IS_WINDOW (window)' failed
```

I like the themes and I don't want to part with them. How can I fix the command line verbosity from Gtk? I can simply hack the command line to filter out these messages, but I really don't like that idea.

#### Possibly Related

From a previous version: [How to get rid of odd error line...](#) 

Tags: [themes](#)

User: [hooked](#)

---

[Answer](#)  by [alvin-row](#)

The Unable to locate theme engine in module\_path: "pixmap" messages are a known [bug](#) .

To fix it, install the [gtk2-engines-pixbuf](#) 

# Missing Image

---

package

The warnings you get from running Evince are a separate [bug](#). There isn't a fix for that yet as far as I can tell.

---

**Tags:** [themes](#)

---

[Q: Desktop forgets theme?](#)

---

[Q: How do I make a Theme from scratch for Unity?](#)

---

[Q: Gdk Gtk warnings and errors from the command line](#)

---

[Q: How to change tooltip background color in Unity?](#)

---

# Python

[Skip to questions](#), Wiki by user [Ã'ndrÃ¼k](#)

Python is a general purpose language which can be used for anything from quick scripting jobs to fully object-oriented GUI programs.

Python is designed to have readable source code. As such, code blocks are delimited by indentation instead of the braces used in many other languages. Python is one of few programming languages to have significant white space.

Unlike C-like languages, Python is generally not compiled and is instead an interpreted language. The most common interpreter is CPython, which is written in C. Other interpreters are PyPy, which is written in Python and Jython, which is written in Java.

From <http://hg.python.org/peps/rev/76d43e52d978> (PEP 373, Python 2.7 Release Schedule):

---

The End Of Life date (EOL, sunset date) for Python 2.7 has been moved five years into the future, to 2020. This decision was made to clarify the status of Python 2.7 and relieve worries for those users who cannot yet migrate to Python 3.

# Questions

## Q: How do I install python 2.7.2 on Ubuntu?

**Tags:** [python](#) ([Next Q](#))

I want to install python 2.7.2.tgz on Ubuntu, downloaded from <http://python.org/download/>.

Is this a correct way to install :

```
./configure  
make  
make install
```

If not , how can I do that?

**Tags:** [python](#) ([Next Q](#))

**User:** [mohammad](#)

---

[Answer](#)  by [achu](#)

First, install some dependencies:

```
sudo apt-get install build-essential  
sudo apt-get install libreadline-gplv2-dev libncursesw5-dev libssl-dev libsqlite3-dev tk-dev  
libgdbm-dev libc6-dev libbz2-dev
```

Then download using the following command:

```
cd ~/Downloads/  
wget http://python.org/ftp/python/2.7.5/Python-2.7.5.tgz
```

Extract and go to the directory:

```
tar -xvf Python-2.7.5.tgz  
cd Python-2.7.5
```

Now, install using the command you just tried:

```
./configure  
make  
sudo make install
```

---

[Answer](#)  by [brousch](#)

Unless you really have a burning desire to compile it yourself, the preferred way is to use the DeadSnakes PPA to install versions of Python that aren't included by default:

```
sudo add-apt-repository ppa:fkrull/deadsnakes  
sudo apt-get update  
sudo apt-get install python2.7
```

---

**Tags:** [python](#) ([Next Q](#))

## [Q: How can I install Python 2.6 on 12.04?](#)

**Tags:** [python](#)

According to <https://wiki.ubuntu.com/PrecisePangolin/ReleaseNotes/UbuntuDesktop>  “Python 2.6 is no longer available for install”.

I need to support legacy software that runs only on Python 2.6. How can I install Python 2.6 on Ubuntu 12.04?

**Tags:** [python](#)

**User:** [d3vid](#)

---

[Answer](#)  by [localhost](#)

I'm using a PPA: <https://launchpad.net/~fkrull/+archive/deadsnakes> 

Install the PPA:

```
sudo add-apt-repository ppa:fkrull/deadsnakes
```

Run Update:

```
sudo apt-get update
```

Install your flavor:

```
sudo apt-get install python2.6 python2.6-dev
```

---

[Answer](#)  by [andrewjesaitis](#)

Check out [pythonbrew](#)  . It does a great job of managing multiple python versions and environments. It builds each version of python from source, but does so in a user friendly way. After you install it just run:

```
pythonbrew install 2.6  
pythonbrew switch 2.6
```

Then you can use it with virtualenv to create a virtual environment with whatever frameworks and libraries you need without having to worry about conflicts.

---

**Tags:** [python](#)

---

[Q: How do I create a deb package for a single python script?](#)

---

[Q: How do I install python 2.7.2 on Ubuntu?](#)

---

[Q: How can I install Python 2.6 on 12.04?](#)

---

[Q: Is #!/bin/sh read by the interpreter?](#)

---

# GRUB2

[Skip to questions](#), Wiki by user [jrg](#)

## **What Questions Should Have This Tag?:**

- Questions on how to edit, repair, or troubleshoot GRUB2
  - Questions on how GRUB2 works
-

## **Some Basic Definitions:**

Bootloader - This is a program which loads the Operating System(OS) or other software, after POST (Power On Self Test).

Boot Record - Contains information on which OS(s)/program(s) to “boot”, and information about where these are located.

---

# Brief Introduction to the Subject:

From the Ubuntu Wiki page for GRUB2:

GRUB 2's major improvements over the original GRUB include:

- Scripting support including conditional statements and functions
  - Dynamic module loading
  - Rescue mode
  - Custom Menus
  - Themes
  - Graphical boot menu support and improved splash capability
  - Boot LiveCD ISO images directly from hard drive
  - New configuration file structure
  - Non-x86 platform support (such as PowerPC)
  - Universal support for UUIDs (not just Ubuntu)
-

# Important Links for Learning More:

- [Ubuntu Wiki Page for GRUB2](#) 
  - [How do I change the GRUB boot order?](#)
  - [How do I set the grub timeout and the grub default boot entry?](#)
-

# Questions

## **Q: How do I remove or hide old kernel versions to clean up the boot menu?**

**Tags:** [grub2](#)

Every time I install a new Linux kernel, it gets left in the grub\_config, making the boot menu longer each time.

I know I can manually search through the installed packages and remove them.

Does Ubuntu provide any easier way to clean them up or keep them from showing in the boot list?

**Tags:** [grub2](#)

**User:** [imaginaryrobots](#)

---

[Answer](#)  by [fossfreedom](#)

# 11.10 and newer versions of Ubuntu

## GRUB2 and its display of all kernels

The latest versions of *Grub2* installed in *Ubuntu* automatically display the latest kernel and hides the older kernels that you may have installed.



If you do not see your *grub* - then remember to press Shift whilst booting.

As you can see, only the latest kernel is displayed.

If you select the option shown (press Enter) then all the old kernels become visible and available to boot from.



# How to permanently delete ALL older kernels using the shell

This will remove ALL versions but the current:

```
sudo apt-get remove --purge $(dpkg -l 'linux-*' | sed '/^ii/!d;/"$(uname -r | sed "s/^(.*\)-\([^\0-9]+\+\)\)\1/d;s/^[* ]*\ [^ ]*\ \([^\ ]*\)\.*\1;/[0-9]/!d')
```

Or you can run this command as a *cron job*, if you want this done automatically without confirmation:

```
dpkg -l 'linux-*' | sed '/^ii/!d;/"$(uname -r | sed "s/^(.*\)-\([^\0-9]+\+\)\)\1/d;s/^[* ]*\ [^ ]*\ \([^\ ]*\)\.*\1;/[0-9]/!d'" | xargs sudo apt-get -y purge
```

However this is not wise, as you should **ALWAYS** have an old kernel or two to fall back to (just in case the new one doesn't work with your system). At the very least, if you've just upgraded the kernel, reboot before deleting the older versions. Read on for a safer, more manual way.

# How to permanently delete older kernels

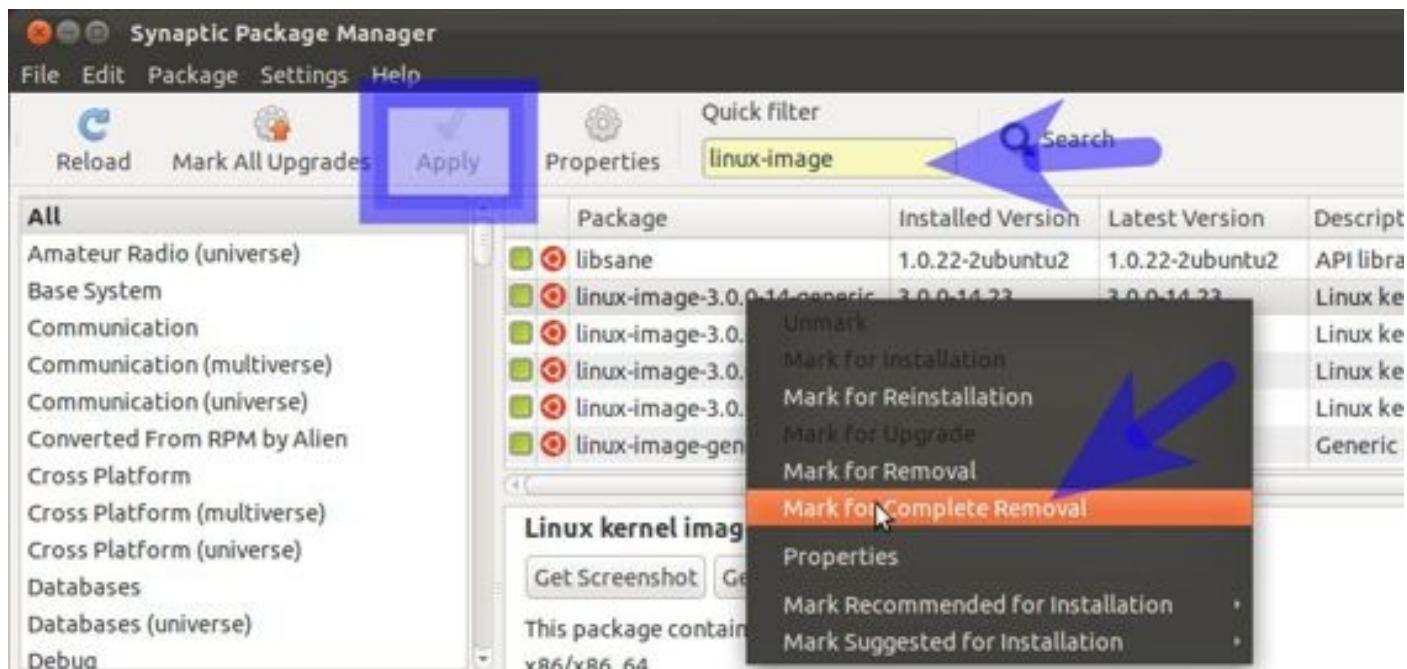
First boot with the latest available kernel.

There are a number of ways to delete old kernels. Personally, I wouldn't touch *Computer Janitor* since this is acknowledged to break your computer with its suggestions.

## synaptic

An alternative is *Synaptic* (`sudo apt-get install synaptic`)

search for *linux-image*, right-click a kernel and choose complete removal and finally click the *Apply* button to delete the kernel.



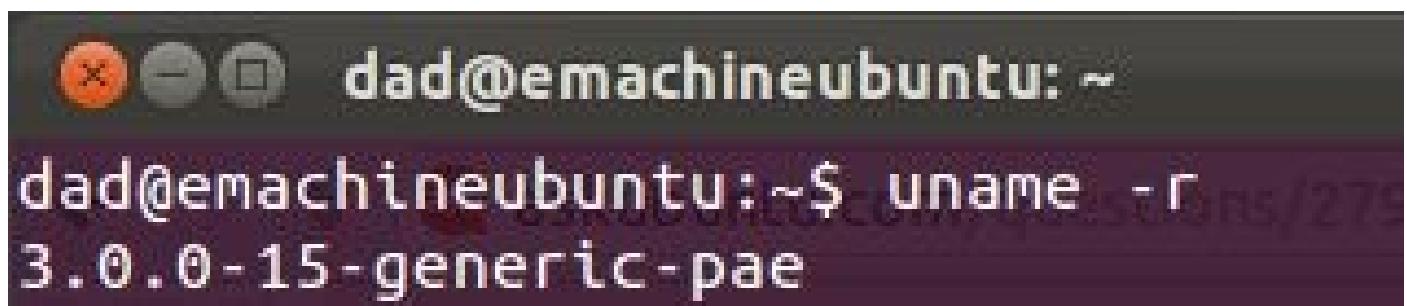
Repeat the search but this time for *linux-header* - you can delete the associated headers for the kernel image chosen previously.

*Synaptic* though will not attempt to verify what you are trying to remove... you could inadvertently delete your newest kernel - or even delete all of your kernels via this tool leaving you with an unbootable *Ubuntu*!.

Remember to check which kernel you are using type:

```
uname -r
```

The result would be similar to:



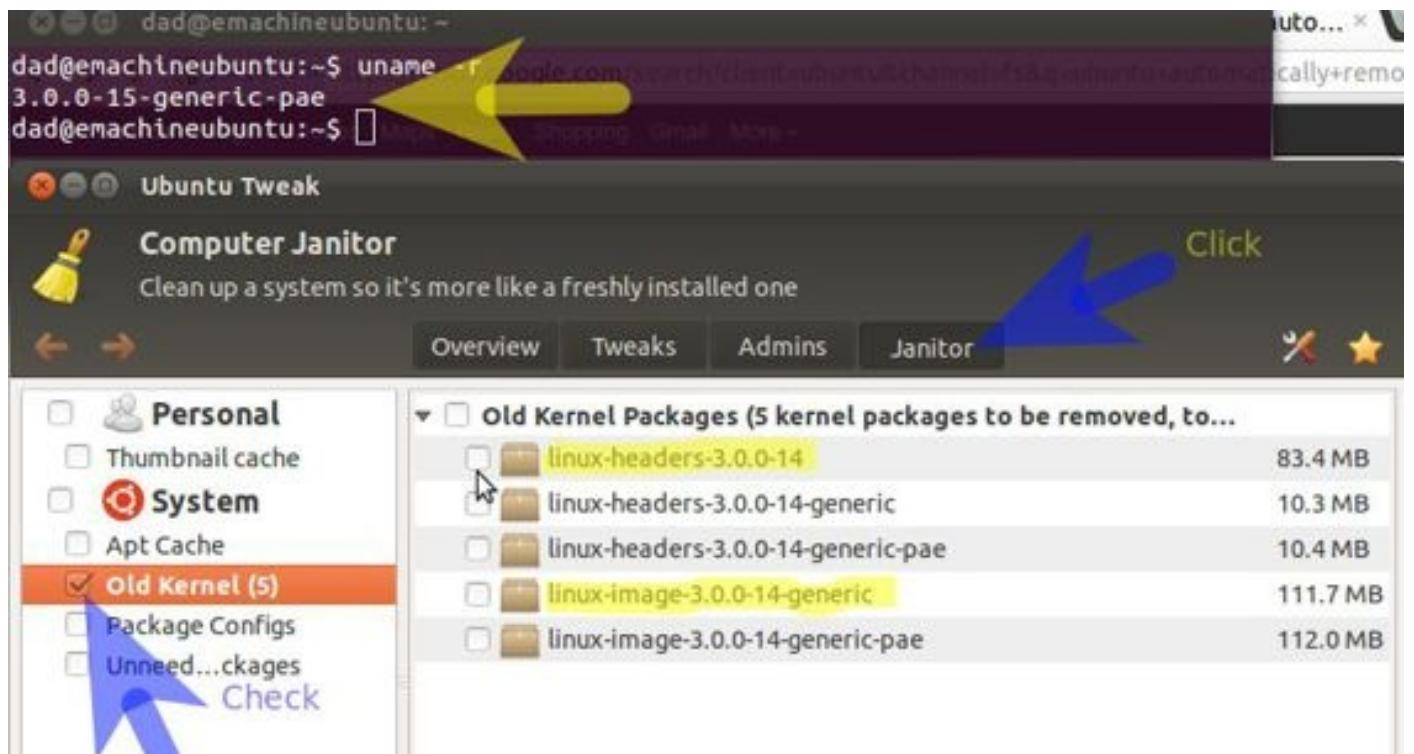
Remember the result and the number - make sure you don't delete the corresponding image or header.

## Ubuntu-tweak

*IMHO*, the best GUI tool is *Ubuntu-Tweak*

It is not available from the standard repositories. To install you need to use the author's PPA:

```
sudo add-apt-repository ppa:tualatrix/ppa  
sudo apt-get update  
sudo apt-get install ubuntu-tweak
```



Choose the options shown by the arrows.

Select both the headers and image with the same version number.

It will not allow you to delete the current kernel you are booted with since the current kernel is not displayed.

# Recommendation

My recommendation is to keep at least two or preferably three kernels including the latest. The reason for the recommendation is that you will have at least one/two other kernels to boot with, if for what-ever reason the latest kernel you are unable to boot with or introducing a regressed capability such as broken wireless.

---

[Answer](#)  by [penreturns](#)

Open terminal and check your current kernel:

```
uname -r
```

DO NOT REMOVE THIS KERNEL!

Next, type the command below to view/list all installed kernels on your system.

```
dpkg -l | grep linux-image
```

Find all the kernels that lower than your current kernel. When you know which kernel to remove, continue below to remove it. Run the commands below to remove the kernel you selected.

```
sudo apt-get purge linux-image-x.x.x-x-generic
```

Finally, run the commands below to update grub2

```
sudo update-grub2
```

Reboot your system.

---

[Answer](#)  by [karthick87](#)

Removing Entries from Grub 2 Entries should be removed by editing or removing files in the /etc/grub.d folder. The /boot/grub/grub.cfg file is read-only and should not normally require editing.

## Too Many Kernels?

- If you are not sure of the kernel you are currently using, in a terminal type **uname -r**.
- Kernels removed via APT (Synaptic, “apt-get remove”, etc.) will automatically update grub.cfg and no user action is required.
- A great tool for removing kernels (and menu entries) is Ubuntu-Tweak, a safe and easy-to-use GUI app.
- Install ubuntu tweak
- Ubuntu-Tweak will be available under Applications > System Tools.

## Remove Older Kernel Entries

- Select “Package Cleaner” on the left and “Clean Kernel” from the right panel.
- Press the “Unlock” button at the lower right, enter your password.
- Select from the displayed list the kernel images and headers you wish to remove. The kernel in use is not listed.
- Press the “Cleanup” button at the lower right to remove the selected kernel images and headers.

## **Remove Operating Systems from the Grub menu**

- Other Operating Systems which have been removed from the computer will also be removed from the menu once “update-grub” is run as root.
- Menu items are placed on the Grub2 menu by scripts. If you don’t want other Operating Systems to be entered in the menu, disable /etc/grub.d/30\_osprober
- Run this command to stop the script from running  
`sudo chmod -x /etc/grub.d/30_os-prober`
- DISABLE\_30\_OS-PROBER=‘true’ in /etc/default/grub

## **Remove Memtest86+ from the Grub Menu**

`sudo chmod -x /etc/grub.d/20_memtest86+`

- Run the update-grub command to allow the changes to be incorporated in grub.cfg

## **[Source](#)**

**Note:** After kernel updates a new entry is added to the GRUB menu. You can remove the older one if you want. However, most experienced users will advise you to keep at least one spare entry in case something goes wrong with an upgrade and you need to boot an older kernel version for troubleshooting purposes.

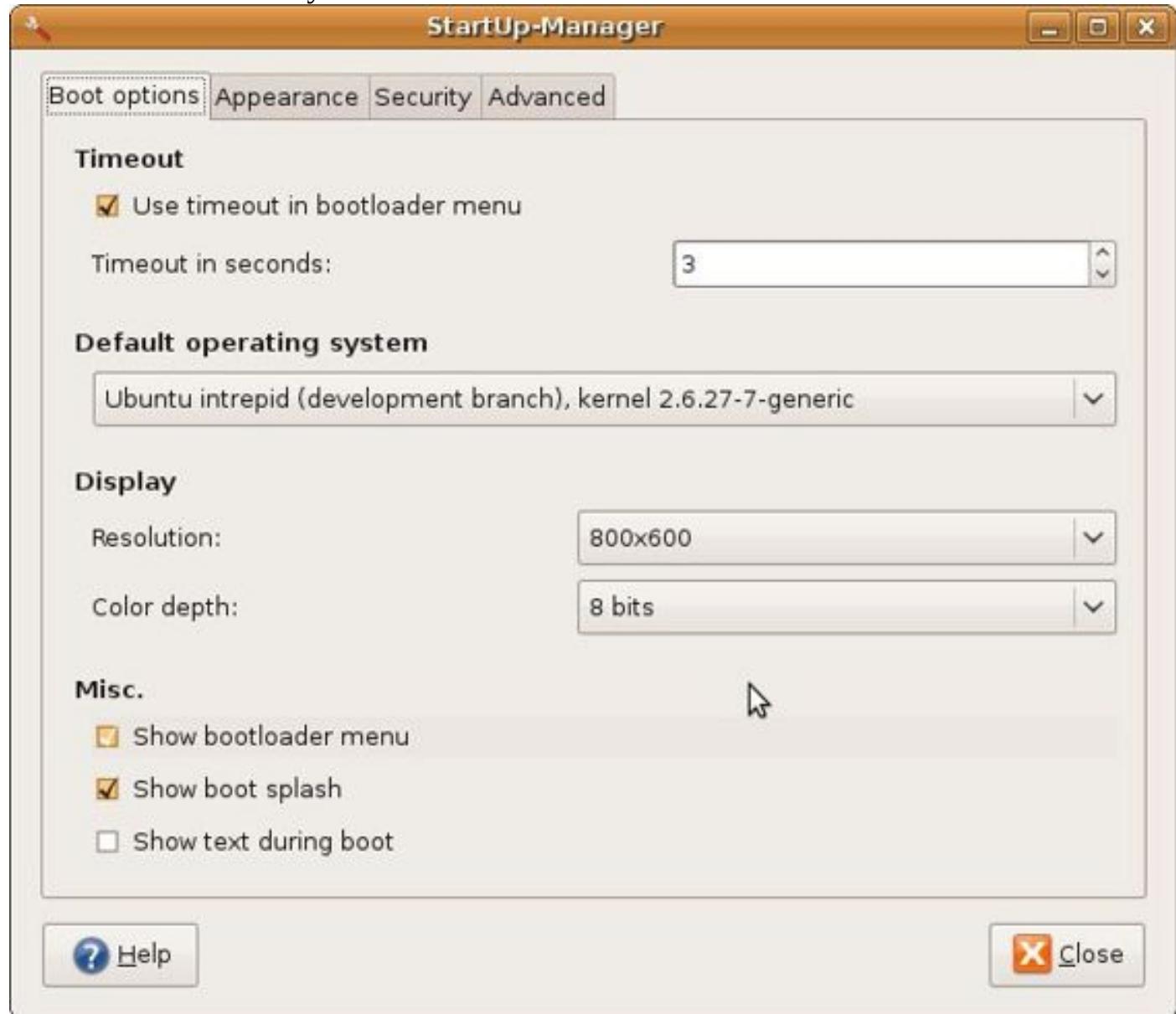
## **Alternate way to remove Kernel entries (prior to 10.04)**

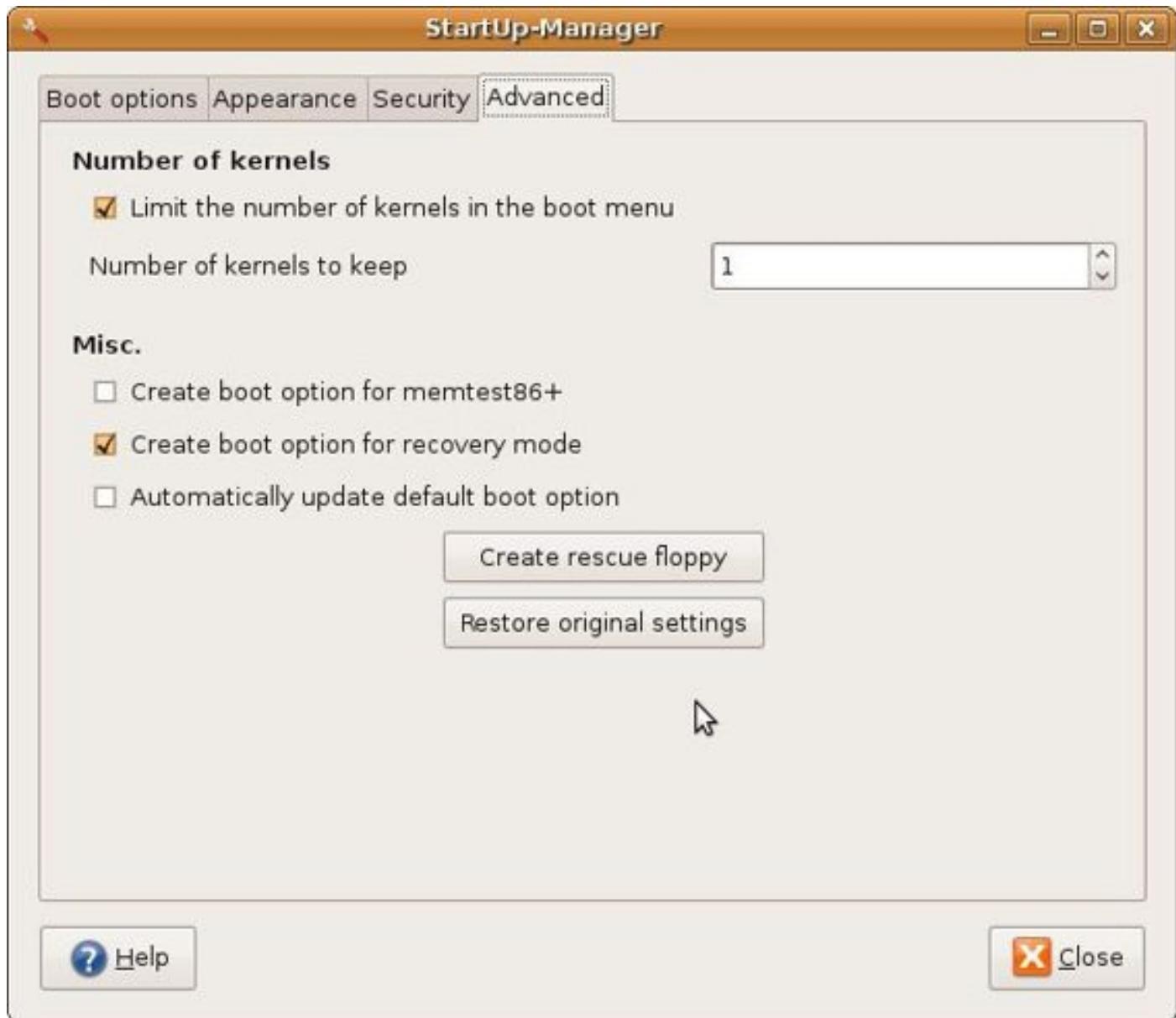
*for GRUB not GRUB2*

**startupmanager** 

# Missing Image

You can find it under System>>Administration>>





You see in the second screenshot you can select how many kernels to show? I generally just keep it on 1, but when I get a kernel upgrade I always change it to 2 before restarting so I can select the older kernel if the new kernel has problems with my hardware. Once I know the new kernel is working well I change it back to 1.

---

**Tags:** [grub2](#)

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[\*\*Q: How do I remove or hide old kernel versions to clean up the boot menu?\*\*](#)

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[\*\*Q: How can I repair grub? \(How to get Ubuntu back after installing Windows?\)\*\*](#)

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[\*\*Q: How do I change the GRUB boot order?\*\*](#)

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[\*\*Q: How do I set the grub timeout and the grub default boot entry?\*\*](#)

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# Nvidia

[Skip to questions](#), Wiki by user [rolandixor](#)

Nvidia (sometimes written nVidia or n-Vidia) is a microchip manufacturer that specializes in graphics and mobile (ARM architecture) processors and recently in SOC (System On a Chip) and Super Computer microchips.

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# Questions

## Q: How do I install the Nvidia drivers?

**Tags:** [nvidia](#) ([Next Q](#)), [drivers](#) ([Next Q](#))

I just ordered the Nvidia GTX 560 card, which should arrive tomorrow. I have a dilemma, though. Should I keep using the driver which is available in “additional drivers” in Ubuntu (10.10), or should I install the driver from the nvidia site?

NOTE - The methods to install explained here apply to all Nvidia, Ati & Intel video cards

The latest driver available at the nvidia site:

[Skip code block](#)

```
LINUX X64 (AMD64/EM64T) DISPLAY DRIVER
Version: 280.13 Certified
Release Date: 2011.08.01
Operating System: Linux 64-bit
Language: English (U.S.)
File Size: 52.4 MB
```

I should point out that I don't need the card to unleash its full potential in Ubuntu (I have Windows for gaming, other HDD), I just need it to work properly, that meaning the power saving should work (I don't want the card to overheat for no reason), also I would like the fans to work at proper speeds, etc.

So which driver is the best for me?

**Tags:** [nvidia](#) ([Next Q](#)), [drivers](#) ([Next Q](#))

**User:** [richard-rodriguez](#)

---

[Answer](#)  by [luis-alvarado](#)

This Answer is oriented towards learning if your Video card is supported, the difference between drivers (sources). what drivers to install and how to install them

- 1. Can I use the latest driver on an older version of Ubuntu?
- 2. Difference between video cards & drivers: Official site, Ubuntu's Default, PPA?
- 3. What PPAs are recommended when using any video card?
- 4. How to know which driver or package to install?
- 5. How to install a driver?
- 6. Difference between Proprietary Drivers?
- 7. How to know if my video card is supported in Ubuntu?

For Troubleshooting Nvidia Problems or Overclocking Settings please see [this answer](#)  which covers:

- 1. What common bugs are solved by using the latest drivers?
- 2. My video card is not installing (Installation problems)
- 3. Tuning and Tweaking by Video card

Top questions asked about video cards:

# **1. Can I use the latest driver on an older version of Ubuntu?**

## **Ubuntu 12.04+**

Since 12.04+ video drivers are maintained and updated more often. It is easier to handle and solve the problems that showed with older ones. You most likely won't need additional PPAs unless you have the latest Nvidia card.

## **2. Difference between video cards & drivers: Official site, Ubuntu's Default, PPA**

I recommend them in the following order according to problems found, how the “out of the box” experience feels to end users, how compatible they are and how it will feel once you have it set up:

**Intel** - Works out of the box. Most will work with no problems. Great for using a Video Beam. Just plug it in. The benefits relate to how fast the Intel video card is. In general you should not have any problems with them.

**NVIDIA / ATI** - Great Performance. It works out of the box for most cards by using their open source drivers but if you install their proprietary drivers it will much better since it will use the full capability of the video card. Most cards work excellent with Unity.

In the case of laptops, if you had 3 laptops to choose from, and they all were the same except for the video card, I would first go with Intel, followed by Nvidia and lastly by Ati. This is based on how well the laptop will perform in general, how long it will last, heat problems and more.

In the case of Desktop PCs, I would choose Nvidia over Intel and Intel over Ati.

In general, Ubuntu will work without problems or at least with a minimum of tweaking. The performance gain in the past months for all 3 and the amount of fixes they have received just lets us know that there will be fewer problems for each new version of Ubuntu.

As I mentioned before, there are at least 3 ways to install a driver. You can either download the driver from the Official site, use the one that comes with Ubuntu by default (Either open source or proprietary) or add a PPA and use the one that comes with it (There are more ways but I will not cover compiling drivers).

For Intel you either use the drivers that come with Ubuntu (Which can be updated every time you update the system), add a PPA that will offer the latest version of the Intel Drivers or the one I am recommending is to use the [Intel Graphics Installer](#). This solves issues when using Sandy Bridge, Ivy Bridge or newer/older Intel graphics cards.

For Nvidia and Ati/AMD, you have 3 options, you can either use the driver that comes from the Official site, use the one that comes in a PPA or use the one that comes by default with Ubuntu (In the form of the Open Source one or the Proprietary one).

The differences can be summed in the following points:

### **— Official Site —**

- Offers the latest driver
- Installation is through the terminal
- When an update appears you have to manually download the new package
- It has more issues than any other method (Specially for Nvidia)

- It is the 2nd recommended way for Ati/AMD and the last one for Nvidia
- Drivers for Ati/AMD are much better than the ones that come by default

## — PPA Repositories —

- Offers the latest driver hours/days after it's official release
- Installation is either through terminal or GUI
- If you have a previously installed driver it will update the package automatically
- When an update appears you will be notified to update using the Update Manager
- It is more stable and tested than the official ones
- It has less issues than using any other method (Less issues for all video cards)
- It is the 1st recommended way for Ati/AMD and Nvidia. Intel drivers that come by default are excellent.

## — Default Ubuntu Drivers —

- For every new release the drivers get better and better (Specially for Intel)
- Gets updated less frequently than a PPA
- In most cases the drivers will work out of the box (Nouveau for Nvidia)
- Not up to date when compared with the official site or a PPA
- More stable for Intel
- Development is going well for all video cards.
- It is by far, more tested in Ubuntu than any other way (PPA or Official)
- Easier to update

### 3. What PPA is recommended when using any video card?

[Xorg Edgers](#) - The name implies that it is bleeding edge but don't let that fool you. Since 12.04 it has progressively become more and more stable. When using 12.10 (Or even the 14.10 Alpha) for cases like Intel and Nvidia, the video card runs much better and offers better performance. It updates more quickly with a time frame between 1 to 5 days (The last versions have all come out on the same day as the official one). Note that if the drivers (Proprietary or Open Source) than come with Ubuntu are working correctly, there is no need to add this PPA.

To install simply run the add-apt-repository command in the terminal as shown:

```
sudo add-apt-repository ppa:xorg-edgers/ppa  
sudo apt-get update  
sudo apt-get upgrade
```

This would update the system taking into consideration any packages the PPA offers. If you already had an Nvidia, Intel or Ati driver installed, this would also update that driver.

# 4. How to know which driver or package to install?

Depending on how many video cards you have and if they are integrated or not, the installation method and packages to install will change.

## COMPUTERS WITH A SINGLE VIDEO CARD

Nvidia right now has several package versions for different generations of Nvidia cards:

- Nvidia 1xx - For older Nvidia Cards ranging from Geforce MX up to the 9xxx series.
- Nvidia 2xx - For older Nvidia Cards ranging from Geforce MX up to the 9xxx series.
- Nvidia 3xx - For newer ones. Goes from the Geforce 6xxx series up to the latest ones. Note, for the Geforce 600 series, you actually need the 313 or 319 series because of better support, HDMI enhancements and more. I recommend the 319.

If you are using an older Ubuntu version you might see Nvidia package version like 185.xx, 275.xx and others. With the latest Ubuntu versions, this gets a bit of cleaning up and simplifies the amount of packages.

Starting with Nvidia 319.xx, both Nvidia Optimus and the common PCIe drivers are integrated into one, so if you install the Nvidia-319 package or newer, you will get the driver for the Integrated Nvidia cards and also for the PCI ones.

## COMPUTERS WITH A SLI SETUP

Now if you have 2 or more video cards in SLI mode you can do the following:

- For NVidia cards, when creating the `xorg.conf` add the following to the line:

```
sudo nvidia-xconfig --sli=On
```

## COMPUTERS WITH A TWO VIDEO CARDS IN HYBRID MODE

In case you have for example, a laptop that has 2 video cards integrated. One Intel and the other Nvidia, using the methods provided by the other settings is not recommended. At least for any video drive lower than 319.17 (Which is the version that comes with Hybrid support). You would need to follow the install procedure for Bumblebee (Optimus) packages which were made for Hybrid scenarios like this, where the user has 2 video cards from 2 different companies and where one video card is typically used for lower power usage and the other for gaming.

Lastly, Ubuntu has a neat way of recommending which driver to use depending on your video card and drivers available (This is why I also recommend adding the PPAs first). Simply type:

```
ubuntu-drivers devices
```

It should show you a list of driver packages available for your hardware, including but not limited to the video card. If you wish to see which driver is recommended for your video

card then simply type the following:

```
ubuntu-drivers devices | grep recommended
```

For example, in my case, since I have an Nvidia 560 ti I got the following:

[Skip code block](#)

```
cyrex@cyrexp:~$ ubuntu-drivers devices
== /sys/devices/pci0000:00/0000:00:01.0/0000:01:00.0 ==
model      : GF114 [GeForce GTX 560 Ti]
modalias   : pci:v000010DEd00001200sv000019DAsd00002227bc03sc00i00
vendor     : NVIDIA Corporation
driver     : nvidia-313 - third-party free
driver     : nvidia-313-updates - distro non-free
driver     : nvidia-310-updates - distro non-free
driver     : nvidia-310 - distro non-free
driver     : xserver-xorg-video-nouveau - distro free builtin
driver     : nvidia-304 - distro non-free
driver     : nvidia-304-updates - distro non-free
driver     : nvidia-319 - third-party free recommended

cyrex@cyrexp:~$ ubuntu-drivers devices|grep recommended
driver     : nvidia-319 - third-party free recommended
```

This way I know I need to install the **nvidia-319** package.

# 5. How to install a driver?

The method used will depend on how many video cards you have and which type of video cards you are using. The following are some of the ways of installing an Nvidia video card:

## NVIDIA (Old Drivers that need the headers)

For Nvidia, many times you need to first install the header files of the kernel version you are using at that moment for the driver to install correctly. So you would first need to execute the following line:

```
sudo apt-get install linux-headers-generic
```

And then install the package related to the driver (nvidia\* for Nvidia cards). In other cases you might need to go a little further and install the sources and specific header files, for example:

```
sudo apt-get install linux-source linux-headers-3.5.0-16-generic
```

which installs the `linux-source` package and the specific header file assuming you have in this case the `3.5.0-16-generic` kernel version.

To check which version you have at any given time type `uname -r` which should give you the specific kernel version in use.

## NVIDIA

For Nvidia, it depends on the video card and package needed for it, if the video card is old then most likely you will end up running an Nvidia 1xx driver, like the following line:

```
sudo apt-get install nvidia-173
```

(Again, assuming you added the PPA)

or one of the following:

```
sudo apt-get install nvidia-304
```

```
sudo apt-get install nvidia-graphics-drivers-304
```

If you have one of the latest Nvidia cards (For example an Nvidia 2xx Series and above), then it is recommended to install the latest package which at this moment is:

```
sudo apt-get install nvidia-313
```

If you have an Nvidia Geforce 600 Series card or Titan, I highly recommend using the 319 series:

```
sudo apt-get install nvidia-319
```

Of course, the newer the version, the more fixes it brings and issues it solves related to graphics corruption, HDMI support, thermal support and more on the latest Nvidia cards. If you are having VGA/HDMI issues where it works in one mode and not in the other, then go with the `nvidia-313` or newer to solve this issue. Specially when using TVs.

Note that Fan Control and any other Nvidia features that are not found on the nvidia-settings app, are not Ubuntu related, but Nvidia related. I would recommend, asking the Nvidia developers in the official Nvidia forum about features you may want to include (Fan Control, Overclocking features, etc...)

## HYBRID (Intel/Nvidia)

The exception for both here is when you have 2 video cards (Like a laptop with an Intel video card and an Nvidia card). In this cases I would suggest the following links:

- [Bumblebee or Ironhide?](#)
- [Is a NVIDIA GeForce with Optimus Technology supported by Ubuntu?](#)
- [How do I get AMD/Intel Hybrid Graphics drivers to work?](#)

**NOTE:** Before doing the following remember to first remove any installed Nvidia Packages:

```
sudo apt-get purge nvidia*
sudo nvidia-uninstall
```

For Bumblebee (NVIDIA Optimus) you can use the following PPA:

```
sudo add-apt-repository ppa:bumblebee/stable
sudo apt-get update
sudo apt-get install bumblebee
```

## 6. Difference between Proprietary Drivers?

This is more of an Nvidia question, but as I mentioned in [Difference between Additional Drivers \(Nvidia\)](#) there is some information that you should know:

In general there are 3 options:

- The Open Source Nouveau which runs by default if no other Proprietary driver is installed.
- The Proprietary driver (Tested)
- The Proprietary driver (Experimental)

Depending if “you feel lucky punk!” you can go with Nouveau which works well in most cases but it is not recommended if you want to start testing out Windows Games with Wine or Ubuntu games that use extensive OpenGL (Specially now that Steam is available in Ubuntu).

Then you have the Tested Proprietary drivers. This will work stable and give you considerable more FPS for your card than Nouveau.

Lastly you have the Experimental Proprietary drivers. This will work good in most cases (Using them right now and they work perfectly). This drivers bring a considerably higher performance. You should feel the change when playing L4D2 or see it with unity on how fast Dash and other Compiz features react.

Depending on which one you want, you can go with Open Source Nouveau, Proprietary Tested one or the Experimental one. Note only that either of the Proprietary drivers is recommended for the latest Nvidia cards (Series 6000 and above). Nouveau is more general in that regards but will not offer powerful 3D performance.

## 7. How to know if my video card is supported in Ubuntu?

Here are a couple of hints to know if your video card is supported in Ubuntu:

- If the video card existed **BEFORE** the release of the Ubuntu version you are using, it has a 99% chance it will be supported.
- If the video card appeared less than 6 months **AFTER** the release of the Ubuntu version you are using and you kept that Ubuntu version updated, then you have a pretty good chance it will be supported.
- If you added one of the PPAs I mentioned above then you have a 99.99% chance that it will be supported.
- Checking the Nvidia/Ati/Intel site for support might yield a quicker answer, but in almost 100% of all cases, your video card will be supported either by the open source driver or by the proprietary driver. In most cases, it will be the proprietary driver.
- Using the latest Ubuntu version will also improve your chances of having your latest video card supported.

In general, I make it a rule of thumb that if you have the latest video card or almost one of the latest video cards, you will need the latest drivers (Nvidia and Ati mostly). So always install the latest drivers through the PPA or the Software Sources that come with Ubuntu (Jockey in older versions of Additional Drivers).

**NOTE** - Ubuntu might show in the Graphics option in “About This Computer” the value **Unknown**. If this is happening, please install the `mesa-utils` package.

For Tweaking, Troubleshooting or other type of information please read the answer provided here: <http://askubuntu.com/a/431824/7035> 

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**Tags:** [nvidia](#) ([Next Q](#)), [drivers](#) ([Next Q](#))

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**Q: Flash video appears blue** 

**Tags:** [nvidia](#)

# **The Problem**

After updating to Ubuntu 12.04 from Ubuntu 11.10, all video is still blue, whether playing in a browser or a player. Same problem occurs in 11.10 as well.

I have tried to uninstall all Flash and re-installed but it makes no difference.

What is causing the blue Flash video?

Ubuntu 11.10 64bit

Ubuntu 12.04LTS 64bit

---

# What it looks like



Tags: [nvidia](#)

User: [pst007x](#)

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[Answer](#) by [jnv](#)

There are some misleading and some wrong recommendations here, so let's sum up what the problem is and what solutions there are.

# TL;DR

Latest versions of Ubuntu since 12.10 (Quantal) contain a patched version of the library. If you still run into issues with blue video (NOT including the [Blue Man Group](#)), check out [this answer](#): the Flash Player's library name must be `libflashplayer.so` otherwise `libvdpau` won't apply the workaround. You may also take a look at `/etc/vdpau_wrapper.cfg` file. There you can disable the workarounds applied by `libvdpau`.

If you have Oneiric (11.10) or Precise (12.04), install patched `libvdpau`:

```
sudo add-apt-repository ppa:tikhonov/misc  
sudo apt-get update  
sudo apt-get install libvdpau1
```

Otherwise you can modify Flash Player's library:

```
cd /usr/lib/flashplugin-installer || cd /usr/lib/adobe-flashplugin/  
sudo perl -pi.bak -e 's/libvdpau/lixvdpau/g' libflashplayer.so
```

Read the whole post before commenting.

# The problem

Flash Player since version 11.2 uses hardware video acceleration on most platforms. Unfortunately the acceleration in Linux is not just unsupported, but essentially broken. Flash Player swaps colours in video under the following conditions:

- You are using fairly new Nvidia GPU with [VDPAU](#) support.
- You are using current version of Nvidia binary driver (older versions don't support VDPAU).
- You have `libvdpau1` package installed.
- The player on the site uses [Stage Video](#) that's why only YouTube and few other players are affected.

See [the explanation by Pierre-Loup Griffais from Nvidia](#).

**This is not a bug in Nvidia drivers.** Nvidia is aware of this problem and they have already created a workaround. Nouveau driver isn't probably affected because the [video decoding support is not yet finished](#).

**This is not a bug in libvdpau.** libvdpau is just a wrapper which allows video players to use VDPAU decoding (see [Stephen Warren's explanation](#)).

**This is not an Ubuntu-specific bug.** Other distributions are affected as well, e.g. [Arch](#).

**The bug is very possibly in Flash Player** although Adobe tries to blame Nvidia and incompetent users. There have been multiple reports on Adobe's bugtracker, all of them were rejected as CannotReproduce:

- <https://bugbase.adobe.com/index.cfm?event=bug&id=3077076>
- <https://bugbase.adobe.com/index.cfm?event=bug&id=3097844>
- <https://bugbase.adobe.com/index.cfm?event=bug&id=3109467>
- <https://bugbase.adobe.com/index.cfm?event=bug&id=3120888>
- <https://bugbase.adobe.com/index.cfm?event=bug&id=3136745>
- <https://bugbase.adobe.com/index.cfm?event=bug&id=3164063>

There won't be an official fix from Adobe, since NPAPI-based Flash Player [receives only security patches](#) until 2017. Hopefully we won't need Flash Player by that time.

# The workarounds

## Use libvdpau 0.5

Available in official repositories since Ubuntu 12.10 libvdpau 0.4.1-6

This version of libvdpau includes a workaround by Stephen Warren described below.

[See the release announcement](#) 

# Install patched libvdpau (proper patch)

[Stephen Warren has created nice patch for libvdpau](#), which detects Flash Player and applies workarounds only for it. The patch can be controlled using /etc/vdpau\_wrapper.cfg file.

Patched libvdpau fixes colours and allows Flash Player to use VDPAU for hardware overlay which still provides some performance benefits.

For the wrapper to work, it needs to recognize the use of Flash. So the Flash library has to be named libflashplayer.so and the plugin wrapper has to be enabled in Firefox (in about:config, dom.ipc.plugins.enabled.libflashplayer.so and dom.ipc.plugins.enabled should be set to true).

For Precise (12.04) and Oneiric (11.10) you can install the patched libvdpau from [Maxim Thikonov's PPA](#) using the following commands:

```
sudo add-apt-repository ppa:tikhonov/misc  
sudo apt-get update  
sudo apt-get install libvdpau1
```

The change should come into effect after reboot (or possibly sooner).

# Prevent Flash Player from finding libvdpau

(Via [Daniel Mario Vega on Launchpad](#))

Locate `libflashplayer.so` in your system for Ubuntu, it's either in `/usr/lib/adobe-flashplugin/` if you have `adobe-flashplugin` package installed, or `/usr/lib/flashplugin-installer/` for `flashplugin-installer` package. Consult your browser's `about:plugins` if you have trouble finding the file ([a little tweaking in case of Firefox](#) may be required).

Run the following commands assuming you have installed either `flashplugin-installer`, or `adobe-flashplugin`:

```
cd /usr/lib/flashplugin-installer || cd /usr/lib/adobe-flashplugin/
sudo perl -pi.bak -e 's/libvdpau/lixvdpau/g' libflashplayer.so
```

The change takes effect after restarting the browser.

This will modify Flash Player's binary to search for non-existent "lixvdpau" library instead of "libvdpau". Therefore it won't attempt to use VDPAU presentation at all.

The command creates `libflashplayer.so.bak` backup of the binary in case you run into any problems.

You need to run this command every time there's a Flash Player update since your change will be overwritten.

With this workaround you can keep HW acceleration on, have `libvdpau1` installed and it's very easy to apply compared to patching `libvdpau`.

# Use Google Chrome with PepperFlash

Since version 20, Google Chrome ships with Pepper Flash Player 11.3 with PPAPI support (instead of 11.2 on NPAPI used by Firefox et al.). PepperFlash doesn't seem to be affected by this problem since it appears to use full hardware acceleration.

PepperFlash [can be used with Chromium](#), but unfortunately no other browser currently supports PPAPI.

# Disable Flash Player's Hardware Acceleration

The easiest and the least intrusive fix is to disable Flash Player's [HW acceleration in Display settings](#)  right click on Flash, select Settings

This, however, is not that easy since the Settings window is unresponsive under composite manager (Compiz, standard Unity) and if the browser shows scrollbars.

To disable Hardware acceleration open any video (e.g. on YouTube) in fullscreen and *then* open the Settings window. Or you can temporarily switch to Unity 2D or other non-composite WM.

The change takes effect after refresh.

**The drawback:** this disables HW acceleration in Flash Player even for vector and bitmap operations. Some Flash games and movies may have worse performance and/or worse graphics.

# Uninstall libvdpau

If you want to have HW acceleration in Flash Player enabled, you may uninstall libvdpau from system, which effectively prevents Flash Player from using VDPAU.

Run:

```
sudo apt-get remove libvdpau1
```

**The drawback:** Desktop players (like Totem and Mplayer) won't be able to use hardware video decoding too. This will lead to higher CPU usage during playback. Also the video playback performance may be affected (e.g. dropped frames or completely frozen picture), especially if you have slower CPU and you're watching 1080p videos.

# Enable Flash Player hardware video decoding

**Most users have reported that this leads to very frequent crashes of Flash Player** (probably due to concurrency issues in decoding) but if you're feeling lucky, give it a try.

This is also the same method used by [Flash-Aid addon](#). It won't make it any better.

Run:

```
sudo mkdir /etc/adobe  
echo -e "EnableLinuxHWVideoDecode=1" | sudo tee /etc/adobe/mms.cfg > /dev/null
```

This will create the /etc/adobe/mms.cfg file with EnableLinuxHWVideoDecode=1 content. This is the only way how to actually force Flash Player to decode video on GPU and it's not officially supported by Adobe.

To undo this, run:

```
sudo rm /etc/adobe/mms.cfg
```

to remove the mms.cfg file.

You can try to further improve Flash Player's stability with VDPAU\_NVIDIA\_NO\_OVERLAY=1 environment variable, see [Nvidia forums](#).

# Replace Flash players

(As recommended by [bowser on Launchpad](#))

Use [FlashVideoReplacer](#) Firefox add-on, [Literna Mgica](#) or other solution to replace standard players in Flash with embedded video player plugin (like Totem `totem-mozilla` or VLC `mozilla-plugin-vlc`). No Flash Player, no problem.

# Patch libvdpau (vdpau\_trace hack)

There's an [unofficial patch by Nvidia](#) which fixes Flash Player's bug on libvdpau level by hacking vdpau\_trace.

Note that aforementioned patch by Stephen Warren is technically superior and should be used instead.

# **The non-workarounds**

The following solutions will work only partially or they may have some caveats.

# Enable HTML5 at YouTube

Enabling HTML5 player at <http://www.youtube.com/html5> won't work with all videos; some YouTube videos are just not available for HTML5 player (for example due to the lack of ads support). However HTML5 video is awesome and you should use it anyway.

# Downgrade to Flash Player 11.1

There are [known vulnerabilities](#) in FP 11.1 which are fixed in 11.2. If you want to risk it, you should know what you're getting into.

If you still want to downgrade, try Flash Player 10.3 which is still maintained you can get it in [Adobe's archive](#)

# Switch to different GPU

It seems that very few Nvidia GPUs are not affected, particularly Quadro 2000 and GeForce GT 430. Both have [VDPAU feature set C](#), but otherwise most feature set C GPUs are affected too. If you have any of the aforementioned GPUs, please tell us [on Launchpad](#) whether this bug affects you.

---

[Answer](#) by [mniess](#)

**UPDATE:** Please look at [this solution](#) for a proper fix. The solution mentioned here leads to crashes for many who tried it.

This is caused by a [bug](#) in the new Flash version that Adobe refuses to fix. There also is a bugreport on Launchpad that discusses this (LP: [#967091](#)). The bug only appears when you use the NVidia binary drivers and have libvdpau installed. A quick fix is adding some extra settings to the Flash configuration.

```
sudo mkdir /etc/adobe
echo -e "EnableLinuxHWVideoDecode=1\nOverrideGPUValidation=true" | sudo tee /etc/adobe/mms.cfg > /dev/null
```

This fixes the problem while still having VDPAU hardware acceleration. Unfortunately there probably won't be a new Flash version to fix this without this manual config-hack because the Flash version that introduced this bug is also the last Flash version Adobe will ever release for Linux.

If this causes instability for you, revert the changes by deleting the directory you created before.

```
sudo rm -r /etc/adobe
```

or you can try to reduce the /etc/adobe/mms.cfg file to just the  
overrideGPUValidation=true  
line by editing with sudo gedit /etc/adobe/mms.cfg.

---

[Answer](#) by [pst007x](#)

# Fix (work around)

**Issue:** All web browsers flash player video is blue

- Chromium
- Google Chrome
- Firefox

Both flash plugins causes flash video to appear have a blue overlay, so remove.

- Adobe - flashplugin
- Flashplugin - installer

Solution (not as functional as adobe flash plug in but it works)

- Install lightspark (plus any browser-plugins) or
- Install gnash (plus any browser-plugins)

# Possible Fix 1

## Removed:

- gnash browser plug-ins
- glightspark browser plug-ins
- Video Decode and Presentation API for Unix (libraries) **libvdpau1**
- flashplugin - installer

## Installed:

adobe-flashplugin Re-started browser, and it worked for me.

# Possible Fix 2

## Installed:

- libvdpau1

Flash set-up

- disable HW acceleration in Flash.

Open your browser and navigate to a flash video (youtube, abobe flash site, etc) right click, settings and disable Hardware acceleration.

If you are unable to disable Hardware acceleration, log in to the Unity 2D environment.

BUG: <https://bugs.launchpad.net/ubuntu/+source/unity/+bug/968489> 

OBS: In case of persistance. Restart the machine.

---

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**Tags:** [nvidia](#)

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[Q: Enabling Nvidia driver messes up splash screen](#)

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[Q: How do I install the Nvidia drivers?](#)

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[Q: Flash video appears blue](#)

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[Q: Desktop does not show when I installed nvidia drivers!](#)

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---

# Wine

[Skip to questions](#), Wiki by user [Ã'ndrÃ¼k](#)

Wine is a software compatibility layer that allows Windows programs to be run on Linux, BSD, Solaris and Mac OS X.

“Wine lets you run Windows software on other operating systems. With Wine, you can install and run these applications just like you would in Windows.” ([Source](#))

---

# Questions

## Q: Is there a way to stream Netflix?

Tags: [wine](#) ([Next Q](#))

Is there a way to stream Netflix content to my Ubuntu?

---

## Answer table of contents

- 2012 - Netflix Desktop: <http://askubuntu.com/a/219068/47291>  , <http://askubuntu.com/a/222466/47291> 
- 2013 - Pipelight: <http://askubuntu.com/a/219068/47291>  , <http://askubuntu.com/a/352075/47291> 
- 2014 - Native HTML5 on 14.04, 14.10: <http://askubuntu.com/a/509947/47291> 
- Virtual Machine: <http://askubuntu.com/a/144005/47291> 

Other Ideas explored:

- Moonlight: <http://askubuntu.com/a/144005/47291> 
- Emulation: <http://askubuntu.com/a/43228/47291> 
- PlayOn: <http://askubuntu.com/a/1498/47291> 

Tags: [wine](#) ([Next Q](#))

User: [gator](#)

---

[Answer](#)  by [alfc](#)

As of December 7th, 2012 the following works on 12.04 and 12.10 (at least).

**Note: For new instructions —as of October 2013— on how to install (Windows-)silverlight (ultimately useful to watch Netflix) in Firefox see at the end.**

Open a terminal (Ctrl-Alt-T), an type:

```
sudo apt-add-repository ppa:ehoover/compholio
sudo apt-get update
sudo apt-get install netflix-desktop
```

- [Are PPA's safe to add to my system and what are some “red flags” to watch out for?](#)

This will install around 254MB of packages, mainly it will install wine-compholio (a custom version of wine that is able to run Silverlight) and dependencies. If wine is not installed already you may need to agree to use Microsoft fonts (in the text mode window use arrow keys or tab to reach the red “ok” button in text mode when it appears). The download/installation takes around 15 minutes.

Then run the newly installed “netflix-desktop” application from the menu (or from the command line).



If something went wrong in the installation (third party links are involved), don't panic: netflix-desktop will detect that something is missing and try to reinstall it, if that also fails, start over.

When you run it for the first time it will initialize wine and probably ask about installing Mono and Gecko wine packages (I accepted and installed them just in case).

The netflix-desktop application opens up, login to your Netflix account.

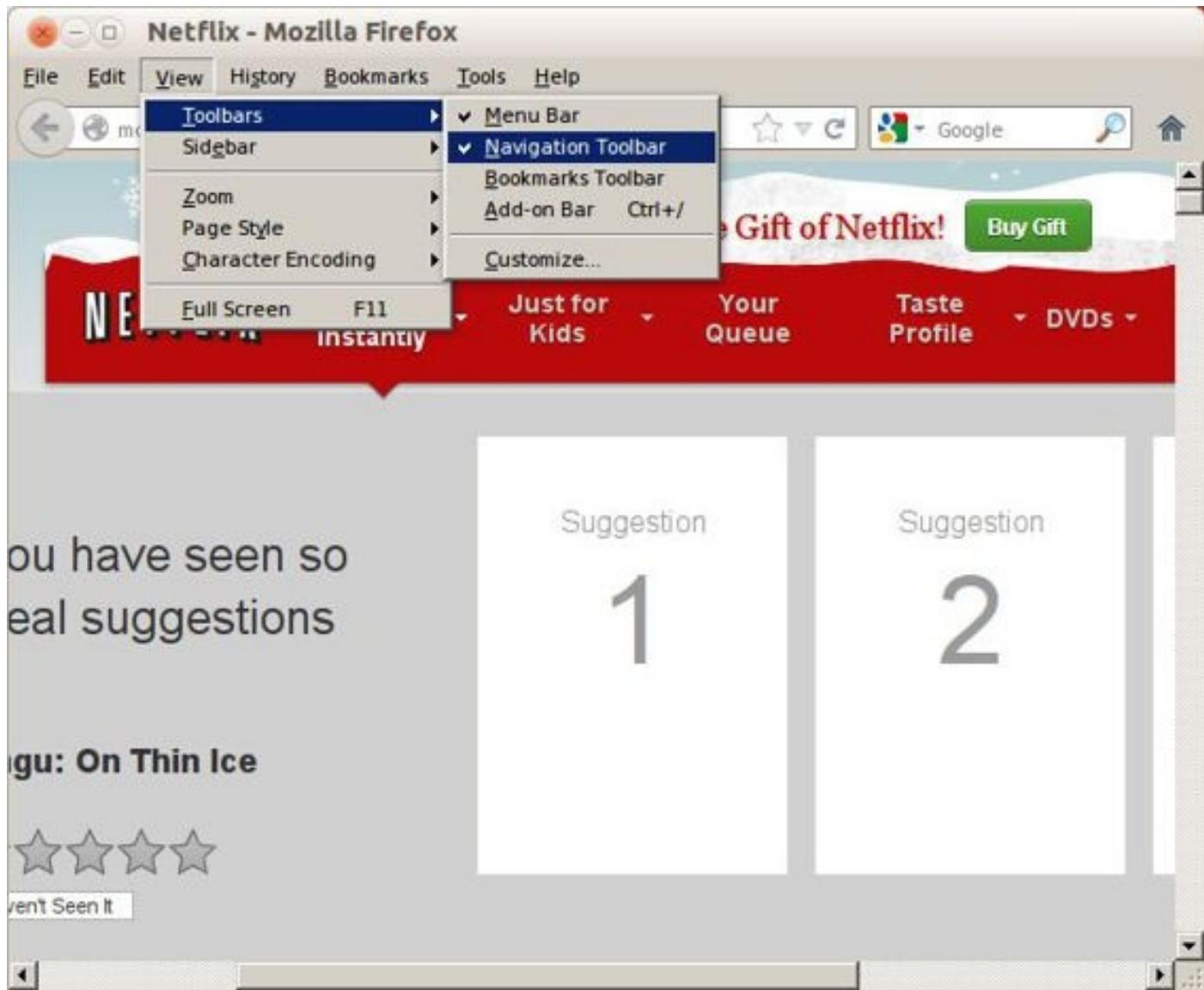
The window will open in fullscreen, which is very elegant, but if you want to have control over the window press F11 right away to exit fullscreen mode. (It may also ask to install a Firefox extension —specially designed— that makes fullscreen mode more friendly.)

Use Netflix as you would normally do.



It worked flawlessly in my Ubuntu 12.04 and 12.10 (I have a Core i7).

(As you may have realized at this point, the netflix-desktop is really Firefox 17 running on wine without menubars. Press F10 to gain control over the Firefox menu and navigation.)



**Credits and references:** This information was originally taken from <http://www.webupd8.org/2012/11/how-to-use-netflix-in-ubuntu-through.html>. Although this is a result of a campaign initiated by [www.iheartubuntu.com](http://www.iheartubuntu.com) in <http://www.iheartubuntu.com/2012/02/netflix-on-linux-contest.html>, resulting in this achievement <http://www.iheartubuntu.com/2012/11/ppa-for-netflix-desktop-app.html> (by Erich Hoover) which also contains a link for donations to support the development. There is also <https://launchpad.net/netflix-desktop>

**Bonus:** By running this you have a fully functional Firefox 17 (Windows version) with working Silverlight that can be used to navigate other sites, by pressing F10 -> View -> Toolbars -> Navigation menu on the main window you can access any site and be able to use Silverlight.

# Alternative Method: Install Windows-Silverlight in Linux-Firefox

Alternatively, it is now possible to install Silverlight inside (Linux) Firefox as if it were a native plugin. (you can see <http://fds-team.de/cms/pipelight-installation.html> for more info)

```
sudo add-apt-repository ppa:pipelight/stable
sudo apt-get update
sudo apt-get install pipelight-multi
sudo pipelight-plugin --enable silverlight
```

Then install the [UAControl](#) Firefox add-on ([UAControl - neko.tsugumi.org](#)) and convince movies.netflix.com that your browser is a Windows one, for example “Mozilla/5.0 (Windows NT 6.1; rv:23.0) Gecko/20131011 Firefox/23.0”.

Then go to www.netflix.com.

Source: [Pipelight: Use Silverlight In Your Linux Browser To Watch Netflix, Maxdome Videos And More ~ Web Upd8: Ubuntu / Linux blog](#)

---

Tags: [wine](#) ([Next Q](#))

---

## Q: Wine can't find gnome-keyring-pkcs11.so

Tags: [wine](#)

I am trying to start a program using wine on Ubuntu LTS 12.04 64 bit

When I do this, I get the following error message...

```
/usr/lib/i386-linux-gnu/pkcs11/gnome-keyring-pkcs11.so: /usr/lib/i386-linux-
>gnu/pkcs11/gnome-keyring-pkcs11.so: cannot open shared object file: No such file
or >directory
```

When I try to symlink the 64 bit libraries, of course, I get the following...

```
jackie@jackie-Latitude-E6410:~/tmp/AC$ wine TTG.exe
p11-kit: couldn't load module: /usr/lib/i386-linux-gnu/pkcs11/gnome-keyring-pkcs11.so:
/usr/lib/i386-linux-gnu/pkcs11/gnome-keyring-pkcs11.so: wrong ELF class: ELFCLASS64
wine: Unhandled page fault on read access to 0x00000000 at address (nil) (thread 0009),
starting debugger...
err:seh:raise_exception Unhandled exception code c0000005 flags 0 addr 0x7bc47aac
```

Is there a package that installs the 32-bit as well as the 64bit?

UPDATE:

Appears to be a bug in Ubuntu w/ 1.4

<https://launchpad.net/~ubuntu-wine/+archive/ppa>

I used these steps and my application worked

<http://www.noobslab.com/2012/04/install-wine-152-on-ubuntu.html> 

Not sure exactly why but it appears to ignore the error if you use the 1.5.

Tags: [wine](#)

User: [jackie](#)

---

Answer  by [nathan-campbell](#)

This solution works for Ubuntu 12.04 64bit

I originally had this error:

```
/usr/lib/i386-linux-gnu/pkcs11/gnome-keyring-pkcs11.so: /usr/lib/i386-linux-gnu/pkcs11/gnome-keyring-pkcs11.so: cannot open shared object file: No such file or directory
```

Then I did a `ln -s` link to the 64-bit lib and got this error: `/usr/lib/i386-linux-gnu/pkcs11/gnome-keyring-pkcs11.so: wrong ELF class: ELFCLASS64`

note: before you start remove the link to the 64bit lib if you created it.

Solution:

Here is how to fix it. Note I am using Crossover 11.3, which uses wine 1.4 so it should also work for wine users.

Further related information to getlibs can be found [here](#) .

1) Install getlibs:

UODATE 3/2013: Download getlibs from <https://github.com/spaetzlecode/getlibs> 

```
wget https://raw.github.com/spaetzlecode/getlibs/master/getlibs
sudo chown root:root getlibs
sudo chmod +x getlibs
sudo mv -n getlibs /usr/local/bin
```

2) Install the 32bit library:

```
sudo /usr/local/bin/getlibs -p gnome-keyring:i386
```

If you got this message error:

```
Failed to download file http://mirrors.kernel.org/ubuntu/pool/main/g/gnome-keyring/gnome-keyring_3.4.1-4ubuntu1~precise1_i386.deb
```

then download the file right here:

```
wget https://launchpad.net/~gnome3-team/+archive/gnome3/+files/gnome-keyring_3.4.1-4ubuntu1~precise1_i386.deb
```

and do:

```
/usr/local/bin/getlibs -i "path-of-the-file"/gnome-keyring_3.4.1-4ubuntu1~precise1_i386.deb
```

3) Make the symbolic link:

```
sudo mkdir -p /usr/lib/i386-linux-gnu/pkcs11/
sudo ln -s /usr/lib32/i386-linux-gnu/pkcs11/gnome-keyring-pkcs11.so /usr/lib/i386-linux-gnu/pkcs11/gnome-keyring-pkcs11.so
```

Now run your Crossover/Wine app and the error is gone.

---

[Answer](#) by [andy.holmes](#)

The solution to this needn't be any more complex than `sudo apt-get install libp11-kit-gnome-keyring:i386`.

At least this is the case in 13.04 and I see no reason why that wouldn't hold true in 12.04/12.10.

---

[Answer](#) by [vaab](#)

You probably guessed you needed to get the file `/usr/lib/i386-linux-gnu/pkcs11/gnome-keyring-pkcs11.so`. This file is part of an i386 ubuntu package which won't install directly on your amd64 system. But you can get it easily:

```
cd $(mktemp -d)          ## create and go to a temporary temp dir
apt-get download gnome-keyring:i386    ## download the i386 version of gnome-keyring
ar x gnome-keyring*.deb      ## Uncompress the package
tar xf data.tar.gz
## Finally move the file you need to the desired location:
sudo mv usr/lib/i386-linux-gnu/pkcs11 /usr/lib/i386-linux-gnu/
```

This has happened to me on a 12.10 with wine-1.5.29, and i386 gnome-keyring version was labeled 3.6.1-0ubuntu1\_i386, and this worked for me.

Please note that if these instruction do not fit for you, maybe should you mention your ubuntu release and gnome-keyring version. Thanks !

---

**Tags:** [wine](#)

---

[Q: How can I install Windows software or games?](#)

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[Q: Is there a way to stream Netflix?](#)

---

[Q: Wine can't find gnome-keyring-pkcs11.so](#)

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[Q: How to install Wine](#)

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# Window Manager

## Questions

### [Q: How do I increase the resize margin on windows?](#)

**Tags:** [window-manager](#) ([Next Q](#))

It takes me about 5 tries to resize a window on my computer.

Is there a way to increase the resize margin on the edge of windows?

**Tags:** [window-manager](#) ([Next Q](#))

**User:** [ryanscottlewis](#)

---

[Answer](#)  by [jacob-peddicord](#)

As others have mentioned, it depends on the theme. Try a few out. What I frequently do instead is hold down Alt and middle-click and drag to resize, which works anywhere on the window.

---

[Answer](#)  by [mgunes](#)

To modify Ambiance to have a wider margin, open `/usr/share/themes/Ambiance/metacity-1/metacity-theme-1.xml` and increase the values of the following properties:

```
<distance name="left_width" value="1"/>
<distance name="right_width" value="1"/>
<distance name="bottom_height" value="1"/>
```

You may want to back up the original file before modifying, and/or make a duplicate of the entire theme.

Note that you can also resize windows by pressing Alt + Button2.

---

[Answer](#)  by [Ã'ndrÃ¼k](#)

The GNOME desktop environment is designed to give priority to usability and simplicity over customizability. Hence, the width of the window border is something that is not easily changeable. In all practical considerations, Jacob's recommendation that you use Alt+middle-click instead of dragging the window borders is likely to be the best solution for most users.

With that said, the size of the window border does vary between Metacity themes. As a first step, you might try picking a different theme from [GNOME-Look.org](#) .

If you're really determined to adjust just the window border without changing the rest of

the theme, it is possible to modify existing themes. Here's a [reference to get you started](#).

---

**Tags:** [window-manager](#) ([Next Q](#))

---

## **Q: How to make Gimp run as a single window?**



**Tags:** [window-manager](#)

Gimp is nice, but the one thing that drives me nuts is that everything floats around in front of each other, often hiding the main window and forcing me to minimize all open windows until I find the one floating window that I am looking for.

I'd like to have the floating windows **docked along the edges of that main window**, the way practically every other application works. I know this floating thing is one of the things that make Gimp special, but it's not the kind of "special" that I like... I don't have a huge screen, so it quickly gets too cramped. And I often use Gimp briefly, multitasking with other apps, so the many Gimp windows are annoying.

**How can I make Gimp run in one window, with everything else inside it?**

This is Gimp 2.6.11 — just because that's what came with my Ubuntu 11.10 installation.

**Tags:** [window-manager](#)

**User:** [torben-gundtofte-bruun](#)

---

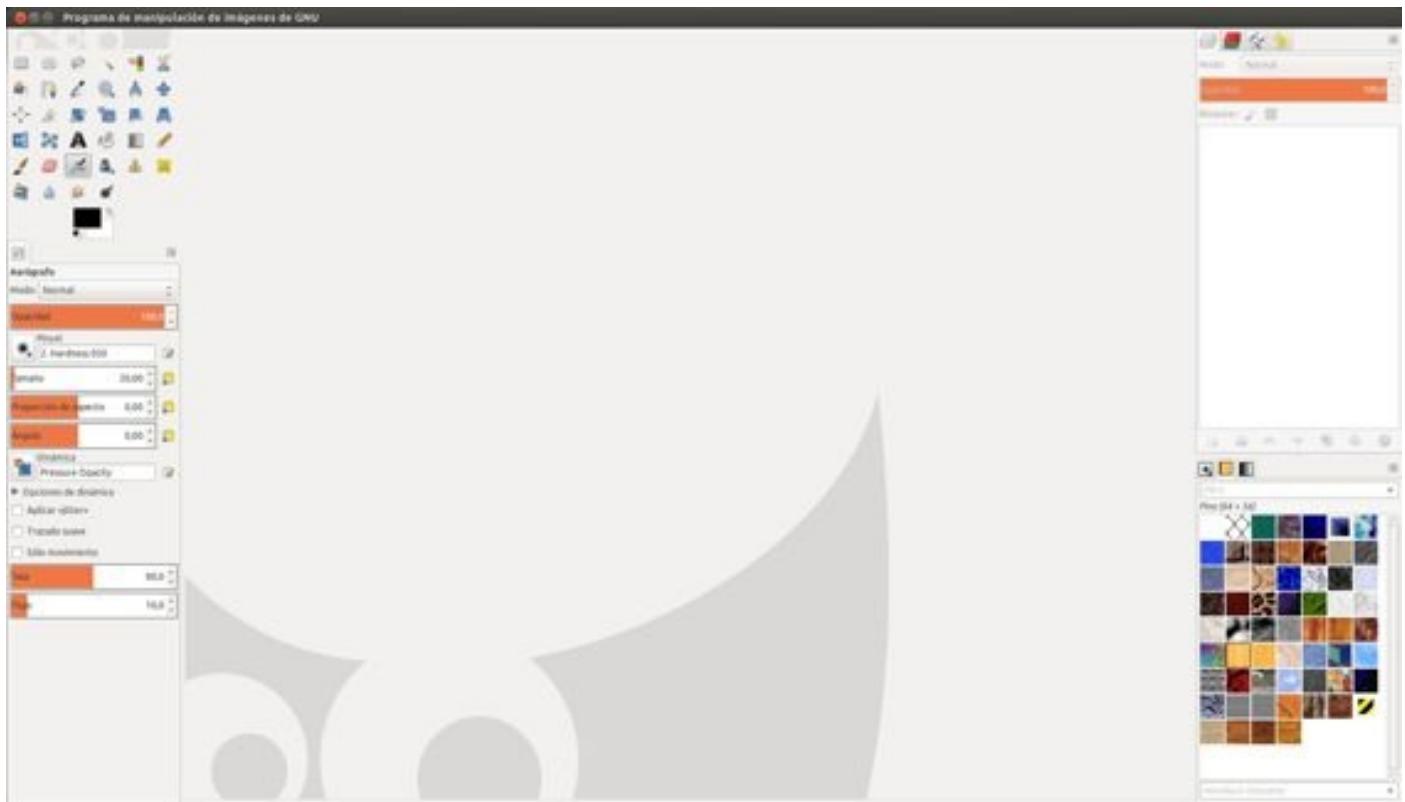
[Answer](#) by [espectalll123](#)

Sorry, but you can't make a single window in GIMP 2.6!

If you want a single window in GIMP, you need to update to 2.8. Just follow the next instructions:

1. Add the GIMP PPA. Open the terminal and copy/paste the following command: sudo apt-add-repository ppa:otto-kesselgulasch/gimp && sudo apt-get update
2. Update GIMP using Update Manager or apt-get.
3. Open GIMP, and go to Windows > Single-Window Mode

Now you have a single window! For example, my GIMP main menu:



[Answer](#) by [jacob-johan-edwards](#)

Select “Single-Window Mode” from the Windows menu item. The setting will persist between GIMP launches, and is only available for GIMP version 2.8 and over. ([How do I get GIMP 2.8?](#))



Tags: [window-manager](#)

[Q: How do I increase the resize margin on windows?](#)

[Q: Quickly place a window to another screen using only the keyboard](#)

[Q: How do I set focus follows mouse?](#)

[Q: How to make Gimp run as a single window?](#)



# Multiple Monitors

## Questions

### [Q: How do I setup dual monitors in Xfce?](#)

**Tags:** [multiple-monitors](#)

I've got an laptop with a intel chip, and I'd like to setup dual monitors in Xfce.

How do I do this?

**Tags:** [multiple-monitors](#)

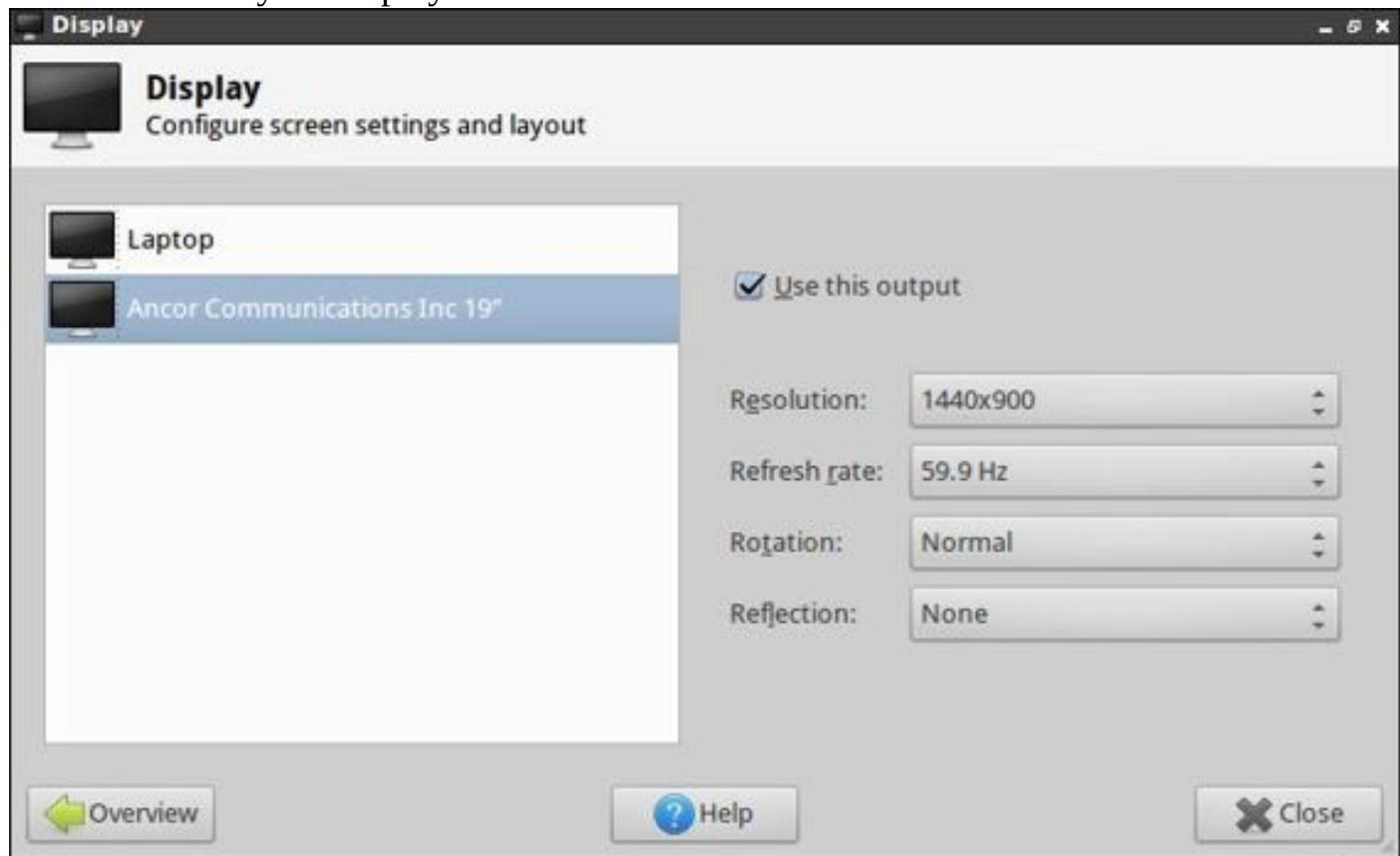
**User:** [jrg](#)

---

[Answer](#)  by [jrg](#)

First, open up monitor config - it's in Start > Settings > Settings Manger, then open the Display item.

Make sure both your displays are on.



Then, open a terminal and run this:

```
xrandr
```

The output will look something like this:

## [Skip code block](#)

```
Screen 0: minimum 320 x 200, current 2464 x 900, maximum 4096 x 4096
LVDS1 connected 1024x600+1440+0 (normal left inverted right x axis y axis) 220mm x 129mm
  1024x600      60.0*+  65.0
  800x600       60.3   56.2
  640x480       59.9

VGA1 connected 1440x900+0+0 (normal left inverted right x axis y axis) 408mm x 255mm
  1440x900      59.9*+  75.0
  1280x1024     75.0   60.0
  1280x960      60.0
  1280x800      74.9   59.8
  1152x864      75.0
  1024x768      75.1   70.1   60.0
  832x624       74.6
  800x600       72.2   75.0   60.3   56.2
  640x480       72.8   75.0   66.7   60.0
  720x400       70.1
```

Then, run the following, changing VGA1 and LVDS1 to match the appropriate display:

```
xrandr --output VGA1 --left-of LVDS1
```

Note that you can move change --left-of to --right-of.

Now, it should work, but you've still got one problem.

It will disappear after you logout. So, you need to add it to your login items.

Head over to Start > Settings > Settings Manger, then open “Session and Startup”, add the above command to your login items, and you’re good to go!



[Answer](#) by [frÃ©dÃ©ric-grosshans](mailto:frÃ©dÃ©ric-grosshans)

There is a different solution to this problem.

According to [this article](#), xfce 4.11 and 4.12 have implemented multi-monitor set-up out

of the box. I guess this question will therefore be obsolete for ubuntu 13.04.

Meanwhile, for ubuntu 12.04 and 12.10, one can use the xfce 4.12 ppa :

```
sudo add-apt-repository ppa:xubuntu-dev/xfce-4.12
sudo apt-get update
sudo apt-get upgrade
xfce4-display-settings -m
```

---

[Answer](#)  by [jpolar](#)

I had the same problem and solved it using a graphical application. The name is grandr and it is in the universe repository (Ubuntu 11.04). You can change your dual setup at will. I hope that it helps.

---

**Tags:** [multiple-monitors](#)

---

[Q: Quickly place a window to another screen using only the keyboard](#)

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[Q: How do I setup dual monitors in Xfce?](#)

---

[Q: How can I remove duplicate second Unity Launcher on a Dual Screen setup?](#)

---

[Q: How do I disable mouse magnet on middle edge with multi monitors?](#)

---

# Swap

## Questions

### [Q: How do I add a swap partition after system installation?](#)

**Tags:** [swap](#) ([Next Q](#))

I did not opt for a swap partition during Ubuntu installation. Later I freed up some space, and made a swap partition. Now after booting up I am manually opening gparted and right-clicking the swap partition and turning it on using ‘swapon’ option.

How can I automatically enable the swap partition every time?

**Tags:** [swap](#) ([Next Q](#))

**User:** user13593

---

[Answer](#)  by [user4124](#)

You need to edit /etc/fstab and add the new swap partition.

You need to add a line that looks like

```
UUID=735b3be3-779c-4d21-a944-b033225f3ab4 none swap sw 0 0
```

and you get the UUID using the command

```
sudo blkid /dev/sda3
```

(substitute /dev/sda3 with the appropriate device name).

---

[Answer](#)  by [takkat](#)

To create a swap partition after installation, create an empty partition that should have no holes. You can then format this partition with:

```
sudo mkswap /dev/sdX
```

replacing /dex/sdX with your partition. Mount this partition as swap with

```
sudo swapon -U UUID
```

where UUID is that of your /dev/sdX as read from this:

```
blkid /dev/sdX
```

Bind your new swap in /etc/fstab by adding this line:

```
UUID=xxx none swap sw 0 0
```

If you want to use your swap for hibernating then you need to update the UUID in /etc/initramfs-tools/conf.d/resume with this content RESUME=UUID=xxx. Don't forget to \$ sudo update-initramfs -u.

**To complete things:** it would also be possible to create a swap file in case we do not have a spare partition. [This answer](#) gives you an idea on how to create such a file and enable it on boot.

---

**Tags:** [swap](#) ([Next Q](#))

---

## [Q: I have 16GB RAM. Do I need 32GB swap?](#)

**Tags:** [swap](#) ([Next Q](#))

I read many places that the rule of thumb for swap space is to double the amount of physical RAM. However, 32 GB does seem a LOT. Do I need that much? Do I need it at all with this high amount of physical RAM?

**Tags:** [swap](#) ([Next Q](#))

**User:** [tamás-szelei](#)

---

[Answer](#)  by [popey](#)

It entirely depends on what you plan to do with the machine. For example if it were a SAP server then yes, I would add 32gb swap ( we have boxes at work with 128gb ram and 32gb swap ). If you were manipulating massive pictures and video then it makes sense to have a little swap. 32gb is probably overkill.

However I would not say zero swap.

In the unlikely event that you run out of RAM - perhaps opening a big file, perhaps a long running tab in firefox, it doesn't matter, in that event your kernel OOM killer will kick in and start killing applications to get memory back. Under those circumstances it's entirely possible that you will lose data as applications get killed. However if you have a bit of swap then the system will carry on, grabbing swap and allowing the system to continue. System slows down as heavy swapping happens, you notice and investigate before all swap exhausted. Also disk is very cheap, so why not have swap?

Anyone who says "you don't need swap" without asking you what you're actually doing with your computer is making assumptions. Whilst you may well do very little with your computer that eats RAM, it's still best to ask the questions about what you're planning to do with it before making the rash judgement that you don't "need" swap. In my humble opinion

---

[Answer](#)  by [ssapkota](#)

Here's a very good recommendation from RedHat:[Recommended System Swap Space](#) 

An excerpt from the same link:

In years past, the recommended amount of swap space increased linearly with the amount of RAM in the system. But because the amount of memory in modern systems has increased into the hundreds of gigabytes, **it is now recognized that the amount of swap space that a system needs is a function of the memory workload running on that system. However, given that swap space is usually designated at install time, and that it can be difficult to determine beforehand the memory workload of a system**, we recommend determining system swap using the following table.

Current table (as of December 2012):

| Amount of RAM in the system | Recommended swap space      | Recommended swap space if allowing for hibernation |
|-----------------------------|-----------------------------|--|
| 2GB of RAM or less          | 2 times the amount of RAM   | 3 times the amount of RAM                          |
| 2GB to 8GB of RAM           | Equal to the amount of RAM  | 2 times the amount of RAM                          |
| 8GB to 64GB of RAM          | 0.5 times the amount of RAM | 1.5 times the amount of RAM                        |
| 64GB of RAM or more         | 4GB of swap space           | No extra space needed                              |

Original table:

| Amount of RAM in the System | Recommended Amount of Swap Space |
|-----------------------------|----------------------------------|
| 4GB of RAM or less          | a minimum of 2GB of swap space   |
| 4GB to 16GB of RAM          | a minimum of 4GB of swap space   |
| 16GB to 64GB of RAM         | a minimum of 8GB of swap space   |
| 64GB to 256GB of RAM        | a minimum of 16GB of swap space  |
| 256GB to 512GB of RAM       | a minimum of 32GB of swap space  |

[Answer](#) by [bandi](#)

Probably not. If you plan to hibernate your computer (suspend-to-disk) then you'll need at least 16 GB. If you won't hibernate, it is enough to let a few gigabytes for swap (4-8 max.)

Tags: [swap](#) ([Next Q](#))

## Q: How do I configure swappiness?

Tags: [swap](#)

I need Step by Step, simple and easy way to configure swappiness.

Tags: [swap](#)

User: [one-zero](#)

[Answer](#)  by [one-zero](#)

The Linux kernel provides a tweakable setting that controls how often the swap file is used, called swappiness

A swappiness setting of **zero** means that the disk will be avoided unless absolutely necessary (you run out of memory), while a swappiness setting of **100** means that programs will be swapped to disk almost instantly.

Ubuntu system comes with a default of 60, meaning that the swap file will be used fairly

often if the memory usage is around half of my RAM. You can check your own system's swappiness value by running:

```
one@onezero:~$ cat /proc/sys/vm/swappiness  
60
```

As I have 4 GB of RAM, so I'd like to turn that down to 10 or 15. The swap file will then only be used when my RAM usage is around **80** or **90** percent. To change the system swappiness value, open `/etc/sysctl.conf` as **root**. Then, change or add this line to the file:

```
vm.swappiness = 10
```

Reboot for the change to take effect

You can also change the value while your system is still running

```
sysctl vm.swappiness=10
```

you can also clear your swap by running `swapoff -a` and then `swapon -a` as root instead of rebooting to achieve the same effect.

To calculate your swap Formula

```
free -m (total) / 100 = A  
A * 10  
  
root@onezero:/home/one# free -m  
total        used        free      shared  buffers   cached  
Mem:       3950       2262      1687          0       407      952  
-/+ buffers/cache:    903      3047  
Swap:        1953         0      1953
```

so total is  $3950 / 100 = 39.5 * 10 = 395$

so what it mean is that when **10 %** 395 MB of ram left then it start using swapiness

# Help . Ubuntu . Swap

## What is swappiness

The swappiness parameter controls the tendency of the kernel to move processes out of physical memory and onto the swap disk. Because disks are much slower than RAM, this can lead to slower response times for system and applications if processes are too aggressively moved out of memory.

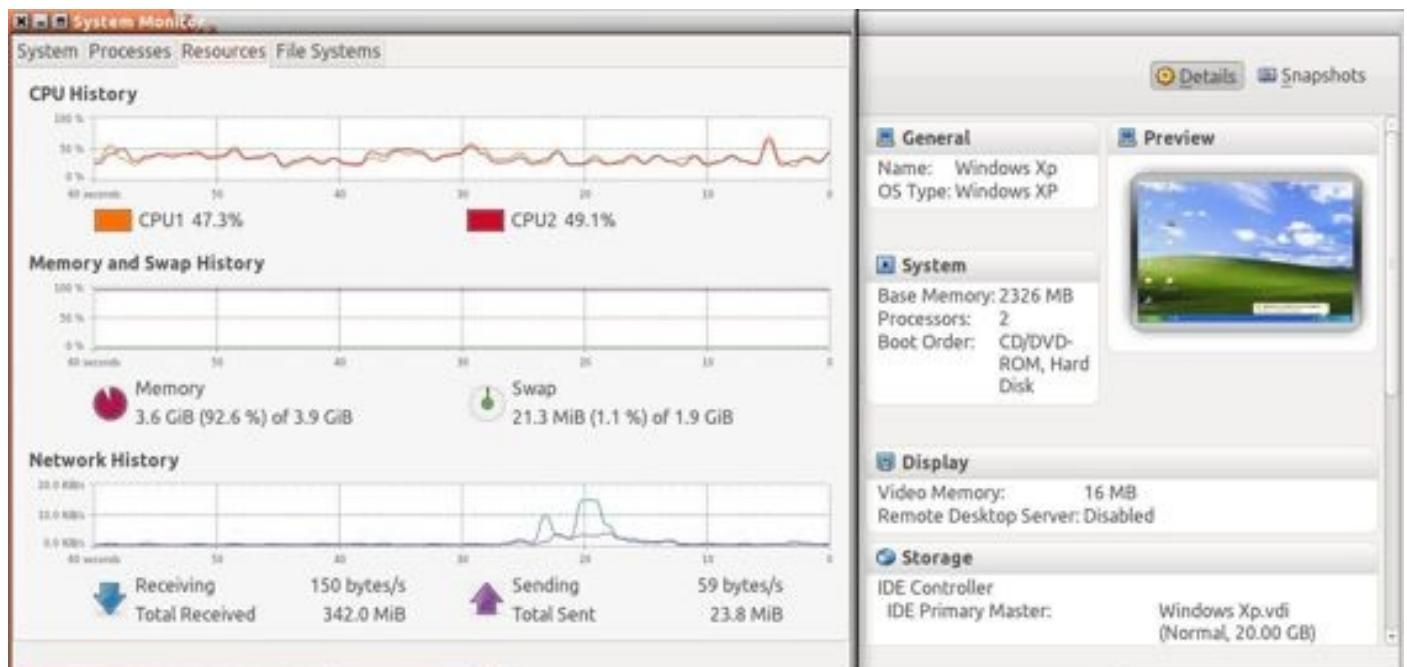
- . swappiness can have a value of between 0 and 100
- . swappiness=0 : Version 3.5 and over: disables swappiness. Prior to 3.5: tells the kernel to avoid swapping processes out of physical memory for as long as possible.
- . swappiness=1 : Version 3.5 and over: Minimum swappiness without disabling it entirely
- . swappiness=100 tells the kernel to aggressively swap processes out of physical memory and move them to swap cache

See <http://en.wikipedia.org/wiki/Swappiness>

The default setting in Ubuntu is swappiness=60. Reducing the default value of swappiness will probably improve overall performance for a typical Ubuntu desktop installation. A value of swappiness=10 is recommended, but feel free to experiment.

---

Started Using swap at **91%**



As I have configured my system & vm to make use of ram at **90 %** . At **90 %** there was no swapping

after that I opened some application like Firefox & Shutter , its start swapping because of ram usage is above **90 %**

---

**Tags:** [swap](#)

---

[\*\*Q: How do I add a swap partition after system installation?\*\*](#)

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[\*\*Q: I have 16GB RAM. Do I need 32GB swap?\*\*](#)

---

[\*\*Q: How do I configure swappiness?\*\*](#)

---

[\*\*Q: Why is swap being used even though I have plenty of free RAM?\*\*](#)

---

# Eclipse

[Skip to questions](#), Wiki by user [joe-p](#)

Eclipse is an multi-language IDE (integrated development environment) supporting extensive plug-ins. It is written mainly in Java and provides developments for Java, C/C++, Python, Perl, PHP, Ruby, and several others.

As well as being an IDE it provides an application framework, RCP (Rich Client Platform), which includes SWT (Standard Widget Toolkit).

---

# Questions

## [Q: Eclipse menus are cut off or don't show](#)

**Tags:** [eclipse](#)

I'm using Ubuntu 13.10 (with JDK 1.7.0\_45).

I've downloaded and uncompressed Eclipse Kepler for Java EE Developers.

The software menus are messed up. I didn't notice similar problems in other software.

When I click any menu in Eclipse, the drop-down seems to be "cut". Sometimes the drop-down shows, but the options are invisible.

I tried Eclipse Indigo, but the same problem occurs.

**Tags:** [eclipse](#)

**User:** [ralph-rassweiler](#)

---

[Answer](#)  by [kurt-bourbaki](#)

# How To solve Eclipse menu issues in Ubuntu 13.10

## (Stable way, until someone fixes the bug)

This method takes for granted that you already have your **eclipse.desktop** file (or that you can alternatively create a new one from scratch). Otherwise, you can momentarily take a look at the “fast way” below.

1. Open your **eclipse.desktop** file:

```
sudo -H gedit /usr/share/applications/eclipse.desktop
```

(If you can't find it in this path, try in `~/.local/share/applications/eclipse.desktop`. Otherwise, you could have to find yours using `locate` command).

2. Replace the `Exec=` line with this:

```
Exec=env UBUNTU_MENUPROXY= eclipse
```

Where “eclipse” is the path to your eclipse executable. In this case it's just “eclipse” since there's a symlink in `/usr/bin` folder.

**NOTE:** If you can't find your **eclipse.desktop** file, you can simply create one from scratch in the above path, and fill it with these lines:

```
[Desktop Entry]
Type=Application
Name=Eclipse
Icon=eclipse
Exec=env UBUNTU_MENUPROXY= eclipse
Terminal=false
Categories=Development;IDE;Java;
```

3. Save the file.

Now you can run Eclipse from its icon as usual.

# (Fast but repetitive way)

If you haven't got any **eclipse.desktop** file and you don't want to create it at the moment, you can simply run Eclipse with this command:

```
UBUNTU_MENUPROXY= eclipse
```

where "eclipse" is the path to your eclipse executable. Note that this is just the fast way to run Eclipse once. If you don't want to remember this command and use it every time you have to run Eclipse, follow the "stable way" above.

Or you can make an alias out of it

```
alias eclipse = 'UBUNTU_MENUPROXY= eclipse'
```

and the command `eclipse` will work fine.

---

## Sources:

- [Keenformatics - How To show Eclipse menu in Ubuntu 13.10 Saucy Salamander](#) 
- [Ubuntu documentation - Environment Variables](#) 
- [Eclipse menus doesn't show up in Saucy](#) 

---

Tags: [eclipse](#)

---

[Q: How to install Eclipse?](#)

---

[Q: How to pin Eclipse to the Unity launcher?](#)

---

[Q: Problems with Eclipse and Android SDK](#)

---

[Q: Eclipse menus are cut off or don't show](#)

# PDF

[Skip to questions](#), Wiki by user [lekensteyn](#)

This file format created by Adobe Systems in 1993 is used for representing documents in a manner independent of application software, hardware, and operating systems. Each PDF file encapsulates a complete description of a fixed-layout flat document, including the text, fonts, graphics, and other information needed to display it.

Source: [http://en.wikipedia.org/wiki/Portable\\_Document\\_Format](http://en.wikipedia.org/wiki/Portable_Document_Format) 

---

# Questions

## [Q: How can I highlight PDFs?](#)

**Tags:** [pdf](#) ([Next Q](#))

Currently I need to highlight certain sections in PDFs. These highlights would need to be saved. What tools are out there to do this on Ubuntu?

**Tags:** [pdf](#) ([Next Q](#))

**User:** [ssanj](#)

---

[Answer](#)  by [li-lo](#)

[Okular](#)  supports PDF annotations.

To save the highlighting/annotations directly in the PDF document, choose “File” -> “Save as...” and create a new PDF which will contain your edits.

**Edit:** [Inkscape](#)  supports PDF editing and most people seem not to be aware of this so I’m adding it to the answer.

---

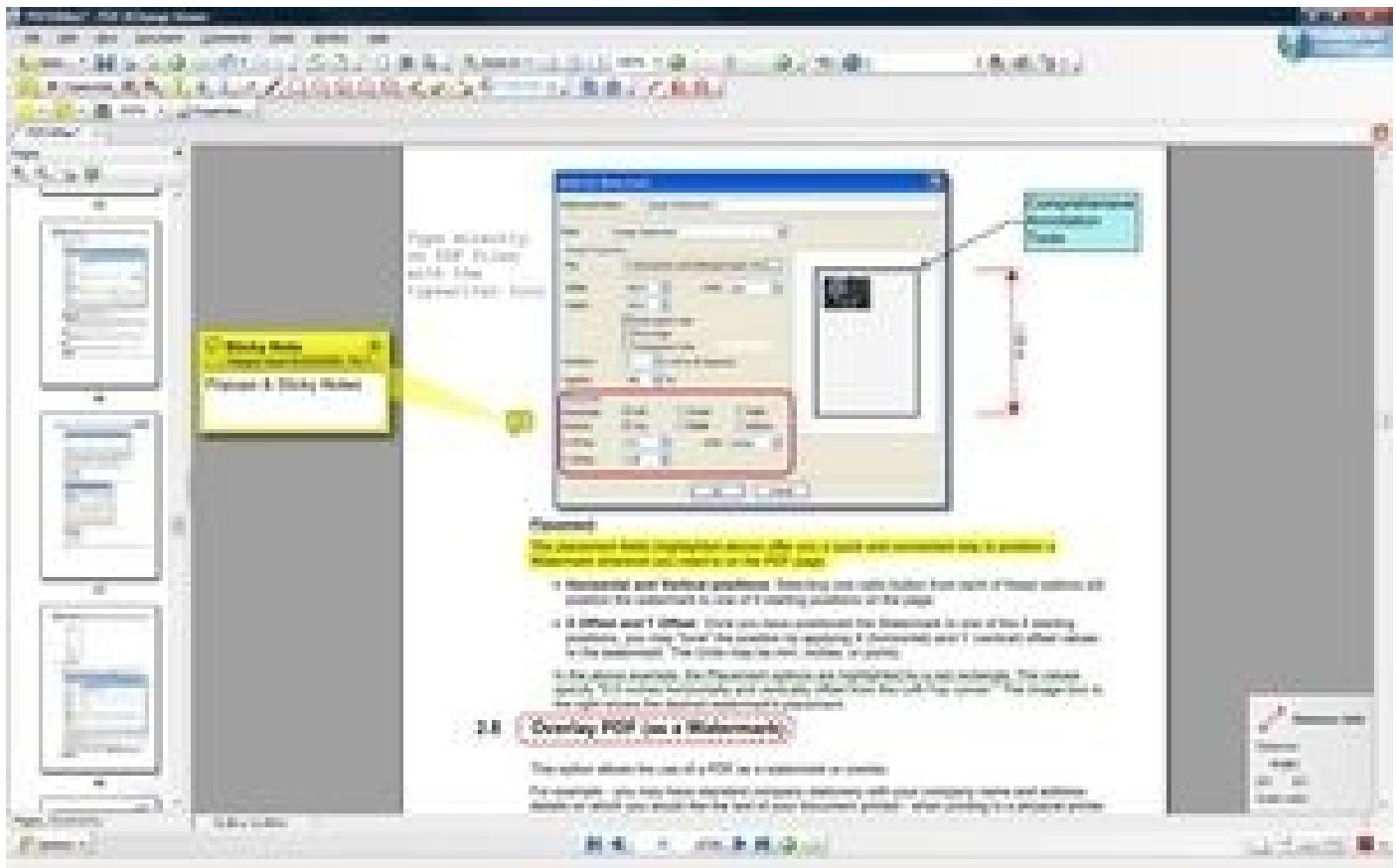
[Answer](#)  by user11305

Actually, none of these solutions work half as well as anything on Windows or Mac OS. Okular stores annotations separately, so you lose them if you move or rename the pdf or if you want to view it on another computer. Mendeley only supports yellow highlighting and importing pdfs into inkscape or openoffice is pretty inconvenient if you want to read a paper and simply make some annotations.

Fortunately, there are some free pdf viewers for Windows that work flawlessly with wine (If you find wine too complicated, use PlayOnLinux - a great front end for wine configuration). One of the best of those viewers is the PDFXChange Viewer by Tracker Software. There is a free version that comes with a ton of annotation features, session saving etc. Grab it here:

<http://www.tracker-software.com/product/downloads> 

And check out this screenshot:



I really wish there was a working open source linux alternative (xournal is good, but too limited). But for the time being, I am happy with using wine.

---

[Answer](#) by [qbi](#)

[xournal](#) is also some software which you use for this task.

---

**Tags:** [pdf](#) ([Next Q](#))

---

## **Q: How to merge several PDF files?**

**Tags:** [pdf](#)

There are a lot of software in Windows to merge PDF files but how can we do the same in Ubuntu?

**Tags:** [pdf](#)

**User:** [deependra-solanky](#)

---

[Answer](#) by [marcel-stimberg](#)

[PDF-Shuffler](#)

# Missing Image

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If you want a tool with a simple GUI, try **pdfshuffler**. It allows for merging of PDFs as well as rearranging and deleting pages. For batch processing and/or more complicated tasks, pdftk is of course more powerful.

# Missing Image

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[Answer](#) by [rojan](#)

[pdftk](#)

# Missing Image

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To merge two pdf files, `file1.pdf` and `file2.pdf`:

```
pdftk file1.pdf file2.pdf cat output mergedfile.pdf
```

More info available [here](#).

---

[Answer](#) by [ignite](#)

*Ghostscript* is a package (available by default in Ubuntu) that enables you to view or print PostScript and PDF files to other formats, or to convert those files to other formats.

To use Ghostscript to combine PDF files, type something like the following:

```
gs -dBATCH -dNOPAUSE -q -sDEVICE=pdfwrite -sOutputFile=finished.pdf file1.pdf file2.pdf
```

Here is a brief explanation of the command:

```
gs      starts the Ghostscript program.  
-dBATCH once Ghostscript processes the PDF files, it should exit.  
        If you don't include this option, Ghostscript will just keep running.  
-dNOPAUSE forces Ghostscript to process each page without pausing for user interaction.  
-q      stops Ghostscript from displaying messages while it works  
-sDEVICE=pdfwrite  
        tells Ghostscript to use its built-in PDF writer to process the files.  
-sOutputFile=finished.pdf  
        tells Ghostscript to save the combined PDF file with the specified name.
```

Your input files don't even need to be PDF files. You can also use PostScript or EPS files, or any mixture of the three.

There is a lot you can do with Ghostscript. You can read it's [documentation](#) for more details.

[Source](#)

---

**Tags:** [pdf](#)

---

[Q: How can I highlight PDFs?](#)

---

[Q: How to merge several PDF files?](#)

---

[Q: Which PDF Viewer would you recommend?](#)

---

[Q: How to open a PDF file from terminal?](#)

---

# Java

[Skip to questions](#), Wiki by user [jrg](#)

Java is a programming language originally developed by Sun Microsystems. Questions here should be about the installation, configuration and troubleshooting a JVM (Java Virtual Machine) or a JRE (Java Runtime Environment).

Programming questions (unless directly related to Ubuntu) should be asked on [Stack Overflow](#).

---

# Questions

## Q: How do I install Java?

**Tags:** [java](#) ([Next Q](#))

How do I install Java and also in my browser so websites with Java work?

**Tags:** [java](#) ([Next Q](#))

**User:** [jay](#)

---

[Answer](#)  by [lekensteyn](#)

Installing OpenJDK is not enough for enabling Java in browsers. You'll also need to install the [icedtea-7-plugin](#)  package:



A restart of the browser might be required.

---

[Answer](#)  by [bruno-pereira](#)

There are several implementations of Java, the 3 most common implementations when talking about it for Ubuntu are:

- **OpenJDK:** The primary goal of the OpenJDK project is to produce an open-source implementation of the Java SE Platform (6 and 7). This is the default version of Java that Ubuntu uses and is the easiest to install.
- **Sun Java:** Sun Java is the reference implementation for Java 6. It's support [has been discontinued](#)  in Ubuntu.
- **Oracle Java:** Oracle Java is the OpenJDK Java Se Platform version 7 implementation from Oracle. Oracle introduced with this implementation a [license](#)  that prevents distribution.

Since Ubuntu 11.10 and [due to license issues](#)  Ubuntu will no longer distribute Oracle's JDK and JRE. Also previous versions supplied on PPAs suffer from security issues are not recommended to be installed on any Ubuntu system.

There are no more supported .deb [releases from Ubuntu](#)  with reference to Sun Java or Oracle Java, Ubuntu officially supports OpenJDK and OpenJRE implementation of Java which is the base for Oracle's own implementation.

OpenJRE is the official implementation of Java Runtime Environment for your Ubuntu

systems and should suffice to run any Java program that you might require and its included in the main repo and its easily installable.

## OpenJRE

# Missing Image

Or by opening a terminal and typing

```
sudo apt-get install openjdk-7-jre
```

The openjdk-7-jre package contains just the Java Runtime Environment. If you want to develop Java programs then install the openjdk-7-jdk package:

# Missing Image

Also important is to install the wrapper for supporting Java applications on your web browser *Iced-Tea Java Plugin*.

## IcedTea Plugin

# Missing Image

or via a terminal

```
sudo apt-get install icedtea-plugin
```

Or look for icedtea-plugin in the Ubuntu Software Center

To make sure that you are running the correct version of Java use this command to set your choice

```
sudo update-alternatives --config java
```

java -version should display the choice you previously made.

**If you need to install OpenJDK-JRE6 or OpenJDK-JDK6**

[openjdk-6-jre](#) (click to install) is available for installation for Ubuntu 8.04 and up.

Install it with

```
sudo apt-get install openjdk-6-jre
```

Or if you need the developers package [openjdk-6-jdk](#) (click to install) install it with

```
sudo apt-get install openjdk-6-jdk
```

A version of the [icedtea-plugin](#) (click to install) is also available to install if you are going to use OpenJDK6.

Install it with

```
sudo apt-get install icedtea6-plugin
```

## If you really want to use Oracle's Java Se Platform

- [How can I install Sun/Oracle's proprietary Java 6/7 JRE or JDK?](#)

[Answer](#) by [subeh.sharma](#)

For installing Oracle Java 7:

```
sudo add-apt-repository ppa:webupd8team/java  
sudo apt-get update  
sudo mkdir -p /usr/lib/mozilla/plugins #just in case, this will be added to the package in the next  
version  
sudo apt-get install oracle-jdk7-installer
```

- [Are “PPA’s” safe to add to my system, and what are some “red flags” to watch out for?](#)

**Tags:** [java](#) ([Next Q](#))

## [Q: How do I install Oracle JDK 6?](#)

**Tags:** [java](#) ([Next Q](#))

Most of the software is not thoroughly tested with Java 7 and I would like to install Oracle's JDK 6.0 on Ubuntu 11.10.

Could someone please provide me the instructions for the same?

**Tags:** [java](#) ([Next Q](#))

**User:** [praveen-sripati](#)

[Answer](#) by [fossfreedom](#)

Due to [license issues](#) Ubuntu will no longer distribute Oracle's JDK and JRE. Also previous versions supplied on PPAs suffer from security issues and are not recommended to be installed on any Ubuntu system.

There are no more supported [java releases from Ubuntu](#) - Ubuntu officially supports OpenJDK and OpenJRE implementation of Java which is the base for Oracle's own implementation.

To install the OpenJDK & OpenJRE refer to [this Q&A](#).

The instructions below provide a guide to install the official Oracle JDK 6. You will need to regularly update this manually to ensure your installation maintains recommended security and stability fixes.

# Install the Oracle JDK 6

Oracle JDK 6 is no longer maintained. It is not updated with the latest security patches and are not recommended for use in production.

You can however still download them from the [Oracle Java Archive](#)

Oracle themselves have the [official guide](#) to install their JDK - below is based upon those instructions.

- [Download](#) the 32bit or 64bit Linux “compressed binary file” - it has a “.bin” file extension
- Give it permissions to execute and extract it  
`chmod a+x [version]-linux-i586.bin`  
`./[version]-linux-i586.bin`

During installation it will ask you to register - press ENTER. Firefox will open with the registration page. Registration is optional.

JDK 6 package is extracted into `./jdk1.6.0_x` directory, for example `./jdk1.6.0_30`.

Lets rename it:

```
mv jdk1.6.0_30 java-6-oracle
```

- Now move the JDK 6 directory to `/usr/lib`

```
sudo mkdir /usr/lib/jvm
sudo mv java-6-oracle /usr/lib/jvm
```

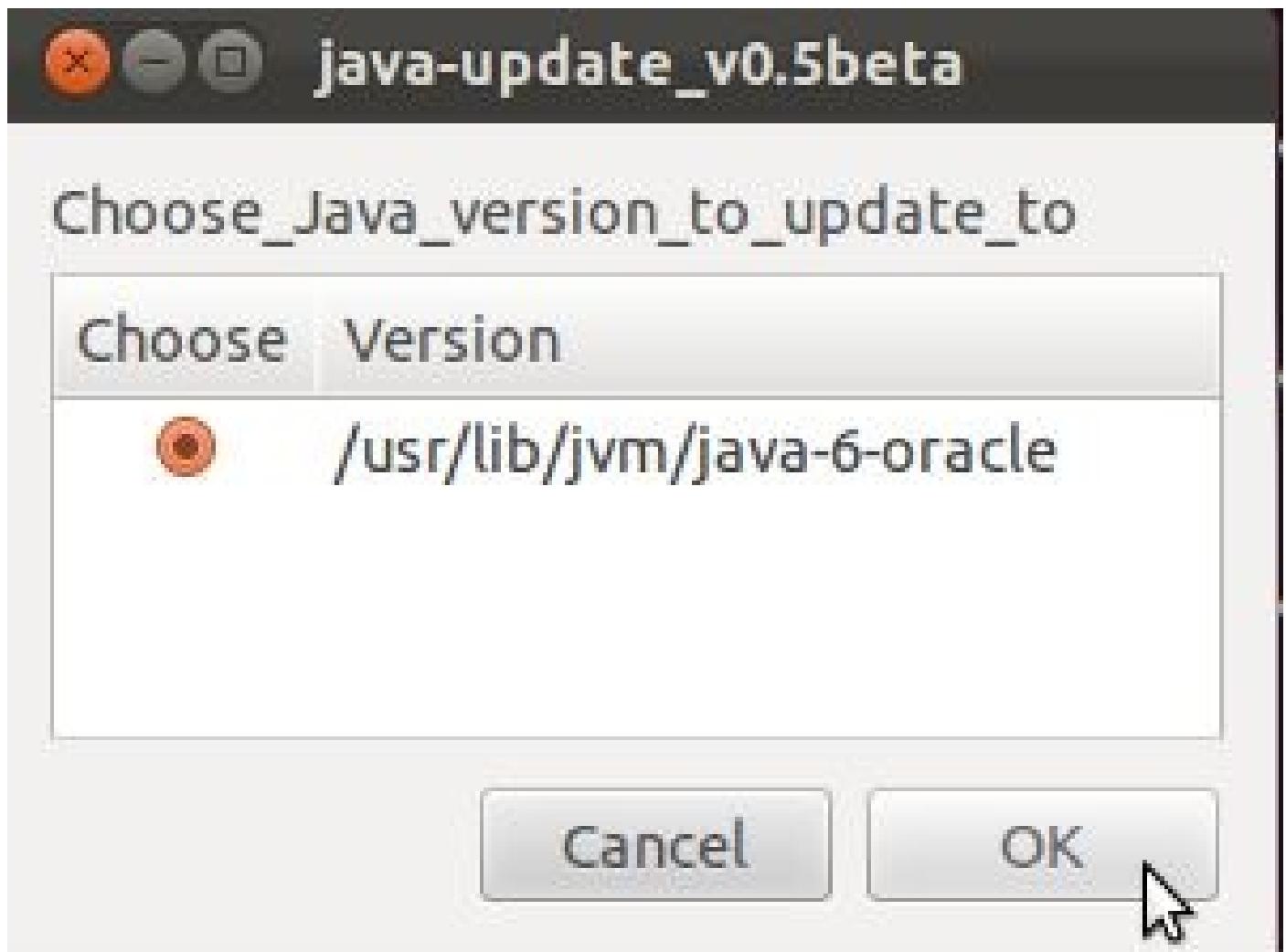
# switch to Oracle JDK 6

[webupd8.googlecode.com/](http://webupd8.googlecode.com/) hosts a nice-easy script to help with this.

```
 wget http://webupd8.googlecode.com/files/update-java-0.5b  
 chmod +x update-java-0.5b  
 sudo ./update-java-0.5b
```

*don't worry - 0.5b refers to the script version - not the version of java!*

An alternative to this is to use the [webupd8 ppa](#) and the update-java package.



Finally test the switch has been successful:

```
java -version  
javac -version
```

These should display the oracle version installed - 1.6.0\_30

# Install the Firefox/Chrome plugin



In a terminal:

```
mkdir ~/.mozilla/plugins
```

Remove the IcedTea plugin, if it has been installed.

```
sudo apt-get remove icedtea6-plugin
```

Remove a former version of the Java plugin (may or may not be present)

```
rm ~/.mozilla/plugins/libnpjp2.so
```

Now you can install the plugin, by creating a symbolic link (you tell Firefox, where the plugin is located).

(32bit)

```
ln -s /usr/lib/jvm/java-6-oracle/jre/lib/i386/libnpjp2.so ~/.mozilla/plugins/
```

(64bit)

```
ln -s /usr/lib/jvm/java-6-oracle/jre/lib/amd64/libnpjp2.so ~/.mozilla/plugins/
```

Confirm that the JRE has been successful by using the [official oracle website](#)

---

Linked Questions:

1. [How do I install Java?](#)
  2. [How do I install Oracle Java JDK 7?](#)
  3. [How can I install Sun/Oracle's proprietary Java JDK 6/7/8 or JRE?](#)
- 

[Answer](#) by [bruno-pereira](#)

The reason why Oracle's Java implementation is not supported or distributed by Ubuntu already discussed [here](#).

The basic idea is that Oracle's Java SE will not be included in any official Ubuntu repo due to license problems created by Oracle.

That does not stop you from installing Oracle's JDK from a PPA or from the official package files from the Oracle's site.

This guide describes how-to download, install and make java, javac and javaws from Oracle available to use in your system.

## **How to install Oracle Java JDK6u30 on Ubuntu 11.10**

(should work with any other version downloaded from Oracle)

- **Download Sun/Oracle Java JDK**

Download Sun/Oracle Java JDK or JRE from here (current version is JDK 6 Update 30)  
<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

Note: Select any of the **Linux x86** or **Linux x64** bin packages (example jdk-6u30-linux-i586.bin, jdk-6u30-linux-x64.bin) depending on your system and preference.

- **Make the file executable**

```
chmod +x /path/to/file/jdk-6u30-linux-* .bin
```

- **Run Sun/Oracle Java JDK binary and delete it**

```
/path/to/binary/jdk-6u30-linux-* .bin && rm /path/to/binary/jdk-6u30-linux-* .bin
```

There will be a newly created folder on the same path with the extracted files

- **Move the folder to a system wide path and give it a more identifiable name**

```
mkdir -p /usr/lib/jvm  
cd /path/to/binary/  
mv /path/to/binary/jdk1.6.0_30 /path/to/binary/java-6-oracle && mv /path/to/binary/java-6-oracle  
/usr/lib/jvm/
```

- **Add the new version of java, javac and javaws as an system alternative and give it priority 1**

```
sudo update-alternatives --install "/usr/bin/java" "java" "/usr/lib/jvm/java-6-oracle/bin/java" 1  
sudo update-alternatives --install "/usr/bin/javac" "javac" "/usr/lib/jvm/java-6-oracle/bin/javac" 1  
sudo update-alternatives --install "/usr/bin/javaws" "javaws" "/usr/lib/jvm/java-6-oracle/bin/javaws" 1
```

- **Select the new alternatives to be used**

```
sudo update-alternatives --config java
```

Select your created java alternative

```
sudo update-alternatives --config javac
```

Select your newly created javac alternative

```
sudo update-alternatives --config javaws
```

Select your new created javaws alternative

- **Test your newly added java and javac**

java -version should return

```
java version "1.6.0_30"  
Java(TM) SE Runtime Environment (build 1.6.0_30-b12)  
Java HotSpot(TM) Client VM (build 20.5-b03, mixed mode, sharing)
```

and javac -version should return

```
javac 1.6.0_30
```

- **Update system paths**

Open /etc/profile with you favorite text editor, ie

```
gksudo gedit /etc/profile
```

Navigate to the end of the file and add these contents

```
JAVA_HOME=/usr/lib/jvm/java-6-oracle
JAVA_BIN=$JAVA_HOME/bin
PATH=$PATH:$JAVA_HOME:$JAVA_BIN
export JAVA_HOME
export JAVA_BIN
export PATH
```

Reload your system wide PATH /etc/profile with

```
. /etc/profile
```

That is for Oracle's JDK, java, javac and javaws should be running from the Oracle's package.

The version here installed can be updated easily by copying the new version over the currently installed files. Just extract the package and copy over the new one over the one that is currently installed.

You might want to check /etc/alternatives for links to older installs of JRE - there are many tools that might not be found on your system after a manual install like this.

---

**Tags:** [java](#) ([Next Q](#))

---

## [\*\*Q: How to completely uninstall Java?\*\*](#)

**Tags:** [java uninstall](#) ([Next Q](#))

How can I completely remove all traces of Java on my system?

I already know [how to install it](#) in case I need it again.

**Tags:** [java uninstall](#) ([Next Q](#))

**User:** [caldwellysr](#)

---

[Answer](#)  by [eric-carvalho](#)

Remove all the Java related packages (Sun, Oracle, OpenJDK, IcedTea plugins, GIJ):

```
sudo apt-get update
apt-cache search java | awk '{print($1)}' | grep -E -e '^ia32-(sun|oracle)-java' -e '^openjdk-' -e '^icedtea' -e '^default|gcj-j(re|dk)' -e '^gcj-(.*)-j(re|dk)' -e 'java-common' | xargs sudo apt-get -y remove
sudo apt-get -y autoremove
```

Purge config files:

```
dpkg -l | grep ^rc | awk '{print($2)}' | xargs sudo apt-get -y purge
```

Remove Java config and cache directory:

```
sudo bash -c 'ls -d /home/*/.java' | xargs sudo rm -rf
```

Remove manually installed JVMs:

```
sudo rm -rf /usr/lib/jvm/*
```

Remove Java entries, if there is still any, from the *alternatives*:

```
for g in ControlPanel java java_vm javaws jcontrol jexec keytool mozilla-javaplugin.so orbd pack200 policytool rmid rmiregistry servertool tnameserv unpack200 appletviewer apt extcheck HtmlConverter idlj jar jarsigner javac javadoc javah javap jconsole jdb jhat jinfo jmap jps jrungscript jsadebugd jstack jstat jstard native2ascii rmic schemagen serialver wsgen wsimport xjc xulrunner-1.9-javaplugin.so; do sudo update-alternatives --remove-all $g; done
```

Search for possible remaining Java directories:

```
sudo updatedb  
sudo locate -b '\pack200'
```

If the command above produces any output like **/path/to/jre1.6.0\_34/bin/pack200** remove the directory that is parent of **bin**, like this: `sudo rm -rf /path/to/jre1.6.0_34.`

[Answer](#)  by [eliah-kagan](#)

To completely remove OpenJDK on Ubuntu 11.10 (this may or may not be sufficient on other versions of Ubuntu), run:

```
sudo apt-get purge openjdk-* icedtea-* icedtea6-*
```

If you want instructions for removing the proprietary Oracle (“Sun”) version of Java, then you’ll have to specify how you installed it. (If you edit your question to indicate this and leave a comment to this answer, I’ll try to add information about how to remove that too.)

**Tags:** [java](#) [uninstall](#) ([Next Q](#))

---

[Q: How do I install Java?](#)

---

[Q: How do I install Oracle JDK 6?](#)

---

[Q: How to completely uninstall Java?](#)

---

[Q: How do I update Oracle Java 7 \(JDK and JRE\)](#)

# Skype

[Skip to questions](#), Wiki by user [aneeshep](#)

Excerpt from [Wikipedia](#):

Skype (pronounced /skap/) is a software application that allows users to make voice calls over the Internet. Calls to other users within the Skype service are free, while calls to both traditional landline telephones and mobile phones can be made for a fee using a debit-based user account system. Skype has also become popular for its additional features which include instant messaging, file transfer, and video conferencing. The network is operated by Skype Limited, which has its headquarters in Luxembourg. Most of the development team and 44% of the overall employees of Skype are situated in the offices of Tallinn and Tartu, Estonia.

## Recent Information:

Skype Limited was recently purchased for 8.5 billion USD by Microsoft who announced that they planned to continue Skype development.

---

# Questions

## [Q: Skype can't connect](#)

**Tags:** [skype](#)

After I restarted my computer to finish a upgrade, I could not log in at Skype anymore.

It only shows the message:

Skype can't connect.

If I try web version it works. I'm using Skype 4.2.

**Tags:** [skype](#)

**User:** [jirico](#)

---

[Answer](#)  by [mark](#)

According to [this post](#), skype versions older than 4.3 are unable to connect as of today (2014-08-01). Though it could have just been a temporary outage of the skype servers, I was able to connect after updating skype.

---

[Answer](#)  by [johnmerlino](#)

First get rid of the old skype from repo:

```
sudo apt-get purge skype
```

Second, delete your ~/.Skype folder

```
rm -R ~/.Skype
```

Then download skype-ubuntu-precise\_4.3.0.37-1\_i386.deb from

<http://www.skype.com/en/download-skype/skype-for-linux/?intcmp=blogs--generic-click-skype-4-3-for-linux>  and execute it as a deb package:

```
sudo dpkg -i skype-ubuntu-precise_4.3.0.37-1_i386.deb
```

---

**Tags:** [skype](#)

---

[Q: What FLOSS skype alternatives are available?](#)

---

[Q: How do I get the Skype status icon back? \(on panel/tray\)](#)

---

[Q: How to install Skype 4.3?](#)

---

[Q: Skype can't connect](#)

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# Autostart

## Questions

### [Q: How to run scripts on start up?](#)

Tags: [autostart](#) ([Next Q](#))

I was wondering how to run scripts when my computer starts up so I don't have to run scripts manually that I always run?

Tags: [autostart](#) ([Next Q](#))

User: [myusuf3](#)

---

[Answer](#)  by [source-lab](#)

Depending on what sort of scripts you need to run.. For services and the like you should use [upstart](#). But for a user script these should be launched as session scripts by gnome! Have a look under System > Preferences > Startup Applications.

On a side note if you need some scripts to be run on terminal login you can add them to the [.bash\\_login](#) file in your home directory.

---

[Answer](#)  by [ceejayoz](#)

One approach is to add an @reboot [cron](#) task.

Running crontab -e will allow you to edit your cron.

Adding a line like this to it:

@reboot /path/to/script

will execute that script once your computer boots up.

---

[Answer](#)  by [riccardo-murri](#)

There are different ways to automatically run commands:

1. The [upstart](#) system will execute all scripts from which it finds a configuration in directory /etc/init. These scripts will run during system startup (or in response to certain events, e.g., a shutdown request) and so are the place to run commands that do not interact with the user; all servers are started using this mechanism.

You can find a readable introduction to at: <http://upstart.ubuntu.com/getting-started.html> the man pages `man 5 init` and `man 8 init` give you the full details.

2. A shell script named .gnomerc in your home directory is automatically sourced each time you log in to a GNOME session. You can put arbitrary commands in there;

environment variables that you set in this script will be seen by any program that you run in your session.

Note that the session does not start until the `.gnomerc` script is finished; therefore, if you want to autostart some long-running program, you need to append `&` to the program invocation, in order to detach it from the running shell.

3. The menu option **System -> Preferences -> Startup Applications** allows you to define what applications should be started when your graphical session starts (Ubuntu predefines quite some), and add or remove them to your taste. This has almost the same purpose and scope of the `.gnomerc` script, except you don't need to know `sh` syntax (but neither can you use any `sh` programming construct).
- 

**Tags:** [autostart](#) ([Next Q](#))

---

## **Q: How do I make a program auto-start every time I log in?**



**Tags:** [autostart](#) ([Next Q](#))

I frequently need to start several programs that I use every time I start my computer. How can I make it so that whenever I login the program is automatically launched?

**Tags:** [autostart](#) ([Next Q](#))

**User:** [marco-ceppi](#)

---

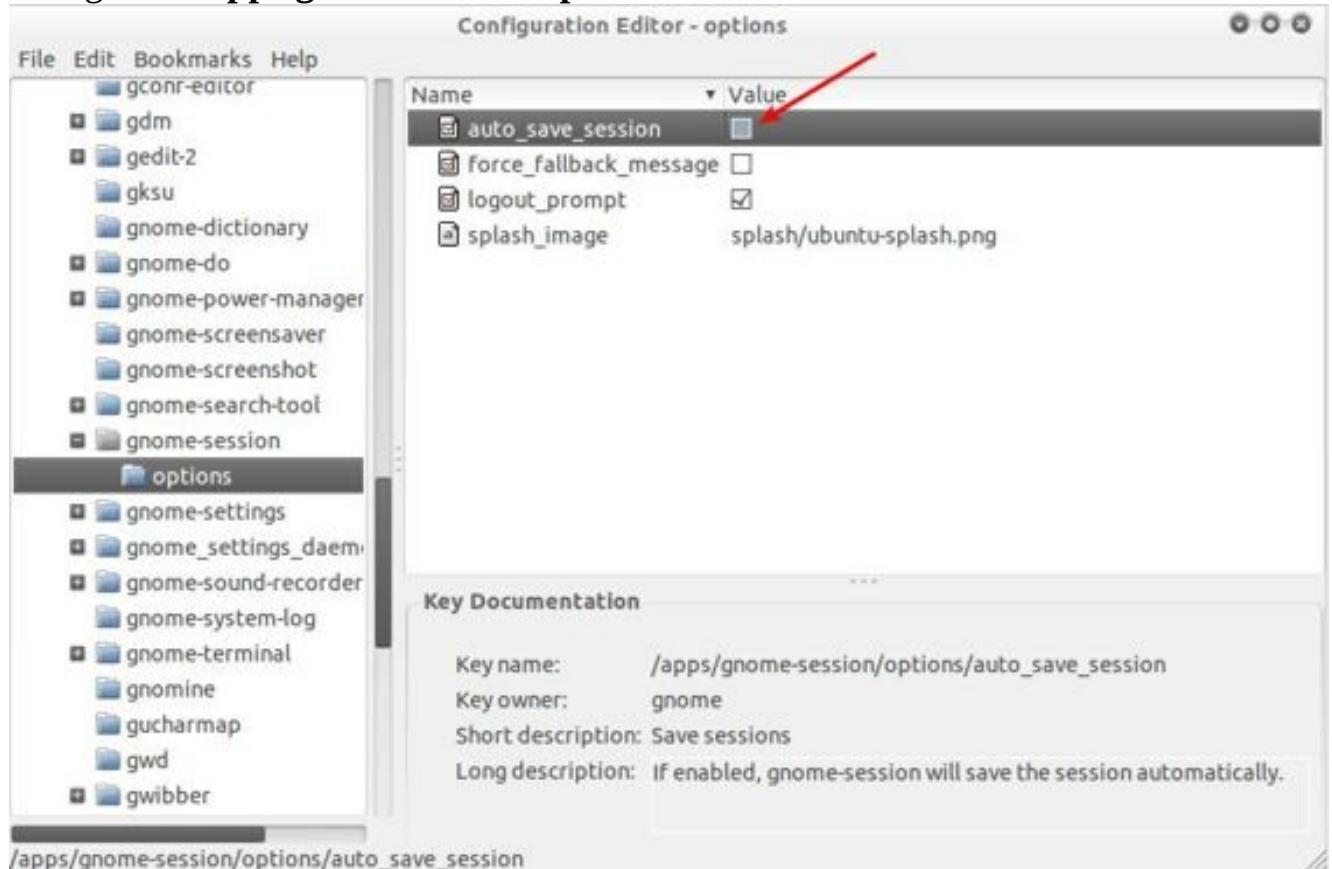
[Answer](#)  by [alan](#)

## To make a program start with Ubuntu:

- If you're using **Unity**, search for the program **Startup Applications**.
  - If you're using **Ubuntu Classic**, it's under **Start Menu > Preferences > Startup Applications**.
-

# To make Ubuntu remember your running applications on shutdown:

1. Open a terminal, and run gconf-editor.
2. Navigate to **/apps/gnome-session/options**.



3. Enable the option: **auto\_save\_session**.

(NOTE: this may slow system boot, and has not been thoroughly tested.)

---

[Answer](#) by [takkat](#)

# User defined sessions for applications to start after login

An alternative way to automatically start applications after login is to define a user defined session. This has the advantage to use different sessions for different task, each with different applications loaded.

For this purpose we create a `custom.desktop` file **as root** in `/usr/share/xsessions` with the following content (for GNOME/GDM):

```
[Desktop Entry]
Name=Marco's Crowded Session
Comment=Custom ~/xsession script
Exec=/home/username/.xsession
X-Ubuntu-Gettext-Domain=gdm
```

Use any fancy name for your session and replace `username` by your name of course.

This will run the script `.xsession` in the `HOME` directory at login where we can put in any applications we need to start after login.

The script needs to be named as defined in the `.desktop` file, that is `~/xsession` in the example given, **needs to be made executable** and may have a content similar to this:

```
#!/bin/bash
my-important-app [options] &
second-app [options] &
[...]                      # add other applications
gnome-session [options]
```

Options for `gnome-session` may be omitted to load the default session. Give e.g. `--session=classic-gnome` as option to run Classic GNOME Desktop in 11.04.

Next time we login we will have the choice to start a “**Marco’s Crowded Session**” with all applications from the script running in addition to applications from the `gnome-session` (or any other desktop manager you chose to start here).

## Starting other desktop managers

To start another **installed** desktop manager replace the last line from the `~/xsession` script with the following:

- `gnome-session --session=ubuntu` for standard desktop (with Unity in 11.04).
- `gnome-session --session=classic-gnome` for classic GNOME desktop.
- `startkde` for KDE desktop manager.
- `startxfce4` for XFCE, or when running Xubuntu.

---

[Answer](#) by [rolandixor](#)

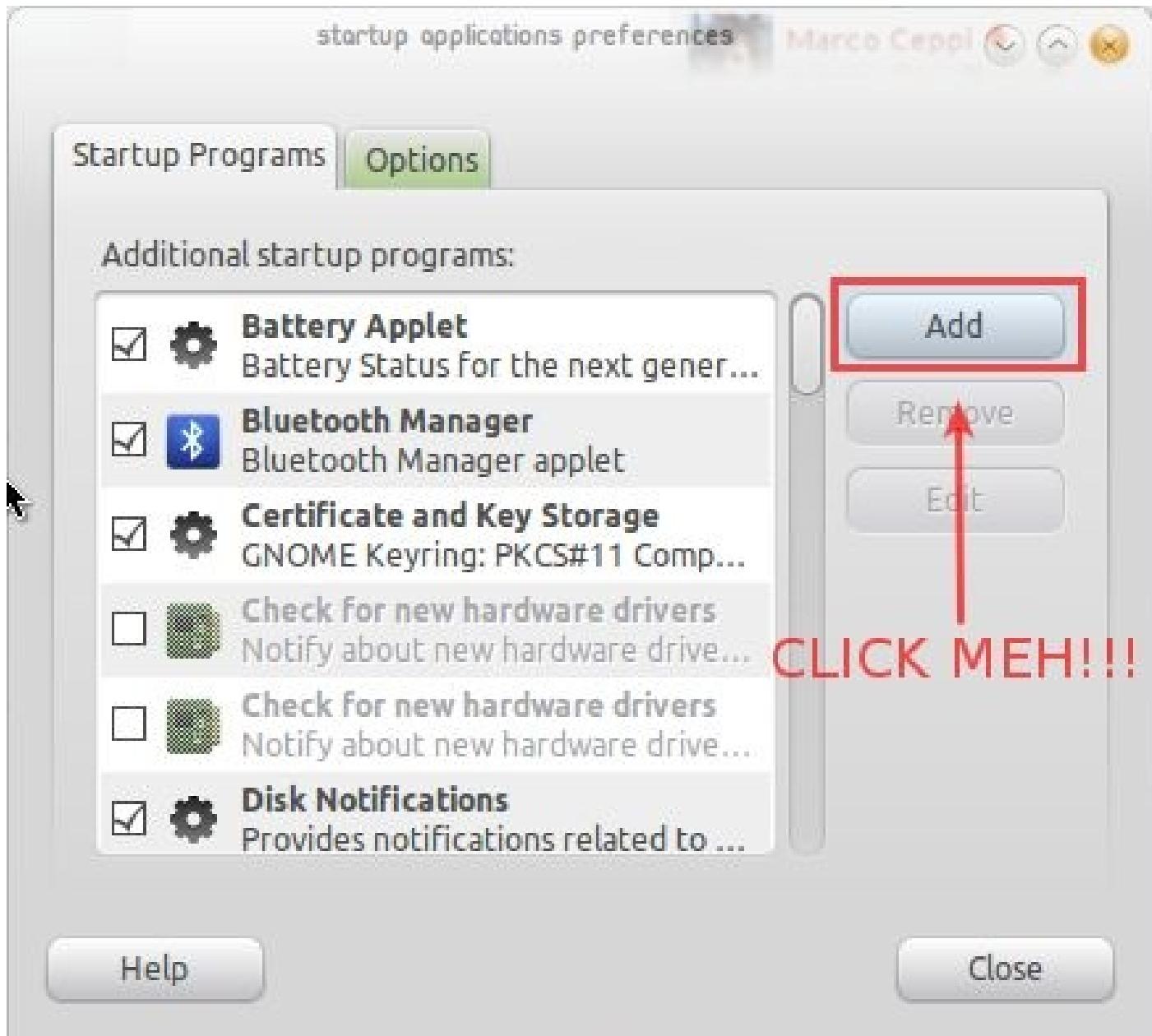
If you are using the [\*\*GNOME\*\*](#) [\*\*Desktop Environment\*\*](#), then this is rather simple to

accomplish.

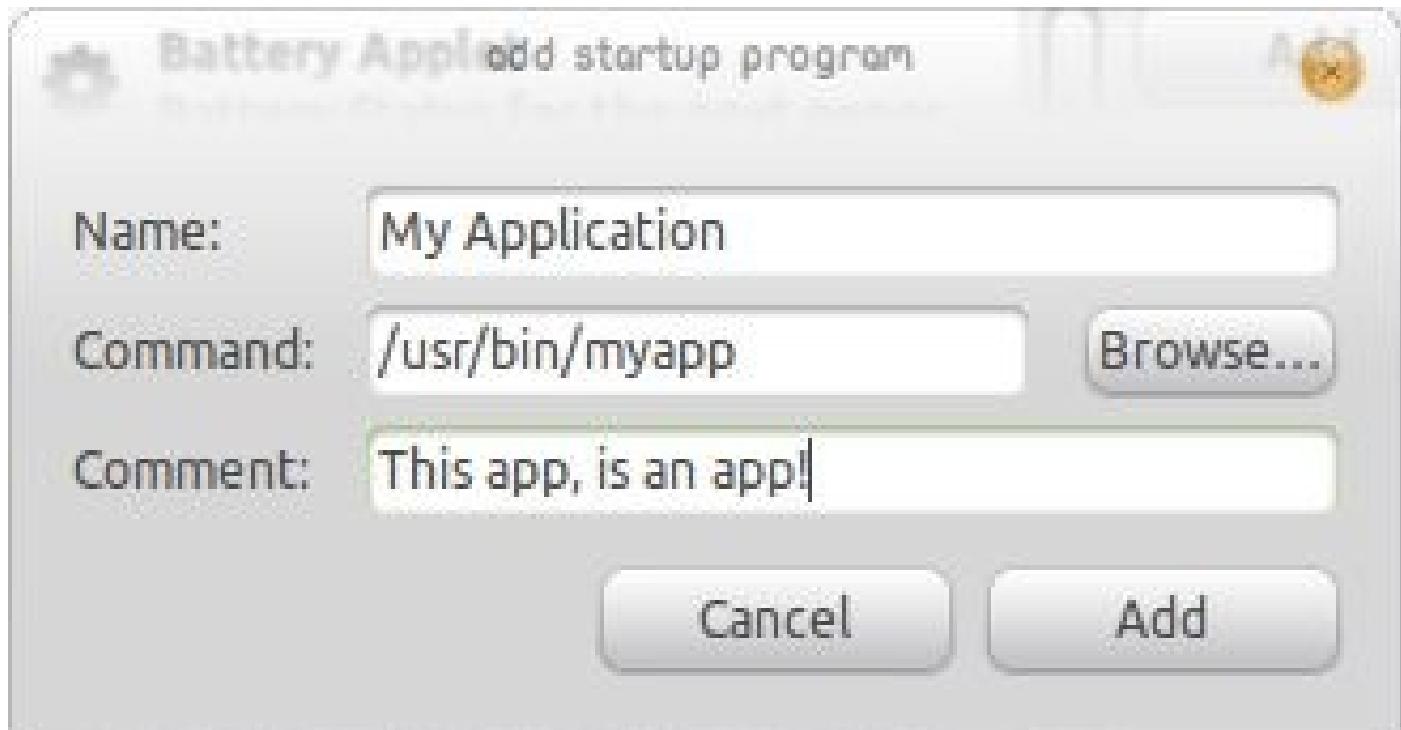
- Go to System>Preferences>Startup Applications,



- Now you can either add an application by clicking add,



- And adding the application/script you want to run on startup,



- Or you can add an application by dragging the launcher you wish to add from the Application menu to the Startup Applications screen.

---

Tags: [autostart](#) ([Next Q](#))

---

## **Q: How do I start applications automatically on login?**

Tags: [autostart](#)

How can I make an application automatically start when I have logged in?

Tags: [autostart](#)

User: [alaukik](#)

---

[Answer](#)  by [takkat](#)

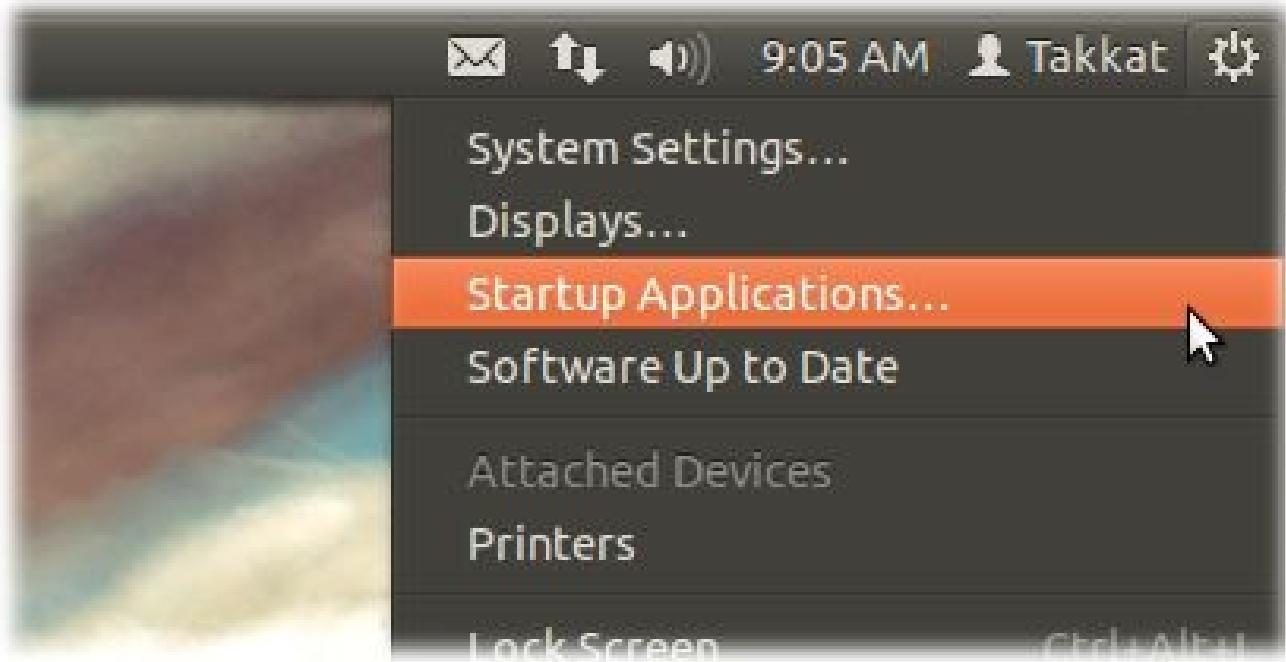
## 12.10 and later

- Open the Dash and search for “*Startup Applications*”

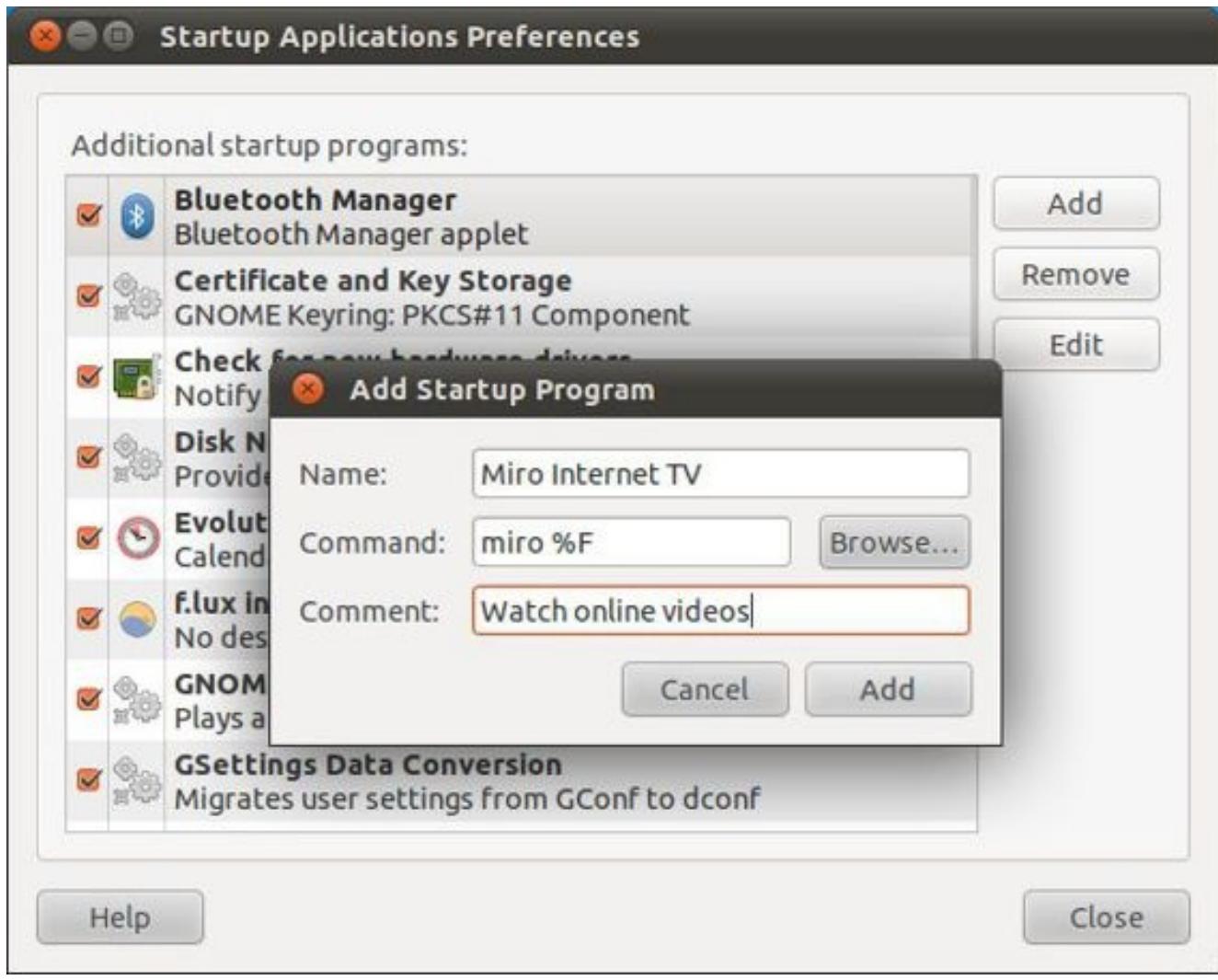


## 11.10 - 12.04 LTS

- Click on the cog wheel on the top right corner of your screen and choose ***Startup Applications***, or type “*Startup...*” in the Dash.



- Now click on ***Add*** and give in the command to run the application. This can be found in **Main Menu** if installed (see below) or [as shown in this question](#).

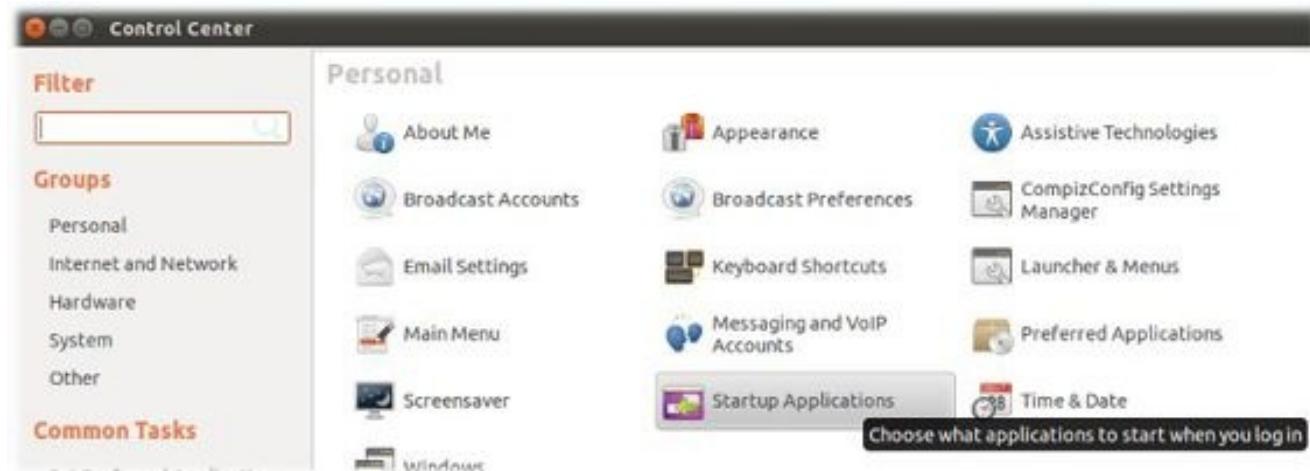


## 11.04

- Click the button on the top-right corner and select *System Settings*



- Now click on startup applications.



- proceed as shown above

# Using Main Menu ([alacarte](#))

# Missing Image

)

- Firstly open the program ‘Main Menu’ (type **Menu** in the Dash)



- Now select the program which you want to add to startup and click on properties .



- Now note the command for that program .



# Non GUI approach

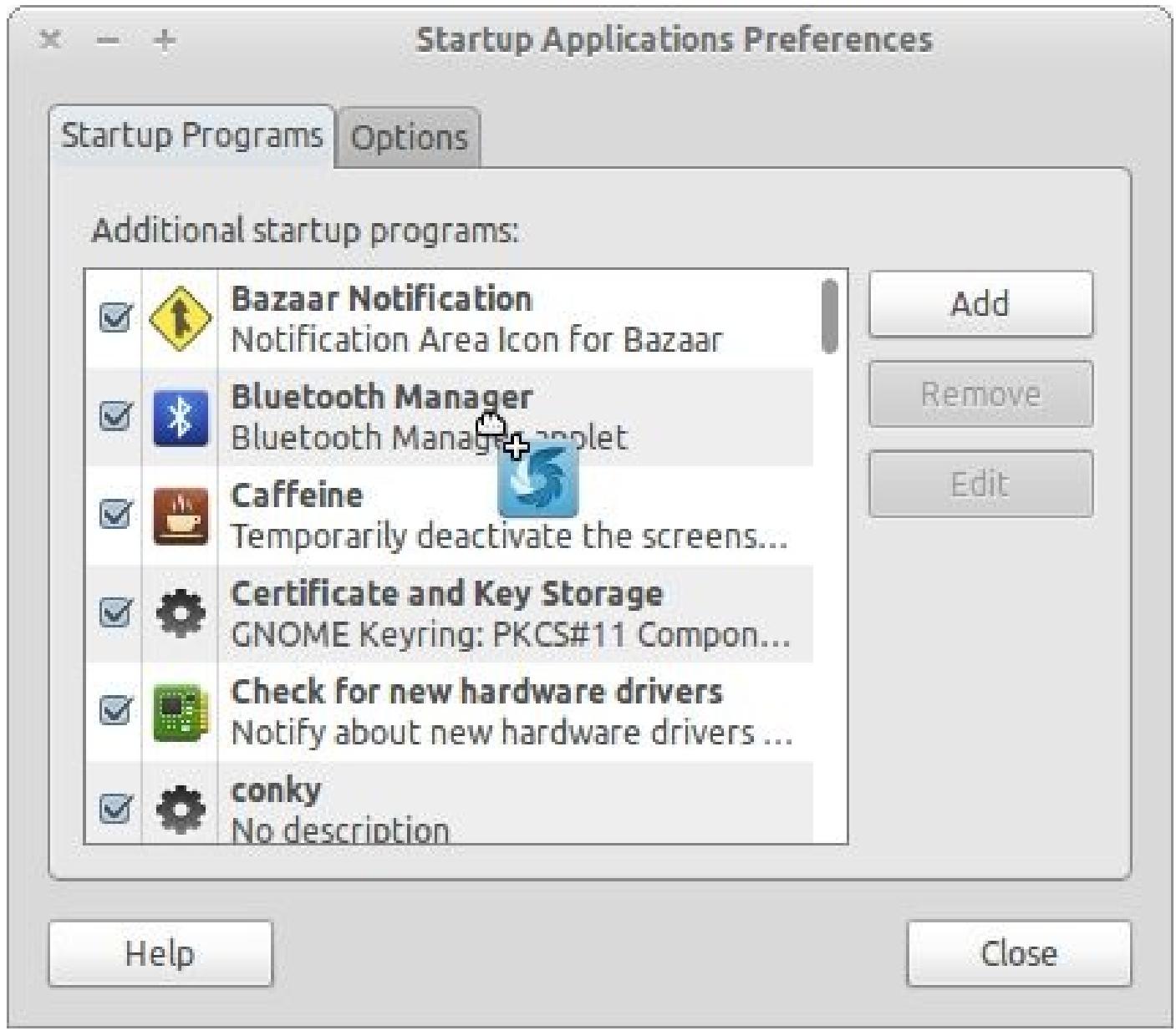
Advanced users may want to put a .desktop file in `~/.config/autostart` to run applications after a user login. This may have following content:

```
[Desktop Entry]
Type=Application
Name=<Name of application as displayed>
Exec=<command to execute>
Icon=<full path to icon>
Comment=<optional comments>
X-GNOME-Autostart-enabled=true
```

[Answer](#) by [alvin-row](#)

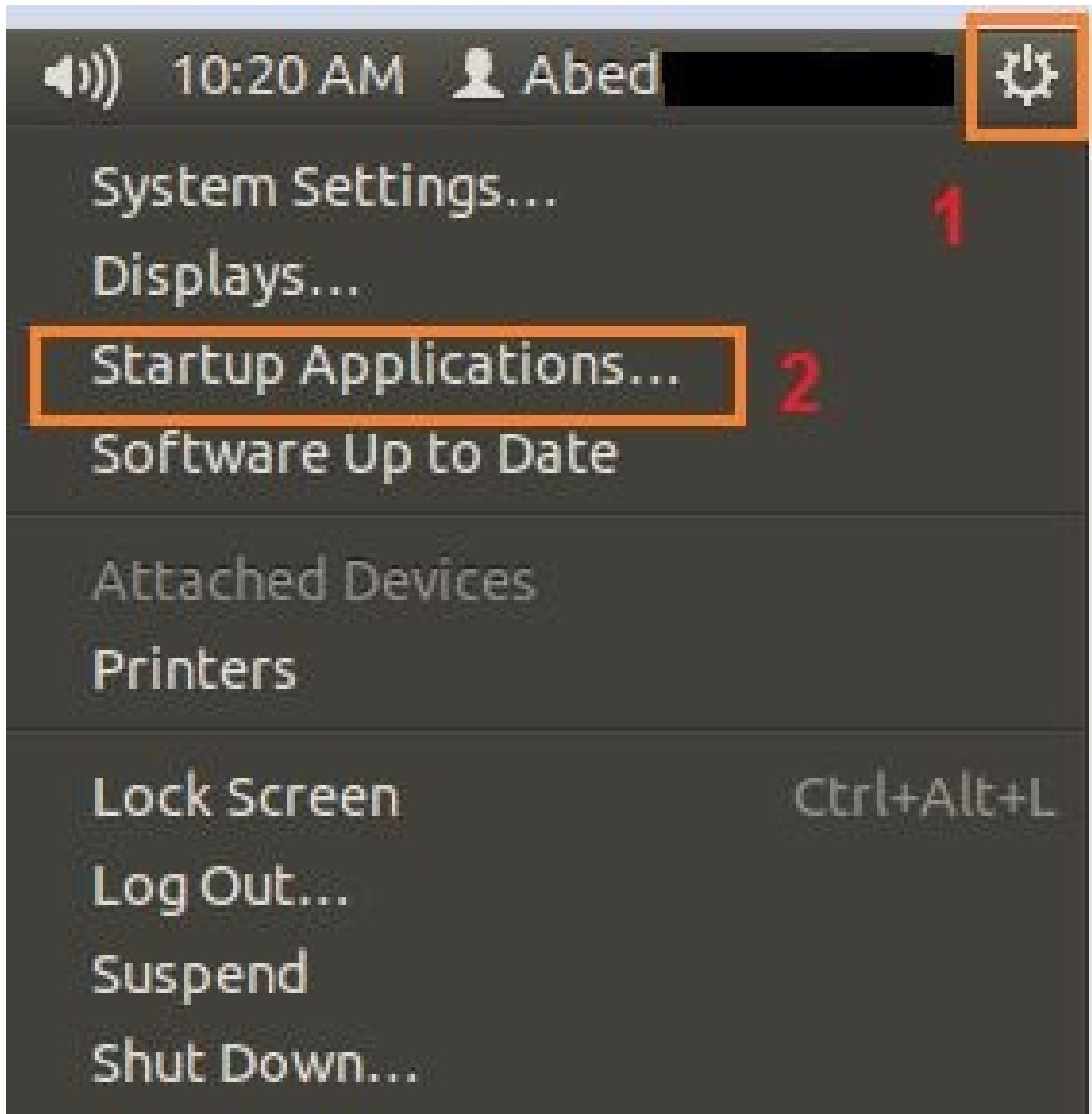
For 11.04 and newer see here: [How to start applications at startup automatically in 11.04?](#)

For older versions: If the program you wish to run on startup is in the *Applications* menu, you can drag-and-drop it into the *Startup Applications* window to add it to the list.

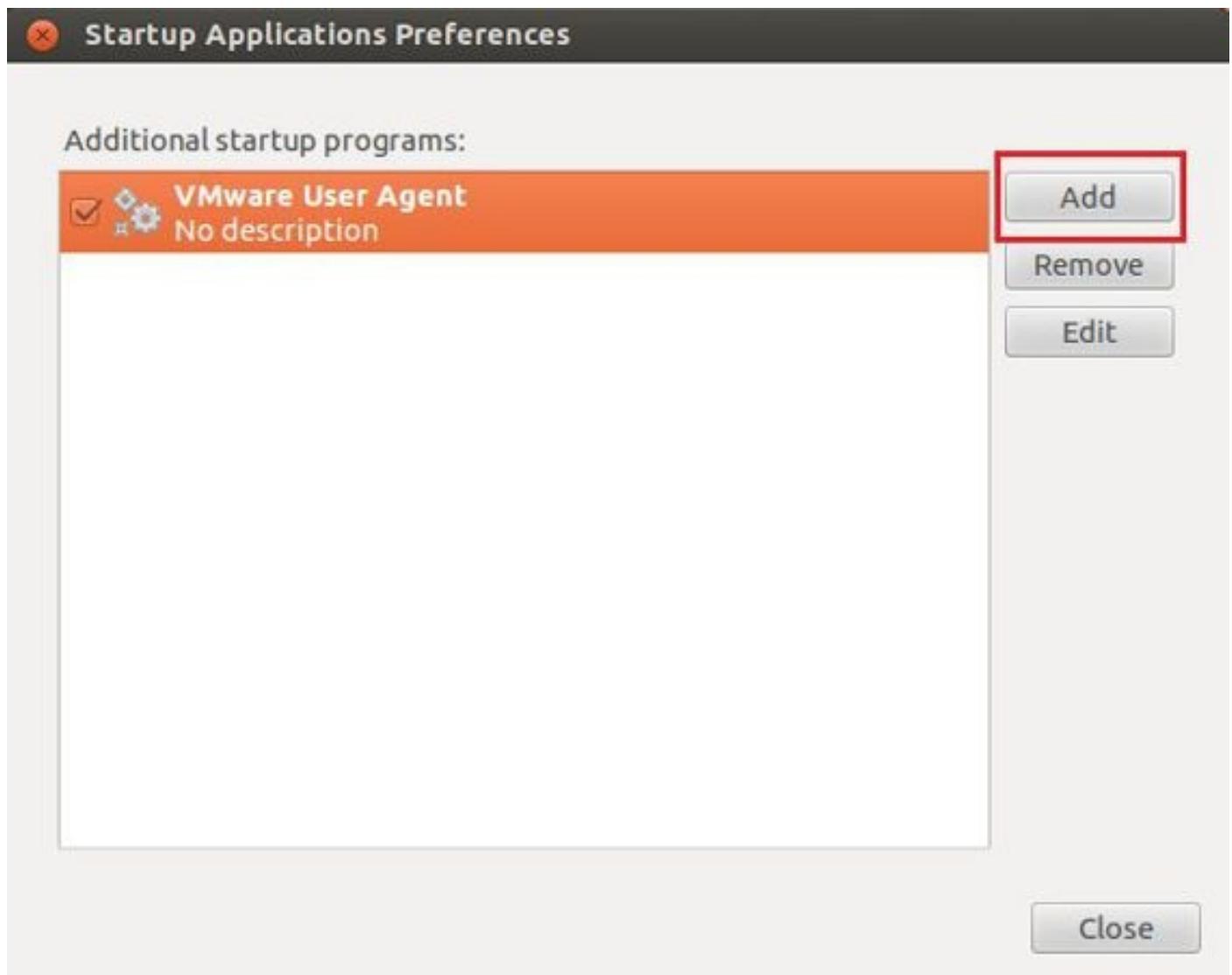


[Answer](#) by [mitch](#)

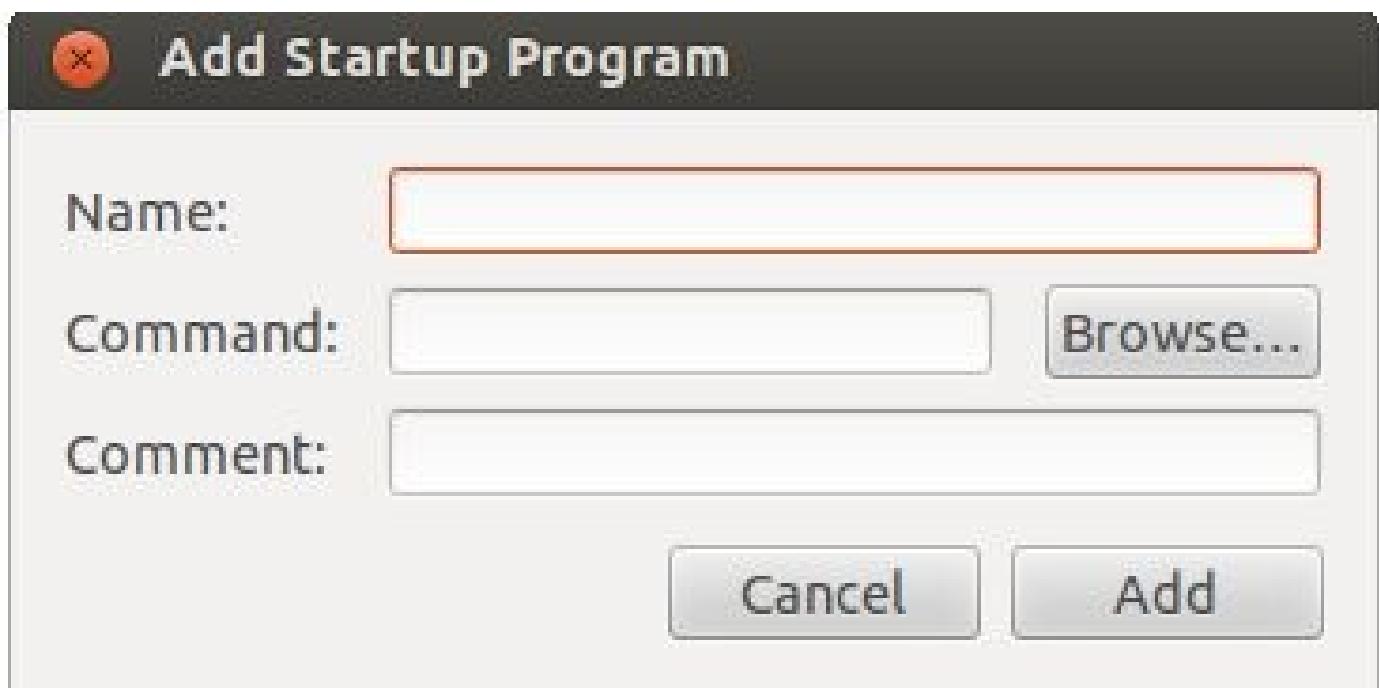
Launch Startup applications from Dash



Click on Startup Applications



And then click on add



Type the name of the program, browse to the command, and then click add.

**Addition:** Here is a sample that I use to autostart Guake - the Gnome version of Yakuake:

Put this in the ‘command’ box.

```
sh -c "sleep 120s; guake"
```

This starts guake automatically, but waits 2 mins before doing so. You can change the 120 to whatever you wish.

---

---

**Tags:** [autostart](#)

---

---

[Q: How to run scripts on start up?](#)

---

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[Q: How can I configure a service to run at startup](#)

---

---

[Q: How do I make a program auto-start every time I log in?](#)

---

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[Q: How do I start applications automatically on login?](#)

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# Apache2

## Questions

### **Q: Could not reliably determine the server's fully qualified domain name?**

**Tags:** [apache2](#)

When I restart my apache server using the command

```
sudo /etc/init.d/apache2 restart
```

I get the following error:

```
Restarting web server apache2
apache2: Could not reliably determine the server's fully qualified domain name, using 127.0.1.1 for
ServerName... waiting apache2:
Could not reliably determine the server's fully qualified domain name, using 127.0.1.1 for
ServerName
```

Is the server using 127.0.1.1 instead of 127.0.0.1? What causes this error?

**Tags:** [apache2](#)

**User:** [deepu](#)

---

[Answer](#)  by [rinzwind](#)

# 13.04 and older

This is just a friendly warning and not really a problem (as in that something does not work).

If you insert a

```
ServerName localhost
```

in either `httpd.conf` or `apache2.conf` in `/etc/apache2` and restart apache the notice will disappear.

If you have a name inside `/etc/hostname` you can also use that name instead of `localhost`.

---

And it uses `127.0.1.1` if it is inside your `/etc/hosts`:

```
127.0.0.1 localhost  
127.0.1.1 myhostname
```

## Preferred method

Troubleshooting Apache

If you get this error:

```
apache2: Could not determine the server's fully qualified domain name,  
using 127.0.0.1 for ServerName
```

then use a text editor such as “`sudo nano`” at the command line or “`gksudo gedit`” on the desktop to create a new file,

```
sudo nano /etc/apache2/conf.d/fqdn
```

or

```
gksu "gedit /etc/apache2/conf.d/fqdn"
```

then add

```
ServerName localhost
```

to the file and save. This can all be done in a single command with the following:

```
echo "ServerName localhost" | sudo tee /etc/apache2/conf.d/fqdn
```

But on Ubuntu 14.04:

```
echo "ServerName localhost" | sudo tee /etc/apache2/conf-available/fqdn.conf  
sudo ln -s /etc/apache2/conf-available/fqdn.conf /etc/apache2/conf-enabled/fqdn.conf
```

Don't forget the “`.conf`” (without will not work).

---

Answer  by [starx](#)

# 13.10 or newer

As of Apache 2.4 - which is available by default as of 13.10 - you cannot use the method about adding a config file in the conf.d directory.

Apache no longer uses the conf.d directory. All the configuration files are stored inside /etc/apache2/conf-available directory and all the configuration files should now have a .conf extension.

In order to solve this message in Apache 2.4, we have to create a configuration file inside the conf-available directory. For example servername.conf.

```
sudo vi /etc/apache2/conf-available/servername.conf
```

And inside this we just need to add one line

```
ServerName localhost
```

You can combine the previous two commands in one with:

```
echo "ServerName localhost" | sudo tee /etc/apache2/conf-available/servername.conf
```

If you want to use a domain name or any other name depending on the requirement its fine, just replace localhost with whatever you need. Next you have to enable this configuration. For this, you need to run the following command:

```
sudo a2enconf servername
```

a2enconf is a command to enable a configuration file in Apaches 2.4. Also note that servername on the above command is from the name of the configuration file servername.conf. If your configuration file was ngenericserver.conf then you would have to write sudo a2enconf ngenericserver.

After this reload the server and the above message will no longer bug you.

```
sudo service apache2 reload
```

or

```
sudo apache2ctl graceful
```

Now after this you will see that the message will not be shown again and the problem will be fixed.

Source: <http://ngeneric.com/tutorials/linux/apache2/fix-could-not-reliably-determine-servers-fully-qualified-domain-name-error>

---

[Answer](#)  by green7

- Open a terminal.
- Open the /etc/apache2/httpd.conf file:

```
sudo gedit /etc/apache2/httpd.conf
```

- By default, it would be blank. Simply add the following line:

```
ServerName localhost
```

- Save the file and exit gedit.
- Restart the server

```
sudo service apache2 restart
```

---

**Tags:** [apache2](#)

---

[Q: What's the easiest way to set up a LAMP stack?](#)

---

[Q: How do you restart Apache?](#)

---

[Q: How can I access Apache \(on VirtualBox guest\) from host?](#)

---

[Q: Could not reliably determine the server's fully qualified domain name?](#)

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# Disk Usage

## Questions

### [Q: Meaning of “i” in “MiB”?](#)

Tags: [disk-usage](#) ([Next Q](#))

I see the usage of “MiB” as measure to represent the size in Ubuntu. What does MiB stand for? In particular the “i”?

Tags: [disk-usage](#) ([Next Q](#))

User: [renjith-g](#)

---

[Answer](#) by [stefano-palazzo](#)

There are two ways (in common use) of denoting orders of magnitude to make large numbers easier to read, first you can use a power of 10.

```
10 = 1  
10 = 10  
10 = 100  
10 = 1000
```

Or powers of two

```
2 = 1  
2 = 2  
2 = 4  
2 = 8
```

Using these series as a base we arrive at the numbers 1000 and 1024 (10 and 2) for a *kilo*.

There are eight bits to a byte. So one kilobyte is  $8 \times 10^3 = 8000$  bits. Hard drive manufacturers use this method. In computer science, people usually use powers of two, so one kibibyte is  $2^10 = 1024$  bits.

The difference only gets larger as the numbers get larger. Some have even mixed those two systems to get nice numbers to put on their packaging. This is why a 1.44MB floppy disk has neither 1.44 megabytes nor 1.44 mebibytes (they use 10241000).

The *logic behind the i* is that the terms are derived from the original si prefixes, kilo, mega, giga, but with the word *binary* put in. So the *i* is the second letter of *binary*. The mnemonic for the kibibyte is “kilo binary byte”, and “KiB” is pronounced “Kibibyte”.

All of this is defined in the [IEC\\_80000 Standard](#).

Note that a mebibyte is not defined as  $2^{10}$ , but as  $(2^{10})^2$ , although they are equal. A gibibyte is  $(2^{10})^3$ , a tebibyte is  $(2^{10})^4$  and so on.

| Prefix | Bytes | Prefix | Bytes |
|--------|-------|--------|-------|
|--------|-------|--------|-------|

|   |   |
|---|---|
| 1 Byte = $(2^{10})^0 = 1$                 | 1 Byte = $(10^3)^0 = 1$                 |
| 1 Kibibyte = $(2^{10})^1 = 1024$          | 1 Kilobyte = $(10^3)^1 = 1000$          |
| 1 Mebibyte = $(2^{10})^2 = 1048576$       | 1 Megabyte = $(10^3)^2 = 1000000$       |
| 1 Gibibyte = $(2^{10})^3 = 1073741824$    | 1 Gigabyte = $(10^3)^3 = 1000000000$    |
| 1 Tebibyte = $(2^{10})^4 = 1099511627776$ | 1 Terabyte = $(10^3)^4 = 1000000000000$ |

Keep in mind that, *very often*, the term kilobyte is used when the author means kibibyte. The binary unit was only introduced around 1999, as Randy Orrison points out.

---

As **nealmcb** found out in the comments, there is an official policy on this:

<https://wiki.ubuntu.com/UnitsPolicy> 

In summary, this policy reminds developers to either use SI or IEC prefixes, but to never mix them. It goes on to say:

For file sizes there are two possibilities:

- Show both, base-10 and base-2 (in this order). An example is the Linux kernel: “2930277168 512-byte hardware sectors: (1.50 TB/1.36 TiB)”
  - Only show base-10, or give the user the opportunity to decide between base-10 and base-2 (the default must be base-10).
- 

**Tags:** [disk-usage](#) ([Next Q](#))

---

## **Q: How do I find the amount of free space on my hard drive?**

**Tags:** [disk-usage](#)

Is there a way to quickly check the amount of free / used disk space in Ubuntu?

I would assume you could right click on ‘file system’ in the file browser and choose ‘properties’ or something but there is no such option.

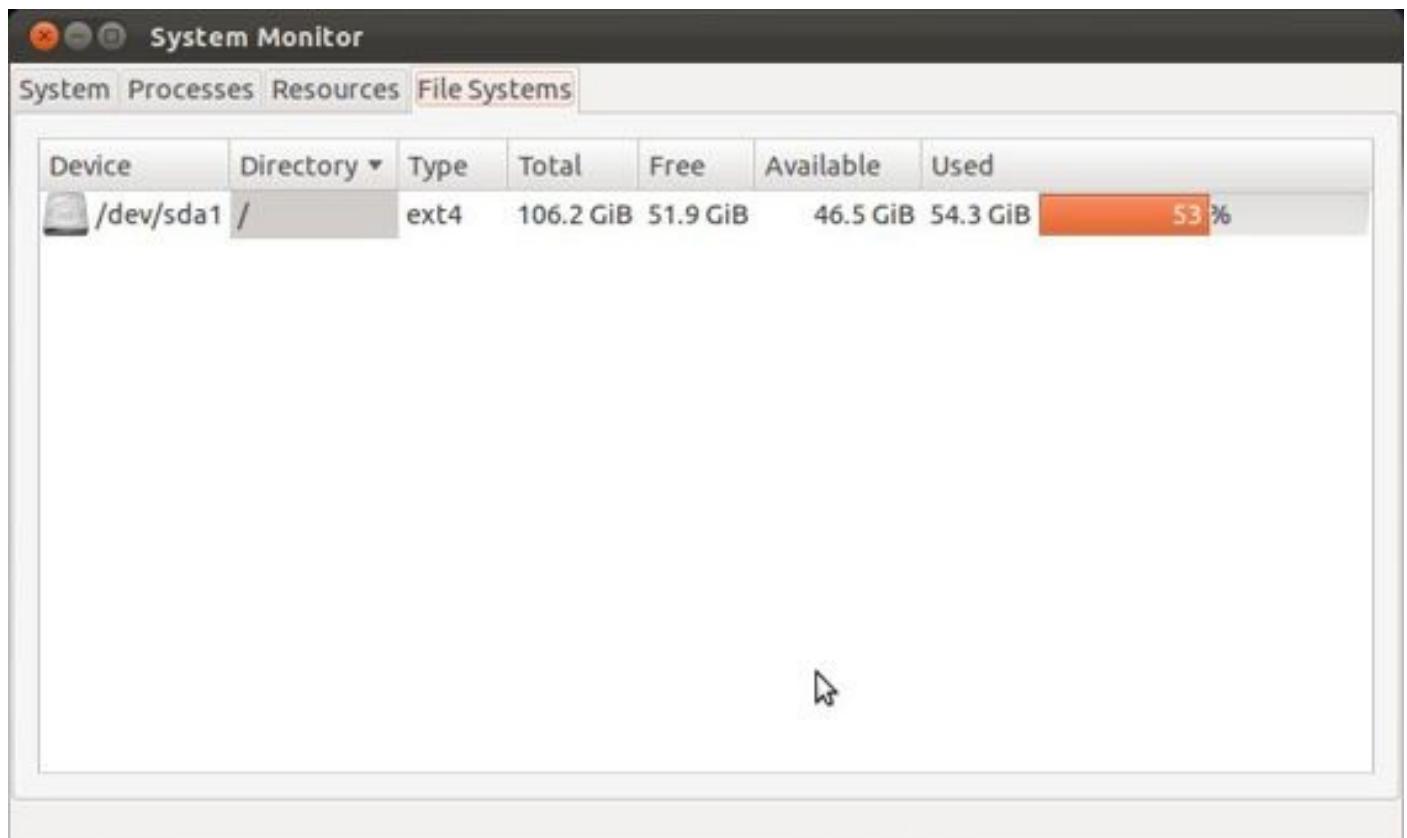
**Tags:** [disk-usage](#)

**User:** [greg](#)

---

[Answer](#)  by [lgarzo](#)

Open **System Monitor** from Dash and select the **Filesystems** tab.



Or alternatively open a Terminal and type:

```
df -h
```

---

[Answer](#) by [anonymous](#)

gnome-system-monitor or df -h or lsblk

Other useful utilities are baobab.

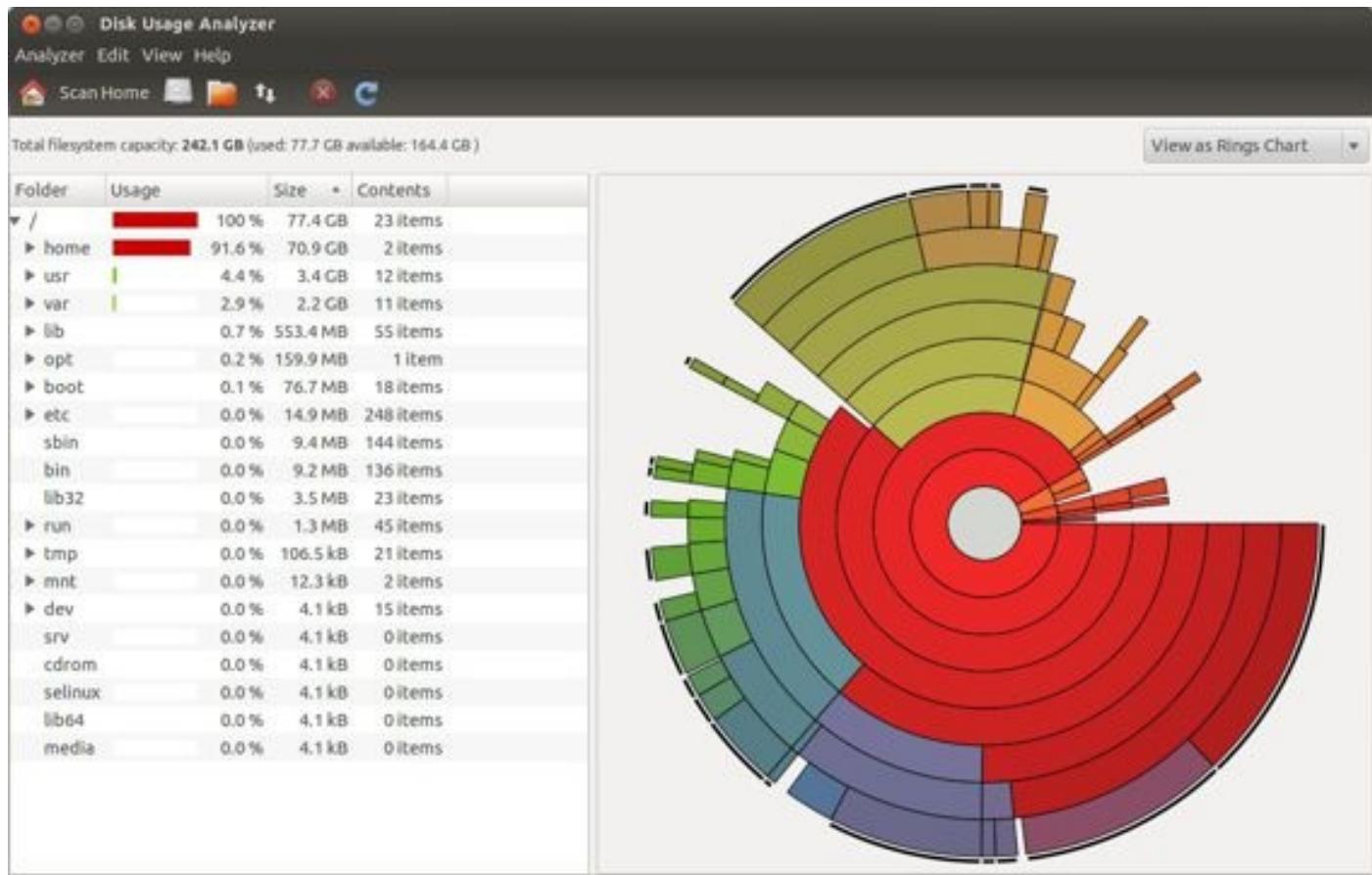
---

[Answer](#) by [ehtesh-choudhury](#)

You can use baobab or similar tools [kdirstat, filelight] to see what files are using up your disk space, too.

Baobab is also called “Disk Usage Analyzer” on Ubuntu.

Here's a sample screenshot of baobab:



Tags: [disk-usage](#)

[Q: Meaning of “i” in “MiB”?](#)

[Q: How do I find the amount of free space on my hard drive?](#)

[Q: How do I free up more space in /boot?](#)

[Q: Can’t upgrade due to low disk space on /boot](#)

# Performance

## Questions

### [Q: How do I optimize the OS for SSDs?](#)

**Tags:** [performance](#) ([Next Q](#)), [ssd](#) ([Next Q](#))

What steps should be taken before/during/after installation of Ubuntu on a Solid State Drive to optimize performance and ensure maximum durability of the drive?

**Tags:** [performance](#) ([Next Q](#)), [ssd](#) ([Next Q](#))

**User:** [lars-haugseth](#)

---

[Answer](#)  by [jr0cket](#)

I have successfully used several different techniques to improve the way Ubuntu uses the storage device, whether that be solid state or traditional drive.

For SSD's you are looking to minimise the number of times the drive is written too, as reads should not add wear to the drive.

#### 1) Manage the swap file

If you do not hibernate your computer and you have ample RAM memory to run all your applications, then in theory you do not need a swap partition.

If you have a mix of SSD and hard drives, place your swap partition on the hard drives only.

#### 2) No Writes for Read Timestamps (suitable for SSD's and hard drives)

Mounting your partitions with the options **noatime** and **nodiratime** will stop timestamp writes when you read files and folders. These timestamp writes are not generally required unless you use a local mail server client such as mutt.

Edit your **/etc/fstab** configuration file (carefully - take a backup to be sure as breaking your fstab configuration can prevent your system from working):

```
cp /etc/fstab ~/fstab-backup  
gksudo gedit /etc/fstab
```

Edit the mounting options for your partitions by adding the text noatime and nodiratime to the lines defining your root (/) and other partitions if you have them (/home) - *Note: if you have a /home partition, start with that just changing that partition if you are concerned about breaking something*

```
# / was on /dev/sda2 during installation  
UUID=587e0dc5-2db1-4cd9-9792-a5459a7bcfd2 /          ext4      noatime,nodiratime,errors=remount-  
ro 0          1
```

```
# /home was on /dev/sda3 during installation
UUID=2c919dc4-24de-474f-8da0-14c7e1240ab8 /home
0          2
ext4      noatime,nodiratime,defaults
```

You will need to reboot your machine before these changes take effect

### 3) Minimising writes from the OS and applications

Assuming that you are not running a mission critical product server, most people do not look at logs should something go wrong (especially as serious errors are rare for most Ubuntu users). Therefore you can configure Ubuntu so all logs get written to RAM memory rather than the SSD.

*Note: only make the following changes when you have installed all software you are going to use (especially things like Apache web server), otherwise you may experience some issues with missing directories in /var/log*

For background to this approach, see [prolonging the life of your flash drive on ubuntu-eee.com](#)

Open **/etc/fstab** with an editor (assuming you have backed up the /etc/fstab file)

```
gksudo gedit /etc/fstab
```

Add the following lines at the end of the fstab file and save:

```
# Uncomment these after all server based applications installed - eg. apache
#tmpfs /tmp tmpfs defaults,noatime,mode=1777 0 0
#tmpfs /var/tmp tmpfs defaults,noatime,mode=1777 0 0
#tmpfs /var/log tmpfs defaults,noatime,mode=0755 0 0
#tmpfs /var/log/apt tmpfs defaults,noatime 0 0
# none /var/cache unionfs dirs=/tmp:/var/cache=ro 0 0
```

You will need to reboot your machine before these changes take effect

See also:

- [How to enable TRIM?](#)

---

[Answer](#) by [hamish-downer](#)

## SSD Life

Generally I wouldn't bother - the worries about SSD life are overblown. You can read this [detailed article about why you really shouldn't worry](#). In short the circuitry inside modern SSDs manages wear-levelling for you, and they know how to do it far better than you.

In the article is a calculation of the life of an SSD that is receiving writes at a continuous rate of 80M/s. The life is **51 years**. That is based on 2007 technology - SSD life will be longer now. And you almost certainly don't write to your SSD at 80M/s 24 hours a day.

## SSD Performance

However performance degradation over time can be a problem, and [TRIM](#) is the solution. There are two options

- automatic/online TRIM, aka discard
- manual TRIM

You have to [enable automatic TRIM yourself](#). (Basically you add the `discard` option to your mount options, provided you are using ext4.) I have found a blog post reporting that [the discard option slows down your system when deleting files](#).

You can occasionally do it manually (or in a cron job) using [fstrim](#). If you just have one partition then all you need to do is:

```
sudo fstrim /
```

Note that fstrim is only available in 11.10 and newer. For older systems you will need the `wiper.sh` script. I found the script at `/usr/share/doc/hdparm/contrib/wiper.sh.gz` on my system.

If you're wondering, the problem that TRIM solves, as [described by Wikipedia](#), is:

SSDs store data in flash memory cells that are grouped into pages, with the pages (typically 4 kB each) grouped together into blocks (typically 128 pages per block, totaling 512 kB). NAND flash memory cells can only be directly written to when they are empty. If they are considered to contain data, the contents first need to be erased before a write operation can be performed reliably. In SSDs, a write operation can be done on the page-level, but due to hardware limitations, erase commands always affect entire blocks. As a result, **writing data to SSD media is very fast as long as empty pages can be used, but slows down considerably once previously written pages need to be overwritten**. Since an erase of the cells in the page is needed before it can be written again, but only entire blocks can be erased, an overwrite will initiate a read-erase-modify-write cycle: **the contents of the entire block have to be stored in cache before it is effectively erased on the flash medium, then the overwritten page is modified in the cache so the cached block is up to date, and only then is the entire block (with updated page) written to the flash medium**. This phenomenon is known as write amplification.

---

[Answer](#) by [sebastian-rhl](#)

There are several points:

#### **Alignment:**

What is often pointed out is the [right alignment](#) of the partition. This should be equal to the block size of the SSD. Play safe and make your partitions aligned to MiB boundaries. Note that you can't do this with the Ubuntu installer's partition tool (which uses MB not MiB), but you can boot the live CD, use Gparted (which uses MiB), then click Install to use the partitions you set up.

#### **The right scheduler:**

A important point is the [scheduler](#)  which should be noop. You can set this scheduler via kernelparameter elevator=noop or via a entry echo noop > /sys/block/sda/queue/scheduler in you rc.local.

## Mountflags:

I would recommend noatime and discard

## Tmpfs

To put tmp on a ramdisk can increase the life time of the ssd. To use this put the following line in you fstab: none /tmp tmpfs defaults 0 0

Generally if you want to dive deeper into this topic I would recommend [this](#)  excellent wiki-article.

---

**Tags:** [performance](#) ([Next Q](#)), [ssd](#) ([Next Q](#))

---

## [Q: How to check hard disk performance](#)

**Tags:** [performance](#)

How to check the performance of a hard drive (Either via terminal or GUI). The write speed. The read speed. Cache size and speed. Random speed.

**Tags:** [performance](#)

**User:** [luis-alvarado](#)

---

[Answer](#)  by [bodhi.zazen](#)

# Terminal method

hdparm is a good place to start.

```
sudo hdparm -Tt /dev/sda

/dev/sda:
Timing cached reads: 12540 MB in 2.00 seconds = 6277.67 MB/sec
Timing buffered disk reads: 234 MB in 3.00 seconds = 77.98 MB/sec
```

sudo hdparm -v /dev/sda will give information as well.

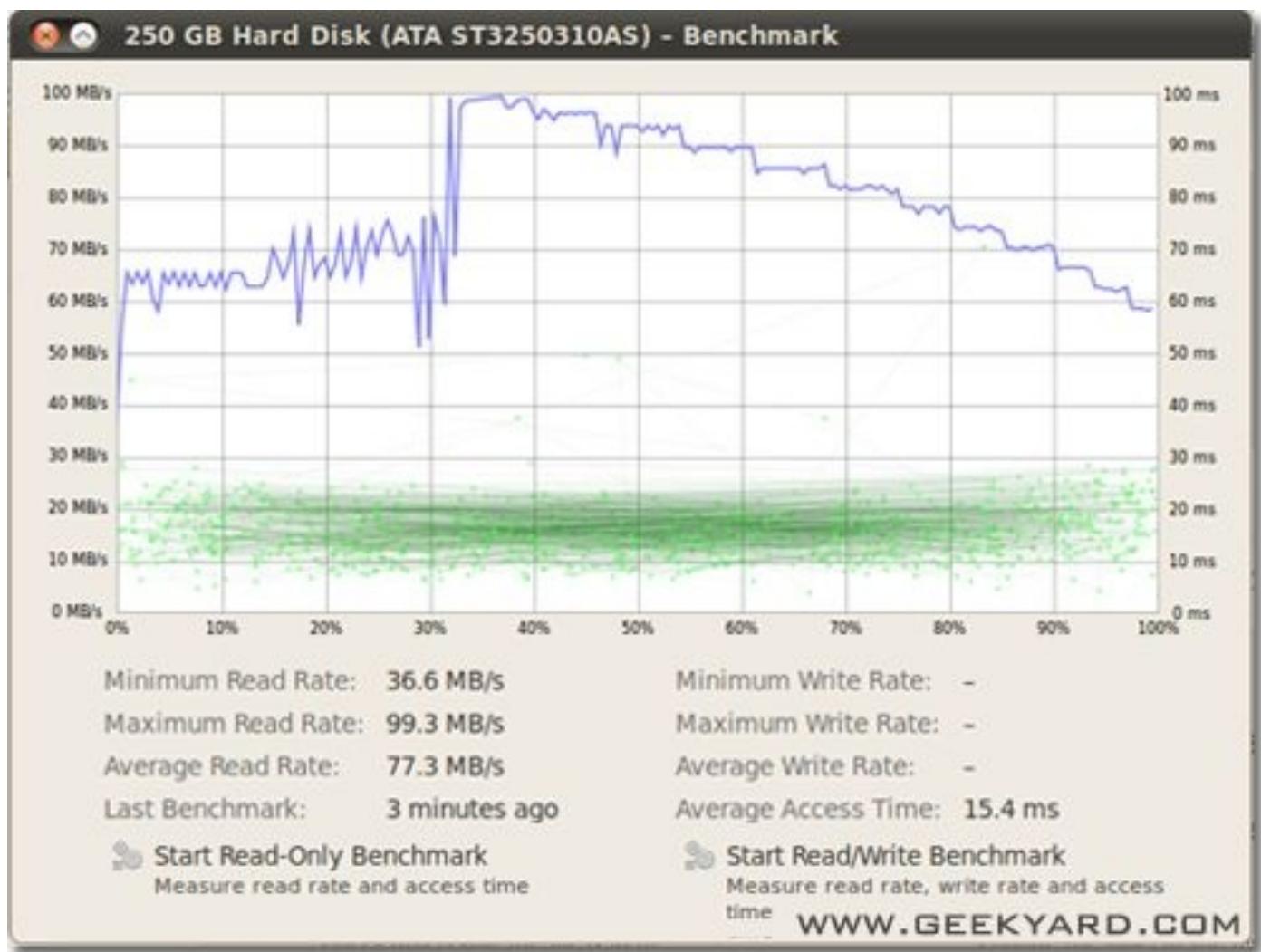
dd will give you information on write speed. If the drive doesn't have a file system use of=/dev/sda. Otherwise, mount it on /tmp and write then delete the test output file.

```
dd if=/dev/zero of=/tmp/output bs=8k count=10k; rm -f /tmp/output

10240+0 records in
10240+0 records out
83886080 bytes (84 MB) copied, 1.08009 s, 77.7 MB/s
```

# Graphical method

1. Go to System -> Administration -> Disk Utility.
  - Alternatively, launch the Gnome disk utility from the command line by running `gnome-disks`
2. Select your hard disk at left pane.
3. Now click Benchmark Measure Drive Performance button in right pane.
4. A new window with charts opens. You will find two buttons. One is for Start Read Only Benchmark and another one is Start Read/Write Benchmark. When you click on anyone button it starts benchmarking of hard disk.



Is there something more you want?

---

[Answer](#) by [tele](#)

Suominen is right, we should use some kind of sync; but there is a simpler method, `conv=fdatasync` will do the job:

```
dd if=/dev/zero of=/tmp/output conv=fdatasync bs=384k count=1k; rm -f /tmp/output
1024+0 records in
1024+0 records out
402653184 bytes (403 MB) copied, 3.19232 s, 126 MB/s
```

---

[Answer](#)  by [pasi-suominen](#)

I would not recommend using `/dev/urandom` because it's software based and slow as pig. Better to take chunk of random data on ramdisk. On hard disk testing random doesn't matter, because every byte is written as is (also on ssd with dd). But if we test dedupped zfs pool with pure zero or random data, there is huge performance difference.

Another point of view must be the sync time inclusion; all modern filesystems use caching on file operations.

To really measure disk speed and not memory, we must sync the filesystem to get rid of the caching effect. That can be easily done by:

```
time sh -c "dd if=/dev/zero of=testfile bs=100k count=1k && sync"
```

with that method you get output:

```
sync ; time sh -c "dd if=/dev/zero of=testfile bs=100k count=1k && sync" ; rm testfile
1024+0 records in
1024+0 records out
104857600 bytes (105 MB) copied, 0.270684 s, 387 MB/s

real    0m0.441s
user    0m0.004s
sys  0m0.124s
```

so the disk datarate is just  $104857600 / 0.441 = 237772335$  B/s  $\rightarrow 237\text{MB/s}$

That is over 100MB/s lower than with caching.

Happy benchmarking,

---

**Tags:** [performance](#)

---

[Q: How do I optimize the OS for SSDs?](#)

---

[Q: How do we get this magic performance-boosting 200 line patch?](#)

---

[Q: How to check hard disk performance](#)

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# Vim

[Skip to questions](#), Wiki by user [hamish-downer](#)

Vim is an open-source text editor which is typically run from the command line. Questions should relate to using Vim on Ubuntu.

## Resources

- [Official Vim Site](#) 
  - [Official Vim Tips Wiki](#) 
  - [Wikipedia article](#) 
-

# Questions

## Q: How to learn vim on a high level?

Tags: [vim programming](#) ([Next Q](#))

I know that vim (like emacs) is very powerful editor for programmers, as long as you know how to use it, its shortcuts, and so on. What steps can I take and what tutorials can I read to become an advanced vim user?

Tags: [vim programming](#) ([Next Q](#))

User: [zango](#)

---

[Answer](#)  by [hamish-downer](#)

**Step 0:** learn to touch type. Seriously - if your fingers don't know where the keys are then vim is going to be a pain. And even if you reject vim, touch typing will [improve your programming](#)  (ask [Steve Yegge](#) ) by making the mind to monitor link friction free. There is a [lot](#)  of [software](#)  that can [help](#)  you [improve](#)  your typing.

**Step 1:** Use the keyboard preferences to swap Caps Lock and Escape - seriously, how often do you use Caps Lock? Using vim you will be using Escape all the time, and having it available on the home row makes a huge difference. With the standard Ubuntu desktop, go through the menus: System -> Preferences -> Keyboard -> Layouts tab. Then hit the “Layout Options” button, click on the triangle next to “Caps Lock key behaviour” and select “Swap ESC and CapsLock”.

**Step 2:** use **vimtutor** to get you started. It is in gvim (under the help menu I think) or you can just type ‘vimtutor’ at the command line. It will take 30-45 minutes of your time and then your fingers will know the basics of vi/vim and you should be able to edit files without wanting to hurl your keyboard out of the window.

**Step 3:** use vim everywhere. See [this question from StackOverflow](#)  for tips and links for using vim and vi key bindings at the command line, from your web browser, for composing emails, in your IDE ... You need to use vim to embed the key bindings in your muscle memory.

**Step 4:** learn more about vim. You will only have scratched the surface with vimtutor. You can

- watch screencasts at [vimcasts](#)  or those by [Derek Wyatt](#) watch this video  or read [this article](#)  (both about the “Seven habits of effective text editing”);
- [read](#)  about [some](#)  of [the](#)  many [tips](#)  and [tricks](#)  on [StackOverflow](#) vimtips .

Learn a little often would be my advice - there is so much out there that sticking to bite-

size chunks will be the best way to make the knowledge stick.

## Step 5: Profit :)

---

[Answer](#) by [andres](#)

“vimtutor” from package “vim” is probably the best place to start.

---

[Answer](#) by [loevborg](#)

Two things:

1. Learn touch-typing. There's really no other way. Then bind ESC to “;;” so you never have to leave your home row: `inoremap ;; <esc>`
2. Search github for [other people's .vimrcs](#)

And a third: [VimCasts](#)

---

**Tags:** [vim](#) [programming](#) ([Next Q](#))

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[Q: How do I enable full-color support in Vim?](#)

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[Q: How to learn vim on a high level?](#)

---

[Q: How can I install and use powerline plugin?](#)

---

# Uninstall

[Skip to questions](#), Wiki by user [emerson-hsieh](#)

“Uninstall” means to remove something that you had installed on your computer. It can be a software, a hardware, or an operating system.

---

# Questions

## [Q: How to uninstall NetBeans?](#)

**Tags:** [uninstall](#)

Since I did not install NetBeans via the Software Center (I installed it as an .sh file) I can't see an easy way of uninstalling the program.

How can I safely uninstall the program?

**Tags:** [uninstall](#)

**User:** [fredn](#)

---

[Answer](#)  by [garnet-d-hume](#)

1. There will be a file named `uninstall.sh` in `/usr/local/netbeans-x.x` if you installed netbeans with root privilege. If you installed it with a normal user account the `netbeans-x.x` folder will be in your home directory. (Here x.x refers to the version number such as 6.9 or 7.2 etc)
2. Open a terminal and go to netbeans' installation directory using `cd` command. Such as `cd /usr/local/netbeans-x.x`.
3. Use 'su' to become superuser (type in your root password).
4. Then execute `uninstall.sh` file with the command `sh uninstall.sh`.

Alternatively, You can double click on it and choose "run in terminal" option. You need to supply the password (admin user's) to do this.

---

[Answer](#)  by [hhlp](#)

**To uninstall the IDE:**

- Shut down the IDE.
- In the IDE installation directory, typically in your home directory there is a directory called `netbeans`. Once inside it, run the uninstaller:

```
./uninstall.sh
```

- At the Summary page, click Uninstall.
- After uninstallation completes, click Finish.

**To uninstall GlassFish Server Open Source Edition 3.1:**

- Shut down the IDE.

- Locate the application server installation directory.

```
Linux      root      /usr/local/glassfish-3.1
```

- In your home directory there is a director call glassfish look inside and you can find it, run the file :

```
./uninstall.sh
```

- At the Summary page, click Uninstall.
- After uninstallation completes, click Finish.

Source [here](#) 

---

### Related Question :

- [Problem installing Netbeans 7.0.1](#) 
- 

Tags: [uninstall](#)

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[Q: How to uninstall NetBeans?](#)

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[Q: How to completely uninstall Java?](#)

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[Q: If I build a package from source how can I uninstall or remove completely?](#)

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# Packaging

[Skip to questions](#), Wiki by user [andrewsomething](#)

# Useful Links

- [Packaging Guide](#) - An introduction to packaging for Ubuntu.
- [Debian New Maintainers' Guide](#) - Debian's introduction to packaging.
- [Personal Package Archives](#) - How to get started with a PPA.
- [How do I get my software into Ubuntu?](#)
- [A basic overview of the files in a /debian directory.](#)

# Packaged Documentation

- [packaging-tutorial](#) 

# Missing Image

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- Installs to /usr/share/doc/packaging-tutorial/packaging-tutorial.pdf
- ubuntu-packaging-guide
  - sudo add-apt-repository ppa:ubuntu-packaging-guide-team/ppa && sudo apt-get update && sudo apt-get install ubuntu-packaging-guide
  - Installs to /usr/share/doc/ubuntu-packaging-guide/html/index.html`

---

# Questions

## [Q: What is the simplest Debian Packaging Guide?](#)

**Tags:** [packaging](#) ([Next Q](#))

I went to the Ubuntu wiki but got confused, there were too many ways. Please tell me an easy guide to debian packaging.

**Tags:** [packaging](#) ([Next Q](#))

**User:** [akshatj](#)

---

[Answer](#)  by [dv3500ea](#)

This  is a good HOWTO for creating a basic .deb file. It is suitable for creating .debs for personal use but not stringent enough if you want the package to be included in Debian/Ubuntu - for that you should read the [Debian New Maintainer's Guide](#)  and/or the [Ubuntu Packaging Guide](#)  (which I believe you've already tried).

A good tool for checking your .deb file for compliance is lintian (installable from the repositories).

There were two sessions here in the Ask Ubuntu chatrooms.

[The Basics of Packaging on Ubuntu \(Packaging: Part 1\)](#) 

[Ubuntu Packaging for Launchpad PPAs \(Packaging: Part 2\)](#) 

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**Tags:** [packaging](#) ([Next Q](#))

---

## [Q: How to get my software into Ubuntu?](#)

**Tags:** [packaging](#)

As a developer of free software, I want to get my application into Ubuntu.

Should I provide a source tarball and ask for packaging? Or should I create a package myself? Should I target Ubuntu directly, or should I try to get into Debian and then into Ubuntu automatically?

**Tags:** [packaging](#)

**User:** [witek](#)

---

[Answer](#)  by [andrewsomething](#)

There are [a number of paths](#)  that a package can take to enter Ubuntu. [The overview of Ubuntu development targeted at “upstream” developers](#)  like yourself might be a useful

place to start, but I'll try to give you some pointers as well.

# Through Debian

Generally, if you are publishing free and open source software [going through Debian first](#) is the best path. This way ensures that your package will have a dedicated maintainer. It also will reach the largest number of users as it will be available in not just Debian and Ubuntu but all of their derivatives as well. Some useful links for requesting/providing new packages in Debian:

- [Work-Needing and Prospective Packages](#) - Information on how to file “Intent to Package” and “Request for Package” bugs as well as list of open ITPs and RFPs.
- [Debian Mentors FAQ](#) - debian-mentors is for the mentoring of new and prospective Debian Developers. It is where you can find a sponsor to upload your package to the archive.
- [Debian Developer’s Reference](#) - Debian Developer’s Reference’s section on new packages. The entire document is invaluable for both Ubuntu and Debian packagers.

# Directly into Ubuntu

In some cases, it might make sense to go [directly into Ubuntu first](#). Some helpful links:

- [The Ubuntu App Developer site](#) - for lightweight desktop applications, you can submit them directly on the [My Apps](#) section of developer.ubuntu.com, the [App Review Board](#) will review them and they will be published in the Software Center.
- [Packaging Guide](#) - an introduction to how to package for Ubuntu.
- [REVU](#) - a web-based tool to which Ubuntu contributors can upload new packages for review by Ubuntu Developers for inclusion into Ubuntu.
- [Sponsorship Process](#) - After entering Ubuntu, you can maintain your package through the sponsorship process.

# Personal Package Archives

Beyond the official Ubuntu and Debian channels, [Launchpad](#) offers you the ability to distribute Debian packages directly to your users through its [Personal Package Archives](#) or PPAs for short. One particularly useful aspect of a PPA is that you can provide [daily builds](#) of your software for testing purposes.

---

[Answer](#) by [ajmitch](#)

<https://wiki.ubuntu.com/UbuntuDevelopment/NewPackages> details the normal process for including packages into Ubuntu.

There are often a lot of packages awaiting review on the REVU site, which is a reason why we suggest that packages are uploaded to Debian, where they can benefit even more people.

[https://wiki.ubuntu.com/Debian/ForUbuntuDevelopers#Getting\\_new\\_software\\_in\\_Debian](https://wiki.ubuntu.com/Debian/ForUbuntuDevelopers#Getting_new_software_in_Debian) explains how this can be done.

For Ubuntu, you can ask people for reviews on #ubuntu-motu on irc.ubuntu.com, and for Debian there is a #debian-mentors channel on irc.oftc.net.

Alternatively, there is a [developer.ubuntu.com page](#) which details a separate process of getting applications reviewed & published for stable releases.

---

[Answer](#) by [manish-sinha](#)

# **Background**

Ubuntu doesn't allow upload of binary packages, but only source packages which are build by build servers.

Getting your packages directly in Ubuntu repositories is not so easy. It is recommended to have it first in Debian and get it synced from there. So for now you can put it there in your PPA. You can create a PPA with your Launchpad account.

# Uploading to PPA

If you used debuild to build the package, then your work is a bit more easier. debuild generates many files including .dsc and .changes

You might have used .dsc file with pbuilder-dist to create the deb file, so now all you need to do is to publish it to a PPA for now. Use

```
dput ppa:yourlaunchpadusername/ppaname foo.changes
```

You will need to sign the package before upload with the same key as you have uploaded in your Launchpad Account

# **Pushing in Debian/Ubuntu**

The pushing of your package in Ubuntu/Debian repositories includes a review from the maintainer and the ftp masters at Debian. The license has to be very clear with no ambiguity. You might need a sponsor for uploading to Debian

# Filing an ITP

You might need to file an [ITP \(Intend to package\)](#)  to get it packaged in Debian. This is just a formal procedure.

When the package is available in experimental/unstable then you can use `requestsync` tool to file a sync request on LP. For getting `requestsync` working you need to run `manage-credentials` to login to Launchpad

Both of these tools are in package `ubuntu-dev-tools`

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**Tags:** [packaging](#)

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[Q: What is the simplest Debian Packaging Guide?](#)

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[Q: How to get my software into Ubuntu?](#)

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[Q: How do I create a deb package for a single python script?](#)

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# Partitioning

[Skip to questions](#), Wiki by user [jrg](#)

## **What Questions Should Have This Tag?:**

- Questions on limitations of partitioning
  - Questions on process of partitioning
  - Questions on possible partitioning software
-

## **Some Basic Definitions:**

Partition editor software - can be used to create, re-size, delete and manipulate partitions on the hard disk.

Partition - a portion of space set aside on a disk which is logically separated from other parts of the disk. (Think pieces of a pie, split into 4 slices)

---

# **Brief Introduction to the Subject:**

Partitions are used to divide up space on a disk, in order to accomplish different tasks. This can be having different Operating Systems, File Systems, Permissions, and can be even be spread across separate physical disks (one partition over multiple disks).

When using a Unix/Linux based system (Ubuntu/Linux) there is almost always a swap partition which is used to “swap” memory between RAM, and the physical hard disk.

---

# Important Links for Learning More:

For more information, see the following articles from the Community Wiki:

- [How to Partition](#)
- [Common Issues With Partitioning](#)

*Possible Links to Look at:*

- [Recommended storage scheme for home server? \(LVM/JBOD/RAID 5...\)](#)
-

# Questions

## [Q: How can I resize an ext root partition at runtime?](#)

**Tags:** [partitioning](#)

How can I increase the size of the root partition of a system at runtime?

I have a partition that is not allocated after the root partition (which is also ext4), how can I add that unallocated space to the space allocated to the root partition without having to shutdown the server?

**Tags:** [partitioning](#)

**User:** [bonbobingo](#)

---

[Answer](#)  by [codeaddict](#)

It is possible to do a on-line resize of a ext4 filesystem, even if it's your root partition. Use the `resize2fs` command.

```
sudo resize2fs /dev/sda1
```

EDIT: On-line shrinking is not allowed:

```
root@brunojcm-htpc:/home# resize2fs /dev/sda5 2654693
resize2fs 1.42 (29-Nov-2011)
Filesystem at /dev/sda5 is mounted on /; on-line resizing required
resize2fs: On-line shrinking not supported
```

---

[Answer](#)  by [sÃ,ren-lÃ,vborg](#)

There are two steps to this: First, the partition must be resized. If you're using LVM, it's easy; if you're using classic partitions, it's a bit more complicated, and might require a reboot (though you never have to boot another system or live CD).

One fragile but feasible approach (worked for me) is to use `fdisk` by first deleting the partition, then carefully recreating it with a larger size at the same position. You can do this while the partition is mounted, but you will need to reboot for the kernel to notice the changed partition table.

Example:

[Skip code block](#)

```
$ sudo fdisk /dev/sda

Command (m for help): p
      Device Boot      Start         End      Blocks   Id  System
  /dev/sda1    *        2048     9437183     4717568   83  Linux

Command (m for help): d
Selected partition 1

Command (m for help): p
```

```

Device Boot      Start        End        Blocks   Id  System
Command (m for help): n
Command action
  e   extended
  p   primary partition (1-4)
p
Partition number (1-4, default 1): 1
First sector (2048-10485759, default 2048):
Using default value 2048
Last sector, +sectors or +size{K,M,G} (2048-10485759, default 10485759):
Using default value 10485759

Command (m for help): p

  Device Boot      Start        End        Blocks   Id  System
/dev/sda1          2048     10485759      5241856   83  Linux

Command (m for help): w
The partition table has been altered!

Calling ioctl() to re-read partition table.

WARNING: Re-reading the partition table failed with error 16: Device or resource busy.
The kernel still uses the old table. The new table will be used at
the next reboot or after you run partprobe(8) or kpartx(8)
Syncing disks.

```

Again, it is critical that the new partition starts at the same block as the old. The Id should also match (83 for Linux systems). Be prepared to lose all your data at the slightest typo.

By now it should be apparent why people recommend using a live CD. ;-)

However, once the partition is resized (and the system rebooted, if necessary), it's a simple matter of running `resize2fs` on the file system, and you can do this even when it's mounted as the root partition.

Example:

```
$ sudo resize2fs /dev/sda1
```

**Tags:** [partitioning](#)

[Q: What's your recommendation on drive partitioning schemes for a desktop and home server?](#)

[Q: What is LVM and what is it used for?](#)

[Q: How can I resize an ext root partition at runtime?](#)

# SSD

[Skip to questions](#), Wiki by user [lekensteyn](#)

A solid-state drive (SSD) is a data storage device that uses solid-state storage to store persistent data with the intention of providing access in the same manner of a traditional block I/O hard disk drive. SSDs are distinguished from traditional hard disk drives (HDDs), which are electromechanical devices containing spinning disks and movable read/write heads. SSDs, in contrast, use microchips which retain data in non-volatile memory chips and contain no moving parts. Compared to electromechanical HDDs, SSDs are typically less susceptible to physical shock, are silent, and have lower access time and latency. SSDs use the same interface as hard disk drives, thus easily replacing them in most applications.

Source: [http://en.wikipedia.org/wiki/Solid-state\\_drive](http://en.wikipedia.org/wiki/Solid-state_drive) 

---

# Questions

## [Q: How to enable TRIM?](#)

**Tags:** [ssd](#)

I know that the Linux kernel supports TRIM as of version 2.6.33, so there should be TRIM support in ubuntu.

Is TRIM enabled by default or do I need to change some settings or install additional software for it to work? If so, how?

**Tags:** [ssd](#)

**User:** [uli](#)

---

[Answer](#)  by [uli](#)

# Ubuntu 14.04

As of Ubuntu 14.04, TRIM is **enabled by default for Intel and SAMSUNG SSDs**. If you have another brand, you could disable the vendor check by running the following command:

```
sed -i 's/exec fstrim-all/exec fstrim-all --no-model-check/g' /etc/cron.weekly/fstrim
```

# **Ubuntu 13.10 and Earlier**

There are three ways to perform TRIM, manual, scheduled, and automatic:

# Manual TRIM

In Ubuntu this can be performed with [fstrim](#):

```
sudo fstrim /
```

however it is not needed when scheduled or automatic TRIM are enabled, as detailed in the sections below.

*Note:* For **Ubuntu 11.04** and earlier systems, fstrim is not available so you have to use wiper.sh supplied with hdparm in /usr/share/doc/hdparm/contrib/wiper.sh.gz

# Scheduled TRIM (Recommended)

This is the currently recommended method, and is [planed to be activated per default for Ubuntu 14.04](#). Here's how to activate it manually in older versions of ubuntu (11.10 to 13.10):

Create a weekly CRON job script file:

```
gksudo gedit /etc/cron.weekly/fstrim
```

Paste the following code in the file, then save and close the file:

[Skip code block](#)

```
#!/bin/sh

# By default we assume only / is on an SSD.
# You can add more SSD mount points, separated by spaces.
# Make sure all mount points are within the quotes. For example:
# SSD_MOUNT_POINTS='/ /boot /home /media/my_other_ssd'

SSD_MOUNT_POINTS='/'

for mount_point in $SSD_MOUNT_POINTS
do
    fstrim $mount_point
done
```

Note that the above assumes that only your root filesystem / is located on an SSD. If you have more mount points that reside on one or more SSDs, add them to SSD\_MOUNT\_POINTS as explained in the code.

Make the script executable:

```
sudo chmod +x /etc/cron.weekly/fstrim
```

And finally test it:

```
sudo /etc/cron.weekly/fstrim
```

If you see no errors, your cron job should be working fine.

# Automatic TRIM (Deprecated, Slow)

Automatic TRIM has been supported since Ubuntu 10.10 (kernel 2.6.33) with the EXT4 file system. However, sending TRIM commands to the SSD in real-time - after every delete - has been recognized to make deletion much slower than usual on some drives. Therefore a weekly scheduled TRIM via a cron job (described above) is recommended.

To enable automatic TRIM on a drive or partition, they need to be mounted with the `discard` option in `fstab`. Firstly backup your `fstab` then open it for editing:

```
sudo cp /etc/fstab ~/fstab-backup  
gksudo gedit /etc/fstab
```

Add `discard` to the `fstab` options entry (comma separated) for the SSD drive or each partition.

```
UUID=00000000-0000-0000-0000-000000000000 / ext4 discard,errors=remount-ro 0 1
```

Close and save `fstab`, then reboot and automatic TRIM should now be working.

## Testing automatic TRIM

To test if TRIM is working issue the following commands ([source](#)):

```
cd / # Replace with SSD file system  
sudo dd if=/dev/urandom of=tempfile count=100 bs=512k oflag=direct  
sudo hdparm --fibmap tempfile
```

From the output copy the number under `begin_LBA` and verify the device name of your SSD: System->Administration->Disk Utility e.g. `sda`, `sdb`, `sdc` ...

Run the following but replace `[ADDRESS]` (`begin_LBA`) and `sdx` (SSD device name) with the details obtained above.

```
sudo hdparm --read-sector [ADDRESS] /dev/sdx
```

the output should be a long string of characters for those sectors

```
sudo rm tempfile  
sync
```

Repeat the `hdparm` command from above:

```
sudo hdparm --read-sector [ADDRESS] /dev/sdx
```

If you get only zeros then automatic TRIM is working. However if after removing the file the sectors are still not empty then wait a while and run the command again.

---

[Answer](#) by [nem75](#)

Note that if you are using encryption the solutions posted here so far won't help you, because you need to enable TRIM support in the encryption layer as well. This can be done with kernel versions 3.1+ and cryptsetup versions 1.4+, both of which are included

in Ubuntu 12.04.

Find my guide on setting TRIM up for LUKS encrypted partitions [here](#) 

---

## How to Activate TRIM on LUKS Encrypted Partitions in Ubuntu & Debian

---

This step by step walkthrough will let you take advantage of the TRIM technology for your encrypted SSD partitions for cryptsetup 1.4 or higher and kernel 3.1 or higher. This leads to a hassle-free SSD experience because

“TRIM enables the SSD to handle garbage collection overhead, that would otherwise significantly slow down future write operations to the involved blocks, in advance.”

### Example Setup

Notebook with SSD as the single drive, Linux installed in single ext4 LVM root partition with LVM swap partition, both over LUKS encrypted logical partition.

SSD: /dev/sda

```
sudo fdisk -l /dev/sda
/dev/sda1          # boot partition (83) (unencrypted, ext4)
/dev/sda2          # extended partition
/dev/sda5          # logical partition (83) with LUKS encryption

ls /dev/mapper
/dev/mapper/sda5_crypt      # encrypted LUKS device in physical /dev/sda5 partition
/dev/mapper/volumegroup-root # rootpartition sda5_crypt
/dev/mapper/volumegroup-swap # swap partition sda5_crypt
```

### HowTo

1. Make a backup of all your data. You’re messing with your file system so having a backup is simply a good idea.
2. Make sure you have the required kernel and cryptsetup versions (3.1 & 1.4, e.g. in Ubuntu 12.04, beware though, at time of writing 12.04 is still beta).
3. Add discard parameter to the file system options of the encrypted LVM volume(s) in your /etc/fstab file. This makes the file system of your LVM partition aware that you want to use TRIM.

```
/dev/mapper/volumegroup-root    /   ext4discard,noatime,nodiratime,errors=remount-ro 0 1
```

4. The last step is not enough though. As long as LUKS is not aware that you want to use TRIM it will effectively block all TRIM operations coming from the LVM partition’s file system, for security reasons. Add discard parameter to the cryptdevice options in /etc/crypttab to make LUKS accept the discard behavior of the LVM partition.

```
sda5_crypt UUID=e364d03f-[...]6cd7e none luks,discard
```

5. Rebuild your initramfs. The crypttab options are stored there and used on boot.

```
sudo update-initramfs -c -k all
```

6. Reboot.

7. Check if TRIM is now active.

```
sudo dmsetup table /dev/mapper/sda5_crypt --showkeys
```

8. If the last command shows a result like this (1 allow\_discards at the end) you're all set.

```
0 77656056 crypt aes-cbc-essiv:sha256 abc[...]c7a0c 0 8:5 2056 1 allow_discards
```

## Result

TRIM is activated. Enjoy your hassle-free SSD!

---

**Tags:** [ssd](#)

---

[Q: How do I optimize the OS for SSDs?](#)

---

[Q: How to enable TRIM?](#)

---

[Q: Installing Ubuntu on a SSD](#)

---

# Dual Boot

[Skip to questions](#), Wiki by user [Ã'ndrÃ¼k](#)

## **What Questions Should Have This Tag?:**

- Troubleshooting Issues with Dual Booting Computer\Device
  - Troubleshooting Issues with Multi Booting Computer\Device
-

## **Some Basic Definitions:**

Dual Boot - A device which contains two Operating Systems, and can ‘boot’ into both, usually with one bootloader (GRUB most common for Ubuntu)

Multi Boot - A device which can boot into 2 or more Operating Systems. (see above)

Partition (also sometimes known as a Volume) - A logical way to divide space on a disk. This will be formatted with a filesystem (ext, NTFS, FAT, ...)

---

# **Brief Introduction to the Subject:**

Dual booting, or Multi booting a system is useful, because one can have different versions of Operating Systems (OS), for specific tasks, or for compatibility. A bootloader, (such as GRUB, LILO, or Windows Boot Manager) will give access to the specified OS which will then have control of the system. Often separate OSs are on separate partitions, and the boot records (which control how the bootloader knows what OSs are available, among other things) can be on a single partition, or multiple partitions.

# Important Links for Learning More:

Consider using the boot info script when asking your question:

- [How do I investigate boot and partition issues?](#) 
  - [How do I install Ubuntu?](#) 
  - [Installing Ubuntu on a Pre-Installed Windows 8 \(64-bit\) System \(UEFI Supported\)](#) 
  - [How can I repair grub? \(How to get Ubuntu back after installing Windows?\)](#)
-

# Questions

## [Q: How to automount NTFS partitions ?](#)

**Tags:** [dual-boot](#) [mount](#) ([Next Q](#))

I have two NTFS partitions, and I don't want to mount them everytime I start Ubuntu.

- How can I do this ?
- Is there a tool or a code to use?
- If so, is it safe to automount? specially when they are being used by another OS?

**Tags:** [dual-boot](#) [mount](#) ([Next Q](#))

**User:** [binarylife](#)

---

[Answer](#)  by [con-f-use](#)

The most straight forward way that will work on most Linux systems is to add them to your [fstab](#) . But there are others. Each has their own headline in this answer.

### Note:

*If you get an error message saying something about “root” or “permissions” it is because for most mounting options you will need root privileges. In unity you can achieve that by prepending gksudo (graphical applications) or sudo to the usual command and typing your password. So, e.g. in case of ntfs-config you press Alt+F2 and type gksudo ntfs-config.*

---

# Gigolo

[Gigolo](#) 

# Missing Image

---

Gigolo is self-explanatory. It works hand in hand with nautilus' remote file system and mounting capabilities. You need to add the partitions to your nautilus bookmarks (nautilus is ubuntu's default file manager). After that you will find them in Gigolo. The rest is said [another post](#)  of mine.

---

# Fstab

*Edit:* Since guessing from your comments you are not that acquainted with linux I will explain the procedure in more detail:

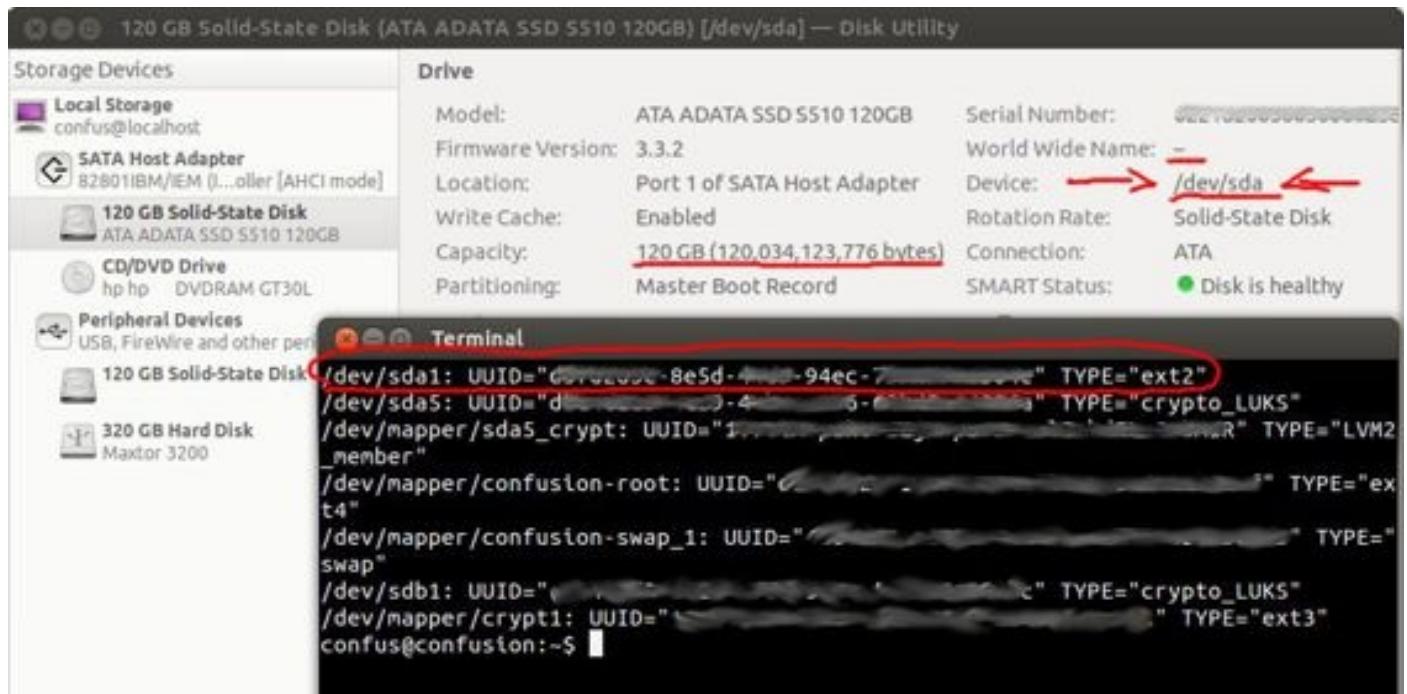
The fstab-method is the cleaner and more basic than gui-tools or gigolo. It will also work on other systems even those that are text-mode only. In principle you don't need to install anything. For each ntfs-partition you will have to add one line to that file called /etc/fstab. For me the line I added looks like this:

```
#Windows-Partition  
UUID=<xxxxxx> /media/win ntfs rw,auto,user,exec,nls=utf8,umask=003,gid=46,uid=1000 0 0
```

The part that says `UUID=<xxxxxx>` tells your system which partition to mount. If you follow this procedure and have duplicate devices showing up, replace `UUID=<xxxxx>` with `/dev/disk/by-uuid/<xxxxxx>`. Each partition has it's own unique UUID. Spaces are important, so best copy&paste the line. Replace auto by noauto to manually mount. Users should be in the group plugdev.

*Note that if this line is at the very end of your file there should be a newline after it. Mount will complain if you don't have it.*

## finding the uuid:



Open **Disk Utility** and identify the proper partitions by their size (e.g. 120 GB), file system (e.g. ntfs) and name. Note their "Device:" file (e.g. /dev/sdb1). Instead you can run the following command in a **Terminal** such as gome-terminal:

```
sudo fdisk -l
```

You can find out the uuid of your partitions by running `sudo blkid` in shell. The output

looks somewhat like this:

```
confus@confusion:~$ sudo blkid
[sudo] password for confus:
/dev/sda1: LABEL="boot" UUID="cc425c68-704f-4836-9123-bbb3aea64471" TYPE="ext2"
/dev/sda2: UUID="1c8b1489-e111-481c-89f2-743203c3ee7d" TYPE="crypto_LUKS"
/dev/sda3: UUID="7258CB9858CB598D" TYPE="ntfs"
/dev/sda4: LABEL="HP_TOOLS" UUID="1405-0A4C" TYPE="vfat"
/dev/mapper/luks1vm: UUID="xZSNtR-MocS-dLMk-v0Wa-Ay65-wS9b-GqaNhV" TYPE="LVM2_member"
/dev/mapper/vgubuntu-swap: UUID="f415f3b9-4e4d-48b1-99c2-605e16532f9e" TYPE="swap"
/dev/mapper/vgubuntu-root: UUID="62a862b4-e6c8-4efd-90b5-55eab8e83e39" TYPE="ext4"
```

The correct UUID will have the proper device file in front of it and `TYPE="ntfs"` after. So for me the UUID is “`7258CB9858CB598D`”. For you this number will be different. Also I have only one NTFS partition. Substitute my UUID in the lines you add to fstab by the one you found this way.

## setting the mount point

Now the mount-point. For each partition this will be different. I choose `/media/win`. You can choose whatever you like. It just has to be an existing empty folder. You could just as well create the folder `/home/yourusername/windows1` and then put it in your fstab.

## the other parameters in my line

`ntfs` just tells the fstab, that it is a ntfs-type partition.

`rw,auto,user,exec,nls=utf8,umask=003,gid=46,uid=1000 0 0` need not concern you. Just use those values as they are. They should be fine. If not or if you’re just interested, you can read an explanation of these parameters in the [link I provided](#) earlier.

When you added the lines and did all of the stuff I described, save the file and run `sudo mount -a` in shell. If you can access your partitions through their mountpoints and no errors are printed out, then all went well. If not check for typos and obvious errors. **Don’t reboot if `sudo mount -a` displays errors!** With errors a reboot might fail.

## finding your user and group id

You can find out your user and group id with the `id` command.

```
confus@confusion:~$ id
uid=1000(confus) gid=1000(confus)
groups=1000(confus),4(adm),7(lp),20(dialout),24(cdrom),46(plugdev),112(lpadmin),120(admin),122(sambas)
```

## ntfs-config

A graphical tool [graphical tool](#) 

# Missing Image

(ntfs-config) is also available but not necessary (and obviously it's current version doesn't work in natty - suppose that will be fixed soon). Besides you might loose old settings in your fstab with this tool (e.g. mounting the cache in the memory), because it overwrites the /etc/fstab file instead of appending things.

---

[Answer](#)  by [hhlp](#)



# Missing Image

This program allow you to easily configure all of your NTFS devices to allow write support *via a friendly gui*. For that use, it will configure them to use the open source ntfs-3g driver. Youll also be able to easily disable this feature.

Project Home page :- <http://flobertens.free.fr/ntfs-config/>

## Requirements

Install NTFS-config in Ubuntu

```
sudo apt-get install ntfs-config
```

This will install all the required packages for ntfs-config including ntfs-3g

## Using Ntfs-Config

If you want to open this application try to find —> NTFS Configuration Tool

Now it will prompt for root password enter root password and click ok

It will show the available NTFS partition.

You need to select the partitions you want to configure,add the name of the mount point and click on apply.

Select the NTFS Write support which is suitable for you i.e internal or external

if you want to unmount you should be root to unmount and then right click on mount point select Unmount Volume

## Conclusion

As you can see, mounting NTFS partitions in Linux can be a breeze. If you don't like or fear the command line, you can achieve a lot with just a few mouse clicks. Truth to be told, this is much simpler than mounting strange, new, unknown partitions in Windows.

Well, that's it. Happy Linuxing!

---

## P.D : Update for Natty user

If you upgraded to Ubuntu Natty you will notice that NTFS configuration tool is not working even though it prompts you for root privileges.

The problem is that when you open the tool nothing happens. Well its due to a missing folder and in order to fix this you should enter the following command:

```
sudo mkdir -p /etc/hal/fdi/policy
```

Now you have the tool working just select the partitions you want to automatically mount on boot and if you want WRITE access just TICK the corresponding check boxes.

Easy enough :P

---

**Tags:** [dual-boot mount](#) ([Next Q](#))

---

[Q: How can I install Windows after I've installed Ubuntu?](#)

---

[Q: How to automount NTFS partitions ?](#)

---

[Q: How can I repair grub? \(How to get Ubuntu back after installing Windows?\)](#)

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# Keyboard Layout

[Skip to questions](#), Wiki by user [nathan-osman](#)

**Common keyboard layouts:**

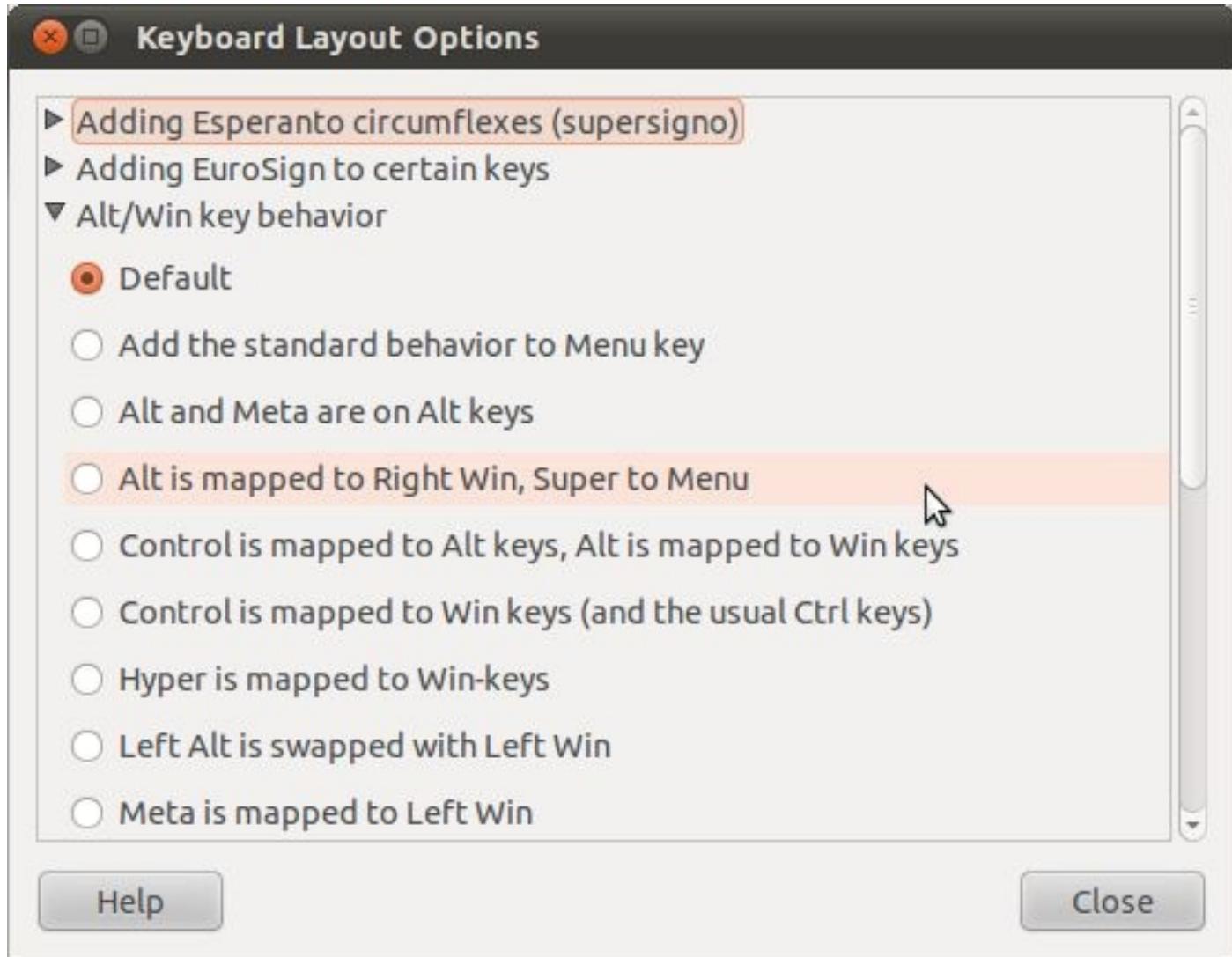
- [QWERTY](#) 
  - [DVORAK](#) 
-

# Questions

## Q: What are the meta, super, and hyper keys?

Tags: [keyboard-layout](#) ([Next Q](#))

In System -> Preferences -> Keyboard -> Layout -> Options ->Alt/Win key behavior  
What do meta, super, hyper mean?



Tags: [keyboard-layout](#) ([Next Q](#))

User: [jorge-castro](#)

---

Answer  by [stefano-palazzo](#)

Meta, Super and Hyper are Modifier keys that modify the key's function. They are specific to the Symbolics



[Space Cadet Keyboard](#) used on Lisp machines *back in the day*. Their function is sometimes emulated using other keys.

# Missing Image

- **Meta**

The Meta key is not found on modern keyboards, its use is sometimes emulated with `AltGr` (on some international layouts) or the right `Alt` key on the others. In addition:

- Sun keyboards have a meta key () as well
- Emacs calls `Esc` the Meta key

- **Super**

The Super key is equivalent to

# Missing Image

or the (command) key. In Ubuntu, it's just another name for

# Missing Image

- **Hyper**

Hyper is the fourth (counting `ctrl`) and last modifier on the Space cadet keyboard. In Ubuntu, its function is undefined (*I think*), but it can be mapped, as in the screen shot above, to

# Missing Image

, should it be needed.

# Missing Image

*Sun's keyboard had different modifiers*

Note that Gnome and X.org implement many modifiers. Meta, Super and Hyper are not Linux's way of dealing with any modifier keys, but merely three of them specific to the Space Cadet keyboard. There is also **Menu**, **Compose**, **AltGr**, **Greek**, **Front**, **X** and others.

However, by convention the Windows logo key is called Super, and is not implemented as yet another modifier by X.org.

Furthermore, the definition of modifier keys depends on:

- The Keyboard itself
- The Keyboard layout
- The driver
- The operating system's implementation

It's therefore almost impossible to generalise this information. I've tried to be somewhat specific to Gnome/X.org using a Windows-Style keyboard with one of the more popular layouts. To test your keyboard, you can run `xev` - its terminal output will tell you what modifiers have been detected for your keyboard.



*The Macintosh keyboard has a completely different set of modifiers*

Some additional information:

- Wikipedia claims the Windows key is sometimes called Meta, I didn't find any other reference for this
- The Alt key is sometimes called **Option**, as this is its equivalent on Macintosh keyboards
- The **Compose** key (not a modifier, but a *dead key*), also called **Multi**, is often mapped to the **Menu** key or the right Windows key.
- The AltGr key I've mentioned is also called a third level modifier. Each key on the keyboard has, potentially, four characters on it. The first level is the lowercase, then it goes uppercase, Alt+something, and Alt+Shift+something. For example, the four glyphs on my A key are a, A, and .

It's all a mess :-)

---

As they've been addressed in the comments:

- The Fn is not *really* comparable. It's a hardware key that's not directly interfaceable by the operating Systems. Pressing Fn and another key causes an entirely different code to be sent to the operating system. Examples for this include XF86AudioMute, XF86Eject and so on. The Operating system can't detect whether fn is pressed or not.
- The SysRq key is traditionally a label on the Print Screen key indicating its function if used with the modifier Alt. It is sometimes, especially on newer notebooks, mapped to Fn+Alt+Print. In Linux, it provides a few [Magic shortcuts](#)

---

Tags: [keyboard-layout](#) ([Next Q](#))

## [Q: Changing TTY keyboard layout on a server?](#)

**Tags:** [keyboard-layout](#)

I use 12.04 Server in command line mode (no X installed), and I would like to change the keyboard layout. How can I do this?

**Tags:** [keyboard-layout](#)

**User:** [mike](#)

---

[Answer](#)  by [petterf](#)

Please try the following command:

```
sudo dpkg-reconfigure console-data
```

If it says you don't have the package, then install console-data with:

```
sudo apt-get install console-data
```

More about Locale Configuration: <https://help.ubuntu.com/community/LocaleConfiguration> 

---

[Answer](#)  by [gåran-törnquist](#)

After trying sudo dpkg-reconfigure console-data, I found out that it doesn't work after a reboot.

However,

```
sudo dpkg-reconfigure keyboard-configuration
```

does work after reboot and also has more options.

[More info here.](#) 

---

**Tags:** [keyboard-layout](#)

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[Q: What are the meta, super, and hyper keys?](#)

---

[Q: Changing TTY keyboard layout on a server?](#)

---

[Q: How to use Alt+Shift to switch keyboard layouts?](#)

---

# Programming

## Questions

### **Q: I want to fix a bug. Where do I start?**

**Tags:** [programming](#) ([Next Q](#)), [bug-reporting](#) ([Next Q](#))

Although I am not a professional programmer, I have written a program or two. Yet, nowadays every engineer and scientist learns to program a bit as well, and as such I am used to writing programs in Python, C and MATLAB. Now I want to give back a bit to Ubuntu and its great folks and fix a bug!

I had a look at the list of the bitesize campaign and had to find that most of them are not that easy for me to fix as I suspect they require a lot of time to get into the matter, and I do not have that. Still I discovered [this one](#)  and it looks manageable and like a cool feature to me.

As I have never written a patch or released a program to the wild before though, I have no idea where to start. What should be my first step to tackle that problem?

Bottom line: **Where and how do I start fixing that guy?**

**Tags:** [programming](#) ([Next Q](#)), [bug-reporting](#) ([Next Q](#))

**User:** [ingo](#)

---

[Answer](#)  by [jorge-castro](#)

Answering this question can get long and complicated, so I am instead going to point you to resources available instead of rehashing them here.

## Documentation

1. [Getting Set Up for Ubuntu Development](#) 
2. [How to Fix Bugs](#) 

## Tutorials

We run events throughout the cycle to help people just like you, specifically we run [Ubuntu Developer Week](#)  in IRC, which is a live tutorial and Question and Answer workshop. There's one coming up at the end of February if you want to join in!

Here are two logs from a past session to give you an idea:

- [Getting Started in Ubuntu Development I](#)
- [Getting Started in Ubuntu Development II](#)

## Places to Find Opportunities

- [Harvest](#) - this tool goes through all the patches and packages in Launchpad (and even looks in other distros) for patches. Many of these can be snagged, applied, tested, and then fixed in Ubuntu and then sent upstream.
- [Cleansweep](#) - List of patches sitting in Launchpad that someone has attached to a bug report. These could be useful or not, they still should be looked at though.

## Getting Help

Contacting the MOTU on the mailing list or IRC is a good way to get help for individual problems you run into:

- <https://wiki.ubuntu.com/MOTU/Contact>

## Feedback

We've spent a lot of time reworking this documentation to be as easy as we can, if you would take notes on your experiences and how we can improve this stuff it would be very useful to know how to make it suck less for people like you.

---

[Answer](#) by [andrewsomething](#)

Jorge's generalized answer is a great introduction to jumping into Ubuntu development, but let's try to look a little closer at your specific issue...

Apport's main upstream developer and Ubuntu maintainer are one and the same. This simplifies things for you a bit. Instead of having to learn about packaging and patch systems, the easiest path here is to work directly on the upstream code.

Apport's development is hosted on [Launchpad](#). It uses the bazaar distributed version control system to manage its source code. The first step towards fixing [your bug](#) is to grab the source. If you haven't used bazaar before, the [bazaar in five minutes tutorial](#) is a good place to start.

Install bazaar with:

```
sudo apt-get install bzr
```

Pull apport's source code:

```
bzr branch lp:apport
```

Now you can get started hacking. As with most VCSs, when working with bazaar, it is a good idea to only make one change per commit. You should also make your commit

messages informative. It makes your changes much easier to review. When you are ready to make your first commit, run:

```
bzr commit -m "My commit message. Did foo to bar in order to achieve baz."
```

Continue making changes and commits until you are satisfied that your bug is fixed. With your last commit, you can also tag it as fixing the bug by appending --fixes lp:<bug\_number> to the commit command. Now you are ready to submit your changes for review and inclusion.

First, you need to push it to Launchpad in order to make it publicly available:

```
bzr push lp:~<launchpad_username>/apport/<branch_name>
```

Your branch can now be found at:

[https://code.launchpad.net/~<launchpad\\_username>/apport/<branch\\_name>/](https://code.launchpad.net/~<launchpad_username>/apport/<branch_name>)

Running bzr lp-open in the branch will open that location in a browser.

Now we want to propose a merge. On that page, select “Propose for merging.”

## Branch merges



### Propose for merging

On the next page, select your target branch and give an overview of your changes.

**Target Branch:**

- lp:apport (branch details) – development focus  
 Other:  ([Choose...](#))

The branch that the source branch will be merged into.

**Description of the Change:** (Optional)

Describe what changes your branch introduces, what bugs it fixes, or what features it implements.

You will now have an active merge proposal.

## Proposal to merge branch

Apport » Code » test » Merge into trunk

Proposed by  Andrew Starr-Bochicchio 1 second ago

 [Resubmit proposal](#)

 [Delete proposal to merge](#)

Status: **Needs review** 

Proposed branch:  lp://staging/~andrewsomething/apport/test

Merge into:  lp://staging/apport

To merge this branch: bzr merge lp://staging/~andrewsomething/apport/test

| Reviewer   | Review Type | Date Requested | Status  |
|--|-------------|----------------|---------|
|  Apport upstream developers  |             | 1 second ago   | Pending |

Review via email:  mp+47882@code.staging.launchpad.net

 [Request another review](#)

 [Set commit message](#)

Description of the Change

Did foo to bar in order to achieve baz.

The maintainers will review your changes. If they are appropriate, they will be merged and be available in the next release. Alternatively, the proposal may be set to “Needs Work,” and the maintainers will discuss with you additional changes that should be made before merging. If this happens, please don’t take it as any kind of personal rejection of your work. When contributing to a new project for the first time, there are often little things like coding style that you might not be aware of.

---

**Tags:** [programming](#) ([Next Q](#)), [bug-reporting](#) ([Next Q](#))

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## Q: What advantages does Ubuntu have as an environment for programming?

**Tags:** [programming](#)

Why is writing a program in text files or via the terminal a better option (as I read) than using IDE(s) like Visual Studio on Windows? Do the features an IDE provides exist there (eg. showing compilation errors) or is it a manual process?

**Tags:** [programming](#)

**User:** [mgd](#)

---

[Answer](#)  by [oli](#)

This sort of hypothetical might do better on [Programmers.SE](#)  because it’s likely to be pretty one-sided here. That said, I was a .NET developer for a few years and came to depend on Visual Studio. It does a lot for you and yes, I particularly like the integrated debugger... However, I think there are a few reasons people choose Linux:

- Ubuntu is free. Windows and VS can be extremely expensive.
- Ubuntu is *free*. Windows and VS give you very little control over how you use them.
- Ubuntu is a programming environment straight out of the box. Tools like Bash, grep, sed, awk. Windows is historically a big pain in the bottom to script from. Batch files

are awful and even with PowerShell, the command-line experience in Windows pales into insignificance when compared to Bash and the GNU tools. You can port some of that over to Windows but it's not the same experience.

- Complicated setups are easy to automate and replicate through apt-get, tools like [Puppet](#), [Chef](#), [Juju](#), [Fabric](#) and simple scripting.
- Some things don't need complicated IDEs. I'm a Python developer these days and I'm perfectly happy with its own built-in tools and debugger. I use a text editor, the command line and fabric... And I'm way more in control than I was under .NET. I can build, test, commit and deploy my webapps with a single Fabric command.

That's not to say there aren't monolithic IDEs. Eclipse and Netbeans. MonoDevelop. KDevelop4 and QT Creator. They all have their users who swear by them.

Is Ubuntu better *for you*? Who knows. It's a very capable and very customisable system. If you give it a chance and alter your workflow to allow it to help you, you should be able to make it stick.

---

### [Answer](#) by [enobayram](#)

I would like to add one more important reason though; Ubuntu is great for experimenting with new libraries, languages, IDEs and compilers. Everything is one apt-get away.

So you've heard about a fancy language called [Haskell](#):

```
sudo apt-get install ghc
nano hello.hs
<copy-paste hello world example>
ghc -o hello hello.hs
./hello
Hello World!
```

Oh, you've heard a fancy editor for Haskell:

```
sudo apt-get install <fancy-editor-for-haskell>
```

The same with [C](#)/[C++](#) libraries, you just apt-get install them and the binaries and the headers go to the right folders, and you can just #include them in your source files without even needing to check where they get placed!

In essence, it's not about how fast you can setup your day-to-day working environment. It's also about how extremely fast you can setup an experimental environment. I believe that's what accelerates the learning experience under Linux.

---

### [Answer](#) by [mike-brown](#)

Here's an opinion from a primarily Microsoft platform developer. If you're not targeting the .NET ecosystem I would argue that your best option is Ubuntu. You will have a much easier time obtaining, configuring, and using tools for almost every other platform/language if you are on Ubuntu instead of Windows.

The value of Microsoft's toolchain is that it is HIGHLY integrated. From the IDE to Source Control, Project Management, Build, Deployment, Database, Cloud Infrastructure, *ad nauseum*. Microsoft makes it VERY easy if you're going full-bore with their platform.

As some have mentioned, deviating from the Microsoft Way can be a pain. Using .NET for your code and Oracle for your database...d'oh that's gonna be a pain.

Want to create an .NET web application and deploy it to Amazon Web Services...not very straight forward.

But if you stay within the Microsoft Ecosystem...that baby will sing like a mocking bird for you. In the hands of a competent software developer, the Microsoft Platform is like PEDs for a talented athlete. It's not going to enable an amateur programmer to create the next Facebook. But it will give an edge to a talented developer who understands how the pieces fit together.

The argument for the free (as in beer) cost of getting started with Ubuntu is out the door, there are a number of programs Microsoft offers that let you get started with their tools for free. Including Bizspark which gives your startup company 3 years of licenses (including production use licenses of their tools). And Dream spark which gives it to students for free.

That being said, if you want to explore and learn new languages and platforms, you'll find better tools to get started on Ubuntu and if you're looking for work outside of the Microsoft ecosystem, you're going to need to be familiar with Ubuntu.

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**Tags:** [programming](#)

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[Q: How to learn vim on a high level?](#)

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[Q: I want to fix a bug. Where do I start?](#)

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[Q: What advantages does Ubuntu have as an environment for programming?](#)

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# Fonts

## Questions

### [Q: How do I change fonts and adjust their size?](#)

**Tags:** [fonts](#) ([Next Q](#))

I've been finding fonts on the internet and [installing them](#)  on my system.

What's the easiest way to change my fonts? I would prefer an easy to use graphical way, but answers with command line recommendations are also welcome.

**Tags:** [fonts](#) ([Next Q](#))

**User:** [jorge-castro](#)

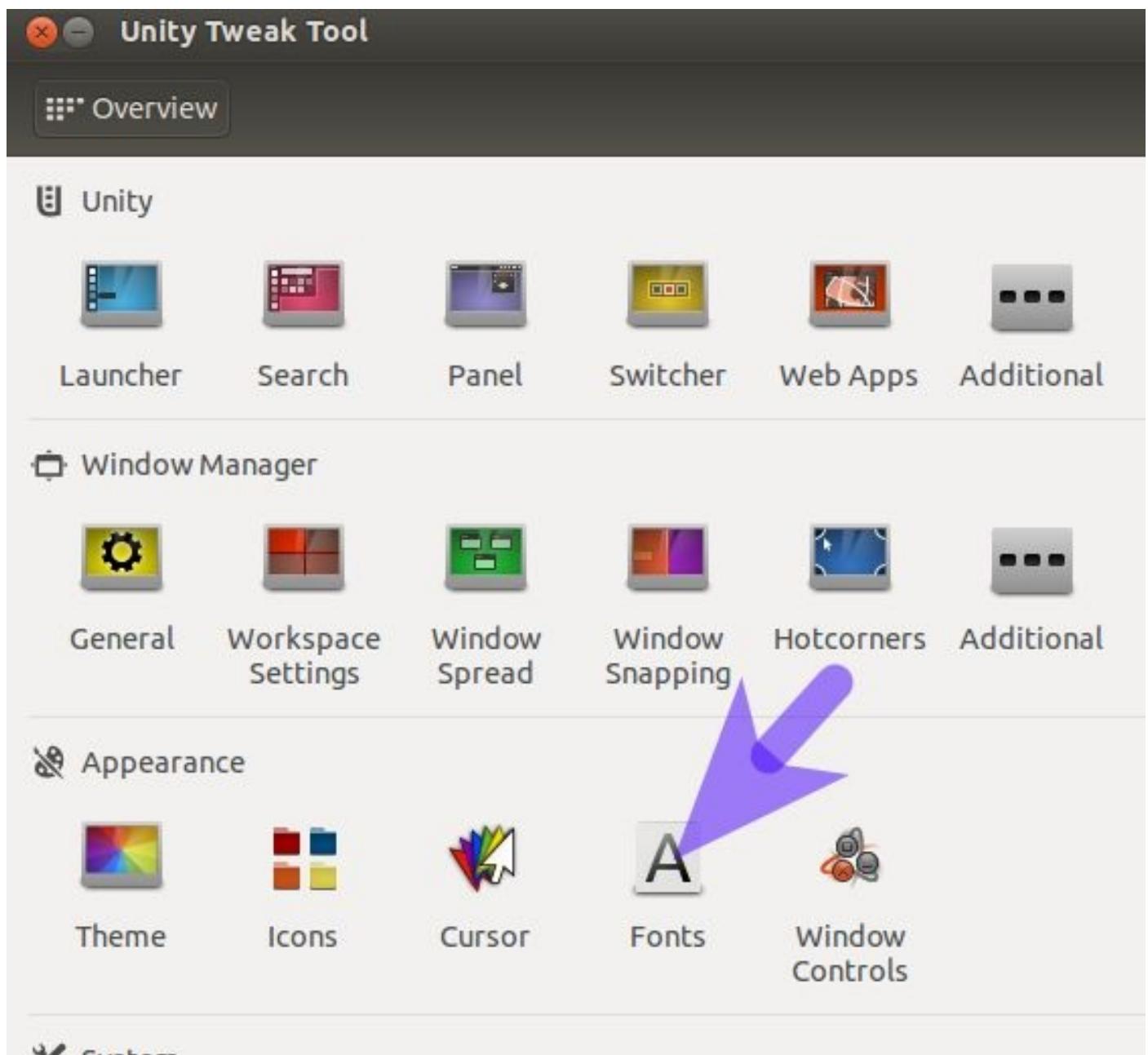
---

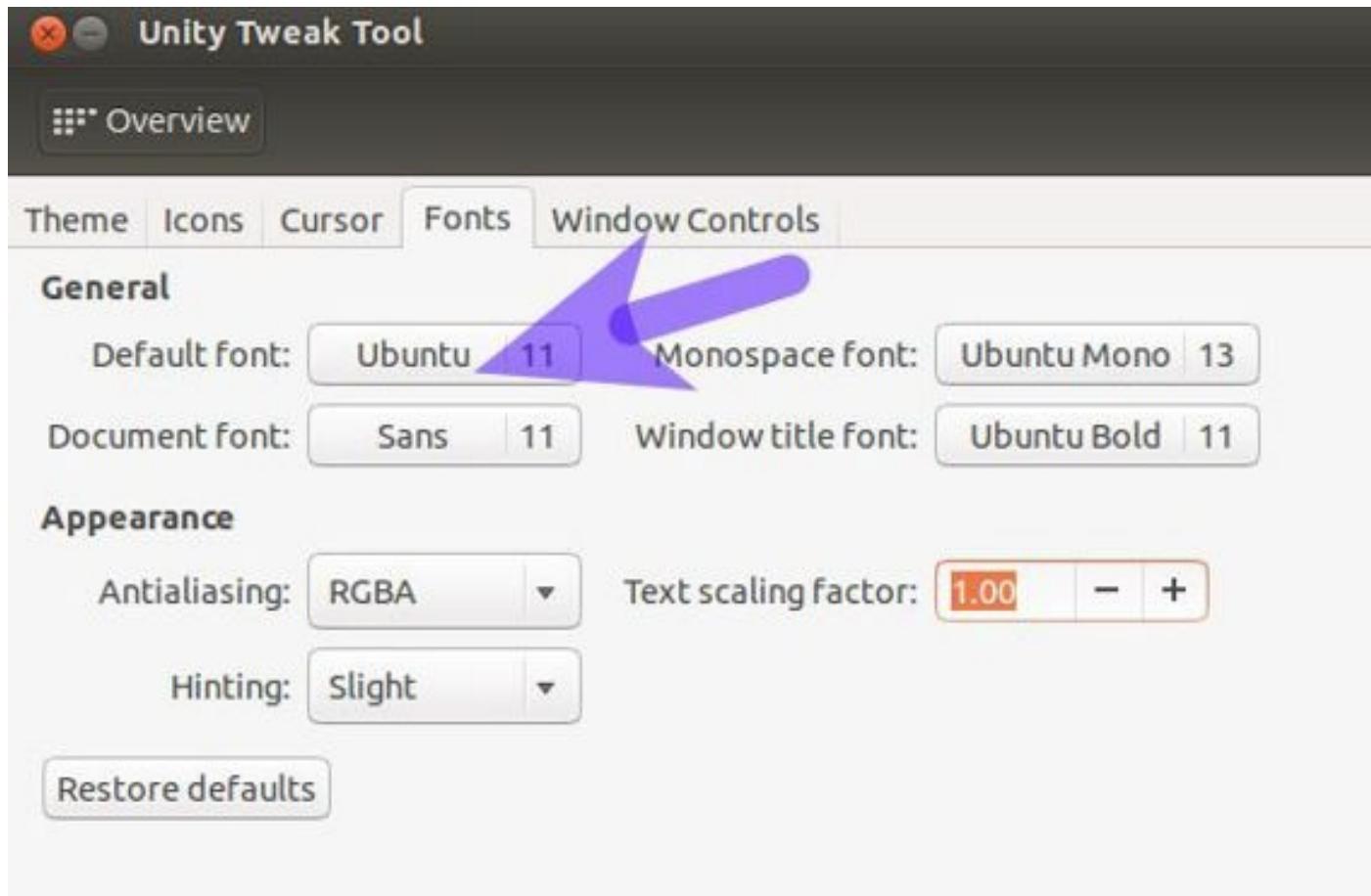
[Answer](#)  by [fossfreedom](#)

## 13.04 and later

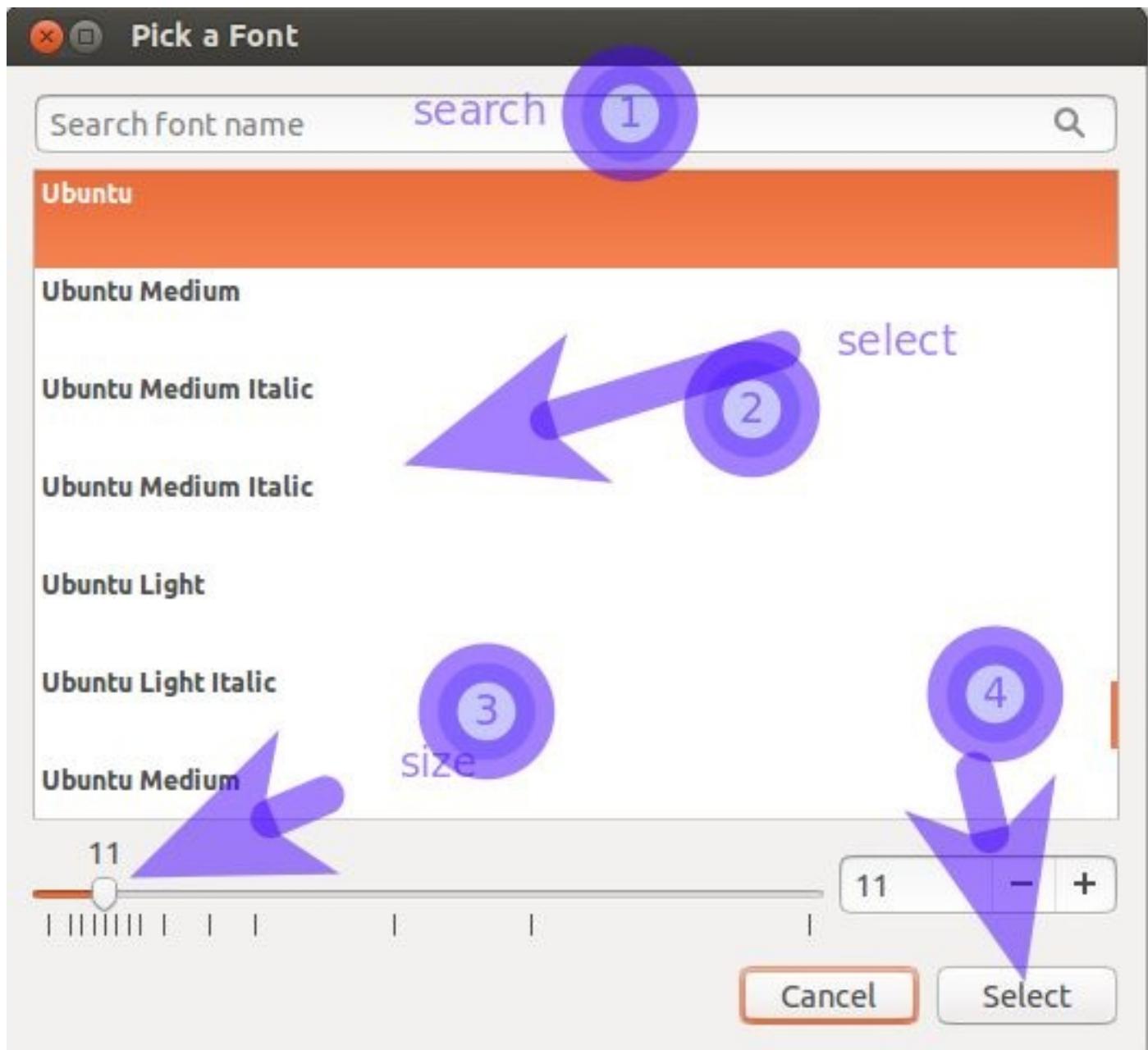
For Unity interface users, customisation of fonts can be done using [unity-tweak-tool](#)

# Missing Image





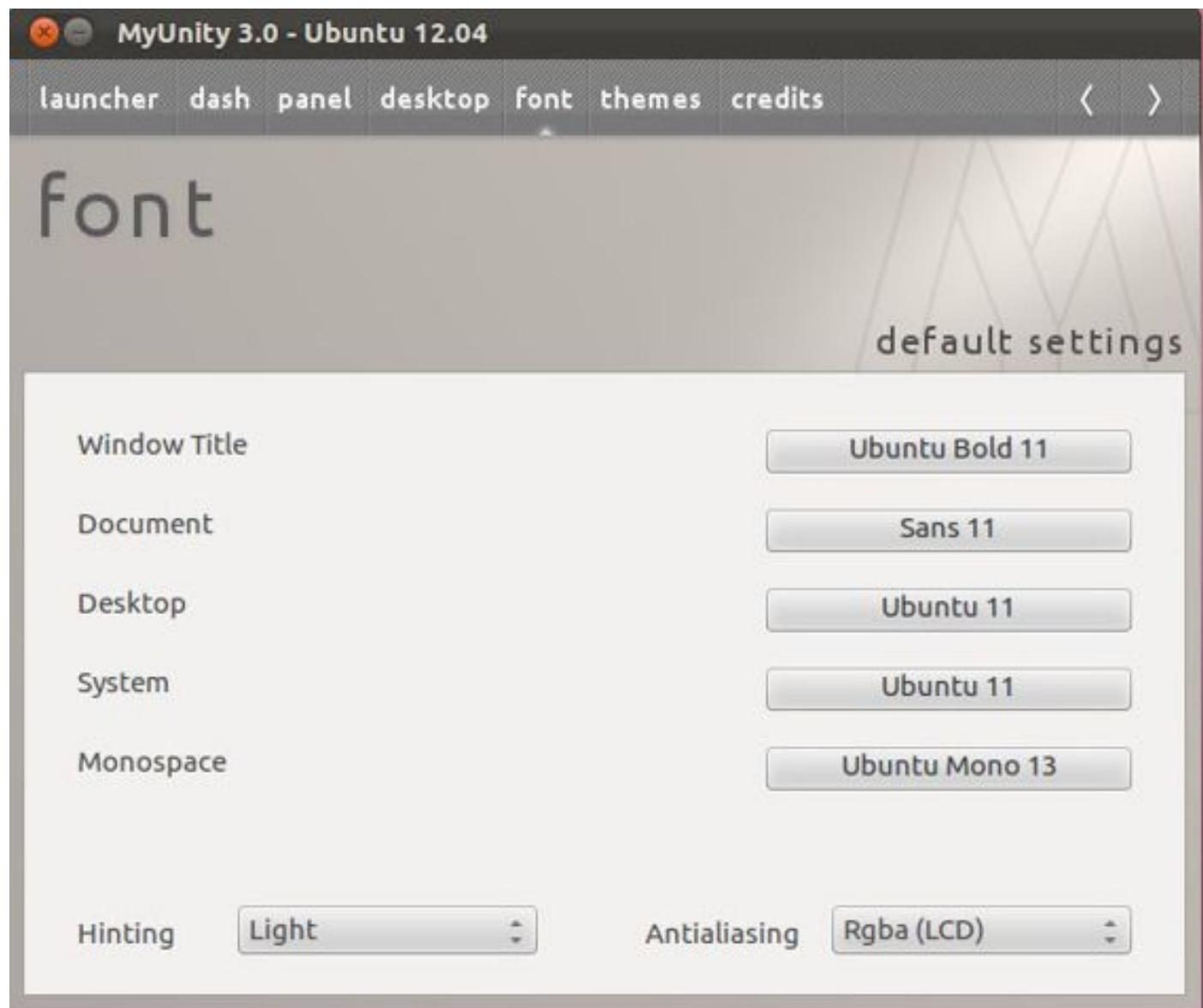
Change font size



## For 12.04 :

For Unity interface users, they have their own tweak-tool. Customisation of Fonts in 12.04 can be done through [myunity](#)

# Missing Image



For gnome-shell/combined gnome-shell & unity users, this font customisation can be done through gnome-tweak-tool as described below.

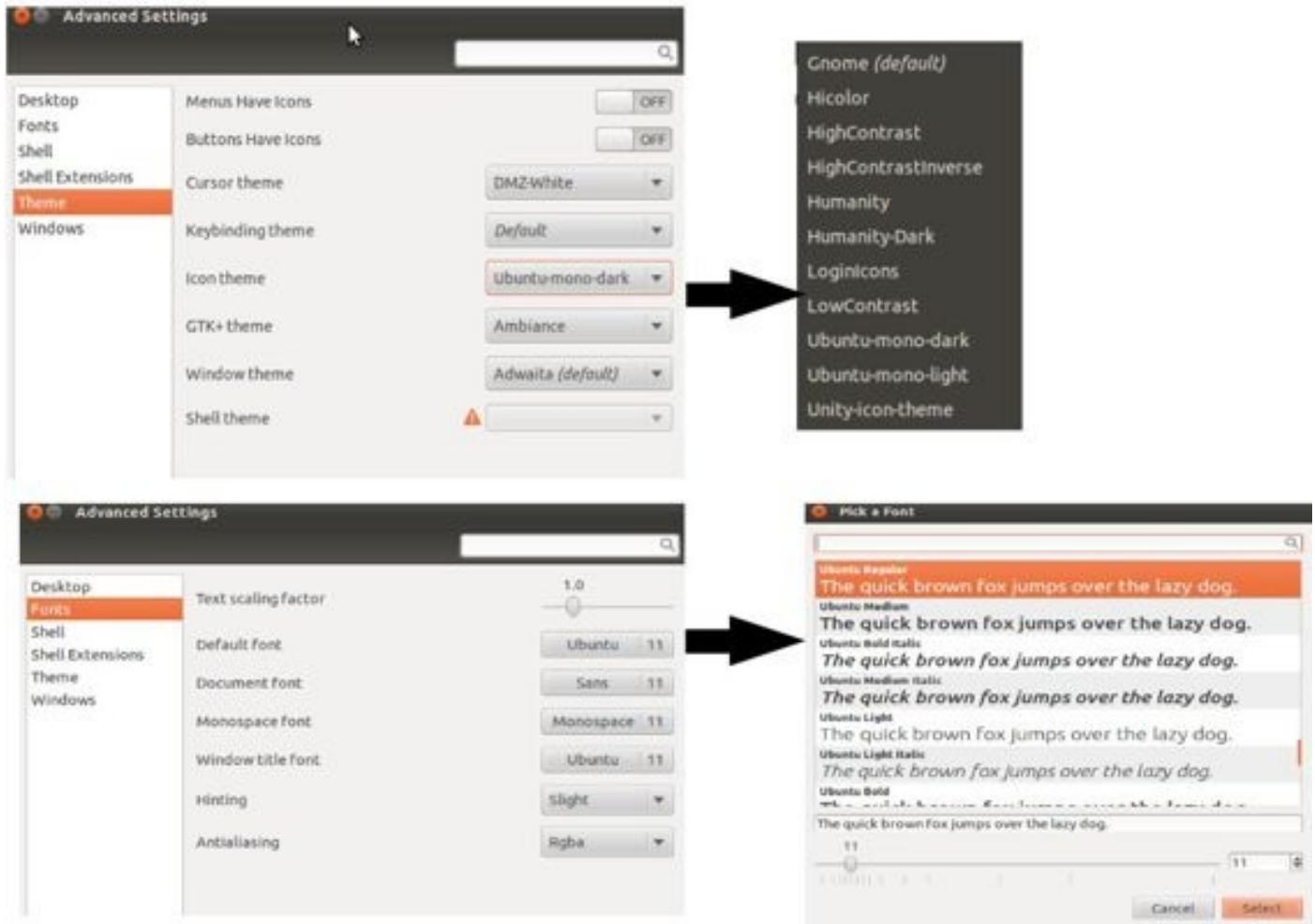
## **For 11.10 and above (and GNOME users):**

The move to gnome3 has *streamlined* many of the customisation features that were available in gnome2.

# gnome-tweak-tool

(Click [here](#) to install it)

For example - the picture below shows theme options as well as fonts customisation.



Unfortunately there is a special workaround for Firefox fonts if you wish to disable antialiasing. For that, you will need to run this command in a terminal:

```
gksudo gedit /etc/fonts/conf.d/10-antialias.conf
```

Then replace “true” with “false”, save the file, and restart Firefox.

[Answer](#) by [zpletan](#)

In Oneiric (11.10), I wasn't interested in installing GNOME Shell just to change font sizes. This will do it via command-line:

```
gsettings set org.gnome.desktop.interface document-font-name 'Sans 10'  
gsettings set org.gnome.desktop.interface font-name 'Ubuntu 10'  
gsettings set org.gnome.desktop.interface monospace-font-name 'Ubuntu Mono 11'  
gsettings set org.gnome.nautilus.desktop font 'Ubuntu 10'  
gconftool --set /apps/metacity/general/titlebar_font 'Ubuntu Bold 10' --type STRING
```

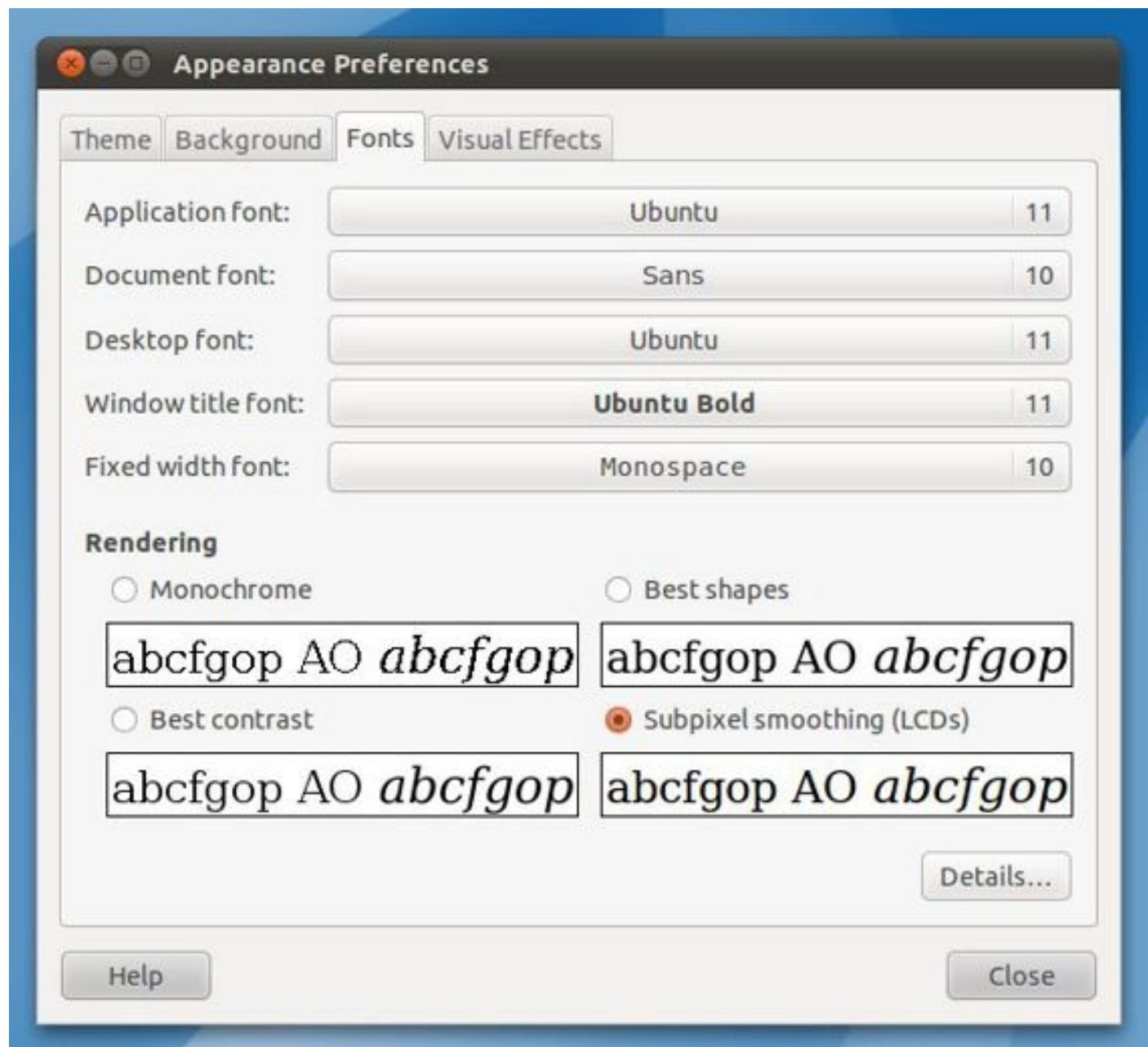
The fontfaces are the same as in default Oneiric, but sized down to what looked like much more manageable sizes.

[Answer](#)  by [8128](#)

# For 11.04 and earlier:

Right click on the desktop and select “Change Desktop Background” and then click the Fonts tab. Couldn’t be easier!

(NB: After playing with these setting you may wish to [reset your font configuration](#).)



---

Tags: [fonts](#) ([Next Q](#))

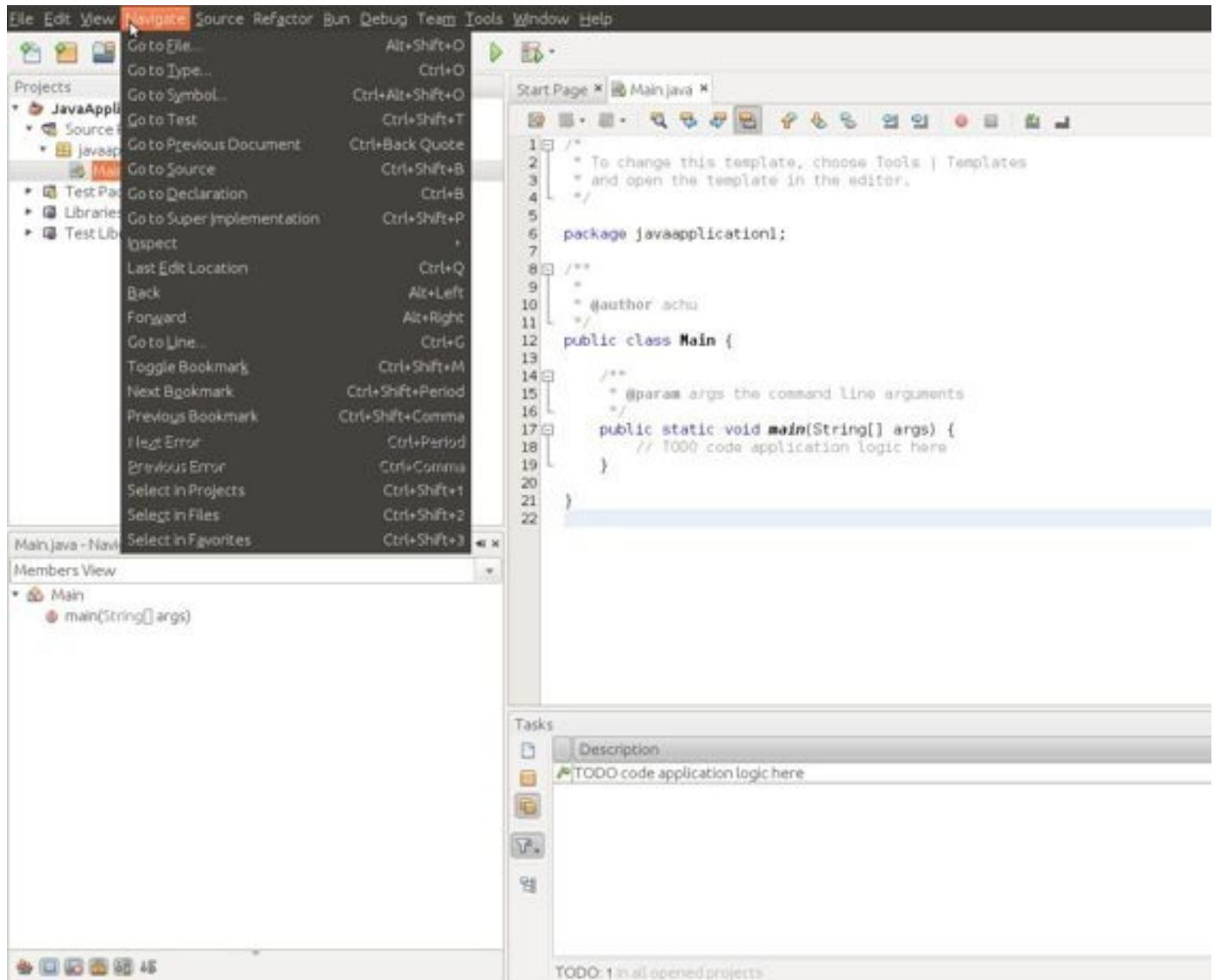
---

**Q: Ugly fonts in Netbeans - How can i make it use the system font?**

Tags: [fonts](#) ([Next Q](#))

I'm having problems getting the Netbeans font to look nice, this has been a problem ever since I tried Ubuntu ~8. For some reason fonts look like they're not getting subpixel smoothing in Netbeans only, for the rest of the applications they look perfect.

Look at how ugly the screenshot is:



It's not just the code area but every font in the application looks this way. I was looking around and apparently adding the following line to the .bashrc file should fix the issue but in my case it didn't:

```
export _JAVA_OPTIONS=' -Dawt.useSystemAAFontSettings=lcd'
```

I think it might only affect Java based applications, but I haven't been able to test another Java app to check the fonts out.

Does anyone know what can I do to fix this? How can I make Netbeans use the system font? Thanks in advance!

**Tags:** [fonts](#) ([Next Q](#))

**User:** [javiervd](#)

---

[Answer](#) by [nem75](#)

As has been stated in the comments, this is a problem with Java Swing apps on Linux. Swing does use Gnome's font smoothing settings (deactivated, greyscale or subpixel) - it disregards the hinting settings though. It always uses full hinting, and if you're running Ubuntu with little or no font hinting (as most people do since little hinting is the default setting) this will make the font appear significantly different than in other applications. SWT applications like Eclipse are fine, but if you like Netbeans this isn't gonna help you.

Caveat: For the following workaround I'm only talking about the editor font, because in an IDE that's what's important to me. You could also apply it to the menu fonts etc, but that might be a little over the top.

The only usable solution I found [here](#) somewhere on the web (would love to link the page, but I cannot find it): use Fontforge to edit your editor font of choice and remove all hinting information from the font itself, then save it as a new font and use that in Netbeans.

1. sudo apt-get install fontforge
2. Launch Fontforge
3. Open your font of choice
4. Ctrl + A to select all characters
5. Hints -> Clear instructions
6. Ctrl + Shift + F to open the font info
7. Rename font (e.g. to original name + '\_nohints')
8. Save edited font in the .fonts directory in your home
9. Clear font cache fc-cache -rv
10. Run Netbeans and use the font you created as editor font

No, not perfect and yes, a bit of a hassle, but still a world of difference. Hope that helps.

---

**Tags:** [fonts](#) ([Next Q](#))

---

## **Q: Netbeans all menu fonts are bold after upgrade to 12.04**

---

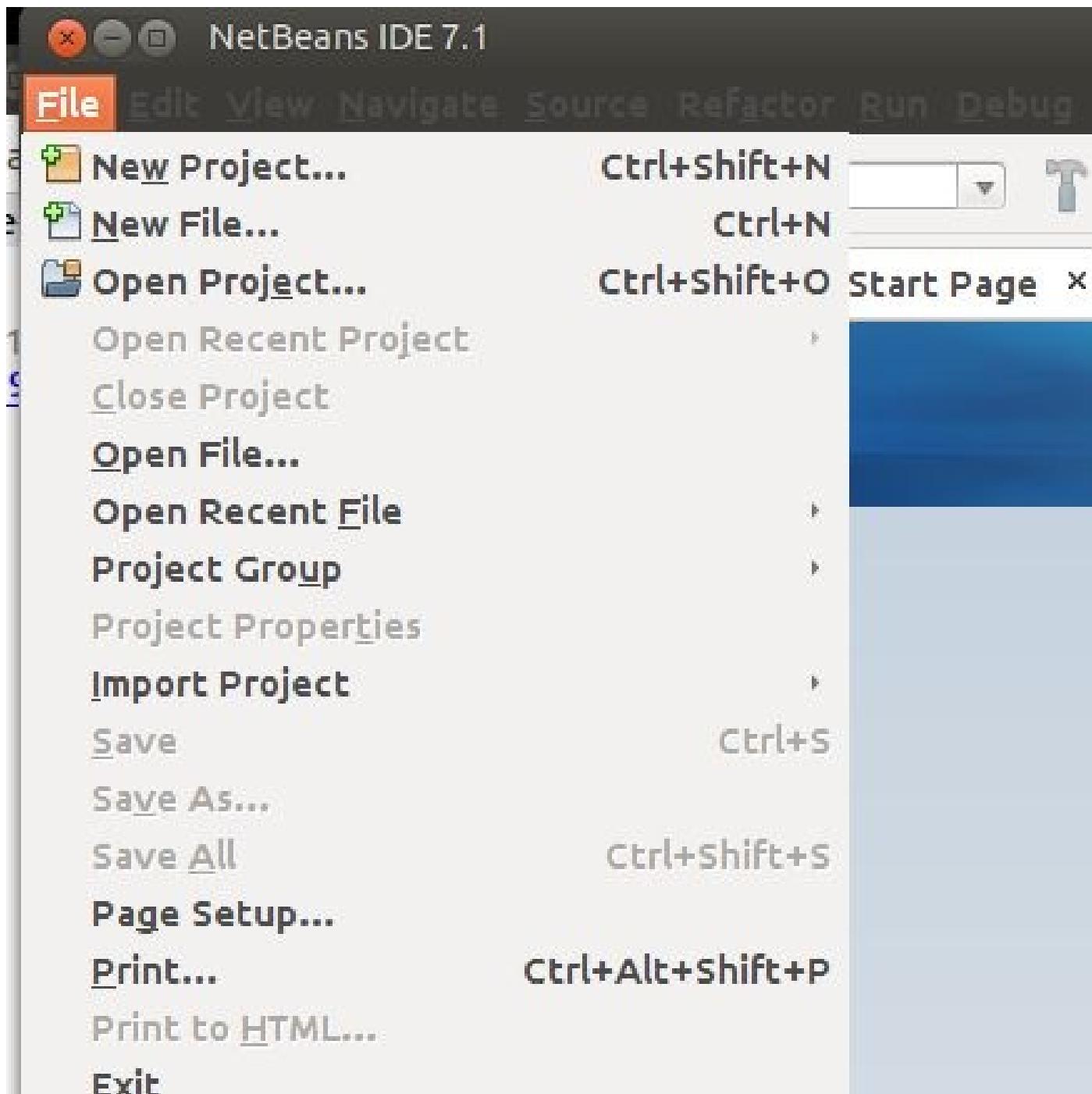
**Tags:** [fonts](#)

After updating ubuntu to 12.04 all fonts got bold. I haven't installed themes or configured fonts.

from netbeans about:

Product Version: NetBeans IDE 7.1 (Build 201112071828)

Java: 1.7.0\_03; Java HotSpot(TM) 64-Bit Server VM 22.1-b02



Tags: [fonts](#)

User: [martins-balodis](#)

---

[Answer](#) by [jorge-castro](#)

This is a bug:

- <https://bugs.launchpad.net/ubuntu/+source/netbeans/+bug/669159>
- [How do I subscribe to a bug?](#)

In the first link, there is a comment that will point you to [another bug](#) . There you can find the following solution:

```
sudo apt-get remove fonts-unfonts-core
```

---

**Tags:** [fonts](#)

---

[\*\*Q: How do I change fonts and adjust their size?\*\*](#)

---

[\*\*Q: Ugly fonts in Netbeans - How can i make it use the system font?\*\*](#)

---

[\*\*Q: Netbeans all menu fonts are bold after upgrade to 12.04\*\*](#)

---

# USB

[Skip to questions](#), Wiki by user [nathan-osman](#)

USB supports [plug and play](#) , which means that the operating system takes care of allocating system resources.

While the Linux kernel contains a wide variety of device drivers, in some cases devices may not work right out of the box with Ubuntu and additional drivers need to be installed.

Wikipedia also has more detailed information about the [USB standard](#) , covering:

- version history, including upcoming versions
- device classes
- connectors, plugs and cables
- power distribution
- signaling
- related and competing standards like Thunderbolt

Universal Serial Bus (USB) is an industry standard [...] that defines the cables, connectors and communications protocols used in a bus for connection, communication, and power supply between computers and electronic devices. [...]

---

# Questions

## Q: How to burn a .iso to a USB device?

**Tags:** [usb](#) ([Next Q](#)), [iso](#) ([Next Q](#))

I want to burn a Windows ISO to a USB device in Ubuntu. How do I do this?

I know how to burn a Ubuntu ISO into a USB device, but with a Windows ISO it's not the same.

**Tags:** [usb](#) ([Next Q](#)), [iso](#) ([Next Q](#))

**User:** [alerbeham](#)

---

[Answer](#)  by [lilian-a.-moraru](#)

UNetbootin should work: <http://unetbootin.sourceforge.net/> 

Or you could try a bit-by-bit copy:

1. Insert the USB device and then open Disk Utility (in 10.10 and older, System -> Administration -> Disk Utility).
2. Select the USB device from the list in the left of the program and detect where it was mounted: /dev/sd[1 letter][optionally 1 number]. For example, /dev/sdc or /dev/sdc1.
3. Make sure the USB device is unmounted (not safely removed, but unmounted) If it is mounted you can unmount it:

```
sudo umount /dev/sd[1 letter][optionally 1 number]
```

4. Assuming the .iso file is in your home folder, open the terminal and write:

```
sudo dd bs=4M if=[ur .iso] of=/dev/sd[that 1 letter]
```

Example:

```
sudo dd bs=4M if=windows7.iso of=/dev/sdc
```

And wait for it to finish. (The “bs=4M” - bit is optional, just makes it faster.)

---

[Answer](#)  by [goeroetje](#)

I only had 1 live CD from Ubuntu 9.10. So I used this procedure:

1. Insert the USB device, then open GParted.
2. Select the USB device from the list near the upper-right corner of the GParted window and detect where it was mounted: /dev/sd[1 letter]. Mine was /dev/sdc.
3. Make sure the USB device is unmounted (right-click and select unmount). *Don't forget to format it to NTFS.*

4. Open a Terminal window and navigate to your windows7.iso or iso file you want to use. I used this line:

First i went to the filesystem /. Then I went to media because I had a hard drive: cd media. Then I selected my harddrive with cd Hard\*. And i ran the last step

5. The last step is to write this line:

```
sudo dd if=[UR .ISO] of=/dev/sd[THAT 1 LETTER]
```

In my case: sudo dd if=windows7.iso of=/dev/sdc

Don't be mad I'm only 15 years old so correct me if I am wrong and sorry for my bad english, I'm Belgian.

I hope it will work for you.

---

**Tags:** [usb](#) ([Next Q](#)), [iso](#) ([Next Q](#))

---

## **Q: How do I connect a Nexus 7 to transfer files?**

**Tags:** [usb](#) [mtp](#) ([Next Q](#))

I want to move some files from my PC to Nexus 7. The tablet is connected to my PC's USB port and it is successfully charging. Unfortunately, the PC is not detecting the devices - what I expected is to be shown the Nexus 7 tablet as external devices (like my USB flash memory).

As the tablet is connected to the my home internet network, I have checked if it will appear in the "Networks" section but it does not.

I am using Ubuntu 12.04 LTS.

Is there a easy way to connect the devices to my PC and move some information between them?

**Tags:** [usb](#) [mtp](#) ([Next Q](#))

**User:** [gotqn](#)

---

[Answer](#)  by [k.k-patel](#)

You have to follow a below procedure to share contents between Ubuntu to Nexus 7.

Install the necessary tools using terminal.

```
sudo apt-get install mtp-tools mtptfs
```

Connect your Galaxy Nexus to your computer. On your phone, open up the notification drawer, and click on USB Connection type. Make sure that MTP is selected.

Type these commands in terminal:

```
mtp-detect | grep idVendor  
mtp-detect | grep idProduct
```

The output of these commands should give you `idVendor` and `idProduct`. Note down the values given, as you'll need them later.

Run this command in terminal:

```
gksu gedit /etc/udev/rules.d/51-android.rules
```

A Gedit window should open. Simply Copy and paste below line.

```
SUBSYSTEM=="usb", ATTR{idVendor}=="VENDORID", ATTR{idProduct}=="PRODUCTID", MODE="0666"
```

Replace `VENDORID` and `PRODUCTID` with the `idVendor` and `idProduct` you had noted down earlier in Gedit.

Save and close the file. Then, disconnect your phone and run these commands:

```
sudo service udev restart  
sudo mkdir /media/GalaxyNexus  
sudo chmod a+rwx /media/GalaxyNexus  
sudo adduser YOURUSERNAME fuse
```

Replace `YOURUSERNAME` with your Ubuntu user name. Now, run this command:

```
gksu gedit /etc/fuse.conf
```

In the Gedit window, remove the `#` at the beginning of the last line.

You're almost done! Now, restart your computer, and then run these three commands:

```
echo "alias android-connect=\"mtpfs -o allow_other /media/GalaxyNexus\" >> ~/.bashrc  
echo "alias android-disconnect=\"fusermount -u /media/GalaxyNexus\" >> ~/.bashrc  
source ~/.bashrc
```

Again, do re-type the quotes in each command after you've copied, otherwise the command won't work.

Connect your phone again, and then make sure your phone is using MTP, then run this command:

```
android-connect
```

You will be able to connect the Nexus 7 to your Ubuntu computer.

---

[Answer](#)  by [subh](#)

I have found that the easiest way to transfer files is using the app called [AirDroid](#) .

You'll need your laptop & the android device to be connected to the same network though.

Steps

1. Install airdroid on Android device
  2. launch the app , if the Android device and laptop on same network it will automatically detect the computer IP and ask to Enter the generated pin on Android device on computer web address which is <http://web.airdroid.com/> 
  3. Paste data on your computer on a particular folder say Download in this case
  4. On Android device access your folder via shown second tab named Tools
-

[Answer](#)  by [dalen](#)

You can simply switch the Nexus 7 into Camera (PTP) mode under Storage / USB Connection.

---

**Tags:** [usb](#) [mtp](#) ([Next Q](#))

---

[Q: Does Ubuntu support USB 3.0?](#)

---

[Q: How to burn a .iso to a USB device?](#)

---

[Q: How do I connect a Nexus 7 to transfer files?](#)

---

# Mount

## Questions

### [Q: How to mount an ISO file?](#)

Tags: [mount](#)

I'm running into trouble trying to mount a large iso:

```
dev@dev-OptiPlex-745:~$ sudo mount -o loop /home/dev/Hmtningar/matlab2011a_64.iso /cdrom
mount: warning: /cdrom seems to be mounted read-only.
dev@dev-OptiPlex-745:~$
```

Can you tell me how I should do it?

Tags: [mount](#)

User: [909-niklas](#)

---

[Answer](#)  by [akshit-baunthiyal](#)

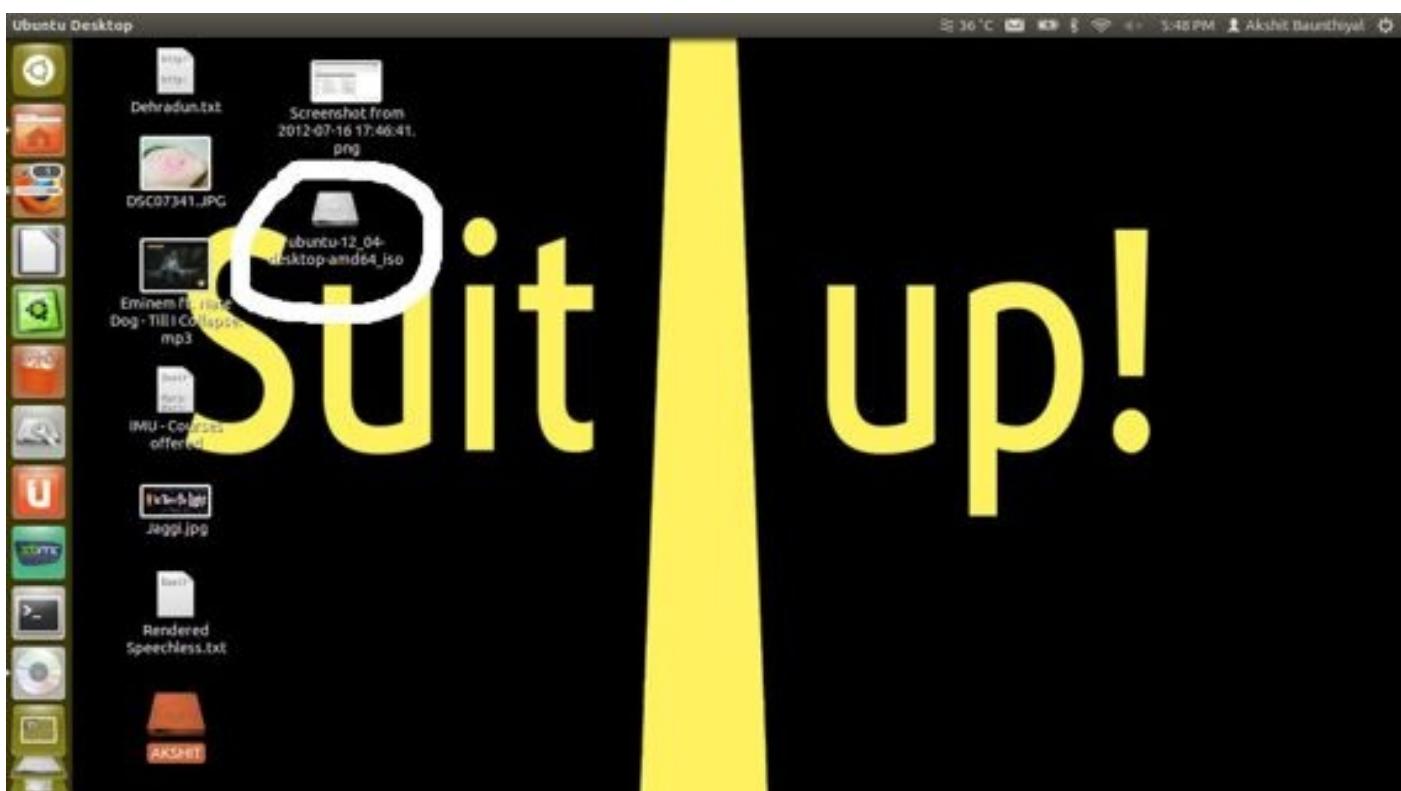
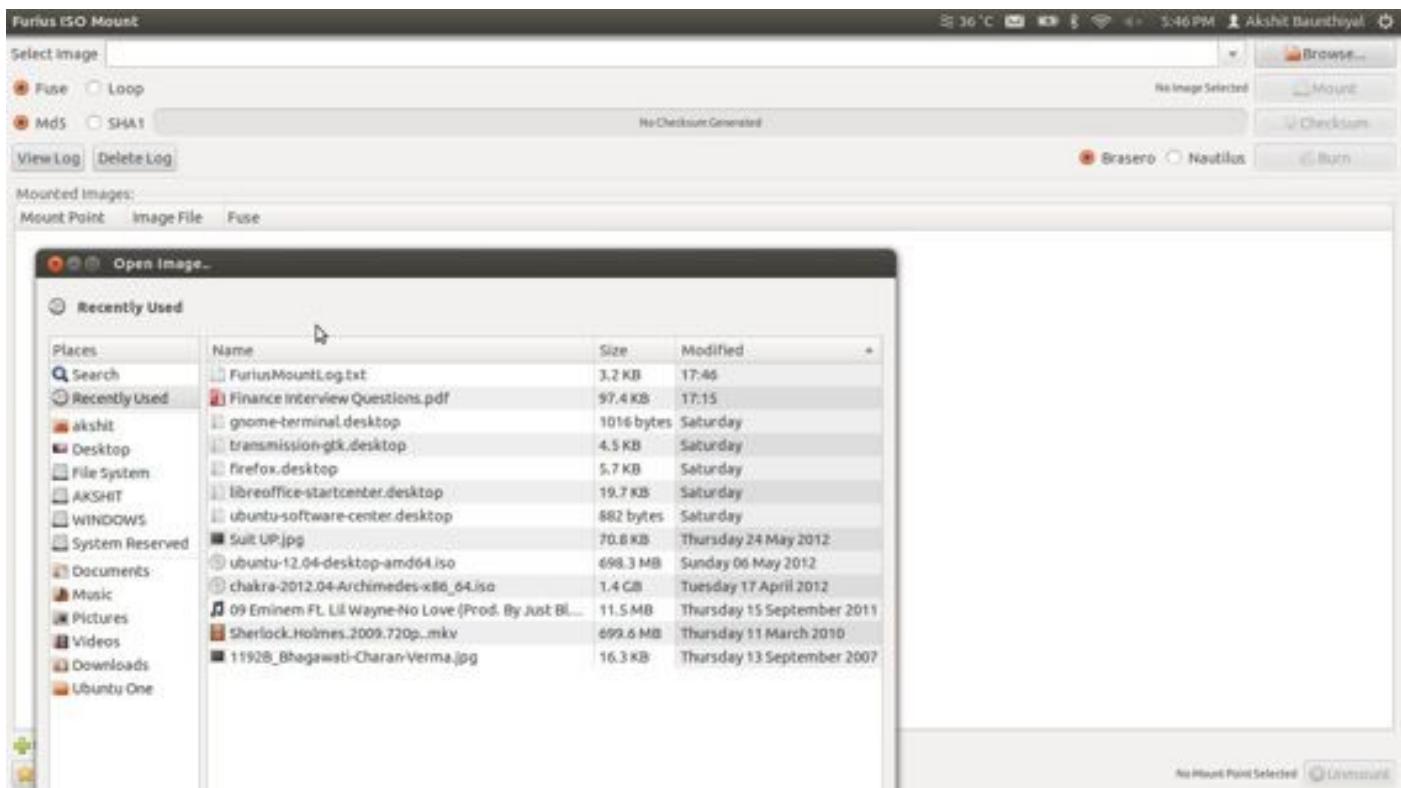
Try mounting it using a GUI.

Navigate to the \*.iso file using a file manager, then Right click -> Open with Archive Mounter.

Or you can install the Furius ISO mount. It is available in the Ubuntu Software Center:

```
sudo apt-get install furiusisomount
```

Here are some screenshots:



[Furius ISO Mount - Project Page](#)

[Answer](#) by [subv3rsion](#)

Maybe, instead of installing additional software, you can use what the system has to this end:

1. Create a directory to serve as the mount location:

```
sudo mkdir /media/iso
```

2. Mount the ISO into the target directory:

```
sudo mount -o loop path/to/iso/file/YOUR_ISO_FILE.ISO /media/iso
```

On your desktop will appear the mounted ISO.

---

[Answer](#)  by [anwar-shah](#)

I'm Assuming your iso file name is `matlab2011a_64.iso` in the folder `/home/dev/Hmtningar/`

You can do this to mount the iso file in `/cdrom` folder or create another folder and mount the iso file in it. I'm going to create a separate folder in your home directory. Open a terminal to do all these things

1. Create mount point

```
mkdir ~/mount-point
```

2. Mount it with

```
sudo mount ~/dev/Hmtningar/matlab1011a_64.iso ~/mount-point -o loop
```

This will mount the iso file in the newly created folder named `mount-point` in your home.

***Also note, You will be given a warning like `mount: warning: /home/dev/mount-point seems to be mounted read-only, It is because the iso file always mounts as read-only.`*** You can't write to the iso file. You should just ignore that message and proceed forward.

---

**Tags:** [mount](#)

---

[Q: How to automount NTFS partitions ?](#)

---

[Q: Unable to mount Windows \(NTFS\) filesystem due to hibernation](#)

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[Q: How to mount an ISO file?](#)

---

# Virtualization

[Skip to questions](#), Wiki by user [emerson-hsieh](#)

A Virtual Machine is a machine that exist as a file. The file contains all the settings for the machine, including the operating system and ram usage. Then a Virtual Machine can be executed by using softwares like [Virtualbox](#).

---

# Questions

## [Q: Migrate from a virtual machine \(VM\) to a physical system](#)

Tags: [virtualization](#)

### **Aka: How can I convert a .vdi or .vmdk to a real installation on a physical disk?**

Is it possible/feasible to migrate a Virtual Machine installation of Ubuntu onto a physical machine? If possible, how difficult would this be to accomplish and what steps would i need to take to prepare for the migration.

I'd like to do some testing on a VM and if it works out migrate that system to physical hardware instead of reinstalling everything. Is this possible?

Tags: [virtualization](#)

User: [kriegar](#)

---

[Answer](#)  by [oli](#)

Yes, it's possible. It's not even *that* hard, it just takes some time, a Ubuntu LiveCD, sticky-back-plastic, and an external USB disk (if you don't have more than one internal disks).

# Preliminary step: Convert the disk to something useful

Both VMWare and VirtualBox (amongst others) use disk formats that don't lend themselves well to being written directly to disk. You *can* but I personally feel it's more convenient to write it to an intermediary, standard image first. You can do this from your current system without having to boot to a LiveCD.

- Load a terminal and fire in:

```
cd /media/wherever-the-image-is/  
  
# for VMWare  
sudo apt-get install qemu-kvm  
qemu-img convert your-vmware-disk.vmdk -O raw disk.img  
  
# For VirtualBox  
VBoxManage internalcommands converttoraw your-virtualbox-disk.vdi /dev/sdX
```

- Move `/media/wherever-the-image-is/disk.img` somewhere that you're not about to write to. If you're planning to write it to the disk that it's currently sitting on, you'll want to stick it on a separate internal disk, or, worst-comes-to-worst an external disk.
- The following instructions assume you've moved it to `/media/dave/disk.img` (dave is an external USB disk)
- Before you do any serious writing, **make sure you have backups**. It's a cliche thing to say but one typo and there's a very real possibility you'll nuke your system. Assume that things will go wrong and be prepared. CloneZilla can help you take whole disk backups if you have somewhere for that data to be stored.

# Write the image to a disk of its very own

You'll want to do something like this. **This assumes you're going to overwrite a whole disk.** If you want to do an alongside-Windows install, don't follow these instructions! Skip to after the bullets.

- Boot into an Ubuntu Live CD and click Try Ubuntu.
- Mount your the place where your vmdk image is being stored (eg the external USB disk as /media/dave). Do **not** mount the place where you want to write to.
- Then we go to work:

```
sudo dd if=/media/dave/disk.img of=/dev/sdX
```

You want to replace sdX with the correct path to your destination disk. The sudo password is blank, just hit return.

- You can then open gparted or something else and you should see your Ubuntu partition sitting on the disk. You should be able to expand it out.

# Write the image to a disk alongside another operating system

This is perhaps an altogether safer way of doing things. The idea is very similar apart from you do a proper install of Ubuntu and then just sync over the files from `disk.img`.

- Your LiveCD this time will need to be the same version of Ubuntu as your virtual install. Boot into the Live CD and, again, click Install.
- Follow the installer through, repartition things as you see fit. About 10 minutes later, you'll be installed and it'll ask you to reboot. Don't reboot. Doesn't matter if you accidentally do, just make sure you're back in the LiveCD for the next instructions.
- Mount your new install's partition and your external disk where you've stored the `disk.img` from earlier (just double click them in nautilus).
- Mount your `disk.img` ISO in a terminal:

```
sudo mkdir /media/oldinstall  
sudo mount -o loop /media/dave/disk.img /media/oldinstall
```

-Note - After creating the desired `.img` file, sometimes when you try to mount it as a loop device you might get the following error

**“NTFS signature is missing. Failed to mount ‘/dev/loop0’: Invalid argument The device ‘/dev/loop0’ doesn’t seem to have a valid NTFS. “**

A `.img` file sometimes contains a master boot record and a partition table before the actual partition that you might want to mount. Hence you need to find out the offset of the required partition. To this, one can use the **parted** tool. For an example, look at the answer by sisco311 in this link <http://ubuntuforums.org/archive/index.php/t-1576011.html> 

So, if you have determined your offset to be ‘xxx’ then you can mount your partition using

```
sudo mount -o loop,offset=xxx /media/dave/disk.img /media/oldinstall
```

- From there you can either cherry-pick files or just copy over everything on top of your new Ubuntu install using something like:

```
sudo rsync /media/oldinstall/ /media/my-new-install/
```

- Reboot and you *should* be greeted with your old VMWare install, but on bare metal. If you get nasty grub issues, you can fix it by [going back to Live CD, chrooting and fixing things](#) .

---

**Tags:** [virtualization](#)

---

[Q: Migrate from a virtual machine \(VM\) to a physical system](#)

---

[Q: How to install Internet Explorer \(multiple versions\)?](#)

---

[Q: VirtualBox '/etc/init.d/vboxdrv setup' issue](#)

---

# Files

## Questions

### [Q: How can I open a file in my terminal, like nautilus does it?](#)

Tags: [files](#)

I want to be able to open files like my operating system does from console.

e.g. a .pdf file should be opened with evince or whatever the default application to open pdfs is. All the other things should work too; images -> eog, text files -> gedit and so on.

I hope that there is a solution for this, it would be really practical.

Tags: [files](#)

User: [david-halter](#)

---

[Answer](#)  by [coalaweb](#)

xdg-open opens a file or URL in the user's preferred application

But what if you want to change the preferred application from the terminal?

#### Try this

You can use the xdg-mime program to first check which is the current default application that will open a file and then you can switch it to what ever application you want.

```
$ xdg-mime query default application/pdf
AdobeReader.desktop
$ xdg-mime default evince.desktop application/pdf
$ xdg-mime query default application/pdf
evince.desktop
```

Now as mentioned by jokerdino you can use xdg-open to open a file with your preferred application:

```
$ xdg-open file.pdf
```

---

[Answer](#)  by [puggan-se](#)

- **gnome-open** opens a file with Gnome's default application
- **kde-open** opens a file with KDE's default application
- **xdg-open** opens a file with X's default application

---

[Answer](#)  by [geoh](#)

Well if you mean command with what you can open everything, it will choose automatically, there is gnome-open

If you want to open .pdf or whatever file it is, just type:

```
gnome-open blah.pdf
```

And there is xdg-open for this kinda works. What it does: it just looks what is default application for such type of files, and runs that app.

### In manual of xdg-open

xdg-open - opens a file or URL in the user's preferred application

Also from [here](#) 

**xdg-open** is part of the **xdg-utils** package available in [extra]. xdg-open is for use inside a desktop session only. It is not recommended to use xdg-open as root.

And sure to change “default” application, you will need xdg-mime

Example to change default **pdf** viewer:

```
$ xdg-mime default xpdf.desktop application/pdf
```

Source: <https://wiki.archlinux.org/index.php/Xdg-open> 

Tags: [files](#)

---

[Q: How can I get octal file permissions from command line?](#)

---

[Q: How can I open a file in my terminal, like nautilus does it?](#)

---

[Q: How can I recursively delete all files of a specific extension in the current directory?](#)

---

# Error Handling

## Questions

### [Q: What is the ‘whoopsie’ process and how can I remove it?](#)

**Tags:** [error-handling](#) ([Next Q](#)), [apport](#) ([Next Q](#))

On one of my machines I have a process running called “whoopsie”. I’m running 12.04 server and never specifically installed anything with this name.

Google seems to imply that it has something to do with error logs but I’m not finding too much information. The fact that I didn’t manually install it and the 3 other servers I checked did in fact have no such running process OR executable made me a bit confused.

Does anyone know what the “whoopsie” process is?

Does anyone know what packages might have installed it? The server is quite plain, it has a LAMP stack, Samba and print servers and the Nagios NRPE plugin, nothing more installed, just standing there being a nice backup-server.

Some more info:

```
$ whoopsie -h
Usage:
  whoopsie [OPTION...]

Help Options:
  -h, --help           Show help options

Application Options:
  -f, --foreground    Run in the foreground
```

and

| USER     | PID | %CPU | %MEM | VSZ   | RSS  | TTY | STAT | START | TIME | COMMAND  |
|----------|-----|------|------|-------|------|-----|------|-------|------|----------|
| whoopsie | 913 | 0.0  | 0.4  | 24448 | 2092 | ?   | Ssl  | May07 | 0:00 | whoopsie |

and

```
$ sudo cat /etc/passwd | grep whoop
whoopsie:x:107:118::/nonexistent:/bin/false
```

**Tags:** [error-handling](#) ([Next Q](#)), [apport](#) ([Next Q](#))

**User:** [nanne](#)

---

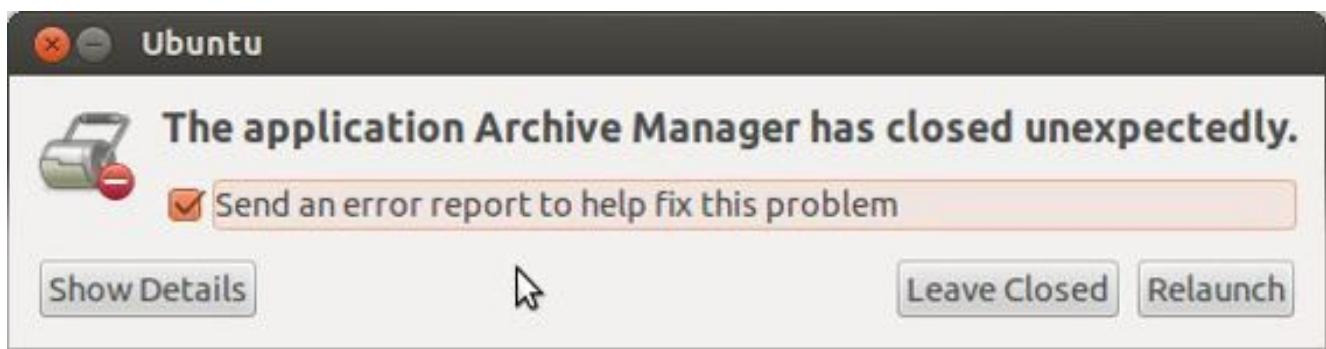
[Answer](#)  by [izx](#)

## What’s whoopsie ?

- It's the "Ubuntu Error Reporting" daemon, and is installed by default in both desktop/server installations.
- When something crashes, *whoopsie* does two things:
  1. Collects the crash report generated by [Appport](#) and
  2. Can send them to Ubuntu/Canonical (specifically to <https://daisy.ubuntu.com>)  
:)

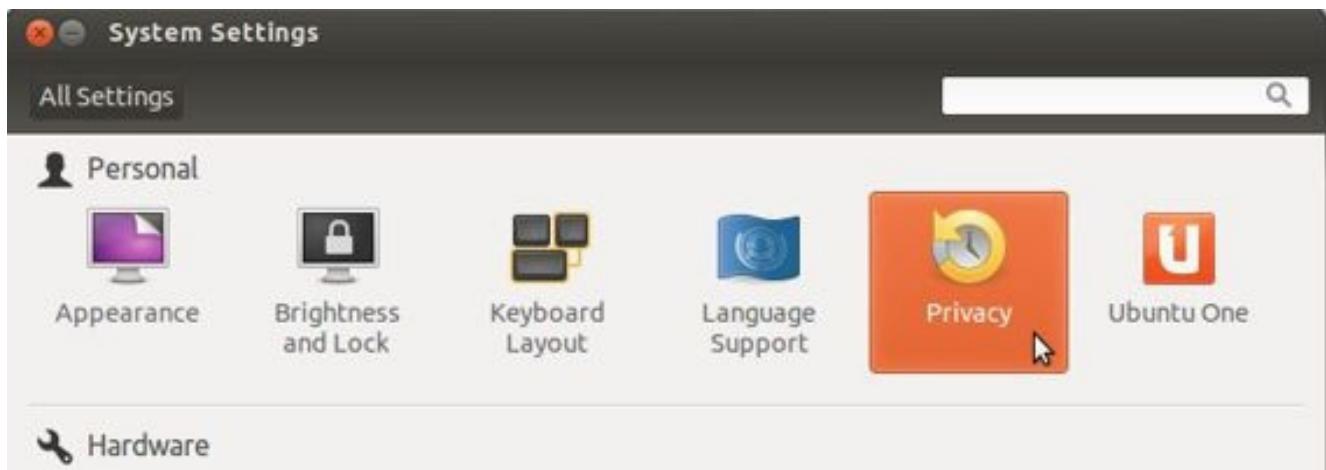
## Whoopsie won't send your crash reports without your permission!

- As Evan explains in his answer below, the actual transmission of crash data occurs only if you permit it via the graphical dialog (see below), or for a CLI server, explicitly run `apport-cli`.

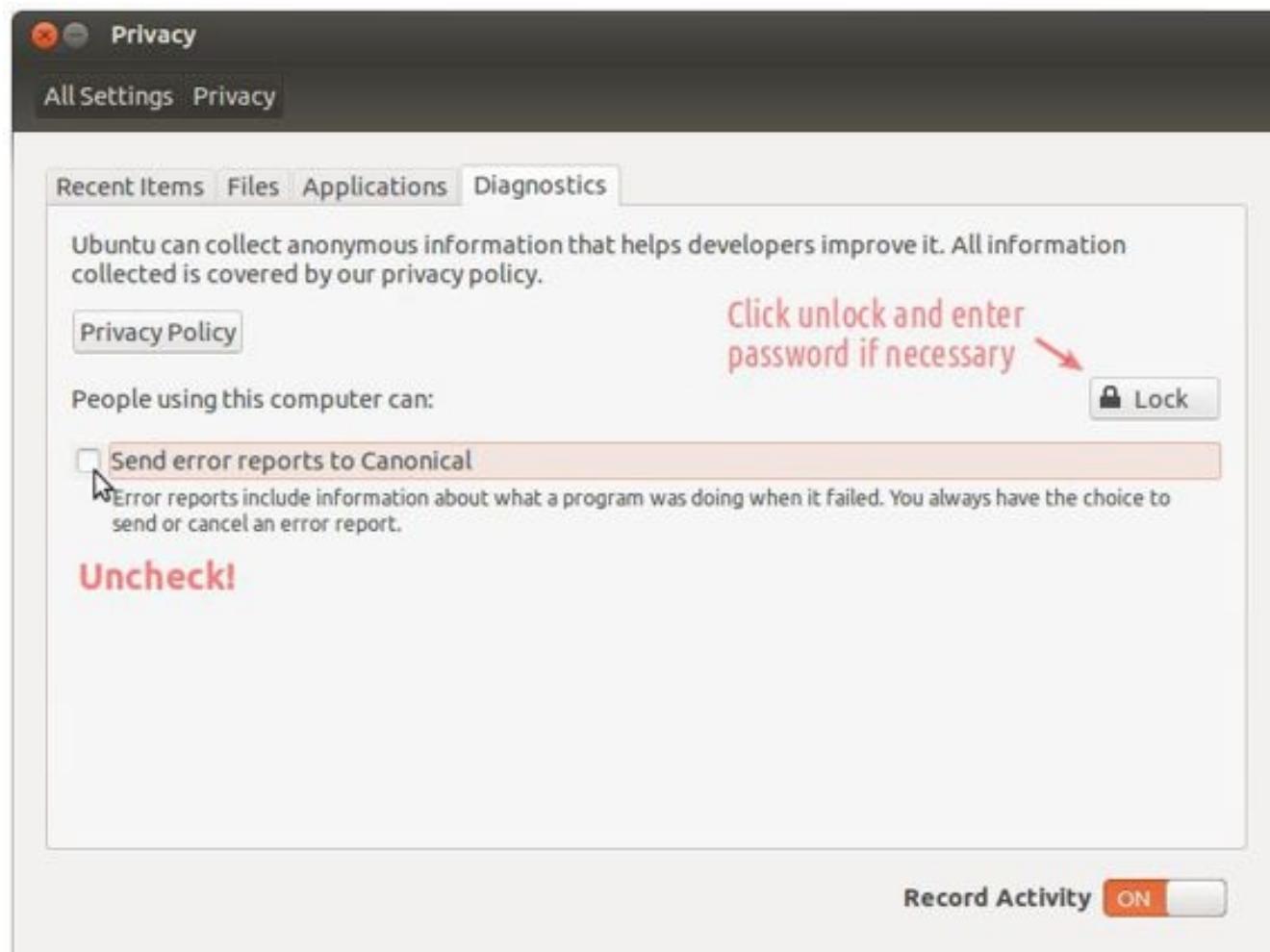


## How do I disable it on my desktop?

- Go to Settings...Privacy...



- And in the Diagnostics Tab, *uncheck* the *Send Error Reports to Canonical* option:



## How do I disable it on a server or via the command-line?

- Just change the `report_crashes` parameter to `false` in the `/etc/default/whoopsie` file.
- Then bid farewell to whoopsie with `sudo service whoopsie stop`.

---

[Answer](#) by [evan](#)

Whoopsie is part of the [Ubuntu error tracker](#). It takes the crash reports that [apport](#) creates and presents whenever an application fails and sends them to a Canonical server for further processing. The data collected from these reports help us prioritize and track the most pressing issues:

<http://errors.ubuntu.com>

The small whoopsie daemon process is run by default on both Ubuntu desktop and server installations. It will only send reports out if you explicitly approve this in the dialog that appears on desktop installs, or in the case of the server, manually run `apport-cli`.

You can disable it by going into System Settings -> Privacy -> Diagnostics and unchecking the box labelled “Send error reports to Canonical.”

To disable it on Ubuntu Server, edit the `/etc/default/whoopsie` file and change `report_crashes=` to `false`, then run `sudo stop whoopsie`.

Note that if you do this, we will not be made aware of the problems affecting your computer and may be unable to fix them. I talk about how we use your data to make Ubuntu better in this video:

- <https://www.youtube.com/watch?v=PPQ7k0jRUE4#t=30m10s> 
- 

**Tags:** [error-handling](#) ([Next Q](#)), [apport](#) ([Next Q](#))

---

## **Q: Dropbox error - ‘echo 100000 | sudo tee /proc/sys/fs/inotify/max\_user\_watches’**

**Tags:** [error-handling](#) [monitoring](#) ([Next Q](#))

Dropbox gives me an error that mentions echo tee 100000 but then it disappears. How to fix or remove msg?

**Tags:** [error-handling](#) [monitoring](#) ([Next Q](#))

**User:** [michael-durrant](#)

---

**Answer**  by [bruno-pereira](#)

Edit your /etc/sysctl.conf file with your favourite text editor, e.g. nano:

```
sudo nano /etc/sysctl.conf
```

and append (or modify the value of) fs.inotify.max\_user\_watches=100000 at the end of the file as a new line.

As an option you can use the command sudo sysctl -w  
fs.inotify.max\_user\_watches=100000 or the command below, as described on the Dropbox help guide, the results will be the same.

---

[From the advanced help guide from Dropbox](#) 

Monitoring more than 10000 folders

The Linux version of the Dropbox desktop application is limited from monitoring more than 10000 folders by default. Anything over that is not watched and, therefore, ignored when syncing. There's an easy fix for this. Open a terminal and enter the following:

```
echo fs.inotify.max_user_watches=100000 | sudo tee -a /etc/sysctl.conf;
sudo sysctl -p
```

This command will tell your system to watch up to 100000 folders. Once the command is entered and you enter your password, Dropbox will immediately resume syncing.

---

**Tags:** [error-handling](#) [monitoring](#) ([Next Q](#))

---

[Q: Error message when I run sudo: unable to resolve host \(none\)](#)

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[Q: What is the ‘whoopsie’ process and how can I remove it?](#)

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[Q: Dropbox error - ‘echo 100000 | sudo tee / proc/sys/fs/inotify/max\\_user\\_watches’](#)

---

# Chromium

[Skip to questions](#), Wiki by user [Ã'ndrÃ¼k](#)



# Chromium

This tag is for Chromium. For Google's browser Chrome read and use [chrome](#).

- [Homepage](#)

Chromium is an open-source browser project that aims to build a safer, faster, and more stable way for all Internet users to experience the web.

Chromium serves as a base for Google Chrome, which is Chromium rebranded (name and logo) with very few additions such as usage tracking and an auto-updater system.

Since version 28, all Chromium based browsers use a forked version of Webkit, called Blink.

The Chromium package in Ubuntu is named `chromium-browser`.

---

# Questions

## [Q: How to install the latest stable version of Chromium?](#)

Tags: [chromium](#)

Is there an easier way to install Chromium than what is described [here](#) ?

Furthermore, is there an easier way to stay up to date with current Chromium releases rather than having to re-build Chromium each release? (a script which automatically grabs and installs the latest build possibly?).

Related:

- [How do I get the latest \(beta and development\) version of Chromium?](#) 

Tags: [chromium](#)

User: [rlemon](#)

---

[Answer](#)  by [oli](#)

Chromium is currently not built for the chromium-daily PPA, which makes using it a bit of a security issue. Unless you can find a better PPA that stays up to date, I'd recommend you use the repo version of Chromium. Using an old browser on the internet will get you hacked. See:

[Does someone know why the Chromium daily package isn't build anymore?](#) 

For the latest stable of Chromium click the button here:

<https://apps.ubuntu.com/cat/applications/chromium-browser/> 

---

[Answer](#)  by [rimez](#)

I've asked a [similar question](#) . What I do is use the daily zip archives. Within Chromium I install the [Chromium Update plugin](#) . It doesn't auto install or anything but I have quick access to the latest zip which I simply extract to the current location (in my case `~/opt/`).

---

Tags: [chromium](#)

---

[Q: What's the difference between Google Chrome and/or Chromium? What are the advantages/disadvantages to each?](#)

---

[Q: How do I put a web application on the Launcher?](#)

---

[Q: How to install the latest stable version of Chromium?](#)

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# Monitoring

[Skip to questions](#), Wiki by user [kai-k.](#)

This tag is for questions about all kinds of monitoring. E.g. “How to monitor the network traffic?” Usually this tag should be paired with other tags like “internet” or “network”.

Every computer does a lot of things in the background which can be monitored and logged. Disk usage, network or internet traffic, processor usage, memory consumption, etc. Each of these issues may be monitored by corresponding tools.

---

# Questions

## Q: How do I get the CPU temperature?

**Tags:** [monitoring](#) ([Next Q](#))

How do I get the CPU temperature.

**Tags:** [monitoring](#) ([Next Q](#))

**User:** [trampster](#)

---

[Answer](#)  by [karthick87](#)

### Install lm-sensors

```
sudo apt-get install lm-sensors
```

After installation type the following in terminal

```
sudo sensors-detect
```

You may also need to run

```
sudo service kmod start
```

It will ask you few questions. Answer Yes for all of them. Finally to get your CPU temperature type **sensors** in terminal.

```
sensors
```

### Output:

#### [Skip code block](#)

```
karthick@Ubuntu-desktop:~$ sensors
coretemp-isa-0000
Adapter: ISA adapter
Core 0: +41.0C (high = +78.0C, crit = +100.0C)

coretemp-isa-0001
Adapter: ISA adapter
Core 1: +41.0C (high = +78.0C, crit = +100.0C)

w83627dhg-isa-0290
Adapter: ISA adapter
Vcore: +1.10 V (min = +0.00 V, max = +1.74 V)
in1: +1.60 V (min = +1.68 V, max = +1.44 V) ALARM
AVCC: +3.30 V (min = +2.98 V, max = +3.63 V)
VCC: +3.28 V (min = +2.98 V, max = +3.63 V)
in4: +1.85 V (min = +1.66 V, max = +1.11 V) ALARM
in5: +1.26 V (min = +1.72 V, max = +0.43 V) ALARM
in6: +0.09 V (min = +1.75 V, max = +0.62 V) ALARM
3VSB: +3.30 V (min = +2.98 V, max = +3.63 V)
Vbat: +3.18 V (min = +2.70 V, max = +3.30 V)
fan1: 0 RPM (min = 10546 RPM, div = 128) ALARM
fan2: 892 RPM (min = 2136 RPM, div = 8) ALARM
fan3: 0 RPM (min = 10546 RPM, div = 128) ALARM
fan4: 0 RPM (min = 10546 RPM, div = 128) ALARM
fan5: 0 RPM (min = 10546 RPM, div = 128) ALARM
temp1: +36.0C (high = +63.0C, hyst = +55.0C) sensor = diode
temp2: +39.5C (high = +80.0C, hyst = +75.0C) sensor = diode
temp3: +119.0C (high = +80.0C, hyst = +75.0C) ALARM sensor = thermistor
```

```
cpu0_vid: +2.050 V
```

## To see HDD temperature Install hddtmp

```
sudo apt-get install hddtemp
```

### Output:

```
karthick@Ubuntu-desktop:~$ sudo hddtemp /dev/sda  
/dev/sda: ST3160813AS: 34C
```

Tags: [monitoring](#) ([Next Q](#))

## Q: How do you monitor the progress of dd?

Tags: [monitoring](#)

[dd](#)  is a wonder allowing you to duplicate a hard drive to another, completely zero a hard drive, etc. But once you launch a dd command, there's nothing to tell you of it's progress. It just sits there at the cursor until the command finally finishes. So how does one monitor dd's progress?

Tags: [monitoring](#)

User: [james](#)

[Answer](#)  by [phoibos](#)

Install pv and put it between input / output only dd commands.

Note: you cannot use it when you already started dd.

## From the package description:

pv - Pipe Viewer - is a terminal-based tool for monitoring the progress of data through a pipeline. It can be inserted into any normal pipeline between two processes to give a visual indication of how quickly data is passing through, how long it has taken, how near to completion it is, and an estimate of how long it will be until completion.

## Installation

```
sudo apt-get install pv
```

## Example

```
dd if=/dev/urandom | pv | dd of=/dev/null
```

# Output

```
1,74MB 0:00:09 [ 198kB/s ] [ => ]
```

You could specify the approximate size with the `--size` if you want a time estimation.

## Other uses

You can also use it to output to stdout:

```
pv /home/user/bigfile.iso | md5sum
```

# Output

```
50,2MB 0:00:06 [8,66MB/s] [=====>] 49% ETA 0:00:06
```

Note that in this case, pv recognizes the size automatically.

---

[Answer](#) by [james](#)

From [HowTo: Monitor the progress of dd](#)

You can monitor the progress of dd without halting it by using the `kill` command.

To see the progress of dd once it's running, open another terminal and enter:

```
sudo kill -USR1 $(pgrep ^dd)
```

This will display dd progress in the dd terminal window without halting the process. If you would like to get regular updates of the dd progress, then enter:

```
watch -n5 'sudo kill -USR1 $(pgrep ^dd)'
```

watch will probe the dd process every -n seconds (-n5 = 5 seconds) and report without halting it.

Note the proper single quotes in the commands above.

---

[Answer](#) by [thenano](#)

The best is using <http://dcfldd.sourceforge.net/> it is easy to install through apt-get

---

**Tags:** [monitoring](#)

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[Q: How do I get the CPU temperature?](#)

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[Q: Dropbox error - 'echo 100000 | sudo tee /proc/sys/fs/inotify/max\\_user\\_watches'](#)

---

[Q: How do you monitor the progress of dd?](#)

# Users

## Questions

### [Q: How to manage users and groups?](#)

**Tags:** [users](#) ([Next Q](#))

Just switched from 10.04 to 11.10. I'm wondering about the limited options in the GUI for managing users and groups. Where is the old GUI to change groups, id's, etc. I know that I can do this from cli, that's no problem. But I want this comfortable GUI back.

**Tags:** [users](#) ([Next Q](#))

**User:** [ehde](#)

---

[Answer](#)  by [fossfreedom](#)

# Gnome System Tools for 11.10 & later Ubuntu versions

The old Users and Groups GUI is available by installing from Software Center the *gnome-system-tools* package



or from a terminal:

```
sudo apt-get install gnome-system-tools
```

Search in Dash:



Click and it will run the Users and Groups applet:



[Answer](#) by [eliah-kagan](#)

*This answer was merged from a question about how to make a user an administrator; while it does answer this more general question, making administrators is its focus.*

# Being An Administrator Consists of (Specific) Group Membership

Before actually managing users and groups, if you want to make one or more users administrators, you should know *what* it means to be an administrator in Ubuntu.

An administrator can run commands as [root](#), in two ways:

- [With sudo](#).
- [With PolicyKit](#). (But default, PolicyKit is not present on Ubuntu Server systems.)

This power is conferred to users by membership in the appropriate group.

- In Ubuntu 11.10 and earlier, administrators are members of the `admin` group.
- In Ubuntu 12.04 LTS and later, administrators are members of the `sudo` group.

There are a couple complexities:

- The `sudo` group exists in 11.10 and earlier, it's just not used (by default).
- The `admin` group doesn't exist on a freshly installed 12.04 system, but it continues to exist (and its members continue to have administrative abilities) on Ubuntu 12.04 systems upgraded from previous releases.

Therefore, here are some reasonable guidelines for how to make a user an administrator in Ubuntu:

- If you're running Ubuntu 11.10 or earlier, just put the user in the `admin` group.
- If you're running Ubuntu 12.04 LTS (or later), put the user in the `sudo` group, and *if the `admin` group exists, put the user there too*.

---

***You have a few options for managing users and groups.***

# Install and Run the Classic “Users and Groups” Utility

You’ll perhaps be happy to hear that (as [John S Gruber](#) has [pointed out](#)) *the old GUI utility for managing users and groups still exists, though you may have to install the package that provides it.* I’m talking about the utility that was invoked in menu-driven interfaces via **System > Administration > Users and Groups**.

This classic utility is provided by the [gnome-system-tools](#)

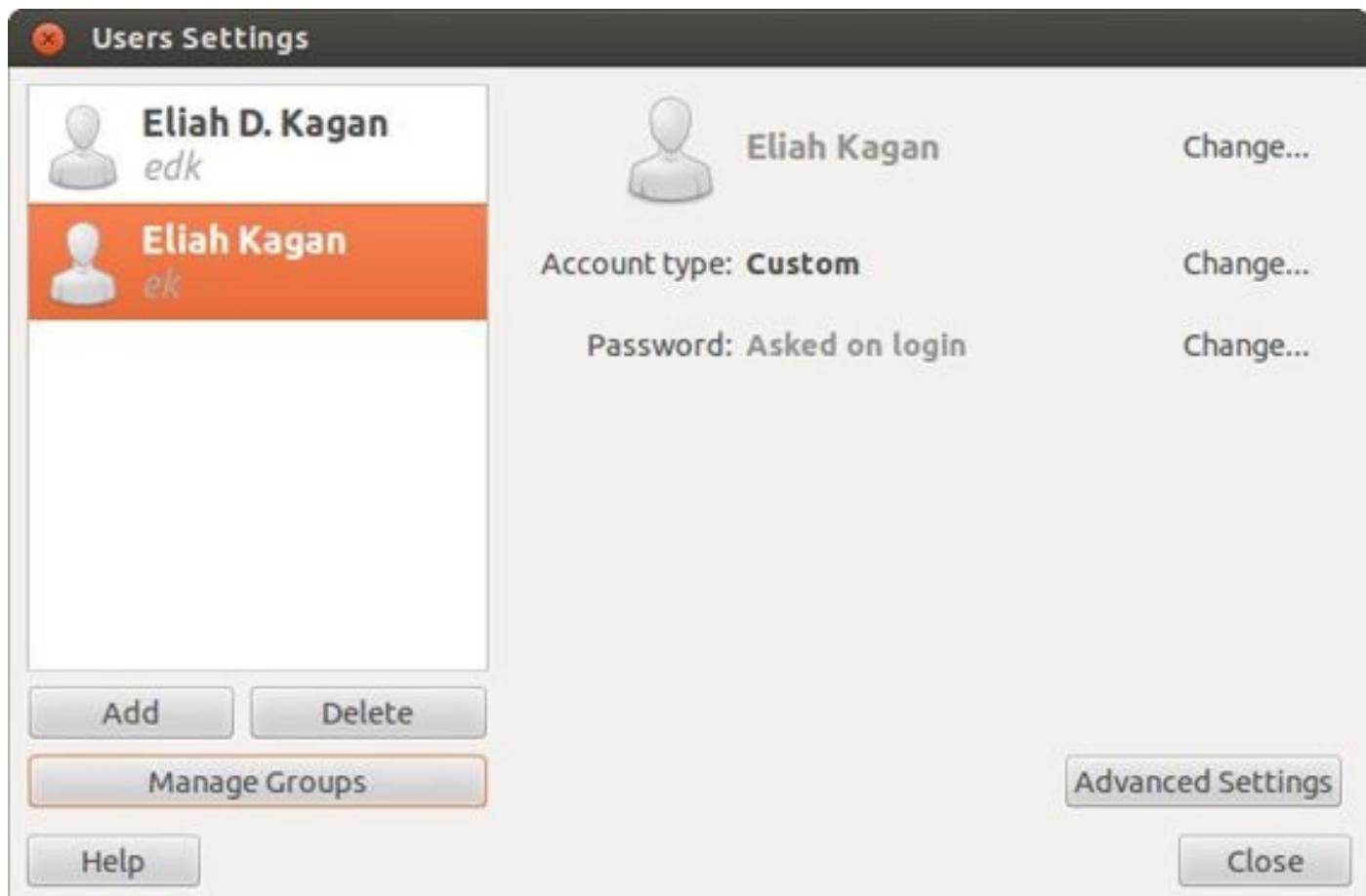
# Missing Image

package, which you can install in the Software Center by clicking that link, or in the Terminal by running these commands:

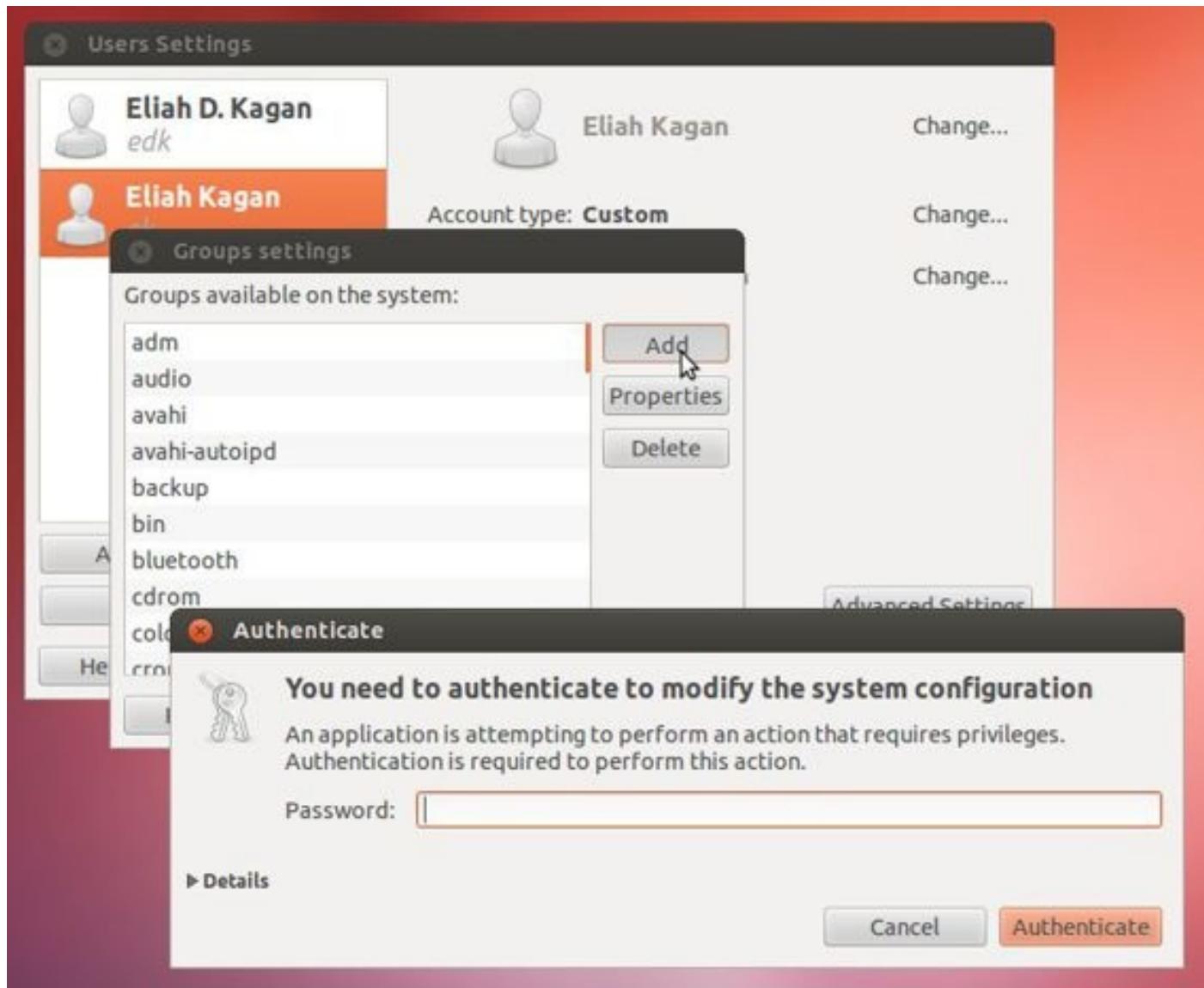
```
sudo apt-get update  
sudo apt-get install gnome-system-tools
```

The name of the **Users and Groups** utility is [users-admin](#), so you can find it normally in your graphical interface, or you can run it manually with that name. That is, here are some ways to run the utility once it’s installed:

- Press Alt+F2. Type users-admin. Press Enter.
- Press Ctrl+Alt+T. Type users-admin. Press Enter.
- In Unity, start to type users and groups. So long as gnome-system-tools is installed, the **Users and Groups** utility will come up.
- If you use a desktop environment that has menus, find **Users and Groups** in the **Administration**, **System Tools**, or **Preferences** menu.



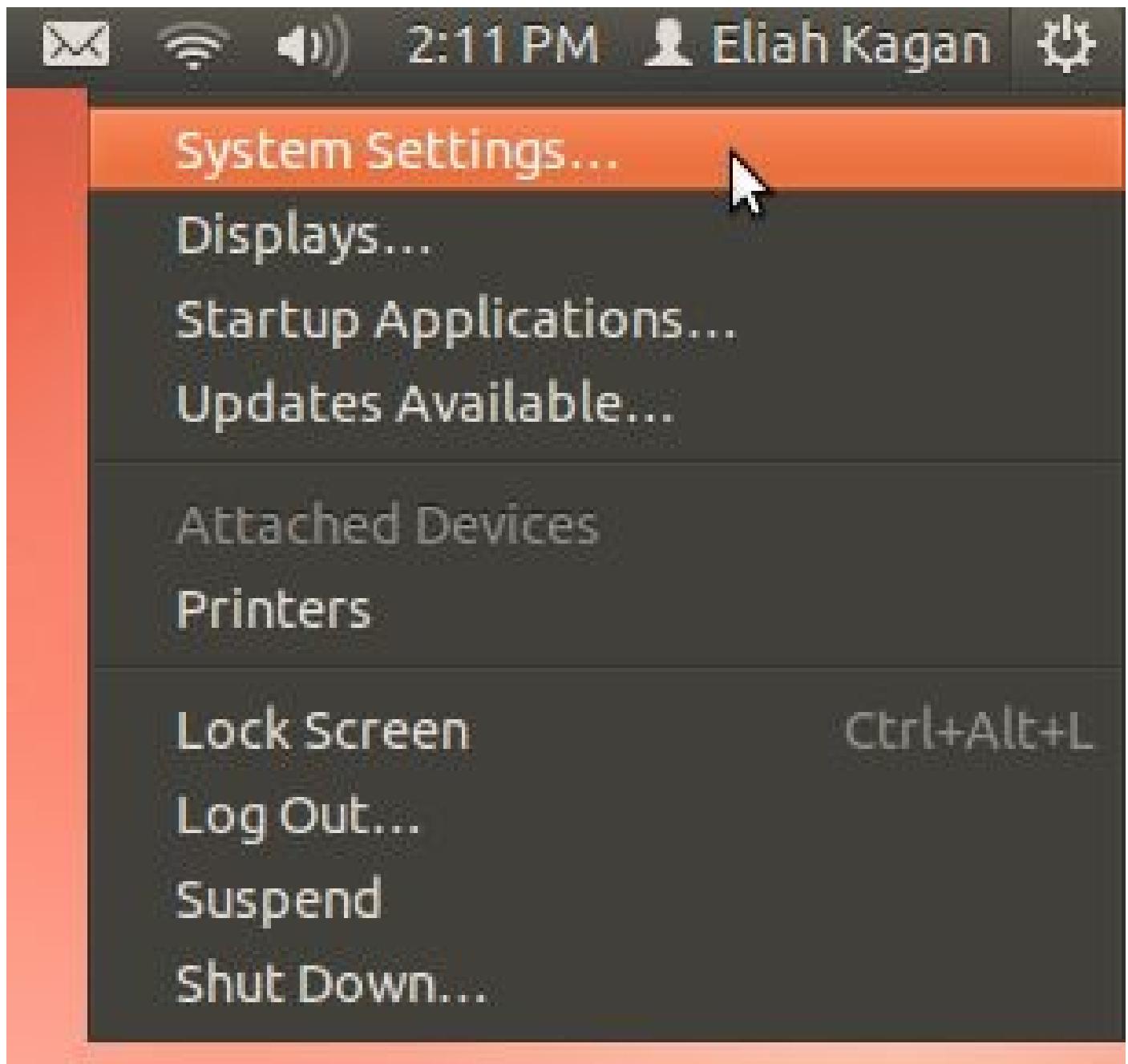
But **don't** run [`sudo`](#) `user-admin`, or even [`gksu`](#)/[`gksudo`](#)/[`kdesudo`](#) `users-admin`. `users-admin` will actually [not work when run as root](#). (It is designed to use [`PolicyKit`](#) rather than [`sudo`](#) to gain the necessary privileges to create and modify users and groups on the system.)



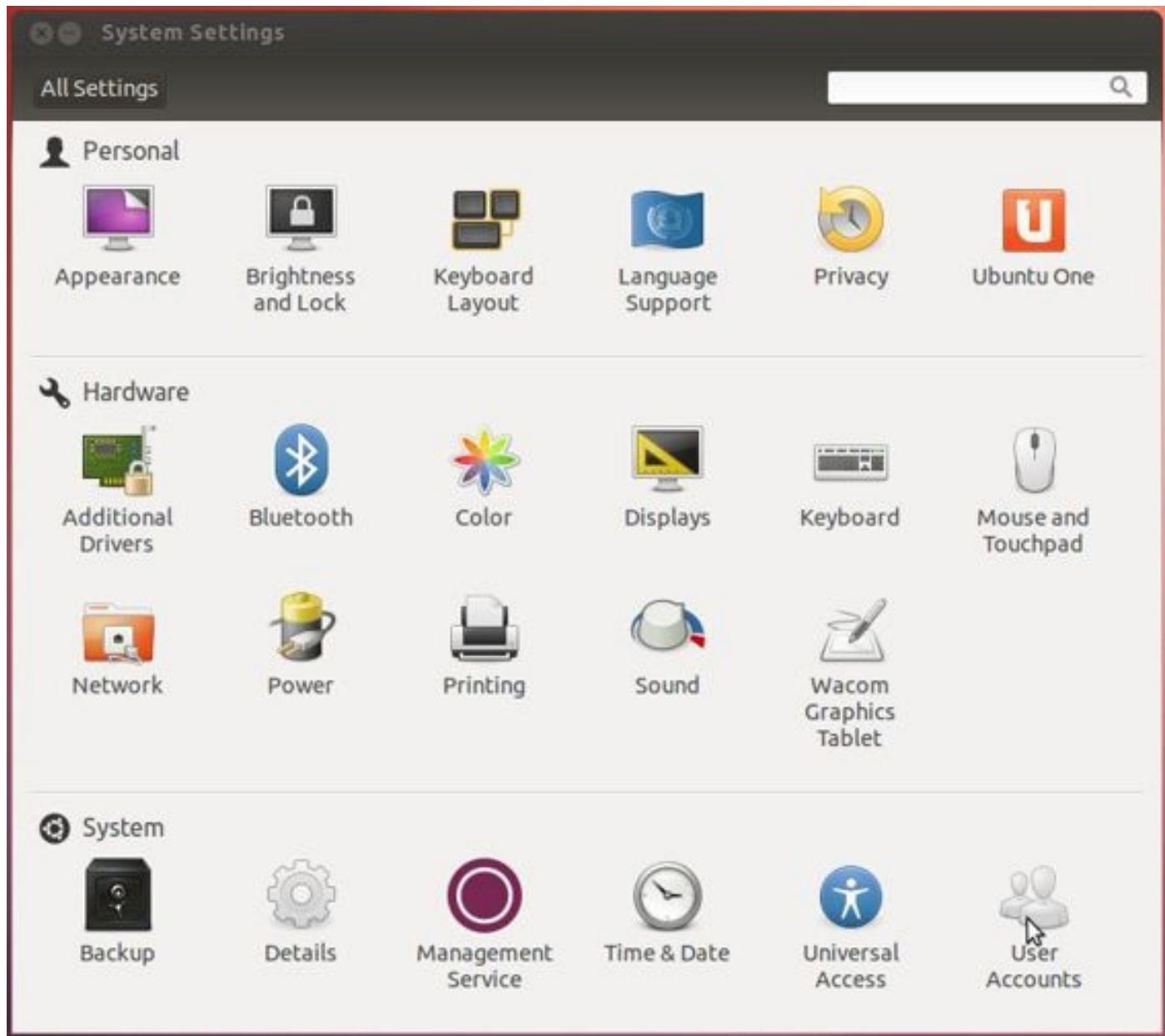
On some Ubuntu variants, such as Lubuntu, users-admin is already installed and is the standard way to manage users and groups.

# Use GNOME Control Center to Manage Users and Groups

The new, standard way to manage users and groups is with the GNOME Control Center, accessible from the session menu. Click the gear icon in the top panel (at the upper-right corner of the screen), and click **System Settings**....



In **System Settings** (also called the **GNOME Control Center**), click **User Accounts** (it's near the bottom, in the "System" category).



You can then manage users, including what groups they're members of, with this part of the GNOME Control Center.

## User Accounts

All Settings User Accounts

 Unlock

### My Account



**Elijah Kagan**  
Administrator

### Other Accounts



**Elijah D. Kagan**  
Standard



**Elijah Kagan**

Account type Administrator

Language English (United States)

### Login Options

Password 

Automatic Login  OFF

# Use Command-Line Utilities

If you...

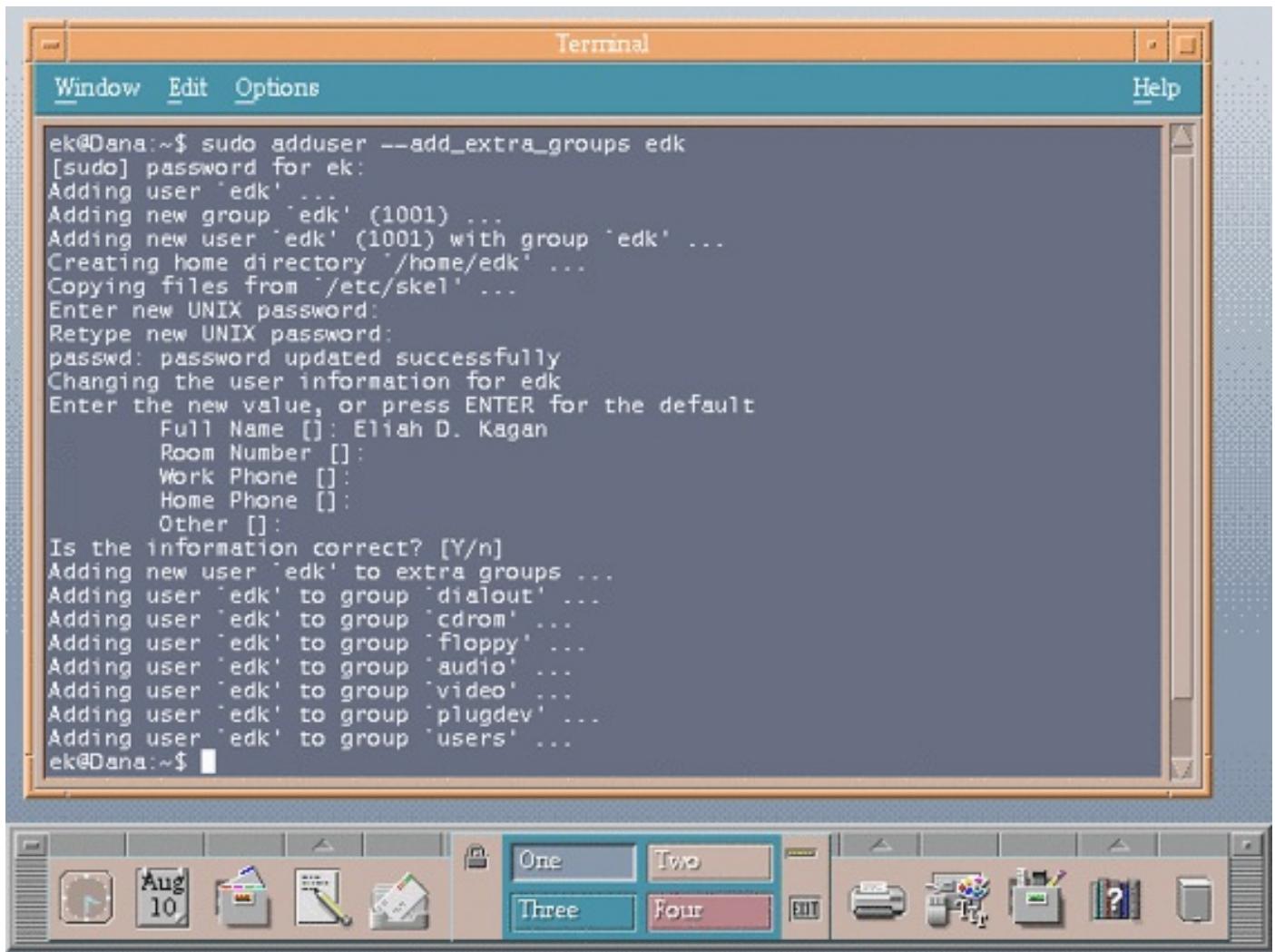
- are running Ubuntu Server, or some other Ubuntu system with no GUI, or
- just prefer to use command-line utilities, or
- are running some weird desktop environment that doesn't come with a graphical utility to manage users and groups

...then you can manage users and groups from the command-line.

The recommended utility for adding a user from the command-line (in Ubuntu, and also in Debian and other Debian-based OSes) is [adduser](#). The simplest way to use it is just to run:

```
sudo adduser --add_extra_groups username
```

- You may be prompted for *your* password first (that's [how sudo works](#)).
- Then you're asked a series of questions. Besides their real name and password, if you don't have an answer to any of the questions, just press Enter.
- The user is made a member of the default groups for user accounts that *do* represent real human beings, but *do not* have administrative powers.



[Click here](#) to read as text.

To make a user an administrator from the command-line, just add them to the appropriate group. [usermod](#) is an excellent utility for this purpose. The `-G` flag means you're specifying one or more new groups, and the `-a` flag means you're *adding* these to whatever groups the user is already a member of, rather than *replacing* the old list of groups with a new one.

Depending on what version of Ubuntu you're running (as detailed above), use one or both of these commands:

```
sudo usermod -a -G sudo username
```

```
sudo usermod -a -G admin username
```

---

**Tags:** [users](#) ([Next Q](#))

---

## [Q: Add user to existing Group](#)

**Tags:** [users](#)

I want to add the Apache user (www-data) to the audio group. I've read the man page for useradd, but I'm not having any luck. I'm running xubuntu 11.10. Here's what I'm doing:

```
$ sudo useradd -G audio www-data
```

```
useradd: user 'www-data' already exists
```

If I leave out the -G option, bash, prints the help info for useradd:

```
$ sudo useradd audio www-data
Usage: useradd [options] LOGIN
Options: -b, --base-dir BASE_DIR           base directory for the home directory...
```

It's not clear to me from the man page what options I should select to make this work.

**Tags:** [users](#)

**User:** [sparky1](#)

[Answer](#) by [dpendolino](#)

The useradd command will not surprisingly try to add a new user. To modify an existing user, like adding that user to a new group, use the usermod command.

Try this:

```
sudo usermod -a -G groupName userName
```

The user will need to logout and log back in to see their new group added.

[Answer](#) by [bai](#)

Adding a user to a group:

```
sudo adduser user group
```

Removing a user from a group:

```
sudo deluser user group
```

**Tags:** [users](#)

[Q: Why is it bad to login as root?](#)

[Q: How to manage users and groups?](#)

[Q: Add user to existing Group](#)

# Bug Reporting

## Questions

### [Q: What should I do when Ubuntu freezes?](#)

Tags: [bug-reporting](#) ([Next Q](#))

All operating systems freeze sometimes, and Ubuntu is no exception. What should I do to regain control when...

- just one program stops responding?
- nothing at all responds to mouse clicks or key presses?
- the mouse stops moving entirely?

In what order should I try various solutions before deciding to pull the power plug?

What should I do when starting up Ubuntu fails? Is there a diagnostic procedure I can follow?

Tags: [bug-reporting](#) ([Next Q](#))

User: [Ã'ndrÃ¼k](#)

---

[Answer](#)  by [koanhead](#)

# When a single program stops working:

When a program window stops responding, you can usually stop it by clicking the X-shaped close button at the top left of the window. That will generally result in a dialog box saying that the program is not responding (but you already knew that) and presenting you with the option to kill the program or to continue to wait for it to respond.

Sometimes this does not work as expected. If you can't close a window by normal means, you can hit `Alt+F2`, type `xkill`, and press `Enter`. Your mouse cursor will then turn into an X. Hover over the offending window and left-click to kill it. Right clicking will cancel and return your mouse to normal.

If your program is running from a terminal, on the other hand, you can usually halt it with `Ctrl+C`. If not, [find the name and process ID of its command](#) , and end it with `kill [process ID here]`. If that fails despite waiting a few seconds, try sending a SIGHUP: `kill -HUP [process ID here]`. If all else fails, as a last resort send SIGKILL (-9): `kill -9 [process ID here]`. Note that you should only use SIGKILL as a last resort, because the process will be terminated immediately with no opportunity for cleanup.

## When the mouse stops working:

If the keyboard still works, press `Alt+F2` and run `gnome-terminal` (or, if these fail to launch, press `Alt+Ctrl+F1` and login with your *username* and *password*). From there you can troubleshoot things. I'm not going to get into mouse troubleshooting here, as I haven't researched it. If you just want to try restarting the GUI, run `sudo service lightdm restart`. This should bring down the GUI, which will then attempt to respawn, bringing you back to the login screen.

# When everything, keys and mouse and all, stop working:

First try the Magic SysReq method outlined in [Phoenix' answer](#). If that doesn't work, press the **Reset** button on the computer case. If even that doesn't work, you'll just have to *power-cycle* the machine.

***May you never reach this point.***

---

[Answer](#) by [phoenix](#)

If it locks up completely, you can REISUB it, which is a safer alternative to just cold rebooting the computer.

REISUB by:

While holding Alt and the SysReq (Print Screen) keys, type REISUB.

```
R: Switch to XLATE mode
E: Send Terminate signal to all processes except for init
I: Send Kill signal to all processes except for init
S: Sync all mounted file-systems
U: Remount file-systems as read-only
B: Reboot
```

REISUB is BUSIER backwards, as in “The System is **busier** than it should be”, if you need to remember it. Or mnemonically - **R**eboot; **E**ven; **I**f; **S**ystem; **U**tterly; **B**roken.

This is the SysReq key:



---

More info on all the Alt+SysReq functions [here](#).

---

[Answer](#) by [alvin-row](#)

You can make the shortcut Ctrl+Alt+Delete open the *System Monitor*, with which you can kill any unresponsive applications.

1. Open up *System Preferences Keyboard Shortcuts* and click *Add*.  
In the *Command* field, enter `gnome-system-monitor`. Name the shortcut whatever you want.



2. Click *Apply* and then click where it says *Disabled*. Now hit the keys **Ctrl+Alt+Delete**



3. Close *Keyboard Shortcuts* and try out the shortcut:

| System Monitor  |          |           |   |           |       |              |             |
|---|----------|-----------|---|-----------|-------|--------------|-------------|
| Monitor   |          | Edit      |   | View      |       | Help         |             |
| System  |          | Processes |   | Resources |       | File Systems |             |
| Load averages for the last 1, 5, 15 minutes: 0.05, 0.19, 0.21 |          |           |   |           |       |              |             |
| Process Name  | Status   | % CPU     | ▲ | Nice      | ID    | Memory       | Waiting Ch: |
| gnome-system-monitor  | Running  | 12        |   | 0         | 15016 | 4.9 MiB      | 0           |
| transmission  | Sleeping | 2         |   | 0         | 4427  | 9.9 MiB      | poll_schedi |
| caffeine  | Sleeping | 2         |   | 0         | 4135  | 9.7 MiB      | poll_schedi |
| chrome  | Sleeping | 2         |   | 0         | 4300  | 102.0 MiB    | poll_schedi |
| chrome  | Sleeping | 2         |   | 0         | 4507  | 44.4 MiB     | poll_schedi |
| shutter   | Sleeping | 0         |   | 0         | 14600 | 39.2 MiB     | poll_schedi |
| chrome  | Sleeping | 0         |   | 5         | 11807 | 211.7 MiB    | futex_wait, |
| compiz  | Sleeping | 0         |   | 0         | 4092  | 13.6 MiB     | poll_schedi |
| chrome  | Sleeping | 0         |   | 0         | 13270 | 81.5 MiB     | futex_wait, |
| chrome  | Sleeping | 0         |   | 5         | 11942 | 58.2 MiB     | futex_wait, |
| indicator-applet-complete                                     | Sleeping | 0         |   | 0         | 4223  | 4.3 MiB      | poll_schedi |
| <hr/>   |          |           |   |           |       |              |             |
| <input type="button" value="End Process"/>                    |          |           |   |           |       |              |             |

---

Tags: [bug-reporting](#) ([Next Q](#))

---

## Q: How do I report a bug?

Tags: [bug-reporting](#)

I found a problem with an application on Ubuntu.

Questions :

- How do I best report the issue?
- What sort of information should I provide?

Tags: [bug-reporting](#)

User: [andrewsomething](#)

---

Answer  by [8128](#)

The Ubuntu Wiki has [a very thorough guide](#)  that is well illustrated and covers many possible scenarios.

The essence of that page is that you first need a [Launchpad account](#) , then press Alt+F2 and enter ubuntu-bug packagename. In 11.04 and later you can enter ubuntu-bug -w and

click on the affected window.

There are also methods described on that wiki page telling you how to:

- file bugs against running programs
- against no particular package ([and how to decide which package](#) 
- and from computers with no internet access.

There is a [quick tutorial video](#)  that explains better.

And some more information on this site about how to gather information for a bug report:

- [I've got Internal Error whilst running a Ubuntu Beta. How to gather information and find out what it is?](#) 

---

[Answer](#)  by [mahesh](#)

The most general, and comprehensive set of instructions can be found at [this community-maintained help page](#).  This answer essentially, consolidates that page, and hence it is advised that you read it, and if you are hunting bugs, it is *required* that you read it.

## **Short version:**

- Know the package at fault? go type `ubuntu-bug <packagename>` in a terminal.
- Have a window before you thats buggy? go type `ubuntu-bug -w` in a terminal, and click on the window.
- Have the pid? go type `ubuntu-bug <pid>` in a terminal.  
You may also use Run dialog (Alt+F2) instead of terminal.

## Long version:

# Step one: Preliminaries

- Create an account at [Launchpad](#), if you don't already have one.  
It is advised that you read [Launchpad Help on creating a new account](#).  
[Direct Login/signup link here](#)
- [Determine if it is really a bug.](#)
- Make sure the bug hasn't been already reported by searching [Existing Bugs](#).

This is important to not trouble the volunteer [Bug Squad](#), who help in resolving bugs. If you found an existing bug, you can answer 'Does this bug affect you' with 'This bug affects me' and add any additional information as comments.

# Step two: Determine the package at fault

If you know which [package](#)  is at fault, you can run `ubuntu-bug <packagename>` to initiate the bug reporting process. You may now proceed to the next step.

[Detailed instructions on finding the right package are given here](#)  And if those detailed instructions didn't help, you have a last resort.

## As a last Resort:

You can type `ubuntu-bug` in a terminal, or Run window, and answer few questions to gather some information on the bug.

If all else fails, and you were unable to determine the right package, you may ask for help in IRC channels, or go ahead and report a bug against no particular package. Kindly note that this adds extra effort on our small group of volunteers, and you are requested to use it, as the title reads, only as a last resort. Also note that this may delay the process of resolution for your bug, and that's another reason to put in all the effort you can, to find the right package.

You may file a bug against no particular package by going [here](#) .

# Step three: Submitting the bug report

(quoted verbatim from [ReportingBugs](#) for completeness.)

After executing any of the above commands, Apport (Ubuntu bug-reporter) will collect necessary data. A window will then pop up, asking you if you want to report the bug. Click “Send Report” if you wish to proceed, or click “Content of the report” if you want to review the information Apport collected.

# Missing Image

Apport will then upload the problem information to Launchpad, and a new browser window will then open to inform you that the bug report is being processed. After the bug report data has been processed, a new page will open that will ask you for the bug report’s title. The bug title will appear in all bug listings so make sure it represents the bug well. When you’re done, click “Next”. A search will then occur based on the title you gave to the bug report, and will show potentially similar ones. If one of these seems to be the exact bug you’re reporting, click its title, then “Yes, this is the bug I’m trying to report”. If not, click “No, I need to report a new bug”. Launchpad will then ask you for further information. It’s important that you specify three things:

- What you expected to happen
- What actually happened
- If possible, a minimal series of steps necessary to make it happen, where step 1 is “start the program”

Fill in the description field with as much information as you can, it is better to have too much information in the description than not enough.

At the bottom of the page, there are some extra options you can use to make your bug report more complete:

- This bug is a security vulnerability: Please check this only if your bug report describes a behaviour that could be exploited to crack your system. (TODO: better wording?)
- Tags: You can add here tags that pertain to your bug report. The predefined values should be left alone.
- Include an attachment: Using this option, you can add supporting attachments to explain or help others reproduce the bug. This might include a screenshot, a video capture of the problem or a sample document that triggers the fault.

Additional attachments, if necessary, can be added after the bug is reported via Add a comment/attachment at the bottom of the page.

When you're done, click "Submit bug report".

If you require to collect data while off-line, u may use apport-cli for that. Detailed instructions on this, and many other tips can be found at [ReportingBugs](#)

---

[Answer](#) by [hamish-downer](#)

The most current guide appears to be [ReportingBugs - Community Ubuntu Documentation](#)

It looks pretty up to date to me, and I think it would be redundant to put that information on here.

---

**Tags:** [bug-reporting](#)

---

[Q: What should I do when Ubuntu freezes?](#)

---

[Q: How do I report a bug?](#)

---

[Q: I want to fix a bug. Where do I start?](#)

---

# Compression

[Skip to questions](#), Wiki by user [warrior64](#)

Many video and audio codecs use compression to save bandwidth. Also, compression can be used to help save disk space, such as by packaging files inside a tarball or .zip folder. Compressed data needs to be decompressed by the appropriate algorithm before it can be used.

For an in-depth look at what compression is, read more on [Wikipedia](#).

---

# Questions

## [Q: How do I uncompress a tarball that uses .xz?](#)

**Tags:** [compression \(Next Q\)](#), [tar \(Next Q\)](#)

I'm used to extracting tarballs with a `-xfz` flag, which handles gzip and bzip2 archives.

Recently I've run into a `.tar.xz` file and I would like to uncompress it in one step using tar, how can I do that?

**Tags:** [compression \(Next Q\)](#), [tar \(Next Q\)](#)

**User:** [jorge-castro](#)

---

[Answer](#)  by [ramslk](#)

Modern tar recognizes the format by itself! One command works with any supported compression method.

```
tar xf archive.tar.xz  
tar xf archive.tar.gz  
tar xf archive.tar
```

etc.

---

[Answer](#)  by [jrg](#)

Try

```
tar -xJf file.pkg.tar.xz
```

The `-J` is the flag that specifically deals with `.xz` files.

---

**Tags:** [compression \(Next Q\)](#), [tar \(Next Q\)](#)

---

## [Q: How to reduce pdf filesize?](#)

**Tags:** [compression \(Next Q\)](#)

I have a 72.9MB pdf file that I need to shrink into under 500KB.

The file was a jpeg image that I had scanned, and then converted to pdf.

Can someone please offer any suggestions?

**Tags:** [compression \(Next Q\)](#)

**User:** [tamimym](#)

---

[Answer](#)  by [v2r](#)

aking1012 is right. With more information regarding possible embedded images, hyperlinks etc.. it would be much more easier to answer this question!

Here are a couple of script and command-line solutions. Use as you see fit.

- [reduce-pdf-file-size-linux](#)
  - [shrinkpdf](#)
  - [compress-a-pdf-with-pdftk](#)
  - [pdfcompress](#)
- 

[Answer](#) by [michael-d](#)

Use the following ghostscript command:

```
gs -sDEVICE=pdfwrite -dCompatibilityLevel=1.4 -dPDFSETTINGS=/screen -dNOPAUSE -dQUIET -dBATCH -sOutputFile=output.pdf input.pdf
```

If the -dPDFSETTINGS=/screen setting is too low quality to suit your needs, replace it with -dPDFSETTINGS=/ebook for better quality, but slightly larger pdfs. Delete the setting altogether for the high quality default, which you can also explicitly call for with -dPDFSETTINGS=/prepress.

---

[Answer](#) by [don.joey](#)

My favorite way to do this is to convert the pdf to ps and back. It does not always work, though, but when it works the results are nice:

```
pdf2ps input.pdf output.ps  
ps2pdf output.ps output.pdf
```

Good luck

---

**Tags:** [compression](#) ([Next Q](#))

---

## [Q: What's the difference between .tar.gz and .gz, or .tar.7z and .7z?](#)

**Tags:** [compression](#) [backup](#) ([Next Q](#))

Recently, I've been backing up a lot of my data, and I noticed that I can save files as .gz or .tar.gz, or .7z and .tar.7z, etcetera. What are the differences between the normal one and the .tar.\* variant? Which one of them is advised when making backups?

**Tags:** [compression](#) [backup](#) ([Next Q](#))

**User:** [exeleration-g](#)

---

[Answer](#)  by [geirha](#)

If you come from a Windows background, you may be familiar with the zip and rar formats. These are archives of multiple files compressed together.

In Unix and Unix-like systems (like Ubuntu), archiving and compression are separate.

`tar` puts multiple files into a single (`tar`) file.

`gzip` compresses one file (only).

So to get a compressed archive, you combine the two, first use `tar` or `pax` to get all files into a single file (`archive.tar`), then `gzip` it (`archive.tar.gz`). If you only have one file you need to compress (`notes.txt`), there's no need for `tar`, so you just do `gzip notes.txt` which will result in `notes.txt.gz`. There are other types of compression, such as `compress`, `bzip2` and `xz` which work in the same manner as `gzip` (apart from using different types of compression of course)

---

[Answer](#)  by [saultdon](#)

It depends on what you are looking for... Compression or archiving?

When I talk about archiving, I mean preserving permissions, directory structure, etc...

Compression may ignore most of that and just get your files in a smaller packages.

To preserve file permissions, use `tar`:

```
tar cpvf backup.tar folder
```

The `p` flag will save file permissions. Use the `z` flag for `gzip` compression or the `j` flag for `bzip` compression.

```
tar czpvf backup.tar.gz folder #backup.tgz is acceptable as well  
tar cjpvf backup.tar.bz2 folder #backup.tbz2 works too
```

If you want to have a tar file you can “update” package the tar using the `P` flag:

```
tar cpPvf backup.tar folder
```

Then to update, replace ‘`c`’ with ‘`u`’ and when unpacking, you can use ‘`k`’ to preserve files that already exist.

```
tar upPvf backup.tar folder #updating a tar file  
tar xpPkvf backup.tar #extracting a tar with permissions(p) and not extracting(k) files that exist  
on disk already
```

The `P` flag saves files with full paths, so `- /home/username` vs `home/username` (notice the leading forward slash).

`7z` compression offers greater compression, but does not preserve file ownership, permissions, etc. `Rzip` is another compression utility that offers comparable compression with `7z` as well.

I guess a `backup.tar.7z` file is just a tar file (with permissions) compressed by a `7z` file, though I wouldn't be surprised if little compression occurred because `7z` may not be able to dump the file metadata. It's `7z`'s ability to exclude the file metadata that it can offer great compression (amongst other things of course).

Compression depends entirely on data type as well. Some files don't compress well because they may already be compressed with some other means (ie, `.mp3`, `.jpg`, `.tiff`/with `lzma`, `.rpm`, etc).

---

**Tags:** [compression](#) [backup](#) ([Next Q](#))

---

[Q: How do I uncompress a tarball that uses .xz?](#)

---

[Q: How to reduce pdf filesize?](#)

---

[Q: What's the difference between .tar.gz and .gz, or .tar.7z and .7z?](#)

---

# Process

[Skip to questions](#), Wiki by user [guntbert](#)

A computer program is a passive collection of instructions; a process is the actual execution of those instructions.

---

# Questions

## Q: What are zombie processes?

Tags: [process](#)

With commands like top and the gui based System Monitor I can see that at the moment I have several zombie processes.

What are zombie processes?

Do they affect the performance of the system or the application they are zombie to. Do they use too much memory or any memory at all?

Tags: [process](#)

User: [jesper](#)

---

Answer  by [luis-alvarado](#)

Zombies are DEAD processes. They can not be ‘kill’ (You cannot kill the DEAD). All processes eventually die, and when they do they become zombies. They consume almost no resources, which is to be expected because they are dead! The reason for zombies is so the zombie’s parent (process) can retrieve the zombie’s exit status and resource usage statistics. The parent signals the operating system that it no longer needs the zombie by using one of the wait() system calls.

When a process dies, its child processes all become children of process number 1, which is the init process. Init is “always” waiting for children to die, so that they don’t remain as zombies.

If you have zombie processes it means those zombies have not been waited for by their parent (look at PPID displayed by ps -1). You have three choices: Fix the parent process (make it wait); kill the parent; or live with it. Remember that living with it is not so hard because zombies take up little more than one extra line in the output of ps.

Zombies can be identified in the output from the Unix ps command by the presence of a “Z” in the STAT column. Zombies that exist for more than a short period of time typically indicate a bug in the parent program. As with other leaks, the presence of a few zombies isn’t worrisome in itself, but may indicate a problem that would grow serious under heavier loads.

To remove zombies from a system, the SIGCHLD signal can be sent to the parent manually, using the kill command. If the parent process still refuses to reap the zombie, the next step would be to remove the parent process. When a process loses its parent, init becomes its new parent. Init periodically executes the wait system call to reap any zombies with init as parent.

There are also **orphan processes** which are a computer process whose parent process has

finished or terminated.

A process can become orphaned during remote invocation when the client process crashes after making a request of the server.

Orphans waste server resources and can potentially leave a server in trouble (This is the biggest resource difference between zombies and orphans (Except if you see some orphan zombie movie)). However there are several solutions to the orphan process problem:

1. Extermination is the most commonly used technique; in this case the orphan process is killed.
2. Reincarnation is a technique in which machines periodically try to locate the parents of any remote computations; at which point orphaned processes are killed.
3. Expiration is a technique where each process is allotted a certain amount of time to finish before being killed. If need be a process may “ask” for more time to finish before the allotted time expires.

A process can also be orphaned running on the same machine as its parent process. In a UNIX-like operating system any orphaned process will be immediately adopted by the special “init” system process. This operation is called re-parenting and occurs automatically. Even though technically the process has the “init” process as its parent, it is still called an orphan process since the process which originally created it no longer exists.

More Info:

[http://wiki.answers.com/Q/What\\_is\\_Zombie\\_Process\\_and\\_Orphan\\_Process#ixzz1PCN9vc](http://wiki.answers.com/Q/What_is_Zombie_Process_and_Orphan_Process#ixzz1PCN9vc)

<http://www.linuxsa.org.au/tips/zombies.html> 

<http://www.brighthub.com/computing/linux/articles/79186.aspx> 

[Best practice to identify and kill hanging process, when system hangs and reacts slowly on user input?](#) 

[Killing a running process in an Ubuntu machine remotely from a windows machine which is in LAN](#) 

---

**Tags:** [process](#)

---

[Q: What are zombie processes?](#)

---

[Q: What is the equivalent of ‘Control-Alt-Delete’?](#)

---

[Q: Running programs in the background from terminal](#)

---

# Unity Dash

[Skip to questions](#), Wiki by user [mechanical-snail](#)

The Unity Dash is a feature in [unity](#) which grants users quick access to applications, files and folders, and shortcuts. This tag is for questions on using, troubleshooting, or customizing the Dash.

For the command-line shell used as the default /bin/sh, use [dash-shell](#) instead.

---

# Questions

## [Q: Will all Dash input in 12.10 be sent to Amazon?](#)

**Tags:** [unity-dash](#) ([Next Q](#))

It seems like all user input to the Dash home lens is send to Amazon by default in Ubuntu 12.10, is this correct?

**Tags:** [unity-dash](#) ([Next Q](#))

**User:** [paradiesstaub](#)

---

[Answer](#)  by [pat](#)

They are proxying through [productsearch.ubuntu.com](#)  with [HTTPS encryption](#)  (though there's still a [a heated bug discussion](#)  over whether the search should be included at all). Unfortunately, while no personally identifying information is sent to Amazon, the [privacy policy for Ubuntu sharing information about proxied searches is still unclear](#) .

Also, there are concerns that the [image thumbnails of results that users download](#)  could allow Amazon to correlate queries to IP addresses.

Shuttleworth also [wrote a blog post](#)  that tries to address the privacy issues with this feature.

---

**Tags:** [unity-dash](#) ([Next Q](#))

---

## [Q: How can I remove Amazon search results from the dash or disable the feature?](#)

**Tags:** [unity-dash](#)

How can I disable Amazon search results in the Unity dash?

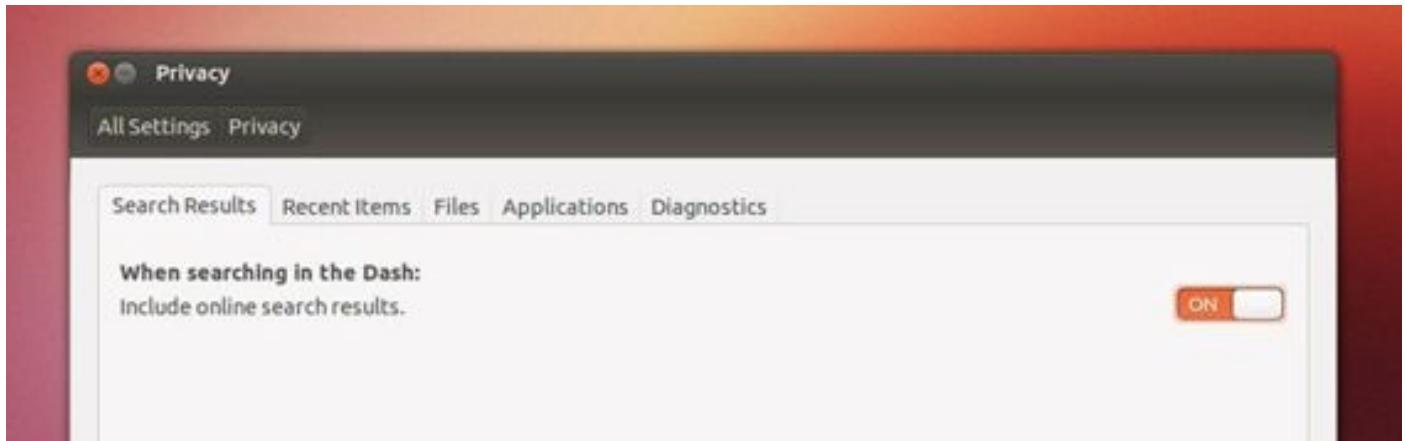
**Tags:** [unity-dash](#)

**User:** [jorge-castro](#)

---

[Answer](#)  by [jorge-castro](#)

Click on the Ubuntu button, search for “Privacy” and then turn off “Include online results” :



You can also remove it entirely by clicking on this button, then the orange “Available on the Ubuntu Software Center” button and selecting uninstall:

# Missing Image

or via the command line

```
sudo apt-get remove unity-lens-shopping
```

You then need to log out and back in.

Another option would be to move the lens entirely out of the home dash and make it a standalone lens:

- [How can I move Amazon search results into a dedicated shopping lens and out of the home lens?](#)
- [I have permanent connections to Canonical servers, what are they for and how can I turn them off?](#)

---

[Answer](#)  by [john-s-gruber](#)

If you don't want online shopping results in your dash but there are times when you want to search the Internet from your queries (for example, while using the Askubuntu scope to the help lens), you may not wish to disable the “Include online search results” item. In that case you may wish to remove particular sources.

# For Ubuntu 13.04 and Earlier

## Home Lens

For the new dash home lens (default) queries that are forwarded through Canonical to Amazon uninstall [unity-lens-shopping](#)

# Missing Image

Either click on the bag icons above and click the Remove button on the right in the Software Center window that appears, or use an alternative of the following command line after bringing up a terminal with Alt+Ctrl+T.

```
sudo apt-get remove unity-lens-shopping
```

Or, launch Ubuntu Software Center, click Installed, expand Themes & Tweak, and scroll to the its end. You'll see *Shopping lens for unity* there (along with a lot of complaints).

## Video Lens

For the already existing video lens lookup you can choose the source of searches by using the “Filter Results” item on the top right, and then selecting the sources you want by using the Sources drop down. Alternatively you can uninstall [unity-scope-video-remote](#) 

# Missing Image

Either click on the bag icons above and click the Remove button on the right in the Software Center window that appears, or use the following command line after bringing up a terminal with Alt+Ctrl+T.

```
sudo apt-get remove unity-scope-video-remote
```

## Music Lens

*As in existing releases, online shopping for music in 12.10 can also go to the Ubuntu One Music Store. To remove that feature click on the bag button for [unity-scope-musicstores](#)*

# Missing Image

and click on the Remove button on the right in the Ubuntu Software Center window that appears.

or enter the following command in a terminal:

```
sudo apt-get remove unity-scope-musicstores
```

# For Ubuntu 13.10 and Later

(From <http://www.webupd8.org/2013/10/how-to-disable-amazon-shopping.html>)

Go to the Dash by Pressing the Super-A key combination. For PC hardware the [Super key](#) may be the one that has the somewhat familiar computer company logo on it.

Click on “Filter” on the upper right of the dash, and then on “Type” right below. Then click on Dash Plugins to display them.

By clicking on the plugins of interest on the left you can get a summary of each plugin, including the Amazon one. You can disable or enable them individually with the button that appears below the summary.

For enhanced privacy the source for this answer suggests the following list for consideration.

“Amazon, Ebay, Music Store, Popular Tracks Online, Skimlinks, Ubuntu One Music Search and Ubuntu Shop.”

I would add the Ubuntu One Music Store, and Remote Videos as well.

There may be other plugins you don’t care for as well, particularly since there are now a great number of scopes and many may forward your interests to sites you haven’t vetted.

[unity-lens-applications](#)

# Missing Image

must be installed for this approach to work.

Usually when you bring up the dash you start with the **Home** lens. You can adjust what is searched by altering the Filter settings on the upper right of the dash before you starting type your search term.

---

[Answer](#) by [warren-hill](#)

This has changed from previous versions where all you had to do was

```
sudo apt-get remove unity-lens-shopping
```

However that does not work with 13.10 (and presumably later versions when they are released).

Ubuntu 13.10 does not have the shopping lens any more but now has [Smart Scopes](#) instead.

To disable a dash plug-in, From the dash select filter results then “Dash plugins”



To disable a plugin, click on it and then click the “Disable” button. You can re-enable it later if you want.

You can also disable all these plugins from the command line with

```
gsettings set com.canonical.Unity.Lenses disabled-scopes "[ 'more_suggestions-amazon.scope', 'more_suggestions-u1ms.scope', 'more_suggestions-populartracks.scope', 'music-musicstore.scope', 'more_suggestions-ebay.scope', 'more_suggestions-ubuntushop.scope', 'more_suggestions-skimlinks.scope' ]"
```

Source here:[How To Disable Amazon / Shopping Suggestions And Other Unity Scopes In Ubuntu 13.10](#)

This stops the scope running but does not remove it from the dash

If you want to do this first unlock it from the launcher by right clicking it and selecting “unlock from launcher”.

You will still be able to search for it in the dash but you can remove it from there too.

You need to run nautilus as root to do this See my answer to this question [Why is gksu no longer installed by default in 13.04?](#) for instructions on installing gksu or a workaround to run GUI apps as root.

You can now run the file manager with gksudo nautilus

Naviigate to /usr/share/applications find the file with the amazon logo and delete it.

Finally reboot and its gone for good.

**Tags:** [unity-dash](#)

[Q: How can I keep recent files from appearing in Unity?](#)

[Q: Will all Dash input in 12.10 be sent to Amazon?](#)

[Q: How can I remove Amazon search results from the dash or disable the feature?](#)



# Drivers

[Skip to questions](#), Wiki by user [bruno-pereira](#)

For questions relating to:

- Questions related to driver problems/troubleshooting
- Questions on how to wrap drivers (for cross platform use)
- Questions on which driver to use

Drivers generally fall into two categories:

- Device/Software driver - A program allowing higher-level computer programs to interact with a hardware device.
- Hardware Device - (examples) Graphics Card, Sound Card, NIC, etc.

The Operating System, or other programs will use drivers to communicate with the Hardware on the computer. These drivers give information on how to access the device, often with specific ways of communicating (interrupts, how to access).

---

Related links:

- [How can I find what video driver is in use on my system?](#)
  - [How do I install additional drivers?](#) 
  - [Wikipedia](#) 
-

# Questions

## [Q: How can I find what video driver is in use on my system?](#)

**Tags:** [drivers](#)

I know that sometimes I have the option to change my video display driver, and I can access this functionality by using *SystemAdministrationAdditional Drivers*. But what's the simple way to see what driver my Ubuntu 10.04 or 10.10 system is using currently?

*UPDATE* — I found a command I didn't know about in [How to determine version and origin of proprietary drivers](#) .

jockey-text -l

Martin Owens gives this example output:

```
kmod:nvidia_current - nvidia_current (Proprietary, Enabled, Not in use)
pkg:sl-modem-daemon - Software modem (Proprietary, Disabled, Not in use)
```

kmod stands for kernel module, pkg is obviously an apt package. According to the code, jockey installs the latest candidate package and ignores any detectable kernel modules or blacklisted modules.

The output is more descriptive than that from `lshw` by itself, but I think it is limited to giving information about drivers that were installed with jockey in the first place. Jockey, launched as `jockey-gtk`, is (I believe) the same application that runs when you select *SystemAdministrationAdditional Drivers* .

**Tags:** [drivers](#)

**User:** [belacq](#)

---

[Answer](#)  by [lekensteyn](#)

Run `lshw -c video`, and look for the line with “configuration”. The loaded driver is prefixed with “driver=”. Example output:

```
*-display
  description: VGA compatible controller
  product: Core Processor Integrated Graphics Controller
  vendor: Intel Corporation
  physical id: 2
  bus info: pci@0000:00:02.0
  version: 02
  width: 64 bits
  clock: 33MHz
  capabilities: vga_controller bus_master cap_list rom
  configuration: driver=i915 latency=0
  resources: irq:45 memory:fd000000-fd3fffff memory:d0000000-dfffffff ioport:1800(size=8)
```

If you want more information about the loaded driver, run [modinfo](#) . Output of modinfo

i915:

```
filename: /lib/modules/2.6.35-24-generic/kernel/drivers/gpu/drm/i915/i915.ko
license: GPL and additional rights
description: Intel Graphics
author: Tungsten Graphics, Inc.
license: GPL and additional rights
... stripped information for saving space ...
depends: drm, drm_kms_helper, video, intel-agp, i2c-algo-bit
vermagic: 2.6.35-24-generic SMP mod_unload modversions
```

Note that modinfo works on filenames and aliases, not on module names. The majority of the modules will have the same name for the module name and filename, but there are exceptions. One of them is nvidia.

Another way of using these commands in order to show you the file name of the driver would be:

```
modinfo -F filename `lshw -c video | awk '/configuration: driver/{print $2}' | cut -d= -f2`
```

When loaded, the command lsmod will show the nvidia module as loaded. modinfo nvidia will error out. Why? Because there is no alias “nvidia” and the module is placed in /lib/modules/3.2.0-32-generic/updates/dkms/nvidia\_current.ko. You have to use modinfo nvidia\_current in this case. (note that modinfo automatically converts - to \_, so modinfo nvidia-current is equivalent.)

---

[Answer](#)  by buzz-dee

You could use the following command to see the currently used vga kernel driver:

```
lspci -nnk | grep -i vga -A3 | grep 'in use'
```

Example output for an ATI / AMD graphic card:

- if the open source [Radeon](#)  driver is used:

```
Kernel driver in use: radeon
```

- if the proprietary [Fglrx](#)  driver is used:

```
Kernel driver in use: fglrx_pci
```

Complete Output with lspci -nnk | grep -i vga -A3:

```
01:00.0 VGA compatible controller [0300]: Advanced Micro Devices [AMD] nee ATI Mobility Radeon HD
2400 [1002:94c9]
    Subsystem: Toshiba America Info Systems Device [1179:ff00]
    Kernel driver in use: fglrx_pci
    Kernel modules: fglrx, radeon
```

Available kernel modules you can see with lspci -nnk | grep -i vga -A3 | grep 'Kernel modules':

```
Kernel modules: fglrx, radeon
```

**Note:** This does not work in every case!

For a SiS 65x/M650/740 PCI/AGP VGA Display Adapter, there is no “Kernel driver in use” line:

```
lspci -nnk | grep -i vga -A2
```

```
01:00.0 VGA compatible controller [0300]: Silicon Integrated Systems [SiS] 65x/M650/740 PCI/AGP VGA  
Display Adapter [1039:6325]  
    Subsystem: ASUSTeK Computer Inc. Device [1043:1612]  
    Kernel modules: sisfb
```

and the available `sisfb` kernel module is not the loaded driver, because `lsmod | grep sisfb` has no output (`sisfb` is blacklisted). In this case also `sudo lshw -c video | grep Konfiguration` does not work. The output is:

```
Konfiguration: latency=0
```

without any driver information.

---

**Tags:** [drivers](#)

---

[Q: How can I find what video driver is in use on my system?](#)

---

[Q: How do I install the Nvidia drivers?](#)

---

[Q: What is the equivalent of Windows System Properties or Device Manager?](#)

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# Encryption

## Questions

### [Q: How to stop using built-in home directory encryption?](#)

Tags: [encryption](#)

I have a new Ubuntu 10.04 installation with encrypted home directory (using the built-in encryption offered by Ubuntu installer).

**What's the easiest way to stop using encryption?** (I.e., to decrypt my home directory permanently.)

(It's giving me problems with kernel updates, and I'd just like to cut down on all the hassle I'm having with this installation.)

Tags: [encryption](#)

User: [jonik](#)

---

[Answer](#)  by [jonik](#)

Googling around, I found [this post](#) 

Not to bring up an old thread but in case anyone has errors trying to follow these instructions, here is what I did.

1. Backup the home directory while you are logged in `sudo cp -rp /home/user /home/user.backup`
  - 1.1. Check that your home backup has everything!!!
2. reboot into root via grub
3. Delete your home directory `rm -rf /home/user`
4. Remove the packages `apt-get remove ecryptfs-utils libecryptfs0`
5. Restore your home directory `mv /home/user.backup /home/user`
6. reboot
7. Remove any of those `.Private` `.ecryptfs` folders `rm -rf ~/.Private rm -rf ~/.ecryptfs`
8. Yay!

This worked for me. Home folder file permissions stay intact and does not bugger up Dropbox or git repos. Some reason my fresh install on Ubuntu 9.10 would not do the first command. Just make sure you think the process through when using `rm -rf`. Just wanted to post this not only for my record, but anyone else who encounters problems.

## Some notes

- *reboot into root via grub* was a bit unclear to me; I didn't reboot, just switched to using root (another user account with sudo privileges would work equally well).
- Before removing the packages `ecryptfs-utils` and `libcryptfs0` would work, I needed to remove `/home/ .ecryptfs/<myusername>`. (It complained that `ecryptfs-utils` was in use.)

Other than that, this worked for me. It's far from simple though, so feel free to post better solutions!

---

[Answer](#)  by [zuzust](#)

Here you are, hope this helps:

```
$ [ecryptfs-setup-private][1] --undo
```

The output claims:

In the event that you want to remove your eCryptfs Private Directory setup, you will need to very carefully perform the following actions manually:

1. Obtain your Private directory mountpoint

```
$ PRIVATE=`cat ~/.ecryptfs/Private.mnt 2>/dev/null | echo $HOME/Private`
```

2. Ensure that you have moved all relevant data out of your \$PRIVATE directory

3. Unmount your encrypted private directory

```
$ ecryptfs-umount-private
```

4. Make your Private directory writable again

```
$ chmod 700 $PRIVATE
```

5. Remove \$PRIVATE, ~/.Private, ~/.ecryptfs

Note: THIS IS VERY PERMANENT, BE VERY CAREFUL

```
$ rm -rf $PRIVATE ~/.Private ~/.ecryptfs
```

6. Uninstall the utilities (this is specific to your Linux distribution)

```
$ sudo apt-get remove ecryptfs-utils libcryptfs0
```

[Answer](#)  by [hhlp](#)

1st thing to do : **BACKUP YOUR HOME** I can't say it louder... basically undoing encryption is equivalent to resetting (`rm -rf`) your home, which is in fact hidden by a mount.

2nd step : log out of any desktop manager and go to a virtual console (`CTRL-ALT-F1`)

Finally : for details :

```
ecryptfs-setup-private —undo
```

In the event that you want to remove your eCryptfs Private Directory setup, you will need to very carefully perform the following actions manually:

1. Obtain your Private directory mountpoint

```
PRIVATE=cat ~/.ecryptfs/Private.mnt 2>/dev/null || echo $HOME/Private
```

1. Ensure that you have moved all relevant data out of your \$PRIVATE directory
2. Unmount your encrypted private directory

```
ecryptfs-umount-private
```

1. Make your Private directory writable again

```
chmod 700 $PRIVATE
```

1. Remove \$PRIVATE, ~/.Private, ~/.ecryptfs Note: THIS IS VERY PERMANENT, BE VERY CAREFUL

```
rm -rf $PRIVATE ~/.Private ~/.ecryptfs
```

1. Uninstall the utilities

```
sudo apt-get remove ecryptfs-utils libecryptfs0
```

I would say step 5 is a bit wrong : there's no need to delete \$PRIVATE, which was for me my home....

After .Private and .ecryptfs deletion, just restore your home :]

---

**Tags:** [encryption](#)

---

[Q: When installing I'm given the option of encrypting my home folder — what does this do?](#)

---

[Q: How to stop using built-in home directory encryption?](#)

---

# Wallpaper

## Questions

### [Q: How do I create a desktop wallpaper slideshow?](#)

**Tags:** [wallpaper](#) ([Next Q](#))

How do I create a desktop wallpaper slideshow with my own set of images?

- With the images coming from a pictures folder, or pre-selected
- With the images displayed in order, or randomly
- With the images changing every few minutes, or after random periods of time

**Tags:** [wallpaper](#) ([Next Q](#))

**User:** [david-siegel](#)

---

[Answer](#)  by [snostorm](#)

## For 11.04 and previous versions

There's a program for creating wallpaper slideshows called CREBS. Check out this article about it: <http://www.omgubuntu.co.uk/2010/05/crebs-the-ultimate-wallpaper-slideshow-application>

A simpler app that has fewer features but is easier to use can be found here: <http://gnome-look.org/content/show.php/Wallpaper+Slideshow?content=125178>

# Missing Image

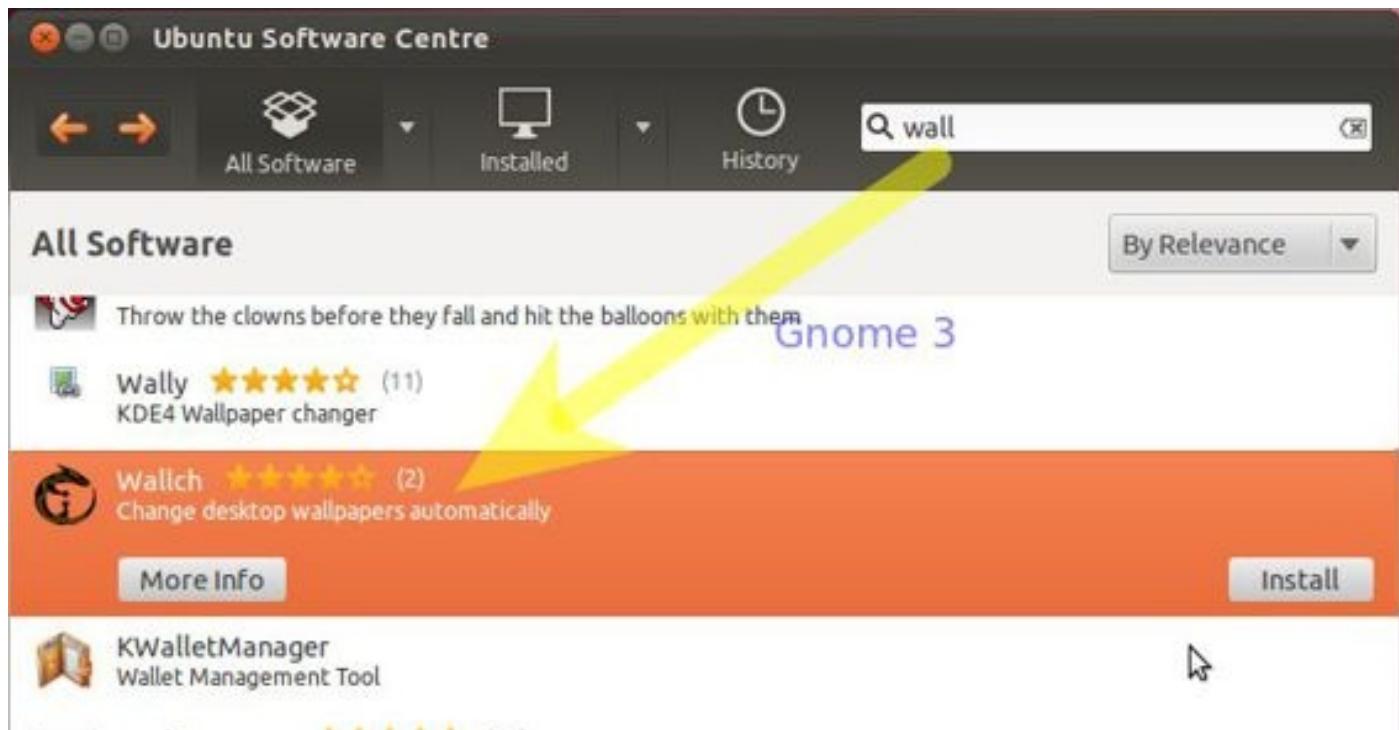
---

[Answer](#) by [fossfreedom](#)

# Wallch

In software center there are two wallpaper changer - *wallch* for Gnome-Shell/Unity/Gnome-Classic and *Wally* for KUbuntu.

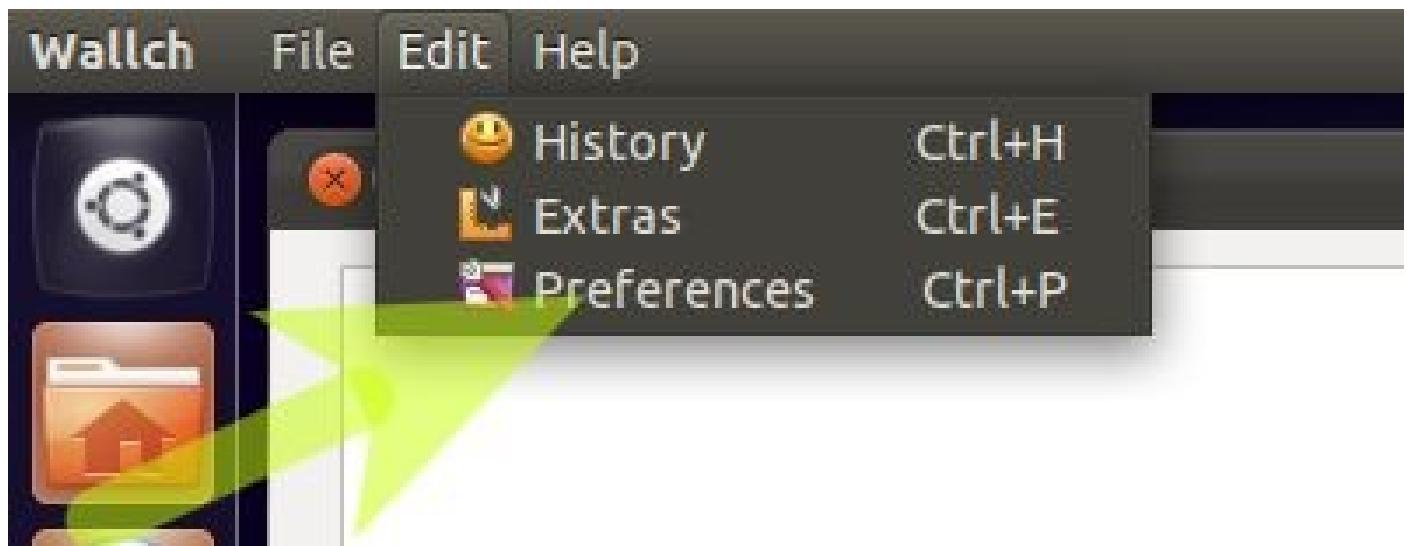
Lets concentrate on *Wallch*.



Install and then start from Dash:



Lets now launch the application preferences:



Let's untick the bubble notification - its annoying - at the same time you could disable sounds!



## Preferences

### Startup Options

- Change Desktop Wallpaper ( Once )
- Start Changing Desktop Wallpapers
- Auto-enable Live Earth Wallpaper

### Minimize to tray ( Not recommended for Unity )

#### Default Style of wallpaper images:

Zoom

#### Language: ( You will need to restart Wallch )

English (en)

#### History:

Advanced history (month, day, hour, minute)

#### Notifications

- Notification on Wallpaper change
- Play sound everytime a wallpaper changes
- Use custom sound

(None)

Stop All Sounds

[Reset Preferences](#)

[Close](#)

[Save](#)

At the same time you can define the start-up options:



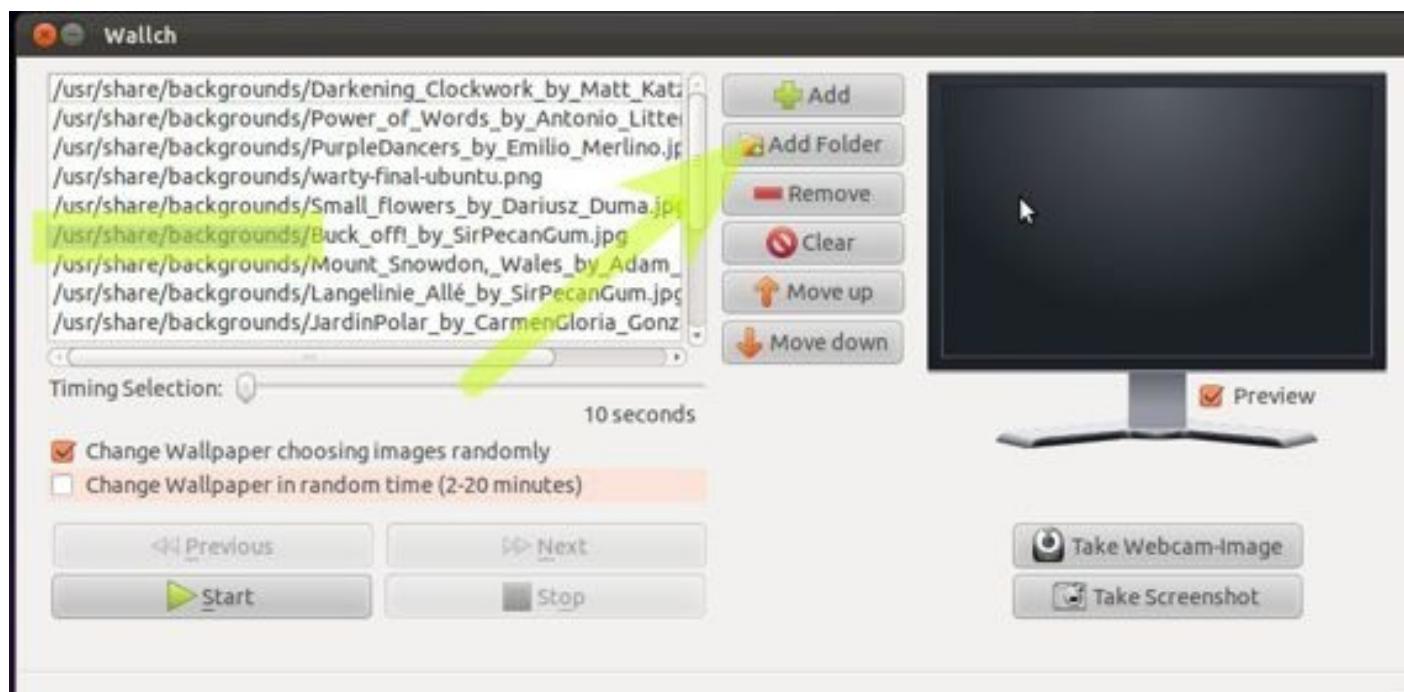
## Preferences

### Startup Options

- Change Desktop Wallpaper ( Once )
- Start Changing Desktop Wallpapers
- Auto-enable Live Earth Wallpaper

### Minimize to tray ( Not recommended for Unity )

Save - and add a folder of pictures - in this example, use /usr/share/backgrounds for the default wallpapers that come with Ubuntu



Now we've got two choices:

**Start up choice 1**

(thanks @Naruto)

keep *wallch* in in the launcher

Start

Pause

Stop

Next

Previous

Change Wallpaper

Start Changing Wallpapers

Live Earth Wallpaper

Wallch

✓ Keep in launcher

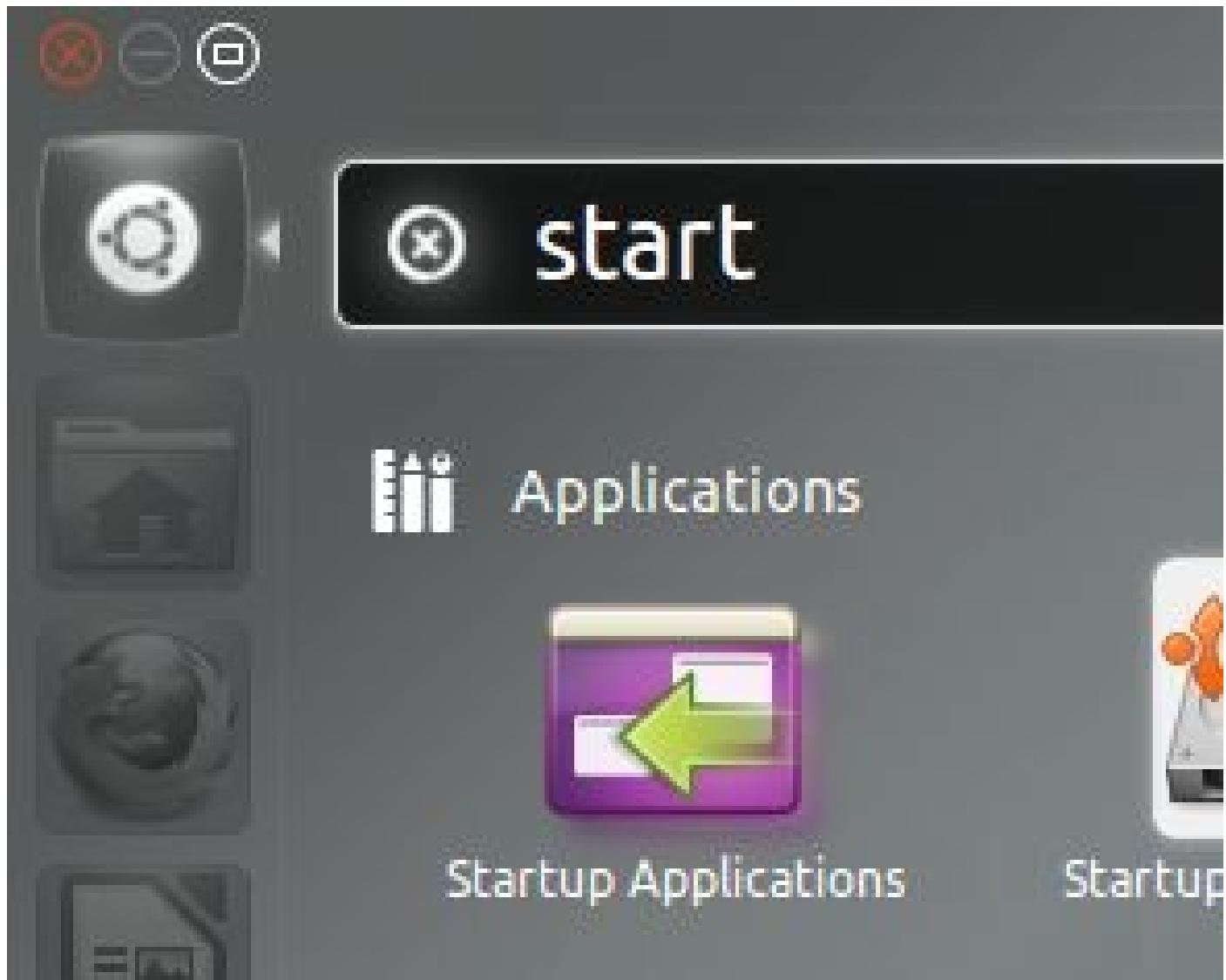
exit wallch and start changing wallpapers



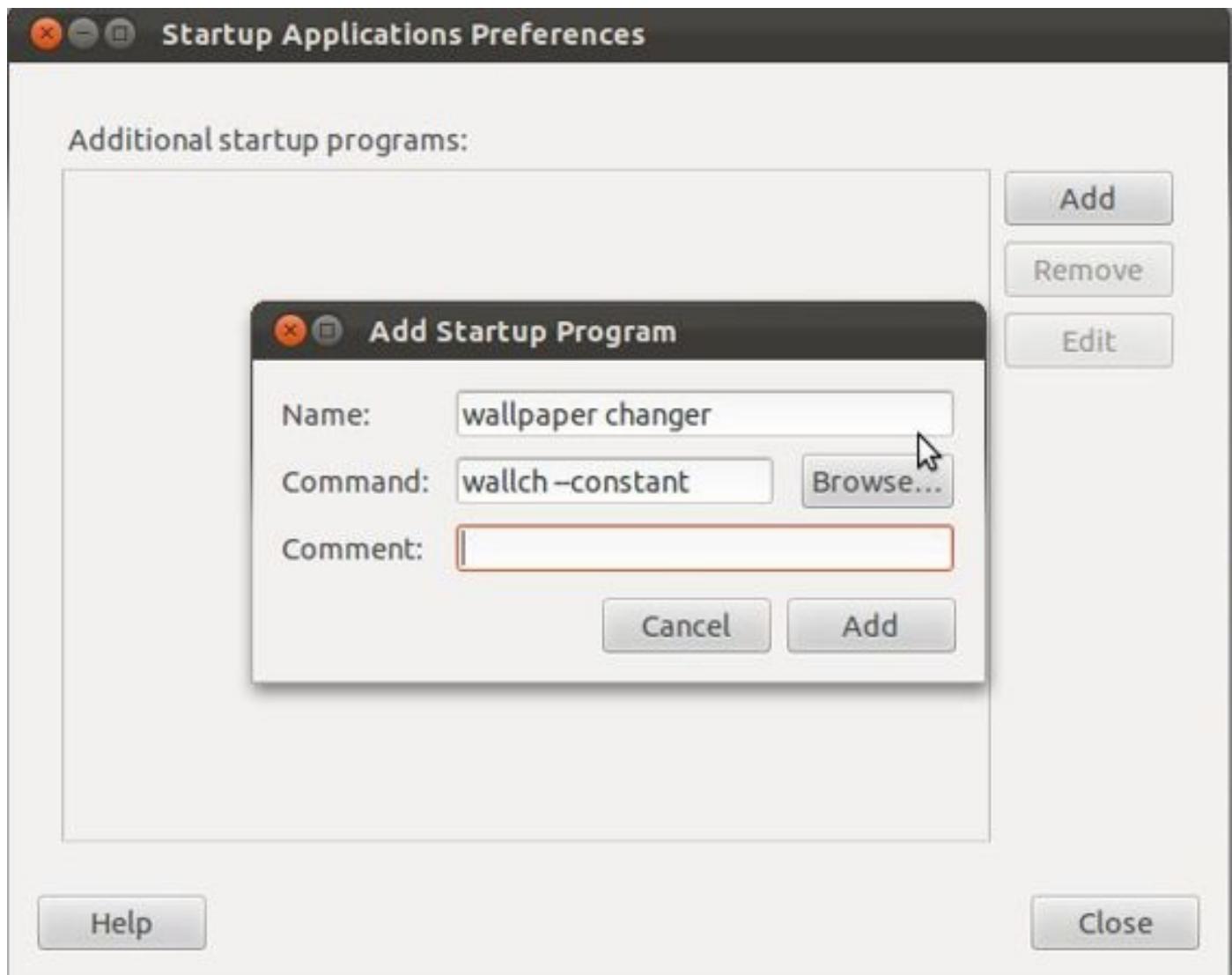
### Start up choice 2

start *wallch* on login without needing to have a launcher

From the dash:



Then create a new startup application with the command `wallch --constant`



N.B. - for some computers this will not work. The solution is to introduce a delay to the startup of the walch daemon as per the following Q&A:

[Wallch not auto-cycling backgrounds on log in](#)

---

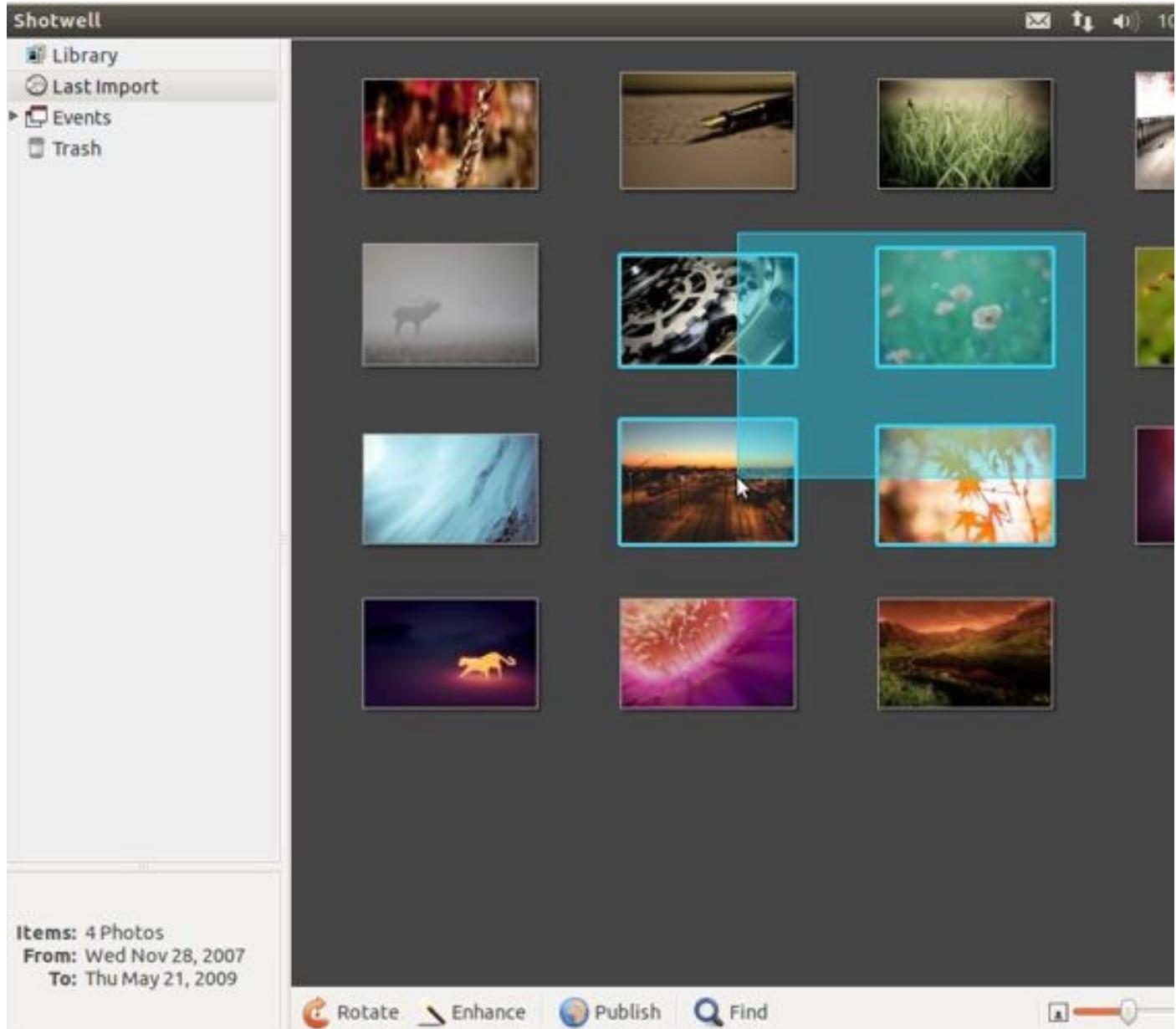
[Answer](#) by [jakob](#)

If you use it to manage your photos and like it easy I recommend to use Shotwell, which should be installed by default.

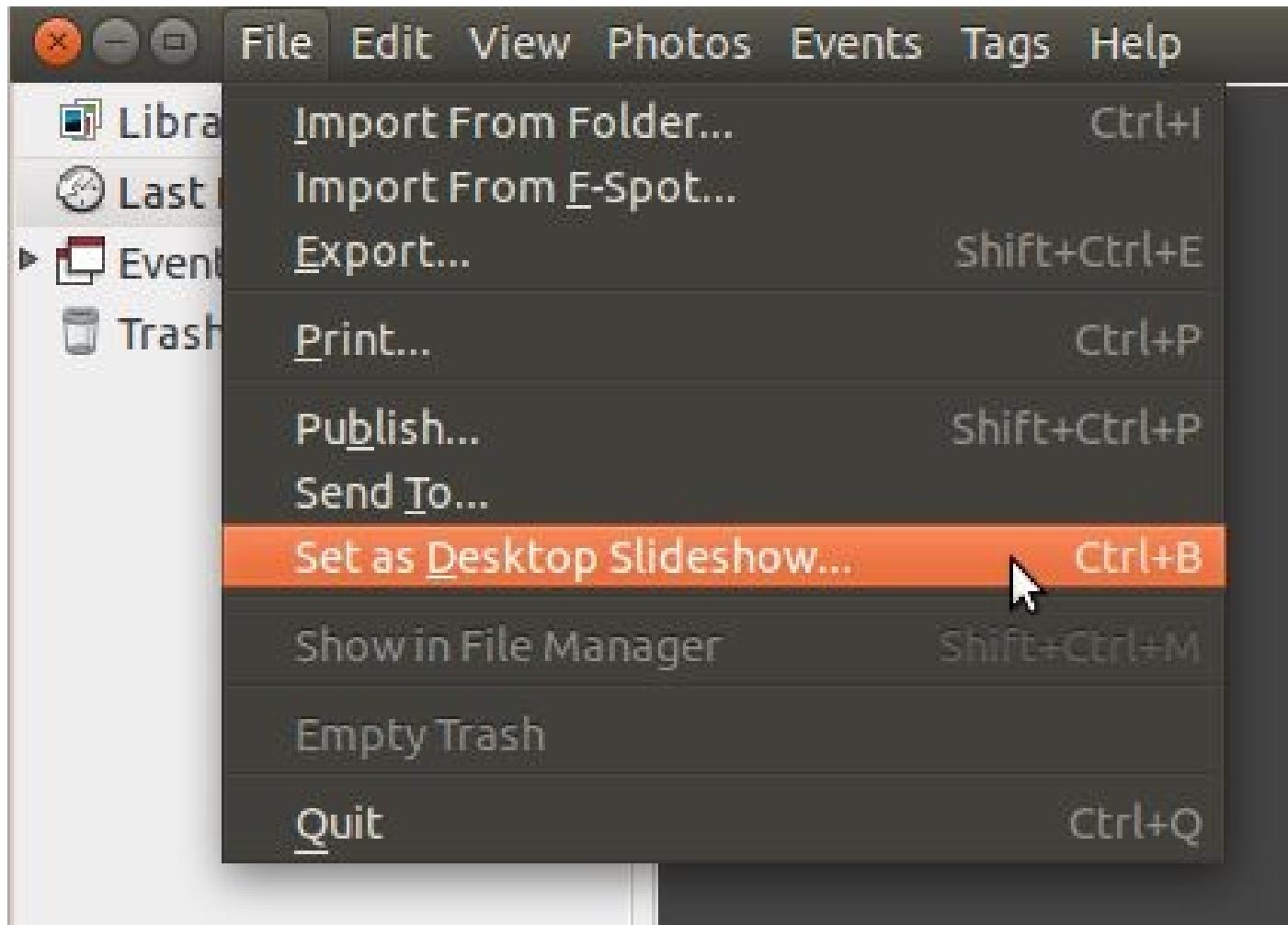
Open it:



Select the photos you want to be set as background slideshow:



Open File Set as Desktop Slideshow or press Ctrl+B:



Adjust time settings:



Done.

---

Tags: [wallpaper](#) ([Next Q](#))

---

## **Q: How do I change the wallpaper of the login screen?**

Tags: [wallpaper](#)

I would like to set the wallpaper in the login screen (Unity Greeter), how do I do that?

**Tags:** [wallpaper](#)

**User:** [jorge-castro](#)

---

[Answer](#)  by [bruno-pereira](#)

# Ubuntu 12.04 to 13.04

Ubuntu 12.04 Unity greeter has introduced selected user dynamic background, that means that when selecting a user from the available users list the background will change to reflect the selected user's desktop background.

By default lightdm will set /usr/share/backgrounds/warty-final-ubuntu.png as the default background and the option for the dynamic background switching on.

## Setting the dynamic switching off

Open a terminal and get root

```
sudo -i
```

(Type sudo password)

Allow the user lightdm to create a connection to the X server

```
xhost +SI:localuser:lightdm
```

Switch user to *lightdm*

```
su lightdm -s /bin/bash
```

Turn off the dynamic switching of the background

```
gsettings set com.canonical.unity-greeter draw-user-backgrounds 'false'
```

***If you want to reset that setting to default after changing it, follow all the steps until the command above and instead use***

```
gsettings reset com.canonical.unity-greeter draw-user-backgrounds
```

When you are done setting off or resetting to default the dynamic background feature you can close the terminal or type 2x exit, first to revert back to *root* and the second to clear the root privileges and revert back to your normal user.

## Changing the default fixed background

(you will only see this one if the user did not set a desktop background picture or if the dynamic setting is set to *false*)

Open a terminal and get root

```
sudo -i
```

(Type sudo password)

Allow the user lightdm to create a connection to the X server

```
xhost +SI:localuser:lightdm
```

Switch user to *lightdm*

```
su lightdm -s /bin/bash
```

Change the default background with a picture of your choice

```
gsettings set com.canonical.unity-greeter background '/foo/wallpaper.png'
```

(Note: the *wallpaper* file cannot be located inside a encrypted user's home, those are only mounted after the user has logged in with his account.)

**If you want to revert that to the default background follow all the steps until the command above but instead type**

```
gsettings reset com.canonical.unity-greeter background
```

When you are done changing the default background feature or reverting back to the default one you can close the terminal or type 2x exit, first to revert back to root and the second to clear the root privileges and revert back to your normal user.

---

[Answer](#)  by [hernantz](#)

## For 11.10

Run this command in the terminal (ctrl+Alt+T)

```
gksu gedit /etc/lightdm/unity-greeter.conf
```

You will see gedit (text-editor app) appear with this text:

The screenshot shows a window titled "unity-greeter.conf (/etc/lightdm) - gedit". The window contains the configuration file for LightDM's greeter interface. The file includes comments for various settings like background, logo, theme, font, and Xft parameters. A section for "[greeter]" is present, with the "background" key highlighted in yellow. The value for "background" is set to "/home/joey/Pictures/radiance.png". Other keys in this section include "logo", "theme-name", "icon-theme-name", "font-name", "xft-antialias", and "xft-dpi". Below the configuration file, the status bar of the gedit window displays "Plain Text" and "Tab Width: 8".

```
# background = Background file to use, either an image path or a color  
# (e.g. #772953)  
# logo = Logo file to use  
# theme-name = GTK+ theme to use  
# font-name = Font to use  
# xft-antialias = Whether to antialias Xft fonts (true or false)  
# xft-dpi = Resolution for Xft in dots per inch (e.g. 96)  
# xft-hintstyle = What degree of hinting to use (hintnone, hintslight,  
# hintmedium, or hintfull)  
# xft-rgba = Type of subpixel antialiasing (none, rgb, bgr, vrgb or  
# vbgr)  
#  
[greeter]  
background=/home/joey/Pictures/radiance.png  
logo=/usr/share/unity-greeter/logo.png  
theme-name=Ambiance  
icon-theme-name=ubuntu-mono-dark  
font-name=Ubuntu 11  
xft-antialias=true  
xft-dpi=96  
xft-hintstyle=hintslight
```

Just edit the line that says BACKGROUND=... with the absolute path to the background image of your desire.

Then click save or **Ctrl+S** and close the window. You are done.

Log out to see it working.

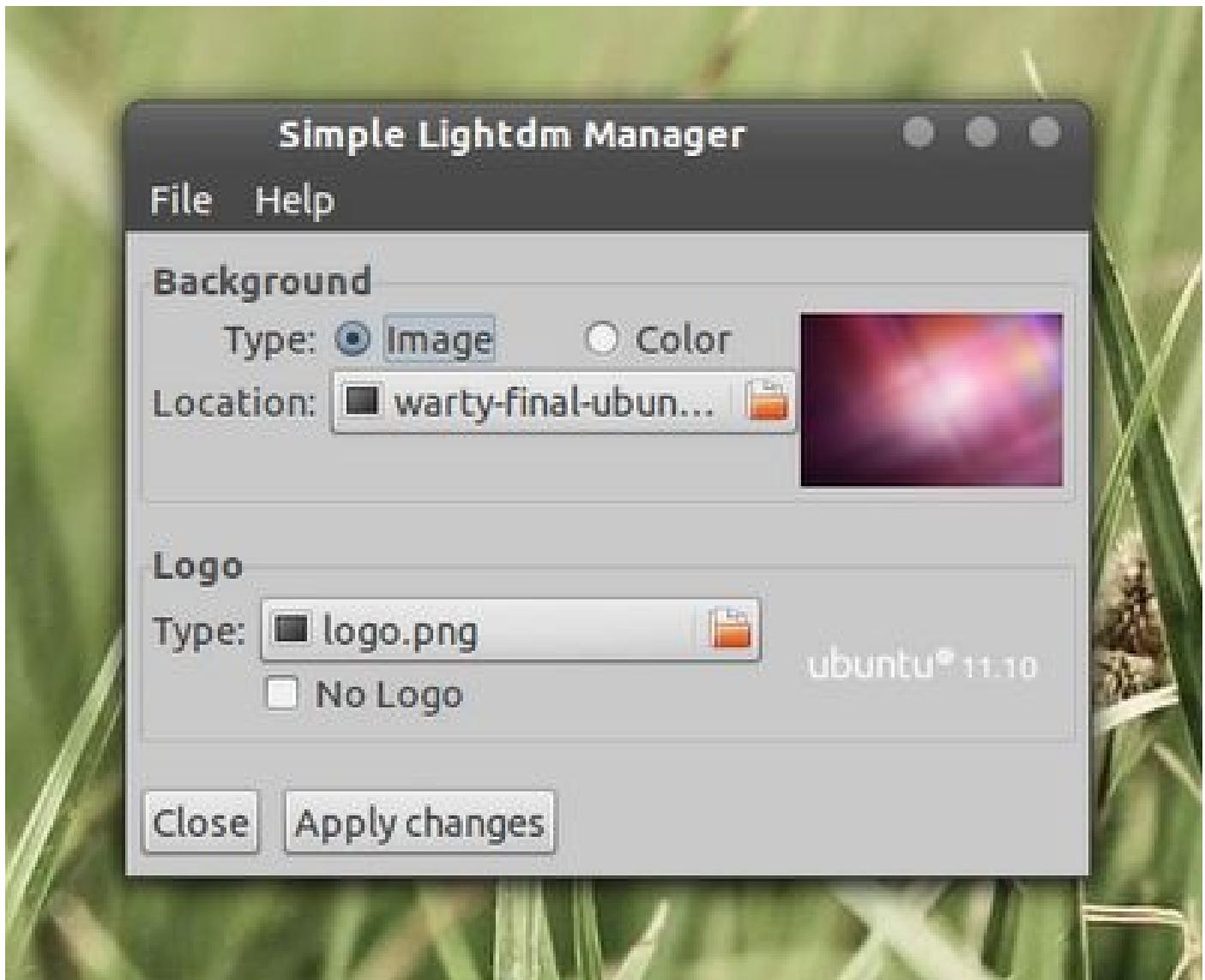
[source](#)

---

[Answer](#) by [fossfreedom](#)

## 11.10 - Simple LightDM Manager

An enterprising developer has put together a simple applet that will change the wallpaper:



to install

```
sudo apt-add-repository ppa:claudiocn/slsm  
sudo apt-get update  
sudo apt-get install simple-lightdm-manager
```

[source](#)

---

**Tags:** [wallpaper](#)

---

[Q: How do I create a desktop wallpaper slideshow?](#)

---

[Q: How do I change the wallpaper of the login screen?](#)

---

# Dpkg

[Skip to questions](#), Wiki by user [aryo-adhi](#)

dpkg is a tool to install, build, remove and manage Debian packages. Unlike apt-get, dpkg used to install Debian packages offline.

---

# Questions

## [Q: How to let `dpkg -i` install dependencies for me?](#)

Tags: [dpkg](#)

Say, I have `foo-1.2.3.deb` which depends on `perl` and `python`, however, running command:

```
dpkg -i ./foo-1.2.3.deb
```

won't install these dependencies. So I must `apt-get install perl python` by hand.

How to make `dpkg -i` install these dependencies for me automatically?

Tags: [dpkg](#)

User: [xiÃº-jÃ¬lÃ©i](#)

---

[Answer](#)  by [xiao-long-chen](#)

You can install `gdebi-core`, which is the command line version of the GDebi package installer from 10.04 and earlier. In the newer versions of Ubuntu, the Software Center is used to install debs, which doesn't have a command line equivalent.

To install a deb package using `gdebi`, just run:

```
sudo gdebi my_package_1.0.deb
```

---

[Answer](#)  by [arindom](#)

After using `dpkg`, running the following command helped me to install the dependencies :

```
sudo apt-get -f install
```

---

[Answer](#)  by [dv3500ea](#)



# Missing Image

gdebi installs a deb package and its dependencies. To use it run:

```
sudo gdebi package.deb
```

In newer versions of Ubuntu, this is not installed by default, so you will need to install it from the repositories.

See [man gdebi](#) for a full list of options.

gdebi is the command line equivalent to the graphical tool of the same name that used to be included by default in Ubuntu. The command for the graphical tool is gdebi-gtk and has similar functionality:

# Missing Image

---

**Tags:** [dpkg](#)

---

[Q: How to let `dpkg -i` install dependencies for me?](#)

---

[Q: Installed Teamviewer using a 64-bits system, but I get a dependency error](#)

---

# Keyrings

[Skip to questions](#), Wiki by user [kevin-bowen](#)

A keyring consists of a number of application and system components designed to manage passwords and security elements such as certificates, keys, and passwords.

An example of this would be the [Gnome-keyring](#).

---

# Questions

## [Q: How can I stop being prompted to unlock the ‘default’ keyring on boot?](#)

Tags: [keyrings](#)

Whenever Ubuntu boots up, a dialogue pops up asking me to unlock my default keyring.

Is there some way this can unlock automatically through PAM or some other magical way?



Tags: [keyrings](#)

User: [oli](#)

---

[Answer](#)  by [marcel-stimberg](#)

**Be warned that this will make your keyring accessible without a password. Period.  
You don't have to be logged in to view it**

With that being said,

I think the simplest way is to set the password for the keyring to an empty password — you will not be prompted for a password then:

1. Open Applications -> Accessories -> Password and Encryption Keys
2. Right-click on the “login” keyring
3. Select “Change password”
4. Enter your old password and leave the new password blank
5. Press ok, read the security warning, think about it and if you still want to get rid of this dialog, choose “use unsafe storage”.

*Again, as the message says: This will expose all your passwords (e.g. email passwords) that you chose to save in the default keyring to anyone using your computer or having*

*access to your files and is therefore not recommended.*

### **Addendum for Ubuntu 11.04:**

- In the default Unity session, you can start the application by clicking on the Ubuntu logo in the top left corner, then typing *Password*, and selecting *Password and Encryption Keys* from the search result.
- In the classic session the path to start the application has changed to *System Preferences Password and Encryption Keys*

### **Addendum for Ubuntu 11.10:**

- In the default Unity session, you can start the application by clicking on the Ubuntu launcher (the first item) in the Unity launcher bar on the left side, then typing *Password*, and selecting *Password and Encryption Keys* from the search result.
- In the classic session (from the `gnome-session-fallback` package) the path to start the application has again changed to *Applications Other Password and Encryption Keys*

---

[Answer](#)  by [chris-wilson](#)

## For Ubuntu 12.10 and onwards

The interface of the “Password and Keyring” manager changed slightly in 12.10. When you open it, you won’t immediately see the “Login” keyring as described in other answers. The interface will look like this:



In order to view the Login keyring, you need to open the **View** menu, and choose **By Keyring**. Once that’s done, your interface will look like this:



Right-click on the “Login” entry at the top and choose Change Password. You’ll need to enter the current password, which should be your user account password, before continuing. When you do that, you’ll get a dialog where you will be asked to enter the new password twice:



Leave this blank, choose “Continue”, and choose it again to confirm you desire to continue without a password.

## For versions up to 12.04: (for 12.10 onwards, see [this](#) answer)

The method is similar to previous Ubuntu versions, but I also include a command-line alternative at the end.

### 1. Using the Gnome Keyring Manager (*Seahorse*)

- Press Alt+F2, type *seahorse* and press Enter to start the Gnome Keyring Manager:



- Alternately, open a terminal with Ctrl+F2+T, type `seahorse &` and press Enter.
- The “Passwords and Keys” window should come up as shown below. Under the *Passwords* tab, select *login*, right-click on it, and then click on *Change Password*:



- The “Change Keyring Password” box will come up. Type your old password, and then *leave the new/confirm password fields blank*. Then press OK, and the information box shown below will pop-up; read it, and then click on *Use Unsafe Storage* to not have to enter your password at each login:



- Close the keyring manager. After you log out/reboot, you won't be asked for your password any more.

## 2. Disable the login keyring password from the command-line

As an alternative to all the above steps, simply open a terminal, and type/paste the below, changing MYPASSWORD to whatever your current password is; that's it!

```
python -c "import gnomekeyring;gnomekeyring.change_password_sync('login', 'MYPASSWORD', '')"
```

**Tags:** [keyrings](#)

[Q: How can I stop being prompted to unlock the 'default' keyring on boot?](#)

[Q: How do I change my username?](#)

# Keyboard

## Questions

### [Q: How do I disable the on-screen keyboard in the unlock screen?](#)

Tags: [keyboard](#)

Somehow, I activated the on-screen keyboard (Onboard) in the unlock screen and I can't deactivate it now. I've restarted the computer, but it's still there in the unlock screen.

How can I deactivate the on-screen keyboard in the unlock screen?

Tags: [keyboard](#)

User: [thucydides411](#)

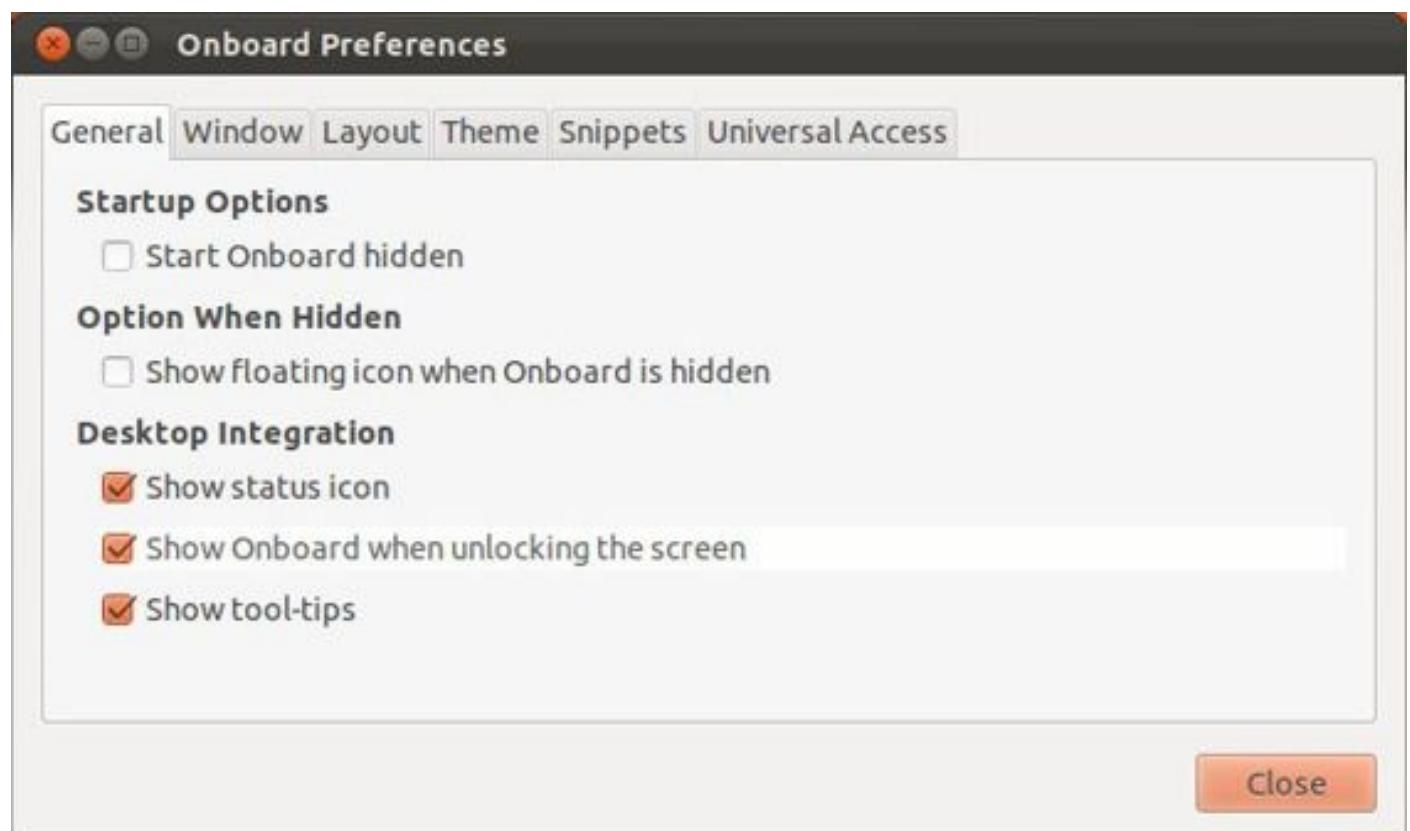
---

[Answer](#)  by [jokerdino](#)

#### GUI method

Search for *Onboard settings* from the gnome-shell overview.

Under *General* tab and *Desktop integration* heading, uncheck the option *Show Onboard when unlocking the screen*.



## Command-line method

[Thanks to fossfreedom's answer to a similar question](#) 

Run the following command in a terminal:

```
gsettings set apps.onboard.xembed-onboard false
```

If the above is not working, try this one:

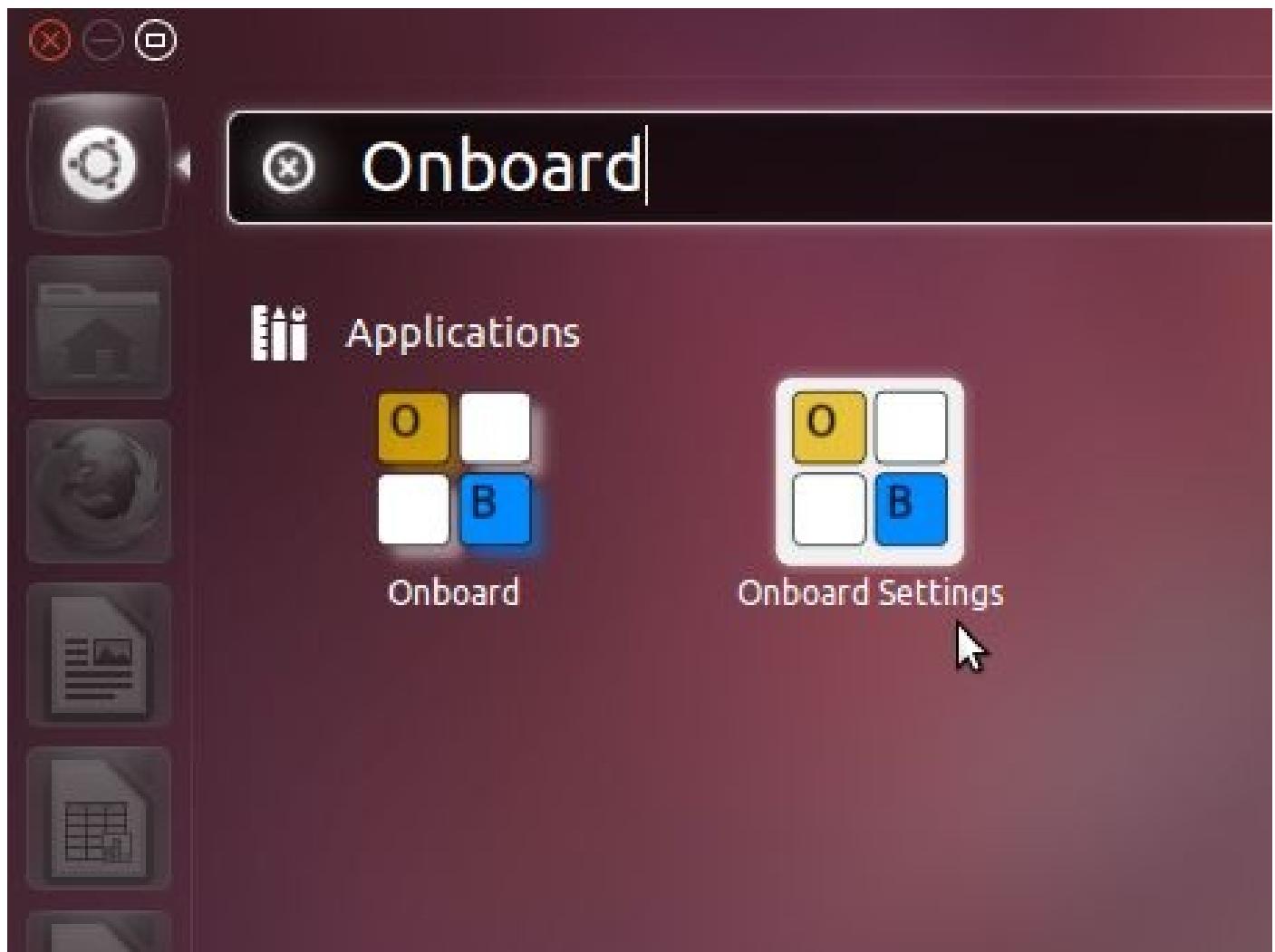
```
gsettings set org.gnome.desktop.screensaver.embedded-keyboard-enabled false
```

worked for me (Ubuntu 12.04).

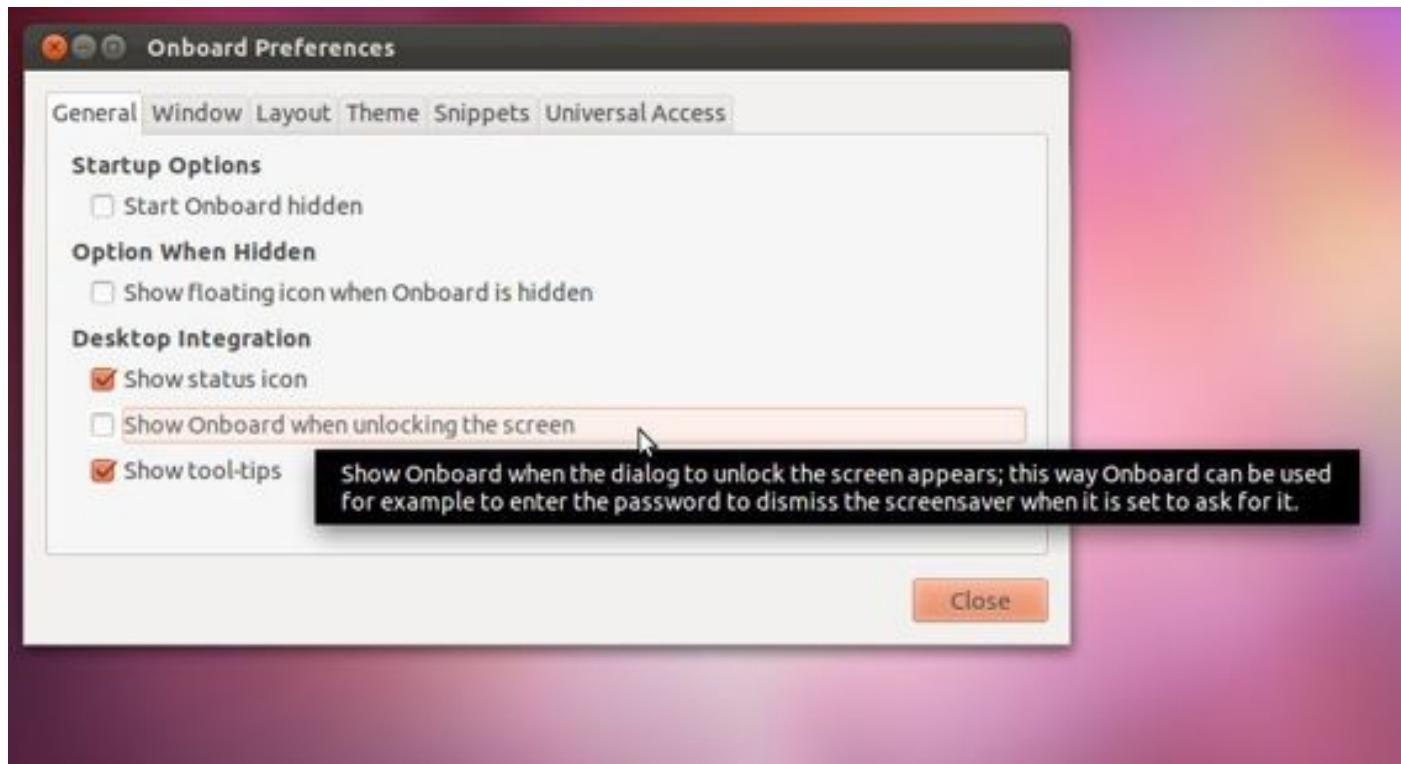
---

[Answer](#)  by [jakob](#)

In the Dash, open Onboard Settings.



Unmark *Show Onboard when unlocking the screen*.



Done.

---

**Tags:** [keyboard](#)

---

[\*\*Q: How do I remap certain keys or devices?\*\*](#)

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[\*\*Q: How do I disable the on-screen keyboard in the unlock screen?\*\*](#)

---

# Backup

[Skip to questions](#), Wiki by user [hhlp](#)

The process of backing up is making copies of data which may be used to restore the original after a data loss event.

- The primary purpose is to recover data after its loss, be it by data deletion or corruption.
  - The secondary purpose of backups is to recover data from an earlier time, according to a user-defined data retention policy, typically configured within a backup application for how long copies of data are required.
-

# Questions

## [Q: How to make a disk image and restore from it later?](#)

**Tags:** [backup](#)

I'm a new Linux user. I've reinstalled my Wubi from scratch *at least ten times* the last few weeks because while getting the system up and running (drivers, [resolution](#), etc.) I've broken something (X, grub, unknowns) and I can't get it back to work. Especially for a newbie like me, it's easier (and much faster) to just reinstall the whole shebang than try to troubleshoot several layers of failed "fixing" attempts.

Coming from Windows, I expect that there is some "disk image" utility that I can run to make a snapshot of my Linux install (and of the boot partition!!) before I meddle with stuff. Then, after I've foobar'ed my machine, I would somehow restore my machine back to that working snapshot.

**What's the Linux equivalent of Windows disk imagers like [Acronis True Image](#) or [Norton Ghost](#)?**

*Note: I found a [similar question here](#).*

**Tags:** [backup](#)

**User:** [torben-gundtofte-bruun](#)

---

[Answer](#) by user8290

It's Clonezilla Live: <http://clonezilla.org/>

The tutorial for Clonezilla can be found [here](#).

---

[Answer](#) by [crasic](#)

dd is the low level utility that you can use to accomplish this task, it essentially a low level byte-for-byte copy utility. If you want the "UNIX" way of accomplishing this, then read on.

All references to the file system and hard disks are located locally on the virtual /dev/ filesystem. There are a multitude of "nodes" in /dev/ that are interfaces to almost all the devices on your computer. For example, /dev/hda or /dev/sda would refer to the first hard drive in your system (hda vs sda depends on the hard drive), and /dev/hda1 would refer to the first partition on your harddrive.

The most straight forward way to make a raw image of your partitions is to use dd to dump the entire partition to a single file (remember the OS access the partitions /dev/sda1 through a file interface). Make sure you are on a larger partition or on a secondary drive and perform the following command

`dd if=/dev/hda1 of=../part1.image to backup(repeat for different partitions)`

```
dd if=./part1.image of=/dev/hda1 to restore
```

You can use the exact same command to backup the entire hard disk (replace hda1 with hda). You can then use any compression program (gunzip, zip, bzip) to compress the file for storage. You can use this same technique to make rote copies of entire partitions to make clones of your computer.

There is one limitation though, when restoring the backup, the partition needs to be the same size as the partition you took the image from, so this limits your options in case of a restore. However, you can always expand the partition after you've restored the backup using gparted or parted. The picture gets even muddier when you are trying to restore entire disk copies, however, if you are restoring the backup to the same exact harddrive you don't need to worry about this at all.

However, if you want a “friendlier” utility ala norton ghost then this suggestion might not be for you.

---

---

**Tags:** [backup](#)

---

---

[Q: How to make a disk image and restore from it later?](#)

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[Q: What's the difference between .tar.gz and .gz, or .tar.7z and .7z?](#)

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# Cron

[Skip to questions](#), Wiki by user [kris-harper](#)

Cron jobs can be set using the `crontab -e` command. On first run this will invite the user to select an editor for editing cron jobs.

From here, users can input their jobs, each command on a new line, with the desired timing preceding the command. The format for job timing can be used in a variety of ways, from specifying a command to run once a year, to once a minute, or only on Thursdays, etc. There are several examples on the [Wikipedia page](#).

Upon saving the cron file, the `crontab` command will check the file for syntax errors, and if none are found, save it.

On Ubuntu there are more advanced cron options as well, such as root-level cron and the daily, weekly and monthly cron files. Read more about the specific options on the [Cron How to Page](#).

---

# Questions

## Q: How do I set up a Cron job?

**Tags:** [cron](#) ([Next Q](#))

How do I add Cron jobs in Ubuntu?

**Tags:** [cron](#) ([Next Q](#))

**User:** [solomongaby](#)

---

[Answer](#)  by [source-lab](#)

Put a shell script in one of these folders: /etc/cron.daily, /etc/cron.hourly, /etc/cron.monthly or /etc/cron.weekly.

If these are not enough for you you can add more specific tasks eg. twice a month or every 5 minutes or... go to the terminal and type:

```
crontab -e
```

this will open your personal crontab (cron configuration file), the first line in that file explains it all (don't you think)! In every line you can define one command to run, and the format is quite simple when you get the hang of it. So the structure is:

```
minute hour day-of-month month day-of-week command
```

For all the numbers you can use lists eg, 5, 34, 55 in the first field will mean run at 5 past 34 past and 55 past what ever hour is defined.

You can also use intervals, they are defined like this: \*/20 this example means every 20th and if in the minutes column this will be equivalent to 0, 20, 40  
So to run a command every monday at 5:30 in afternoon:

```
30 17 * * 1 /path/to/command
```

or every 15 minutes

```
*/15 * * * * /path/to/command
```

Note that the day-of-week goes from 0-6 where 0 is sunday.

You can read more [here](#) .

---

[Answer](#)  by [li-lo](#)

If the job you want to run can be run with the same privileges as your user I recommend using a user crontab which you can edit by running `EDITOR="gedit" crontab -e`(which will used *gedit* to edit the crontab file) or simply `crontab -e`(which will use the default editor) in a terminal.

If you want to run something every 10 minutes, for example, you add a line like this

---

```
*/10 * * * * /usr/bin/somedirectory/somecommand
```

and save the file.

You can see the contents of the user crontab with `crontab -l`.

The most flexible way is to use the system crontab which you can edit by running `sudo crontab -e` in a terminal. This will allow you to run your commands as root (in case you need that level of privilege) or any other user on the system.

Then if you want to run something every 10 minutes as **root**, for example, you add a line like this

```
*/10 * * * * root /usr/bin/somedirectory/somecommand
```

and save the file.(*notice the addition of the user to the line*)

You can see the contents of the system crontab file with `sudo crontab -l`.

More details at: <https://help.ubuntu.com/community/CronHowto>

---

[Answer](#) by [javier-rivera](#)

If you prefer to do it using a GUI, you can go to the Software Center and install *Scheduled tasks* (or run `sudo apt-get install gnome-schedule`). It will provide a powerful GUI to add cron tasks.

Note that if you use this method, tasks by default will be executed as your own user, not as root. This is usually a good thing.

---

**Tags:** [cron](#) ([Next Q](#))

---

## [Q: Reasons why crontab does not work](#)

**Tags:** [cron](#)

Often, crontab scripts are not executed on schedule or as expected. There are numerous reasons for that:

1. wrong crontab notation
2. permissions problem
3. environment variables

This community wiki aims to aggregate the top reasons for crontab scripts not being executed as expected. Write each reason in a separate answer.

Please include one reason per answer - details about why it's not executed - and fix(es) for that one reason.

Please write only cron-specific issues, e.g. commands that execute as expected from the shell but execute erroneously by cron.

**Tags:** [cron](#)

User: [adam-matan](#)

---

[Answer](#) by [geirha](#)

## Different environment

Cron passes a minimal set of environment variables to your jobs. To see the difference, add a dummy job like this:

```
* * * * * env > /tmp/env.output
```

Wait for `/tmp/env.output` to be created, then remove the job again. Now compare the contents of `/tmp/env.output` with the output of `env` run in your regular terminal.

A common “gotcha” here is the `PATH` environment variable being different. Maybe your cron script uses the command `somecommand` found in `/opt/someApp/bin`, which you’ve added to `PATH` in `/etc/environment`? cron does not read that file, so running `somecommand` from your script will fail when run with cron, but work when run in a terminal.

To get around that, just set your own `PATH` variable at the top of the script. E.g.

```
#!/bin/bash
PATH=/opt/someApp/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin
# rest of script follows
```

Some prefer to just use absolute paths to all the commands instead. I recommend against that. Consider what happens if you want to run your script on a different system, and on that system, the command is in `/opt/someAppv2.2/bin` instead. You’d have to go through the whole script replacing `/opt/someApp/bin` with `/opt/someAppv2.2/bin` instead of just doing a small edit on the first line of the script.

You can also set the `PATH` variable in the crontab file, which will apply to all cron jobs. E.g.

```
PATH=/opt/someApp/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin
15 1 * * * backupscript --incremental /home /root
```

---

[Answer](#) by [user4124](#)

My top gotcha: If you forget to add a newline at the end of the crontab file. In other words, the crontab file should end with an empty line.

Below is the relevant section in the man pages for this issue (`man crontab` then skip to the end):

Although cron requires that each entry in a crontab end in a newline character, neither the crontab command nor the cron daemon will detect this error. Instead, the crontab will appear to load normally. However, the command will never run. The best choice is to ensure that your crontab has a blank line at the end.

---

[Answer](#) by [aneeshep](#)

Cron daemon is not running. I really screwed up with this some months ago.

Type:

```
pgrep cron
```

If you see no number, then cron is not running. sudo /etc/init.d/cron start can be used to start cron.

*EDIT: Rather than invoking init scripts through /etc/init.d, use the service utility, e.g.*

```
sudo service cron start
```

**Tags:** [cron](#)

[Q: How do I set up a Cron job?](#)

[Q: Reasons why crontab does not work](#)

# GNOME Terminal

## Questions

### [Q: How to change Gnome-Terminal title?](#)

**Tags:** [gnome-terminal](#)

I have several instances of terminals running in my working environment, what I would like is to set a specific title for each one, in order to have a clear idea what purpose the specific terminal serves i.e. Apache, editing\_ini, postgres etc...

Of course from the command line.

**Tags:** [gnome-terminal](#)

**User:** [topless](#)

---

[Answer](#)  by [ward-muylaert](#)

- The most userfriendly way is picking it from the menu Terminal -> “Set Title...”.
- There are other ways however, you can also issue

```
gnome-terminal --title="SOME TITLE HERE"
```

This might not give the desired effect since there is a big chance that your .bashrc overwrites that behaviour.

- Bringing us to the last method, which I shamelessly ripped out of my .bashrc.

```
PROMPT_COMMAND='echo -ne "\033]0;SOME TITLE HERE\007"'
```

As an extra reference, this is the particular line in my .bashrc

```
PROMPT_COMMAND='echo -ne "\033]0;${USER}@${HOSTNAME}: ${PWD/$HOME/~/}\007"'
```

You may also need to comment this code out in your ~/.bashrc

```
case "$TERM" in
xterm*|rxvt*)
    # JEFFYEE REMOVED because it makes commands to title() not work
    #PS1="\[\e]0;${debian_chroot:+($debian_chroot)}\u@\h: \w\]$PS1"
    ;;
*)
    ;;
esac
```

---

[Answer](#)  by [ulidtko](#)

If you use the Vim editor, you can also enable this option in your vimrc:

```
:set title
```

which is disabled by default. It will set cool terminal titles showing the filename which you are editing at the moment and some other things.

---

[Answer](#)  by [alvin-row](#)

For the sake of completeness, I would add that you can also set the gnome-terminal title using this command:

```
wmctrl -r :ACTIVE: -N "MyWindowTitle"
```

You'll need to install the package [wmctrl](#)

# Missing Image

first.

---

**Tags:** [gnome-terminal](#)

---

[Q: How to change Gnome-Terminal title?](#)

---

[Q: How do I deactivate F1 and F10 keybindings in gnome-terminal?](#)

---

# PulseAudio

[Skip to questions](#), Wiki by user [rusty](#)



# PulseAudio

PulseAudio is a sound system for POSIX OSes, meaning that it is a proxy for your sound applications. It allows you to do advanced operations on your sound data as it passes between your application and your hardware. Things like transferring the audio to a different machine, changing the sample format or channel count and mixing several sounds into one are easily achieved using a sound server.

Visit the [Project Homepage](#).

For troubleshooting general sound issues see: [Debugging Sound Problems](#)

---

# Questions

## Q: Is there any Sound enhancers/equalizer?

Tags: [pulseaudio](#) ([Next Q](#))

What I am looking for is to have **system wide** implementation of sound enhancements like bass boosts, echoes, Fidelity, Stereo enhancement and so on.

Audio Video players have their own equalizer but they enhance only the audio / video files they are playing.

So to enhance sounds playing such as: YouTube, Spotify, System Sound, etc. I need a enhancer software. Back in Windows, I used to use SRS HD audio lab to do the same.

P.S. I have a horrible Speaker set.

Tags: [pulseaudio](#) ([Next Q](#))

User: [user15873](#)

---

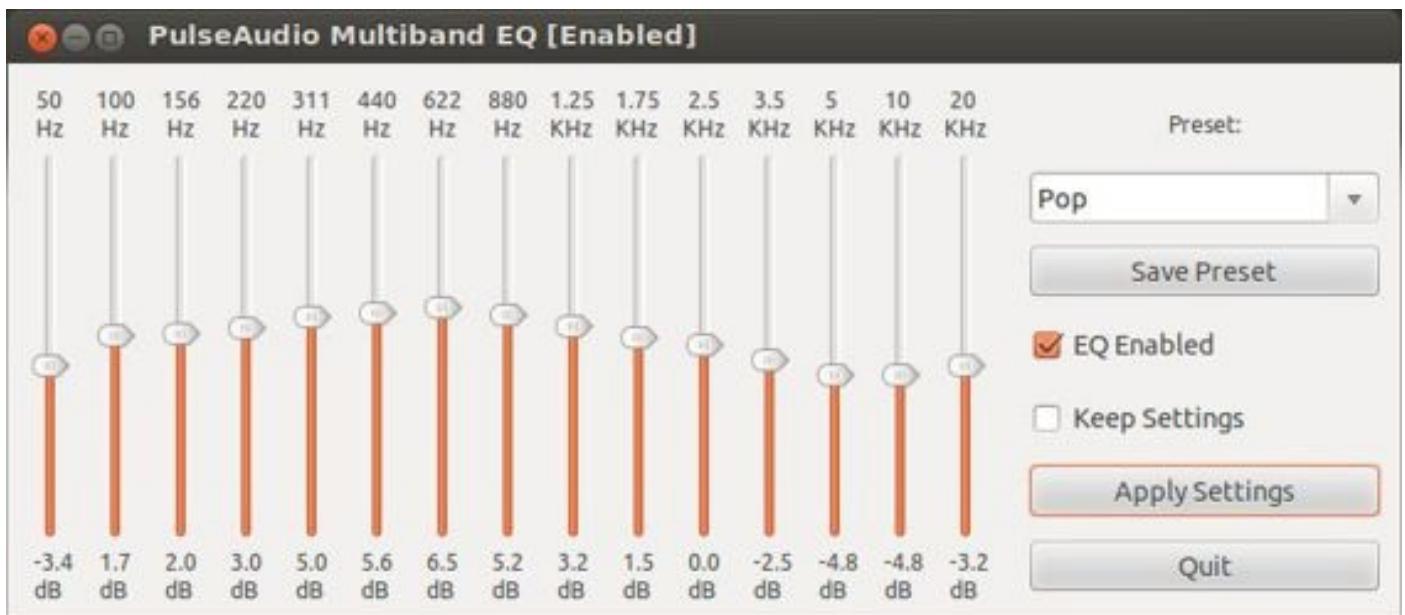
[Answer](#)  by [greg](#)

pulseaudio equalizer is the way to go.

here's a blog post about it: <http://www.webupd8.org/2011/04/system-wide-pulseaudio-equalizer.html> 

the relevant code:

```
sudo add-apt-repository ppa:nilarimogard/webupd8
sudo apt-get update
sudo apt-get install pulseaudio-equalizer
```



- [Are “PPA’s” safe to add to my system, and what are some “red flags” to watch out for?](#)

[Answer](#) by [snostorm](#)

Psyke83's on the Ubuntu Forums wrote a '[script](#)' to do this for PulseAudio.

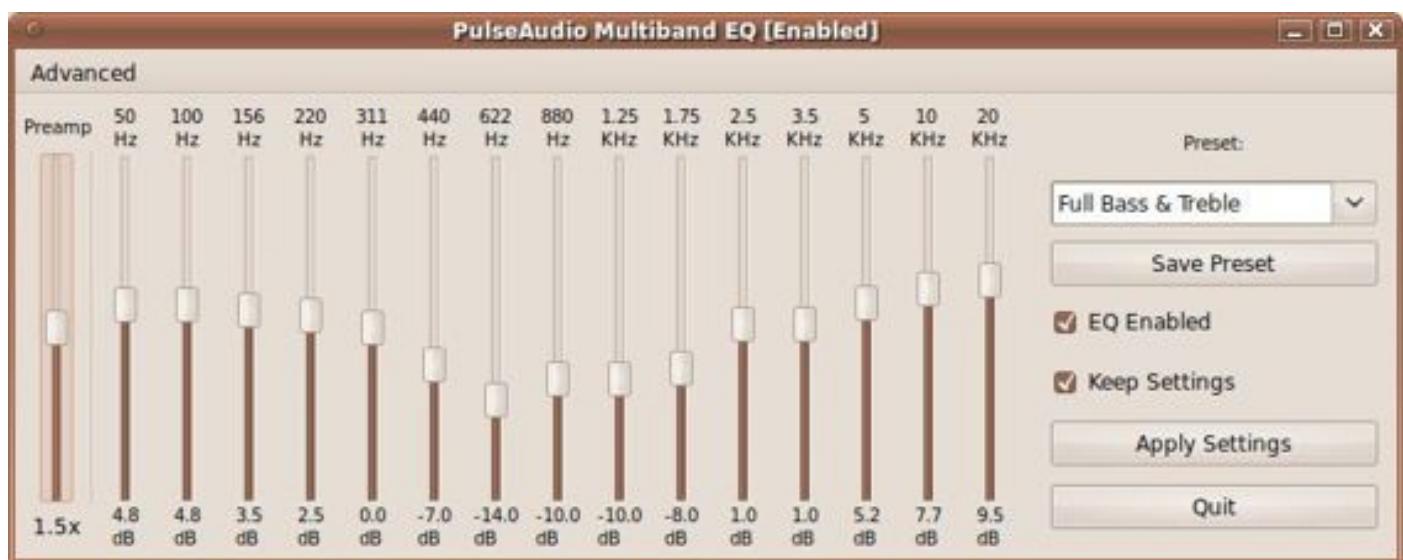
## Ubuntu 10.10:

Currently the easiest method is to install from [a deb](#) created by [WebUp8](#).

## Ubuntu 10.04 and below:

There is a PPA containing the equalizer:

```
sudo add-apt-repository ppa:psyke83/ppa  
sudo apt-get update && sudo apt-get install pulseaudio-equalizer
```



**Tags:** [pulseaudio](#) ([Next Q](#))

## Q: Skype and VLC sounds sizzle/distorted/bad

**Tags:** [pulseaudio](#)

I have the same problem as described in the questions [skype notification sounds sizzled](#) and [bad sound on login to skype](#). But it is not only the login, notification, but also when talking to somebody. I tried the solution to remove/re-install skype and most of the solutions in this questions, e.g. checking mixer, sound settings and installing alsa-hda-dkms (incl. system restart).

After installing skype (and even after upgrade to skype 4.0) in Ubuntu 12.04 (AMD 64) there was no sound at all. I followed the first step of the

[SoundTroubleshootingProcedure](#) and at least there is now sound:

```
sudo add-apt-repository ppa:ubuntu-audio-dev/ppa; sudo apt-get update; sudo apt-get dist-upgrade;  
sudo apt-get install linux-sound-base alsa-base alsa-utils gdm ubuntu-desktop linux-image-`uname -r` libasound2; sudo apt-get -y --reinstall install linux-sound-base alsa-base alsa-utils gdm ubuntu-
```

```
desktop linux-image-`uname -r` libasound2; killall pulseaudio; rm -r ~/.pulse*; sudo usermod -aG `cat /etc/group | grep -e '^pulse:' -e '^audio:' -e '^pulse-access:' -e '^pulse-rt:' -e '^video:' | awk -F: '{print $1}' | tr '\n' ',' | sed 's,:,\$::g'` `whoami`
```

The jittering sound would sometimes disappear, e.g. on the Echo-Testcall after replaying the recorded part. And I noticed that if I let music play in the rhythmbox and then start skype, the sound is fine. So I have a weak solution, but I would be glad it would work without this detour.

In VLC when I play, restart after pause I have to same jittering sound.

As requested: My sound card is a an “AMD High Definition Audio Device” called Advanced Micro Devices (AMD) Hudson Azalia controller (rev01), subsystem Lenovo Device 21ea (according to sysinfo) on a Lenovo Thinkpad Edge 525.

**Tags:** [pulseaudio](#)

**User:** [filbuntu](#)

---

[Answer](#)  by [robert-ian-hawdon](#)

It's not just a problem with Skype, I believe it's a problem with, you've guessed it, PulseAudio.

Workaround? Indeed there is.

Disabling PulseAudio's Glitch Free Audio seems to have solved the crackling for me (which became unbearable on Ubuntu 12.10 Beta 2)

To do this, edit the `/etc/pulse/default.pa` file in your favourite text editor.

Search for the following line:

```
load-module module-hal-detect
```

and append “`tsched=0`” to the end:

```
load-module module-hal-detect tsched=0
```

restart pulse (or just reboot your system), and the crackling should be gone.

Not sure what the side effects are by disabling Glitch Free Audio, but I can't seem to find any yet.

UPDATE: If you don't have a line with `load-module module-hal-detect`, then search for following line:

```
load-module module-udev-detect
```

and append “`tsched=0`” to the end:

```
load-module module-udev-detect tsched=0
```

restart pulse (or just reboot your system), and the crackling should be gone.

---

**Tags:** [pulseaudio](#)

---

[Q: Is there any Sound enhancers/equalizer?](#)

---

[Q: Skype and VLC sounds sizzle/distorted/bad](#)

---

# ATI

[Skip to questions](#), Wiki by user [bruno-pereira](#)

As the ATI brand has been phased out long ago by AMD, using the [amd-graphics](#) tag would be recommended.

Ubuntu provides open source (default) as well as proprietary AMD graphics driver packages for installation. You can also manually install the latest *beta* drivers from the AMD website. Take a look at the [Binary Driver How to AMD](#) article from the Community Help Wiki for instructions.

Note: That there is sometimes a delay between newer graphics cards being released to market and compatible graphics drivers for Linux becoming available. This is also true for newer Ubuntu releases which feature a new graphics stack that may be incompatible to older drivers and leave you without a working GUI.

- [What is the correct way to install ATI Catalyst Video Drivers \(fglrx\)?](#)
- [My computer boots to a black screen, what options do I have to fix it?](#)

ATI Technologies Inc. was a semiconductor technology corporation based in Markham, Ontario, Canada, that specialized in the development of graphics processing units and chipsets. Founded in 1985 as Array Technologies Inc., the company became publicly traded in 1993 and was acquired by Advanced Micro Devices (AMD) in 2006.

Source: [Wikipedia](#)

---

# Questions

## [Q: Is my ATI graphics card supported in Ubuntu?](#)

**Tags:** [ati](#) ([Next Q](#))

I have an ATI graphics card and I want to know if it is supported and what kind of drivers should I be running to get the best features out of it.

Is my card supported in Ubuntu and what drivers will work with my card?

**Tags:** [ati](#) ([Next Q](#))

**User:** [bruno-pereira](#)

---

[Answer](#)  by [bruno-pereira](#)

# **Officially Supported Hardware**

To check if your card is supported visit [this site](#) .

If your card is not listed there then probably it is too new and simply is not supported by any ATI driver.

# Installation of the drivers

Before installing any drivers you need to install some dependencies to your system, do this by running this command

```
sudo apt-get install build-essential cdbs fakeroot dh-make debhelper debconf libstdc++6 dkms libqtgui4 wget execstack libelfg0 dh-modaliases
```

## Official binary packages from Ubuntu

To install the fglrx packages supplied by Ubuntu open a terminal and install using

```
sudo apt-get install fglrx fglrx-amdcccle
```

or search for the Additional Drivers utility in your dash and install one of the detected drivers from the list.

Latest version provided by Ubuntu's Additional Drivers tool (up to this edit's date) is 11.10.

---

## Official ATI binaries from the ATI site

To install the latest ATI 12.6 drivers follow this, people are reporting that updating their driver solves some problems with Unity and Gnome-Shell

You will need to remove all the current fglrx packages from your system and download the driver from the ATI site.

Remove the fglrx drivers if previously installed them (if any of these returns errors ie: *file not found, package not found* ignore it)

```
sudo sh /usr/share/ati/fglrx-uninstall.sh  
sudo apt-get remove --purge fglrx fglrx_* fglrx-amdcccle* fglrx-dev*
```

Download the newest ATI driver (current version is 12.6)

```
wget http://www2.ati.com/drivers/linux/amd-driver-installer-12-6-x86.x86_64.run
```

## If you have a 64 bit system, then install this before anything

```
sudo apt-get install ia32-libs
```

Once downloaded go to the file location and set it to run as executable

```
cd /path_of_the_file  
chmod 755 amd-driver-installer-12-3-x86.x86_64.run
```

*For 32/64 bit Ubuntu use these steps to install*

```
sh ./amd-driver-installer-12-3-x86.x86_64.run --buildpkg Ubuntu/oneiric  
sudo dpkg -i fglrx*.deb
```

Once the driver is installed you need to start up a new xorg.conf file with this command

```
sudo aticonfig --initial -f
```

Reboot

```
sudo reboot
```



# Revert back to the open source drivers

## After installing drivers from deb packages

Remove all the fglrx traces from your system:

```
sudo apt-get remove --purge fglrx fglrx_* fglrx-amdcccle* fglrx-dev*
```

Remove your xorg.conf

```
sudo rm /etc/X11/xorg.conf
```

Reinstall xorg

*For 32bits systems*

```
sudo apt-get install --reinstall xserver-xorg-core libgl1-mesa-glx libgl1-mesa-dri
```

*For 64bits systems*

```
sudo apt-get install --reinstall libgl1-mesa-glx:i386 libgl1-mesa-glx:amd64 libgl1-mesa-dri:i386  
libgl1-mesa-dri:amd64 xserver-xorg-core
```

Configure Xorg

```
sudo dpkg-reconfigure xserver-xorg
```

Reboot:

```
sudo reboot
```

After the reboot all the fglrx packages will be gone, you will be using default ones.

---

## After installing drivers from ATI binary

Remove all the ATI driver files:

```
sudo sh /usr/share/ati/fglrx-uninstall.sh
```

Remove your xorg.conf

```
sudo rm /etc/X11/xorg.conf
```

Reinstall xorg

*For 32bits systems*

```
sudo apt-get install --reinstall xserver-xorg-core libgl1-mesa-glx libgl1-mesa-dri
```

*For 64bits systems*

```
sudo apt-get install --reinstall libgl1-mesa-glx:i386 libgl1-mesa-glx:amd64 libgl1-mesa-dri:i386  
libgl1-mesa-dri:amd64 xserver-xorg-core
```

Configure Xorg

```
sudo dpkg-reconfigure xserver-xorg
```

Reboot:

```
sudo reboot
```

After the reboot all the fglrx drivers will be gone, you will be using default ones.

---

**Tags:** [ati](#) ([Next Q](#))

---

## **Q: How do I get AMD/Intel Hybrid Graphics drivers to work?**

**Tags:** [ati](#)

On Ubuntu 12.04 my Sony Vaio VPCSE with Intel HD Graphics 3000 and AMD Radeon HD 6630M worked fine with the Catalyst Control Center version 12.6. Also the switching between integrated and discrete graphic card was working.

In both cases, I followed this [tutorial](#) .

But it is not working on Ubuntu 12.10.

I tested the tutorial with the Catalyst Control Center from the Ubuntu Software Center, the version 12.8 and version 12.9. Always the same problem: After installation process I am able to boot in the login-screen. But after entering the password for my username, only the background-image appears. Unity seems not to be starting. I am only able to reach the context-menu by right clicking the mouse button.

I also tried [his fix](#) , but it also does not work for me.

Any ideas what to do to fix this problem?

**Update:** Same problem on Ubuntu 13.04!

**Update:** Solution for 13.04 is not working on Ubuntu 13.10!

**Tags:** [ati](#)

**User:** [mariann-lux](#)

---

[Answer](#)  by [mariann-lux](#)

# For 13.04:

## Pre-Install:

Three terminal-commands:

```
sudo apt-get install build-essential cdbs fakeroot dh-make debhelper debconf libstdc++6  
sudo apt-get install dkms libqtgui4 wget execstack libelfg0 dh-modaliases  
sudo apt-get install linux-headers-generic xserver-xorg-core libgcc1
```

Additional two terminal-commands for 64-bit:

```
sudo apt-get install ia32-libs lib32gcc1 libc6-i386  
cd /usr ; sudo ln -svT lib /usr/lib64
```

(Note: The second command shouldn't be necessary if there is already such a symbolic link named lib64 pointing to folder lib there. And if there is already a real folder by that name (determined with ls -l /usr/lib64), you should ensure that its contents are safely moved into folder /usr/lib and then delete —the now empty— folder /usr/lib64 before executing this command).

Download from these direct-links: [libudev0\\_175-0ubuntu13\\_amd64.deb](#).

and (the older intel driver - xserver-xorg - see also section “**Important**” on answer for **12.10**. I think this would also be very important here.)

<https://docs.google.com/file/d/0B0tTaH4qTIIXdDF3NThFWUtrYIU/edit?usp=sharing>

Copy these files (two .deb packages) into an empty folder.

Remove the old drivers:

```
sudo apt-get remove fglrx*  
sudo apt-get remove xserver-xorg-video-intel
```

Execute the following two terminal-commands in the folder with downloaded .deb files:

```
sudo dpkg -i libudev*  
sudo dpkg -i xserver-xorg-video-intel_2.21.6-0ubuntu4_amd64.deb
```

Prevent xserver-xorg-video-intel from being upgraded:

```
sudo apt-mark hold xserver-xorg-video-intel
```

# Installation:

Get the current ATI Catalyst driver e.g. 13.04 (I have tested it with this release) from the official website: [www.amd.com/drivers](http://www.amd.com/drivers)

Unzip the .zip and make it executable. Then go to the folder with the unzipped .run-file in terminal and type:

```
sudo sh ./amd-catalyst-XX.X-linux-x86_x86_64.run --buildpkg Ubuntu/raring
```

Replace XXX with the correct name of the file.

Install the created .deb-files with the following terminal-command in the current directory:

```
sudo dpkg -i fglrx*.deb
```

# Post-Install:

Enter the terminal command

```
sudo mv /etc/X11/xorg.conf /etc/X11/xorg.conf.backup  
sudo aticonfig --initial -f
```

(Note: If you use multiple AMD graphics cards or AMD dual graphics, you can use sudo aticonfig --adapter=all --initial -f instead, and/or if you use a dual monitor display, you can also use this additional third command: sudo aticonfig --set-pcs-str="DDX,EnableRandR12, FALSE")

Select the discrete GPU

```
sudo aticonfig --px=dgpu
```

Reboot your system

```
sudo reboot
```

# Links:

<http://ubuntuforums.org/showthread.php?t=1930450> 

# My Scripts for Switching

Script for High-GPU-Mode:

```
#!/bin/bash
# Activate discrete GPU (High-Performance mode), must re-start X to take effect
sudo aticonfig --px-dgpu
sudo restart lightdm
```

Script for Low-GPU-Mode:

```
#!/bin/bash
# Activate integrated GPU (Power-Saving mode), must re-start X to take effect
sudo aticonfig --px-igpu
sudo restart lightdm
```

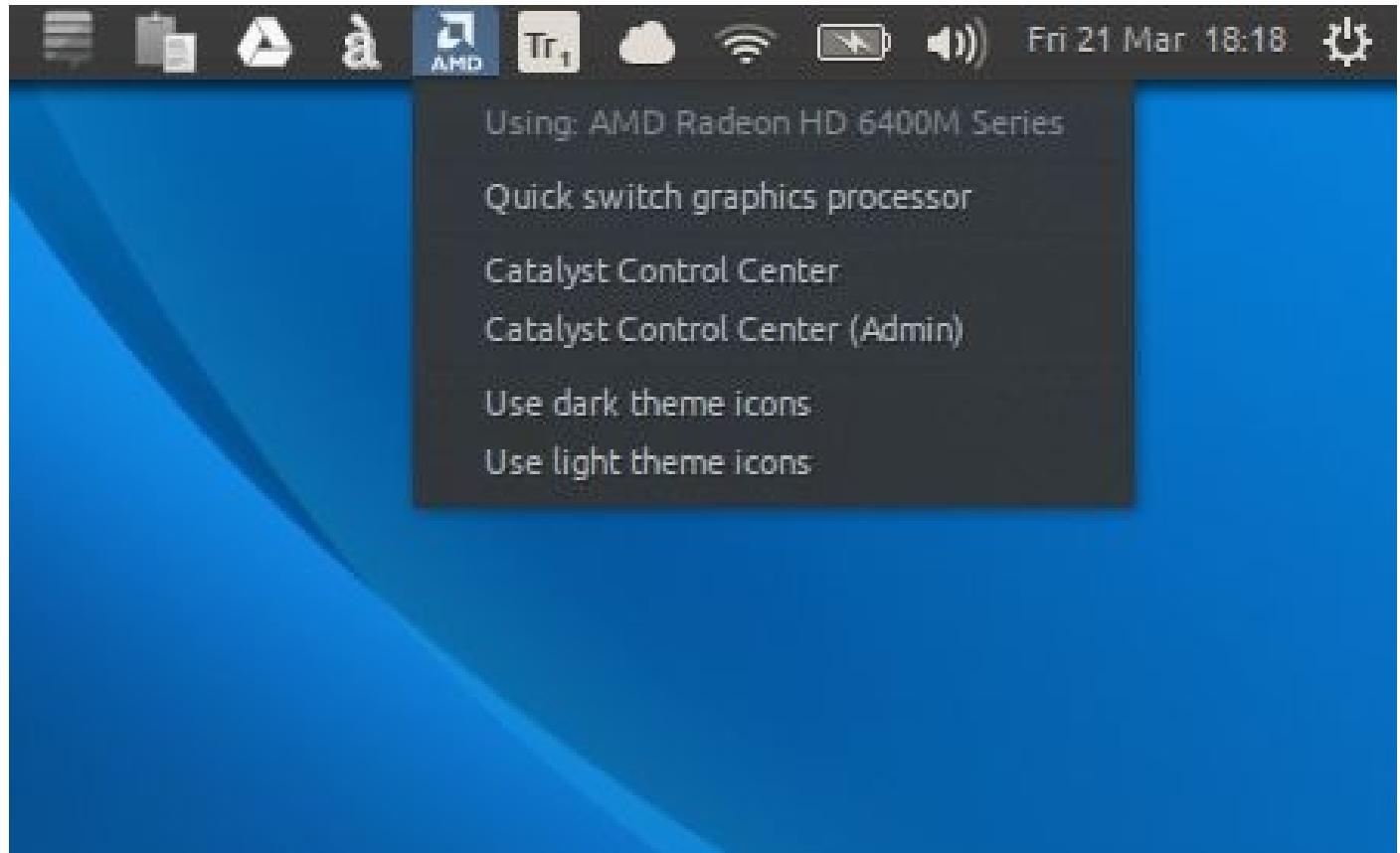
Script for showing current GPU-Mode:

```
#!/bin/bash
#Show current GPU (High- or Low-Performance mode) as notification
aticonfig --px1 | while read SPAM_OUT; do notify-send "$SPAM_OUT"; done
```

**Note:** If you always have problems after the execution of a Switching-Script, make a restart of your system (and not only a re-login).

# New!!! INDICATOR for Switching:

To switch between Discrete (AMD) and Integrated (Intel) GPUs nice and easy way, go to <https://github.com/beidl/amd-indicator>, and then download and install the **DEB** file there.



---

[Answer](#) by [mariann-lux](#)

## **For 12.10:**

It works for me!! And here is the how-to which I created for you:

# Pre-Install:

Three terminal-commands:

```
sudo apt-get install build-essential cdbs fakeroot dh-make debhelper debconf libstdc++6  
sudo apt-get install dkms libqtgui4 wget execstack libelfg0 dh-modaliases  
sudo apt-get install linux-headers-generic xserver-xorg-core libgcc1
```

Optional if 64 Bit - two terminal-commands:

```
sudo apt-get install ia32-libs lib32gcc1 libc6-i386  
cd /usr ; sudo ln -svT lib /usr/lib64
```

Download from this direct-link:

<https://launchpad.net/~andrikos/+archive/ppa/+sourcepub/2755647/+listing-archive-extra>  the files and this two .deb packages into an empty folder

```
xserver-xorg-video-intel-dbg_2.20.0-0~andrik1_XXX.deb  
xserver-xorg-video-intel_2.20.0-0~andrik1_XXX.deb
```

where XXX should be your architecture identifier (x86 or amd64)

Execute the following two terminal-commands in the folder with downloaded .deb files:

```
sudo dpkg -i xserver-xorg-video-intel*.deb  
sudo dpkg-reconfigure Xorg
```

Then reboot your machine

Note - this is from the PPA: [https://launchpad.net/~andrikos/+archive/ppa/+packages?field.name\\_filter=&field.status\\_filter=published&field.series\\_filter=quantal](https://launchpad.net/~andrikos/+archive/ppa/+packages?field.name_filter=&field.status_filter=published&field.series_filter=quantal) 

**Important** - Today I got a security-update for “xserver-org” form the official Ubuntu repositories which crashed my system again (no login screen). Then I installed the newest two xserver-org-video-intel\*.deb’s (downloaded and installed as described above) from the PPA [https://launchpad.net/~andrikos/+archive/ppa/+packages?field.name\\_filter=&field.status\\_filter=published&field.series\\_filter=quantal](https://launchpad.net/~andrikos/+archive/ppa/+packages?field.name_filter=&field.status_filter=published&field.series_filter=quantal)  again. You can also add this PPA on your system for preventing this issue. For me, this PPA has too much other packages, so I will do it (downloading the two .deb-files and installing them) manually. An other solution is, to de-select the “xserver-org”-packages if there are official Ubuntu security updates available.

# Installation:

Get the current ATI Catalyst driver e,g 12.11 Beta (I have tested it with this release):

```
wget -c http://www2.ati.com/drivers/beta/amd-driver-installer-catalyst-12.11-beta-x86.x86_64.zip -O catalyst-12.11-beta-x86.x86_64.zip
```

Unzip the .zip and make it executable. Then go to the folder with the unzipped .run-file in terminal and type:

```
sudo sh ./amd-driver-installer-XXX.run --buildpkg Ubuntu/quantal
```

Replace XXX with the correct name of the file

Install the created .deb-files with the following terminal-command in the current directory:

```
sudo dpkg -i fglrx*.deb
```

# Post-Install:

Enter the terminal command

```
sudo aticonfig --initial -f
```

Reboot your system

```
sudo reboot
```

# **optional - fixing the bug for direct rendering on the integrated card:**

```
gksu gedit /etc/X11/Xsession.d/10fglrx
```

Add the string “/usr/lib/x86\_64-linux-gnu/dri/” on your 64Bit system that the line finally looks like this:

```
LIBGL_DRIVERS_PATH=${LIBGL_DRIVERS_PATH}: /usr/lib32/fglrx/dri: /usr/lib/x86_64-linux-gnu/dri
```

Add the string “/usr/lib32/dri/” on your 32Bit system that the line finally looks like this:

```
LIBGL_DRIVERS_PATH=${LIBGL_DRIVERS_PATH}: /usr/lib32/fglrx/dri: /usr/lib32/dri
```

# Links:

<http://ubuntuforums.org/showthread.php?t=1930450> 

<http://ubuntuforums.org/showthread.php?t=1930450&page=51> 

<http://www.upubuntu.com/2012/10/install-amd-catalyst-1211-beta-driver.html> 

# My Scripts for Switching

Script for High-GPU-Mode:

```
#!/bin/bash
# Activate discrete GPU (High-Performance mode), must re-start X to take effect
sudo aticonfig --px-dgpu
sudo restart lightdm
```

Script for Low-GPU-Mode:

```
#!/bin/bash
# Activate integrated GPU (Power-Saving mode), must re-start X to take effect
sudo aticonfig --px-igpu
sudo restart lightdm
```

Script for showing current GPU-Mode:

```
#!/bin/bash
#Show current GPU (High- or Low-Performance mode) as notification
aticonfig --px1 | while read SPAM_OUT; do notify-send "$SPAM_OUT"; done
```

**Note:** If you have always problems after the execution of a Switching-Script, make a restart of your system (and not only a re-login).

---

[Answer](#) by [mariann-lux](#)

## For 13.10

it works without tweaking on a fresh Ubuntu 13.10 install:

1) Open the terminal and type

```
sudo apt-get install fglrx fglrx-pxpress
```

2) and reboot

---

**Tags:** [ati](#)

---

[Q: Is my ATI graphics card supported in Ubuntu?](#)

---

[Q: How do I get AMD/Intel Hybrid Graphics drivers to work?](#)

---

# Brightness

## Questions

### **Q: Brightness is reset to Maximum on every Restart**

Tags: [brightness](#)

The brightness of my laptop is reset to Max on every restart. I tried the solution provided at this website but had no luck.

<http://ubuntuguide.net/how-to-save-screen-brightness-settings-in-ubuntu-12-04-laptop/>

This command

```
cat /sys/class/backlight/acpi_video0/max_brightness
```

Returns

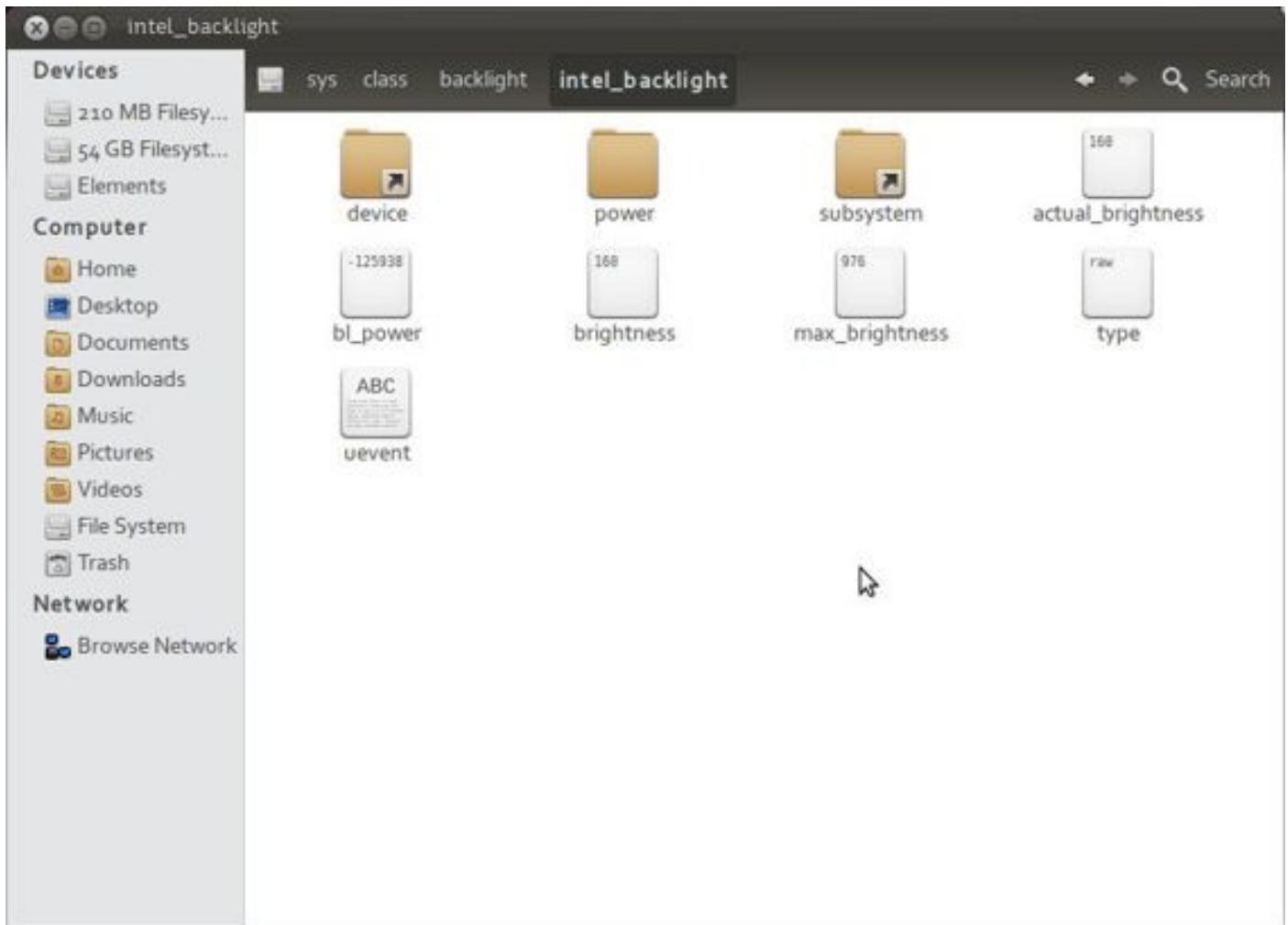
```
cat: /sys/class/backlight/acpi_video0/max_brightness: No such file or directory
```

Then I go on to find that I don't have any folder named

```
acpi_video0
```

but a folder called

```
intel_backlight
```



Every time I increase or decrease the brightness using the Brightness Control Keys the “brightness” and the “actual\_brightness” values get updated.

Is there any method I could follow to set the brightness to a fixed value on everyboot and vary it as and when I need it using the Brightness Control Keys.

**Tags:** [brightness](#)

**User:** [bhargav](#)

---

[Answer](#) by [mikewhatever](#)

You could try adding a line to /etc/rc.local that will set the desired brightness level. To edit the file, run

```
gksudo gedit /etc/rc.local
```

and add the following

```
echo X > /sys/class/backlight/intel_backlight/brightness
```

so that the end result looks like this

[Skip code block](#)

```
#!/bin/sh -e
#
# rc.local
#
# This script is executed at the end of each multiuser runlevel.
# Make sure that the script will "exit 0" on success or any other
# value on error.
```

```
#  
# In order to enable or disable this script just change the execution  
# bits.  
#  
# By default this script does nothing.  
  
echo X > /sys/class/backlight/intel_backlight/brightness  
  
exit 0
```

Substitute the x by the desired brightness level.

---

**Tags:** [brightness](#)

---

[Q: Desktop doesn't remember brightness settings after a reboot](#)

---

[Q: Brightness is reset to Maximum on every Restart](#)

---

# Hostname

## Questions

### [Q: How do I change the computer name?](#)

Tags: [hostname](#) ([Next Q](#))

When I connect to my server (ubuntu server 10.10), I get this:

```
name@server ~ name.belkin ~>
```

How can I remove “.belkin”?

Tags: [hostname](#) ([Next Q](#))

User: [wolfy](#)

---

[Answer](#)  by [richzilla](#)

You need to edit the computer name in two files:

```
/etc/hostname
```

and

```
/etc/hosts
```

These will both need administrative access, so run

```
gksu gedit /path/to/file
```

Simply replace any instances of the existing computer name with your new one. When complete, restart your computer, and the name will have been changed.

See also:

- [How do I change the hostname without a restart?](#)
- 

[Answer](#)  by [pavlos-g.](#)

It's quite easy:

1. Edit /etc/hostname, make the name change, save the file.
2. You should also make the same changes in /etc/hosts file
3. Run sudo /etc/init.d/hostname restart or sudo service hostname restart

As long as you have no application settings depending on the ‘old’ hostname, you should be ok ;-)

---

**Tags:** [hostname](#) ([Next Q](#))

---

## **Q: How do I change the hostname without a restart?**

**Tags:** [hostname](#)

I want to change the OS hostname but I do not want to restart.

I have edited /etc/hostname but it requires a restart to get implemented. How to avoid this?

**Tags:** [hostname](#)

**User:** [deepak-rajput](#)

---

[Answer](#)  by [jasperado](#)

It's not too hard. Use the following command in a terminal:

```
sudo hostname your-new-name
```

This will set the hostname to your-new-name until you restart. See `man hostname` and [How do I change the computer name?](#) for further information.

### Note

After a restart your changes in /etc/hostname will be used, so (as you said in the question), you should still use

```
sudo gedit /etc/hostname
```

(or some other editor) so that file contains the hostname.

You should also edit /etc/hosts and change the line which reads:

```
127.0.1.1      your-old-hostname
```

so that it now contains your new hostname. (This is required otherwise many commands will cease functioning.)

---

[Answer](#)  by [one-zero](#)

Changing the hostname or computer name in ubuntu **without restart**

Edit /etc/hostname and change to the new value,

```
nano /etc/hostname
```

Edit /etc/hosts and change the old 127.0.1.1 line to your new hostname

```
127.0.0.1      localhost
127.0.1.1      ubuntu.local      ubuntu      # change to your new hostname/fqdn
```

**Note :** i have read it on a forum > Edit /etc/hosts and change the old 127.0.1.1 line to your new hostname (if you dont do this, you wont be able to use sudo anymore. If you hav e already done it, press ESC on the grub menu, choose recovery, and edit your host file to

the correct settings)

Now after a reboot, your hostname will be the new one you chose

To change **without a reboot**, you can just use hostname.sh after you edit /etc/hostname. You must keep both your host names in /etc/hosts (127.0.0.1 newhost oldhost) until you execute the command below:

```
sudo /etc/init.d/hostname.sh start
```

**Note :** Above command to make the change active. The hostname saved in this file (/etc/hostname) will be preserved on system reboot (and will be set using the same script we used hostname.sh).

---

**Tags:** [hostname](#)

---

[\*\*Q: How do I change the computer name?\*\*](#)

---

[\*\*Q: How do I change the hostname without a restart?\*\*](#)

---

# GCC

## Questions

### [Q: Choose gcc and g++ version](#)

Tags: [gcc](#)

So I have installed gcc-4.4 and gcc-4.3 (same for g++). Now as far as I remember there is a tool in Ubuntu which sets the symlinks for you if you just tell it which version you want. However it does not seem to work in the newest version, which I find disappointing.

[Skip code block](#)

```
root@nexus:~# update-alternatives --config gcc
update-alternatives: error: no alternatives for gcc.
root@nexus:~# update-alternatives --config cc
There is only one alternative in link group cc: /usr/bin/gcc
Nothing to configure.

root@nexus:~# dpkg -l | grep gcc | awk '{print $2}'
gcc
gcc-4.3
gcc-4.3-base
gcc-4.3-multilib
gcc-4.4
gcc-4.4-base
gcc-4.4-multilib
gcc-4.5-base
gcc-multilib
lib32gcc1
libgcc1
```

Any ideas?

Tags: [gcc](#)

User: [nils](#)

---

[Answer](#)  by [hhlp](#)

First erased the current update-alternatives setup for gcc and g++:

```
sudo update-alternatives --remove-all gcc
sudo update-alternatives --remove-all g++
```

## Install Packages

It seems that both gcc-4.3 and gcc-4.4 are installed after install build-essential. However, we can explicitly install the following packages:

```
sudo apt-get install gcc-4.3 gcc-4.4 g++-4.3 g++-4.4
```

## Install Alternatives

Symbolic links cc and c++ are installed by default. We will install symbol links for gcc and g++, then link cc and c++ to gcc and g++ respectively.

#### [Skip code block](#)

```
sudo update-alternatives --install /usr/bin/gcc gcc /usr/bin/gcc-4.3 10
sudo update-alternatives --install /usr/bin/gcc gcc /usr/bin/gcc-4.4 20

sudo update-alternatives --install /usr/bin/g++ g++ /usr/bin/g++-4.3 10
sudo update-alternatives --install /usr/bin/g++ g++ /usr/bin/g++-4.4 20

sudo update-alternatives --install /usr/bin/cc cc /usr/bin/gcc 30
sudo update-alternatives --set cc /usr/bin/gcc

sudo update-alternatives --install /usr/bin/c++ c++ /usr/bin/g++ 30
sudo update-alternatives --set c++ /usr/bin/g++
```

## Configure Alternatives

The last step is configuring the default commands for gcc, g++. It's easy to switch between 4.3 and 4.4 interactively:

```
sudo update-alternatives --config gcc
sudo update-alternatives --config g++
```

Or switch using script:

#### [Skip code block](#)

```
#!/bin/sh

if [ -z "$1" ]; then
    echo "usage: $0 version" 1>&2
    exit 1
fi

if [ ! -f "/usr/bin/gcc-$1" ] || [ ! -f "/usr/bin/g++-$1" ]; then
    echo "no such version gcc/g++ installed" 1>&2
    exit 1
fi

update-alternatives --set gcc "/usr/bin/gcc-$1"
update-alternatives --set g++ "/usr/bin/g++-$1"
```

---

Tags: [gcc](#)

---

[Q: Choose gcc and g++ version](#)

---

[Q: How to install gcc-4.8](#)

---

# ISO

[Skip to questions](#), Wiki by user [guntbert](#)

ISO-image is an archive file (also known as a disc image) of an optical disc, composed of the data contents of every written sector of an optical disc.

---

# Questions

## Q: What is different about the Mac ISO image?

Tags: [iso](#)

<http://cdimage.ubuntu.com/releases/11.04/release/> 

At that location there is an ISO image which is described as “This image is adjusted to work properly on Mac systems.”

What specific problems on the Mac does this image address that the standard images don’t? I ask because I need to know which ISO to recommend to Apple Mac users.

Tags: [iso](#)

User: [popey](#)

---

[Answer](#)  by [colin-watson](#)

In Ubuntu 10.10, we changed the normal amd64 CD images to dual-boot on either BIOS or UEFI systems (UEFI, “Unified Extensible Firmware Interface”, is a different kind of firmware found on many newer systems). This was done using a technique known as a “multi-catalog” CD - it contains two boot images, and the specification says that the firmware is supposed to pick the one it can best use.

Unfortunately, even though Macs use a variant of EFI (an earlier version of what’s now called UEFI), they apparently can’t cope with multi-catalog CDs, and simply [refuse to boot them](#) . This left us in rather a quandary: we needed to support UEFI systems, but we didn’t want to drop support for Macs either. I therefore created the amd64+mac CD images, which are exactly the same as the amd64 images except that they only support BIOS booting. Macs are happy to boot these in their BIOS emulation mode.

(In fact, the name amd64+mac is a slight misnomer, because it later turned out that some systems other than Macs suffer from a similar problem - but I felt that a more technically accurate naming such as amd64+nouefi would be more likely to confuse than enlighten.)

While I would love to return to shipping just amd64 images rather than both amd64 and amd64+mac, at the moment there is no prospect of reunifying them unless somebody figures out how to make a multi-catalog CD image that Macs can boot. If you’re an expert on this, please do contact me by e-mail.

---

[Answer](#)  by [shaun](#)

Appears to be very little between them, mostly the beginnings of EFI booting:

[Skip code block](#)

```
$ diff --context=0 ubuntu-11.04-desktop-amd64*list
*** ubuntu-11.04-desktop-amd64+mac.list 2011-04-27 18:06:42.000000000 +0100
--- ubuntu-11.04-desktop-amd64.list 2011-04-27 18:05:44.000000000 +0100
*****
```

```
*** 4 ***
--- 5 ---
+ /usb-creator.exe
*****
*** 134,135 ****
- /isolinux/grub/font.pf2
- /isolinux/grub/grub.cfg
--- 134 ---
*****
*** 144 ****
--- 144 ---
+ /efi/boot/bootx64.efi
```

I've not personally had much luck with the uefi booting, so I'd probably recommend users stick to the regular amd64 releases until uefi is required. (on most models, the regular disks work fine via bootcamp's bios emulation layer)

---

**Tags:** [iso](#)

---

[Q: What is different about the Mac ISO image?](#)

---

[Q: How to burn a .iso to a USB device?](#)

---

# LibreOffice

[Skip to questions](#), Wiki by user [zpletan](#)

LibreOffice is a free and open source office suite developed by The Document Foundation as a fork of OpenOffice.org. It is largely compatible with other major office suites, including Microsoft Office, and is available for a variety of platforms.

LibreOffice can import and export documents in several file formats; its native format is the OpenDocument Format (ODF). Formats supported (for reading and writing) include the Office Open XML specification used in Microsoft Office 2007 and 2010 (.docx, .pptx and .xlsx), as well as to the older file formats used in Microsoft Office 95 and 97-2003 (.doc, .ppt and .xls). It also supports Rich Text File format (.rtf) and OpenOffice.org XML format. All documents can be exported to the PDF format, as well as presentations to Adobe Flash (SWF). LibreOffice also has the ability to import documents in read-only mode in the Uniform Office Format, Data Interchange Format and the formats of Microsoft Works, WordPerfect and Lotus 1-2-3.

(Excerpted from [Wikipedia](#).)

---

# Questions

## [Q: What is the difference between OpenOffice and the newly created LibreOffice?](#)

**Tags:** [libreoffice](#)

What is the difference between OpenOffice and LibreOffice? I understand that LibreOffice is another fork that is going to be developed. I have used OpenOffice since v1 and am wondering if there is a definite advantage to uninstalling and trying LibreOffice.

**Tags:** [libreoffice](#)

**User:** [runningutes](#)

---

[Answer](#)  by [manish-sinha](#)

As of now there is hardly any changes between LibreOffice and OpenOffice. The former is a fork to free OpenOffice.org from the clutches of Oracle.

Till date Sun has asked for copyright assignment to Sun if you wanted your patch to be merged. This has been a great deterrent and has limited community involvement. LibreOffice says “Everyone is invited”. It is not an office suit which will be controlled by one organization, but many organizations will take part to develop it. The supporters include Google, RedHat, Canonical, Novell and a few more (not sure about the list)

LibreOffice has also [brought up a wikipage named “Easy Hacks”](#)  to get the community involved in the development. This is a great step as probably people would be excited to look at the code.

From that page I can see that the codebase is a bit messy. There are non-English comments, bogus comments, dead code and what not.

Another good reason for breaking apart was that Oracle does not look interested in taking the development of Open Source ahead. OpenSolaris is nearly gone and if this fork didn’t happen, probably OO.o would also have become stagnant.

---

**Tags:** [libreoffice](#)

---

[Q: What is the difference between OpenOffice and the newly created LibreOffice?](#)

---

[Q: How do I install LibreOffice 4?](#)

---

# Gksu

## Questions

### [Q: Why is gksu no longer installed by default?](#)

Tags: [gksu](#)

I have always recommended pressing ALT+F2 and typing for example gksu nautilus or gksudo nautilus both are equivalent; to run graphical programs with **root** privileges. However, I have just installed raring on a test system and this no longer works.

gksu and gksudo are not installed as part of a default raring install; though they are in the repositories. In 12.04 at least gksudo was just a symbolic link to gksu

The reasons I have always done this are because while it is often safe to use sudo under some circumstances it can cause problems with graphical applications because gksu has you running the program as **root** while with sudo you are running as yourself but with elevated privileges.

This can mean you inadvertently change the owner of critical system files. This can cause problems.

This reasoning is explained better here:

- [Running Sudo Graphically — psychocats](#) 
- [Root Sudo - Community Ubuntu documentation](#) 
- [What is the difference between gksudo nautilus and sudo nautilus? on AskUbuntu](#) 

Why was command removed from a fresh install and what should we be using instead?

Tags: [gksu](#)

User: [warren-hill](#)

---

[Answer](#)  by [warren-hill](#)

After a long discussion on #ubuntu-devel I now understand the thinking.

**gksu** can be installed on 13.04 with `sudo apt-get install gksu` and it will work.

If you decided to install gksu and are using the 64-bit version you'll need to run `gksu-properties` once to set the authentication to sudo. There is no need to do this on 32-bit as it's set to sudo by default.

# Missing Image

However gksu is not recommended any more and it may be removed entirely from future issues of Ubuntu. In general the development team would prefer us not to use GUI applications as root but to use **sudo** and the command line instead.

In the long term pkexec is preferred however it's not very easy to use at the moment.

**pkexec** allows an authorized user to execute PROGRAM as another user. If username is not specified, then the program will be executed as the administrative super user, root.

see the [man page](#)  man pkexec for more information.

In the mean time you can open a terminal **CTRL+ALT+T** or search for terminal in dash.

**Do not close the terminal until you have finished this is important** as the GUI program is a child of the terminal and if you close it the GUI program will also close.

Enter **sudo -i**

You are now logged on as root so can make the changes you want for example

```
gedit path_to_file
```

to edit a configuration file, or

```
nautilus
```

to run the file manager

When you are finished close the GUI application then in the terminal

```
exit
```

You can now close the terminal.

---

**Tags:** [gksu](#)

---

[Q: What is the difference between “gksudo nautilus” and “sudo nautilus”?](#)

---

[Q: Why is gksu no longer installed by default?](#)

---

# Notification Area

## Questions

### [Q: Upgraded to 13.10 now clock settings are all disabled and clock does not display](#)

Tags: [notification-area](#)

I've upgraded to 13.10 and now I don't have the standard menu clock, which I need for work.

I checked and 'indicator-datetime' is installed. I even uninstalled/reinstalled that applet with no luck.

Also my "clock" settings under System Preferences are all disabled. I can't change anything.

Does anyone know how I can get the old menu clock back?

Alternatively is there another menu clock app I can download?

#### Edit 1

Thanks for the responses

1. I've restarted several times and that didn't fix the issue.
2. I just ran the 13.10 update today. But I ran it again a few minutes ago. I got about 200KB in random updates. The issue is still present after a reboot.
3. # apt-cache policy indicator-datetime  
indicator-datetime: Installed: 13.10.0+13.10.20131016.2-0ubuntu1 Candidate: 13.10.0+13.10.20131016.2-0ubuntu1 Version table:  
\*\*\* 13.10.0+13.10.20131016.2-0ubuntu1 0 500  
http://us.archive.ubuntu.com/ubuntu/ saucy/main amd64 Packages 100  
/var/lib/dpkg/status

#### Edit 2

I believe the issue is related to 'rarings' changing the systray somehow...

<http://www.omgubuntu.co.uk/2013/02/raring-retires-system-tray-whitelist> 

Or [systray disappeared](#), although I haven't got that solution to work yet.

#### Edit 3

Because of a suggestion from RolandiXor I've check the binaries. My system is missing 'libical.so.0' but it has 'libical.so.1'.

```
ldd /usr/lib/x86_64-linux-gnu/indicator-datetime-service
libical.so.0 => not found
```

Does anyone know how to get the libical.so.0 binary that the datetime service needs but doesn't install?

**Tags:** [notification-area](#)

**User:** [kervin](#)

---

[Answer](#) by [william](#)

There's a bug report for that in [Launchpad](#).

Quick fix:

Open terminal (ctrl + alt + T) and type

```
killall unity-panel-service
```

---

**Tags:** [notification-area](#)

---

[Q: How do I access and enable more icons to be in the system tray?](#)

---

[Q: Upgraded to 13.10 now clock settings are all disabled and clock does not display](#)

---

# Environment Variables

## Questions

### [Q: How to add a directory to my path?](#)

**Tags:** [environment-variables](#)

How do I add a directory to my \$PATH in Ubuntu and make the changes permanent?

**Tags:** [environment-variables](#)

**User:** [justingrif](#)

---

[Answer](#)  by [ko-dos](#)

## Update:

The Ubuntu desktop session is no longer affected by `.profile`. Additionally bash doesn't parse `.profile` if either `.bash_profile` or `.bash_login` exists.

See the [answers below](#) for information about `.pam_environment`, or `.bashrc` for interactive non-login shells, or set the value globally for all users by putting a script into `/etc/profile.d/` or use `/etc/Xsession.d/` to affect the display managers session.

---

# Using `~/.profile` to set \$PATH

A path set in `.bash_profile` will only be set in a bash login shell (`bash -l`). If you put your path in `.profile` it will be available to your complete desktop session. That means even metacity will use it.

For example `~/.profile`:

```
if [ -d "$HOME/bin" ] ; then  
    PATH="$HOME/bin:$PATH"  
fi
```

Btw, you can check the PATH variable of a process by looking at its environment in `/proc/[pid]/environ`. (replace [pid] with the number from `ps auxf`)

---

[Answer](#)  by [ophidian](#)

Edit `.bashrc` in your home directory and add the following line:

```
export PATH=/path/to/dir:$PATH
```

You will need to source your `.bashrc` or logout/login (or restart the terminal) for the changes to take effect.

To source your `.bashrc`, simply type

```
$ source .bashrc
```

when in the home directory.

---

[Answer](#)  by [woto](#)

I think the better way in ideology of Ubuntu is:

- create new file under `/etc/profile.d/`

```
sudo vi /etc/profile.d/SCRIPT_NAME.sh
```

- add there:

```
export PATH=YOUR_PATH_WITHOUT_TRAILING_SLASH:$PATH
```

- and give right on executable

```
sudo chmod a+x /etc/profile.d/SCRIPT_NAME.sh
```

---

**Tags:** [environment-variables](#)

---

[Q: How to add a directory to my path?](#)

---

[Q: Why `~/.bash\_profile` is not getting sourced when opening a terminal?](#)

# Apport

[Skip to questions](#), Wiki by user [luis-alvarado](#)

Apport is a system which:

- Intercepts crashes right when they happen the first time.
- Gathers potentially useful information about the crash and the OS environment.
- Can be automatically invoked for unhandled exceptions in other programming languages (e. g. in Ubuntu this is done for Python)
- Can be automatically invoked for other problems that can be automatically detected (e. g. Ubuntu automatically detects and reports package installation/upgrade failures from update-manager)
- Presents an UI that informs the user about the crash and instructs them on how to proceed
- Able to file non-crash bug reports about software, so that developers still get information about package versions, OS version etc.

<https://wiki.ubuntu.com/Apport> 

---

# Questions

## [Q: How do I enable or disable Apport?](#)

Tags: [apport](#)

The system crash dialog is annoying me, how can I turn it off? I'd also like to know how to turn it back on just in case I need it to report a problem.

Tags: [apport](#)

User: [jokerdino](#)

---

[Answer](#)  by [bodhi.zazen](#)

you need to edit /etc/default/apport

---

**Graphical:** After pushed the combo key (ALT+F2) or (CTRL+ALT+T),  
type this:

```
gksudo gedit /etc/default/apport
```

and then push ENTER (*password will be asked*).

or

**Command line:**

```
sudo nano /etc/default/apport
```

A file editor is now open. Change enabled from “0” to a “1” so it looks like this:

```
enabled=1
```

To turn it off make it:

```
enabled=0
```

Now save your changes and close the file editor.

You can also use sudo service apport stop to turn it off at boot.

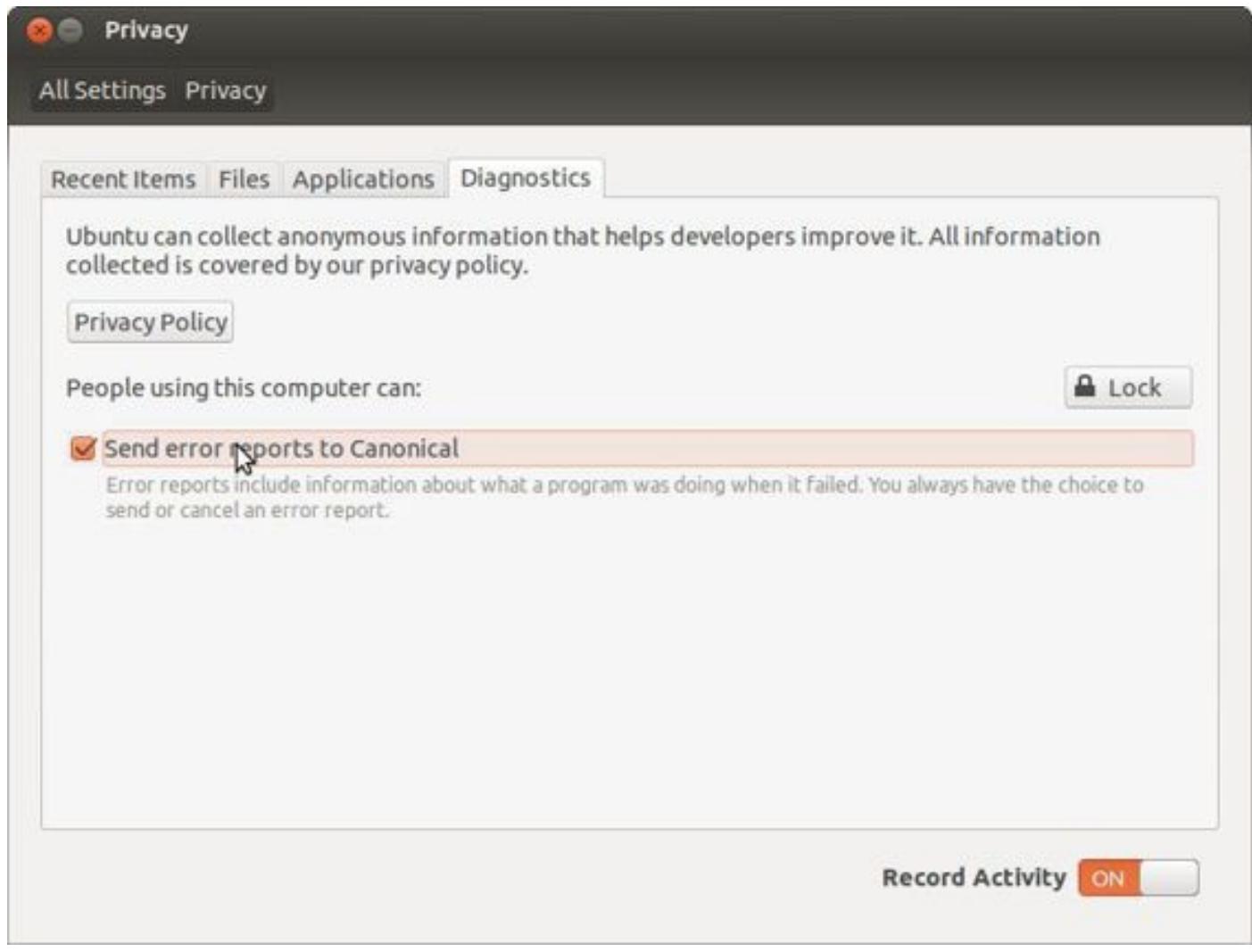
See also :

- <https://wiki.ubuntu.com/Apport> 
  - [https://help.ubuntu.com/community/ReportingBugs#A4.\\_Collect\\_information\\_about](https://help.ubuntu.com/community/ReportingBugs#A4._Collect_information_about)
- 

[Answer](#)  by [medigeek](#)

- Click on ubuntu icon, search for “System settings”
- Select Privacy > Diagnostics tab

- Unlock
- Tick “Send error reports to Canonical”



[Answer](#) by [anonymous](#)

```
sudo service apport stop ; sudo sed -ibak -e s/^enabled\=1$/enabled\=0/ /etc/default/apport ; sudo mv /etc/default/apportbak ~
```

The above script should stop apport, then take a backup of its configuration file, disable apport on boot, and lastly moves the backup to your home directory.

Tags: [apport](#)

[Q: How do I enable or disable Apport?](#)

[Q: What is the ‘whoopsie’ process and how can I remove it?](#)

# Symbolic Link

[Skip to questions](#), Wiki by user [binw](#)

A symbolic link is a file that merely contains a text string which is a path to another file or directory. A symlink file does not depend on the target file and can exist even if the target is moved or deleted. Moving or removing the target does not effect the symbolic link file, it will still have the same path although the path will now be invalid.

The following command is used to create symbolic links from command line

```
ln -s source destination
```

In this command, **source** is the name(if the file is in current director) or path(relative or absolute) of the file that you want the symlink to point to and **destination** is the name of the symbolic link.

So for example if your current directory contains a file named test.sh, you can create a symlink to it using command:

```
ln -s test.sh testlink
```

A new file named testlink will be created in the current directory and it will link to test.sh  
You can also use absolute path to test.sh as source as follows

```
ln -s /path/to/test.sh testlink
```

This will also create a symlink to test.sh. The difference between the two approaches is that in the first case the symlink will contain a relative path i.e relative to current directory. This means that if you move this symbolic link file to another location in the file system, the link will become invalid as the path in the symlink will no longer be valid. But if you move the symbolic link file created using absolute path, the link will still be valid.

---

# Questions

## [Q: How to create a soft or symbolic link?](#)

**Tags:** [symbolic-link](#) ([Next Q](#))

I am installing p4v in /opt, but /usr/bin is on my path. Is it possible to create a soft or symbolic link for p4v from /opt to /usr/bin, so I can just type “p4v” since /usr/bin is in my path?

**Tags:** [symbolic-link](#) ([Next Q](#))

**User:** [coffee](#)

---

[Answer](#)  by [michaÅ,-Å;rajer](#)

See `man ln`. To create symlink /opt/foo —> /usr/bin/bar, (i.e., create symlink at /opt/foo which references to file /usr/bin/bar) do:

```
ln -s /usr/bin/bar /opt/foo
```

---

**Tags:** [symbolic-link](#) ([Next Q](#))

---

## [Q: What is the difference between a hard link and a symbolic link?](#)

**Tags:** [symbolic-link](#)

As the title says, I would like to know the difference between a hard link and a soft link created by the command `ln`. The command `man ln` does provide information, but does not sufficiently answer my question. Thanks in advance.

Also, it would be nice if someone could provide a setting where hard link might be preferable over a symbolic link.

**Tags:** [symbolic-link](#)

**User:** [ste\\_kwr](#)

---

[Answer](#)  by [vartec](#)

A hardlink isn't a pointer to a file, it's a directory entry (a file) pointing to the same inode. Even if you change the name of the other file, a hardlink still points to the file. If you replace the other file with a new version (by copying it), a hardlink will not point to the new file. You can only have hardlinks within the same filesystem. With hardlinks you don't have concept of the original files and links, all are equal (think of it as a reference to an object). It's a very low level concept.

On the other hand, a symlink is actually pointing to another path (a file name); it resolves the name of the file each time you access it through the symlink. If you move the file, the symlink will not follow. If you replace the file with another one, keeping the name, the symlink will point to the new file. Symlinks can span filesystems. With symlinks you have very clear distinction between the actual file and symlink, which stores no info beside the path about the file it points to.

---

[Answer](#)  by [knittl](#)

A hardlink can only work on the same filesystem, it is simply a different name for the same inode (files are internally referenced by inodes). A file will only be deleted from disk when the last link to its inode is gone (you `rmd` or `unlinkd` the last link). Hardlinks usually only work for files, not directories.

A symlink (symbolic link) is a special file containing a path to another file. This path can be absolute or relative. symlinks can work across file systems, and can even point to different files, if you for example unplug an external hard drive and replace it with another one, which has a different file at the same path. A symlink can point to either files or directories.

---

[Answer](#)  by [psusi](#)

Both are pointers to files; the difference is the *kind* of pointer. A symbolic link points to another file *by name*. It has a special mode bit that identifies it as a symbolic link, and its contents are the name of the real file. Because it just contains a name, that name does not actually have to exist, or may exist on a different filesystem. If you replace the named file, then the link still contains the same name, and so now it points to the new file. You can easily identify a symbolic link and see the name of the file it points to.

A hard link points to the file by inode number. As such, hard links are no different than the first name of a file. There is no “real” name vs. hard link name; all hard links are equally valid names for the file. Because of this, the file you link to must actually exist and be in the same filesystem where you are trying to create the link. If you delete the original name, then the hard link still points to the same file. Because all hard links are equally valid name(s) for the file, you can not look at one and see the other names for the file; to find this, you have to go looking at every file and compare their inode number to find the other name(s) that have the same inode number.

You can tell how many names a file has from the output of `ls -l`. The first number after the file mode is the link count. A file with more than 1 link has other name(s) somewhere, and conversely, a file with a link count of only 1 has no (other) hard links.

---

**Tags:** [symbolic-link](#)

---

[Q: How to create a soft or symbolic link?](#)

---

[Q: What is the difference between a hard link and a symbolic link?](#)

---

# BitTorrent

## Questions

### [Q: How to run BitTorrent Sync?](#)

Tags: [bittorrent](#)

I am in Ubuntu 12.04 (precise) 64bit and downloaded the btsync executable from <http://labs.bittorrent.com/experiments-sync/> but running it doesn't seem to have any effect. Double-clicking the executable does nothing, and running ./btsync in the terminal also exits immediately without any output.

Has anyone successfully ran this under Ubuntu, and if so, is there any special configuration changes that need to be made to make it work?

Tags: [bittorrent](#)

User: [waldir](#)

---

Answer  by [qasim](#)

There are 2 ways to use **BitTorrent Sync** , 1st Install it using PPA & 2nd Download

#### 1st PPA

```
sudo add-apt-repository ppa:tuxpoldo/btsync  
sudo apt-get update
```

For normal desktop use, you only need to install btsync-user:

```
sudo apt-get install btsync-user
```

Alternatively, if you're setting up your BTSync server, install btsync:

```
sudo apt-get install btsync
```

During the installation just use the default setting and set the administrative password as well , You can access it by

```
127.0.0.1:8888 # This will redirect to the 2nd link
```

#### OR

```
http://127.0.0.1:8888/gui/
```

Username = admin , Password = ( Use have set during installation )

---

#### 2nd Download

Download BitTorrent Sync <http://www.bittorrent.com/sync/downloads> 

```
cd Downloads  
tar xzpf btsync_glibc23_x64.tar.gz # I have downloaded 64 bit. So check your version  
./btsync
```

The output will be

```
./btsync  
BitTorrent Sync forked to background. pid = 5771 # some what like this pid will be change
```

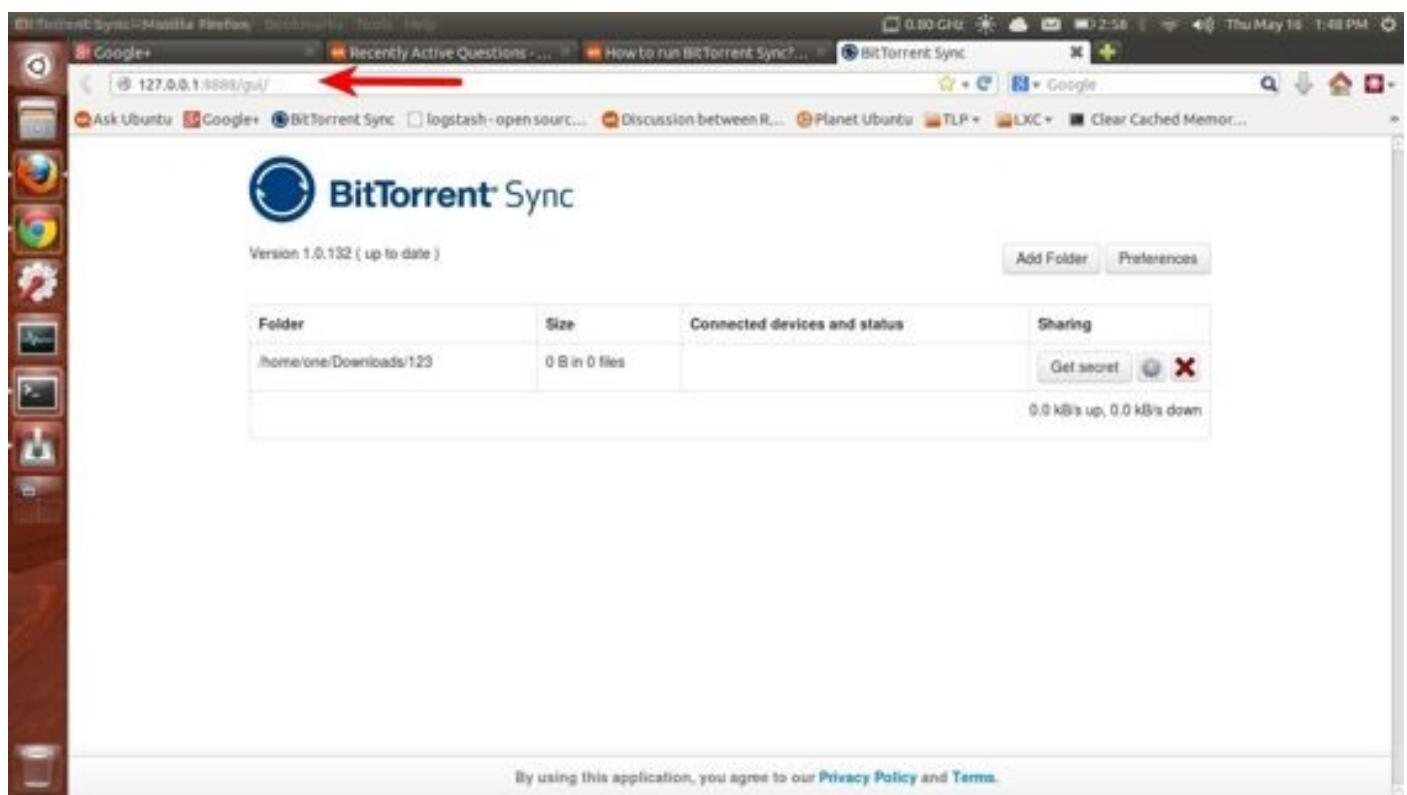
```
one@Ubuntu:~/Downloads$ ./btsync  
BitTorrent Sync forked to background. pid = 5771  
one@Ubuntu:~/Downloads$ █
```

Open any web browser & copy paste the following line

```
127.0.0.1:8888 # This will redirect to the 2nd link
```

OR

```
http://127.0.0.1:8888/gui/
```



If you type ./btsync --help you can also run it no deamon mode

[Skip code block](#)

```
./btsync --help  
BitTorrent Sync 1.0.132  
Usage:  
btsync [--config <path>] [--nodaemon] [--generate-secret] [--dump-sample-config] [--help] [--get-ro-secret <secret>]  
Options:  
--config - location and name of configuration file  
--nodaemon - do not use daemon mode  
--generate-secret - generate shared secret  
--get-ro-secret - get read only secret for existing master secret  
--dump-sample-config - dump sample config file  
--help - print this message and exit
```

## Help

[forum.bittorrent.com](http://forum.bittorrent.com) 

[Video tutorial jupiterbroadcasting.com](http://Video tutorial jupiterbroadcasting.com) 

Please also have look at [Peer To Peer \(P2P\) Sync and Share Ubuntu](http://Peer To Peer (P2P) Sync and Share Ubuntu) 

---

[Answer](#)  by [waldir](#)

According to the [user guide](#)  ([pdf](#) http://localhost:8888/gui/.

---

**Tags:** [bittorrent](#)

---

[Q: Torrent client for the command-line?](#)

---

[Q: How to run BitTorrent Sync?](#)

---

# MTP

[Skip to questions](#), Wiki by user [andybleaden](#)

## MTP Media Players

A number of MP3 players, such as those produced by Samsung, Creative and many others use Media Transfer Protocol (MTP). These devices, when used with the correct driver, often appear in Windows as a media device but can be accessed as a USB device.

Ubuntu 11.04 supports these devices for instance in Banshee but requires two steps:

Install the mtpfs and mtp-tools packages.

```
sudo apt-get install mtpfs mtp-tools
```

Open Applications Sound & Video Banshee Media Player.

Click Edit Preferences.

Click Extensions.

Tick the MTP Media Player Support extension.

Click Close.

Your device will now be displayed in the left hand pane under Devices when connected.

There are really useful guides on mtp and ubuntu here for some common mtp devices:

[Ubuntu forums how to guide](#) 

[Gnomad for Creative Products](#) 

## History

Originally MTP was designed to be part of Microsoft's 'Media family' its adoption in devices like those from Creative, Blackberry and Samsung mean that many Ubuntu users struggle to get these devices to sync automatically.

However more recently there are methods to address this using the libmtp shared library that implements the MTP protocol and also includes some command-line example tools.

---

# Questions

## Q: Getting MTP enabled devices to work with Ubuntu?

Tags: [mtp](#)

Since **Ubuntu 13.04** storage access to external devices via **MTP** is supposed to **work out of the box** via a GVFS-MTP module.

While this question is about the Galaxy Nexus, other Android devices as well as **Windows Phones** and MTP enabled media players **are also supported**.

For **troubleshooting** see [this answer](#).

---

I am having quite a bit of problems getting file-transfers working over MTP with the Galaxy Nexus. I am using Kubuntu 11.10 64-bit, and this is what I have done and the results I get:

1. Added rule for device in `/etc/udev/rules.d/51-android.rules`. The rule is the following and works for adb:

```
SUBSYSTEMS=="usb", ATTRS{idVendor}=="04e8", ATTRS{idProduct}=="6860", MODE=="0666",  
OWNER="leob" #Galaxy Nexus
```

2. Restarted udev (and computer just to make sure).

Adb works, and all methods for reading from the device via MTP seems to work (I have tried mounting with `mtpfs`, `gmtp` and using the `mtp-tools` package directly). When I try to write to the device however, nothing I have tried works.

As an example, running `mtp-newfolder test_dir 0 0` gives the following output:

```
libmtp version: 1.1.0  
Device 0 (VID=04e8 and PID=6860) is a Samsung GT-P7510/Galaxy Tab 10.1.  
Folder creation failed.  
ERROR: Could not close session!
```

If I run `mtp-folders` after a failed `mtp-newfolder` without re-plugging the device, I get the following output:

[Skip code block](#)

```
Attempting to connect device(s)  
Device 0 (VID=04e8 and PID=6860) is a Samsung GT-P7510/Galaxy Tab 10.1.  
PTP_ERROR_IO: failed to open session, trying again after resetting USB interface  
LIBMTP libusb: Attempt to reset device  
mtp-folders: Successfully connected  
Friendly name: (NULL)  
Error 1: Get Storage information failed.  
Error 2: PTP Layer error 02fe: get_all_metadata_fast(): could not get proplist of all objects.  
Error 2: (Look this up in ptp.h for an explanation.)  
Error 2: PTP Layer error 02fe: get_handles_recursively(): could not get object handles.  
Error 2: (Look this up in ptp.h for an explanation.)  
LIBMTP_Get_Storage()  
: Resource temporarily unavailable  
OK.
```

Accompanied by the following in dmesg:

```
[ 1000.912082] usb 2-4: reset high speed USB device number 7 using ehci_hcd
[ 1001.045877] usb 2-4: usbfs: process 3166 (mtp-folders) did not claim interface 0 before use
```

Does anyone have any idea about what to do?

**EDIT:**

I also tried the PTP mode. Again, reading works fine, but I cannot write anything to the device.

**Tags:** [mtp](#)

**User:** [leo](#)

---

[Answer](#) by [shannon\\_vanwagner](#)

**Since Ubuntu 13.04, storage access to external devices via MTP works out of the box via a GVFS-MTP module.**

Related question: [Are there any plans to improve mtp support on future Ubuntu releases?](#)

For troubleshooting, see [this answer](#).

---

For me, it was a problem of not having the latest libmtp files on my system. So I fixed the problem and made [this write-up to help others](#).

**Summary of the link:** There was a bug in the libmtp bundled with older Ubuntu releases. This bug was already fixed in the [latest source](#) of libmtp.

---

[Answer](#) by [desgua](#)

Have you tried [Bilal Akhtar's](#) suggestion at [omgubuntu](#)?

# Connecting your Android phone or tablet to Ubuntu with MTPFS

## 1. Setup

First up, install the necessary tools with `sudo apt-get install mtp-tools mtpfs`

Connect your Galaxy Nexus to your computer. On your phone, open up the notification drawer, and click on “USB Connection type”. Make sure that MTP is selected.



Then, run these commands:

```
mtp-detect | grep idVendor  
mtp-detect | grep idProduct
```

You shall get an output like this:

```
bilal@bilal-dell:~$ mtp-detect | grep idVendor
Device 0 (VID=04e8 and PID=685c) is UNKNOWN.
Please report this VID/PID and the device model to the libmtp development team
  idVendor: 04e8
bilal@bilal-dell:~$ mtp-detect | grep idProduct
Device 0 (VID=04e8 and PID=685c) is UNKNOWN.
Please report this VID/PID and the device model to the libmtp development team
  idProduct: 685c
```

Now, run these commands:

```
gksu gedit /etc/udev/rules.d/51-android.rules
```

A Gedit window should open up. Type this text in it, all in a **single line**:

```
SUBSYSTEM=="usb", ATTR{idVendor}=="VENDORID", ATTR{idProduct}=="PRODUCTID", MODE=="0666"
```

Replace VENDORID with the idVendor you had noted down earlier. Similarly, replace PRODUCTID with the idProduct you had noted down. In my case, they were 04e8 and 685c respectively, but they might have been different for you.

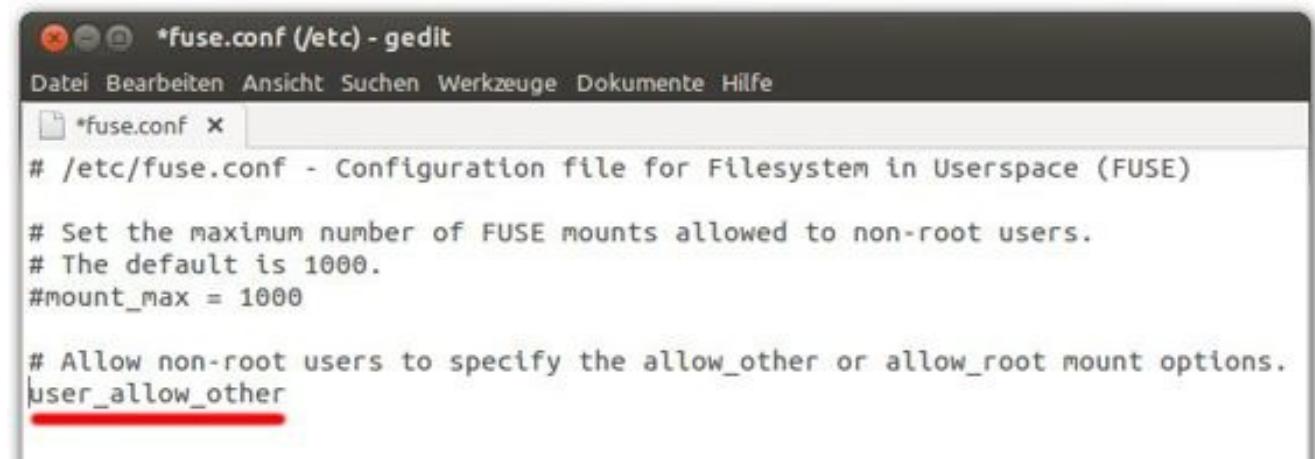
Save and close the file. Then, **disconnect** your phone and run these commands:

```
sudo service udev restart
sudo mkdir /media/GalaxyNexus
sudo chmod a+rwx /media/GalaxyNexus
sudo adduser $USER fuse
```

\$USER is a default shell variable and should be the user you want to add (usually yourself). Now, run this command:

```
gksu gedit /etc/fuse.conf
```

In the Gedit window, remove the # at the beginning of the last line (the one that begins with #user\_allow\_other) like this:



You're almost done! Now, restart your computer, and then run these three commands:

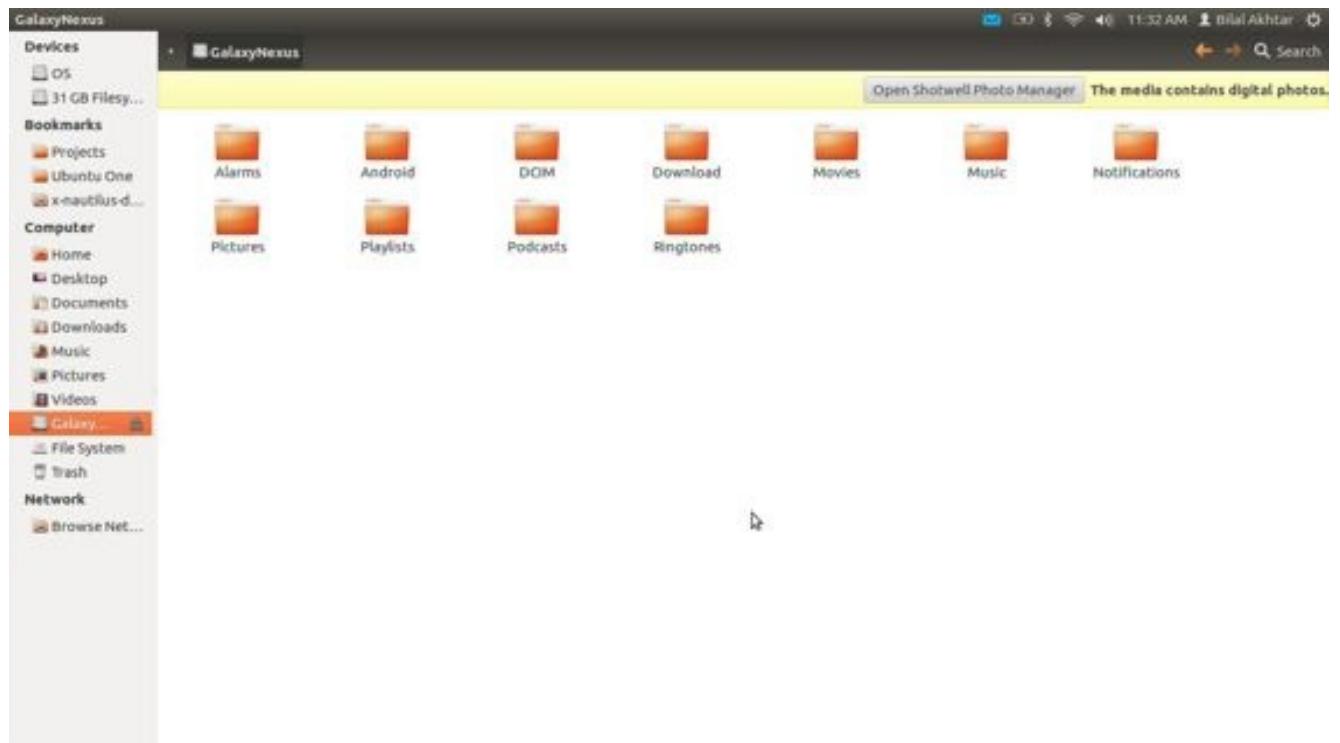
```
echo "alias android-connect=\"mtpfs -o allow_other /media/GalaxyNexus\"" >> ~/.bashrc
echo "alias android-disconnect=\"fusermount -u /media/GalaxyNexus\"" >> ~/.bashrc
source ~/.bashrc
```

## 2. Usage

Connect your phone, make sure your phone is using MTP and run android-connect.

Voila! You can now browse your Android phone contents using Nautilus. Just fire up the file manager, and then in the side bar click GalaxyNexus to browse your phone

contents just like you would do with a USB stick. You can also add, remove and modify files just like a normal file system.



To safely remove the phone, just run android-disconnect.

### 3. Conclusion

From now onward, you just need to run android-connect to mount your phone and then android-disconnect to safely remove your phone. Everything else should be handled automatically. I tried many ways of getting the mount and unmount to happen automatically on cable connect, but this was the best solution I could come up with.

These two commands **won't require root permissions** to run. All users who are members of the fuse user group should be able to run these commands without root access.

That's it! You've successfully connected your Ice Cream Sandwich phone to your Ubuntu computer. The process may be long for a newbie, but I'm sure someone will come around and make a GUI for all of this so that everything happens smoothly. :)

---

**Tags:** [mtp](#)

---

[Q: Getting MTP enabled devices to work with Ubuntu?](#)

---

[Q: How do I connect a Nexus 7 to transfer files?](#)

---

# Tar

## Questions

### [Q: How to extract files to another directory using ‘tar’ command?](#)

Tags: [tar](#)

I think tar archive.tar /users/mylocation will work. But it doesn't. How can I do that?

Tags: [tar](#)

User: [goovim](#)

---

[Answer](#)  by [wesley-rice](#)

To extract an archive to a directory different from the current, use the -C, or --directory, tar option, as in

```
tar -xf archive.tar -C /target/directory
```

Read the [manual page](#)  (command: man tar) for other options.

---

[Answer](#)  by [bryan-larsen](#)

Note that if your tarball already contains a directory name you want to change, add the --strip-components=1 option:

```
tar xf archive.tar -C /target/directory --strip-components=1
```

---

Tags: [tar](#)

---

[Q: How to extract files to another directory using ‘tar’ command?](#)

---

[Q: How do I uncompress a tarball that uses .xz?](#)

---

# Screencast

[Skip to questions](#), Wiki by user [rolandixor](#)

A screencast is a video recording of the contents of the screen. There are several tools for doing this in available for Ubuntu, such as recordmydesktop, tibesti and kazam.

---

# Questions

## [Q: How to create animated GIF images of a screencast?](#)

**Tags:** [screencast](#)

I've seen animated GIF images of screen casts (like the one below) promoted a few times on this site as a way to improve answers.



What toolchain is being used to create these? Is there a program that does this automatically, or are people taking screencasts, converting them into a series of static frames, and then creating the GIF images?

**Tags:** [screencast](#)

**User:** [andrewsomething](#)

[Answer](#)  by [maniat1k](#)

First install this:

```
sudo apt-get install imagemagick mplayer gtk-recordmydesktop
```

those are the required stuff, ImageMagick, MPlayer and Desktop Recorder. Then use **Desktop Recorder** to capture a portion of the screen/application to use as the screencast. After the Desktop Recorder has saved the recording into an **OGV video**, **MPlayer** will be used to capture JPEG screenshots, saving them into the ‘output’ directory.

On a terminal:

```
mplayer -ao null <video file name> -vo jpeg:outdir=output
```

Use **ImageMagick** to convert the screenshots into an animated gifs.

```
convert output/* output.gif
```

you can optimize the screenshots this way:

```
convert output.gif -fuzz 10% -layers Optimize optimised.gif
```

[Answer](#)  by [bruno-pereira](#)

Best software I ever found to record GIF screencasts is Byzanz.

Byzanz is great because it records directly to GIF, the quality and FPS is impressive while maintaining the size of the files to a minimal.

Unfortunately support has been dropped and you can no longer find any packages for Ubuntu that wont break your system and have missing unsatisfiable dependencies.

Fortunately Debian still maintains the package for Sid and the GIT [repository](#) still exists.

If you want to go ahead and install the .deb file from Sid (works in Ubuntu 11.10, just tested, no warranties!), download it from the [Debian packages page](#) and install it with `sudo dpkg -i`.

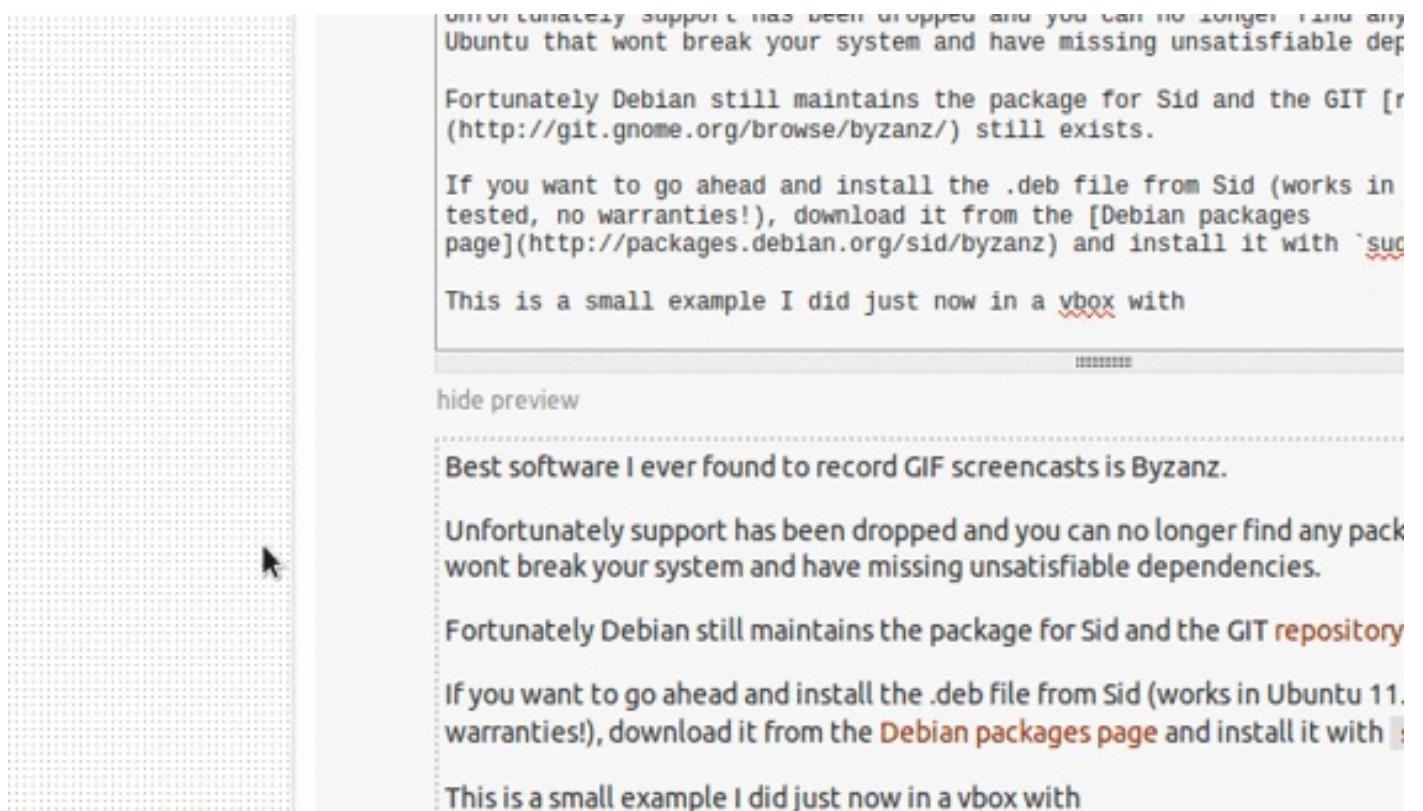
Also, one of our esteemed moderators has ported the Debian package to a PPA making it easier to install, you can add it to your system and install Byzanz by opening a terminal and typing

```
sudo add-apt-repository ppa:fossfreedom/byzanz
sudo apt-get update && sudo apt-get install byzanz
```

When its installed you can run it in a terminal.

This is a small example I did just now in a vbox with

```
byzanz-record --duration=15 --x=200 --y=300 --width=700 --height=400 out.gif
```



Note: *The Debian Sid package is what I used to create a couple of animated answers for the site. Till now just works and I am not aware of a proper package for Ubuntu. If you do drop a comment so I can test and fix this answer.*

---

[Answer](#) by [rob-w](#)

# Overview

This answer contains three shell scripts:

1. `byzanz-record-window` - To select a window for recording.
2. `byzanz-record-region` - To select a part of the screen for recording.
3. A simple GUI front-end for 1, by [MHC](#).

## Introduction

Thanks Bruno Pereira for [introducing me to Byzanz!](#) It's quite useful for creating GIF animations. The colours may be off in some cases, but the file size makes up for it.  
Example: [40 seconds, 3.7Mb](#).

# Usage

Save one/all of the following two scripts in a folder within your \$PATH. Here's an example on using the first script to make a screencast of a specific window.

1. Run `byzanz-record-window 30 -c output.gif`
2. Go to the window (alt-tab) you want to capture. Click on it.
3. Wait 10 seconds (hard-coded in \$DELAY), in which you prepare for recording.
4. After the beep (defined in the beep function), byzanz will start.
5. After 30 seconds (that's the meaning of 30 in step 1), byzanz ends. A beep will be broadcast again.

I included the -c flag in `byzanz-record-window` to illustrate that any arguments to my shell script are appended to `byzanz-record` itself. The -c flag tells byzanz to also include the cursor in the screencast.

See [man byzanz-record](#) or `byzanz-record --help` for more details.

# byzanz-record-window

[Skip code block](#)

```
#!/bin/bash

# Delay before starting
DELAY=10

# Sound notification to let one know when recording is about to start (and ends)
beep() {
    paplay /usr/share/sounds/KDE-Im-Irc-Event.ogg &
}

# Duration and output file
if [ $# -gt 0 ]; then
    D="--duration=$@"
else
    echo Default recording duration 10s to /tmp/recorded.gif
    D="--duration=10 /tmp/recorded.gif"
fi
XWININFO=$(xwininfo)
read X <|(awk -F: '/Absolute upper-left X/{print $2}' <<< "$XWININFO")
read Y <|(awk -F: '/Absolute upper-left Y/{print $2}' <<< "$XWININFO")
read W <|(awk -F: '/Width/{print $2}' <<< "$XWININFO")
read H <|(awk -F: '/Height/{print $2}' <<< "$XWININFO")

echo Delaying $DELAY seconds. After that, byzanz will start
for (( i=$DELAY; i>0; --i )) ; do
    echo $i
    sleep 1
done

beep
byzanz-record --verbose --delay=0 --x=$X --y=$Y --width=$W --height=$H $D
beep
```

# byzanz-record-region

Dependency: xrectsel from [FFcast2](#). Clone the repository and run make to get the executable.

## [Skip code block](#)

```
#!/bin/bash

# Delay before starting
DELAY=10

# Sound notification to let one know when recording is about to start (and ends)
beep() {
    paplay /usr/share/sounds/KDE-Im-Irc-Event.ogg &
}

# Duration and output file
if [ $# -gt 0 ]; then
    D="--duration=$@"
else
    echo Default recording duration 10s to /tmp/recorded.gif
    D="--duration=10 /tmp/recorded.gif"
fi

# xrectsel from https://github.com/lolilolicon/FFcast2/blob/master/xrectsel.c
ARGUMENTS=$(xrectsel "--x=%x --y=%y --width=%w --height=%h") || exit -1

echo Delaying $DELAY seconds. After that, byzanz will start
for (( i=$DELAY; i>0; --i )) ; do
    echo $i
    sleep 1
done
beep
byzanz-record --verbose --delay=0 ${ARGUMENTS} $D
beep
```

# Gui version of byzanz-record-window

(comment by [MHC](#)): I've taken the liberty to modify the script with a simple GUI dialogue

## [Skip code block](#)

```
#!/bin/bash

# AUTHOR: (c) Rob W 2012, modified by MHC (http://askubuntu.com/users/81372/mhc)
# NAME: GIFRecord 0.1
# DESCRIPTION: A script to record GIF screencasts.
# LICENSE: GNU GPL v3 (http://www.gnu.org/licenses/gpl.html)
# DEPENDENCIES: byzanz,gdialog,notify-send (install via sudo add-apt-repository ppa:fossfreedom/byzanz; sudo apt-get update && sudo apt-get install byzanz gdialog notify-osd)

# Time and date
TIME=$(date +"%Y-%m-%d_%H%M%S")

# Delay before starting
DELAY=10

# Standard screencast folder
FOLDER="$HOME/Pictures"

# Default recording duration
DEFDUR=10

# Sound notification to let one know when recording is about to start (and ends)
beep() {
    paplay /usr/share/sounds/freedesktop/stereo/message-new-instant.oga &
}

# Custom recording duration as set by user
USERDUR=$(gdialog --title "Duration?" --inputbox "Please enter the screencast duration in seconds" 200 100 2>&1)

# Duration and output file
if [ $USERDUR -gt 0 ]; then
    D=$USERDUR
else
    D=$DEFDUR
fi

# Window geometry
XWININFO=$(xwininfo)
read X < <(awk -F: '/Absolute upper-left X/{print $2}' <<< "$XWININFO")
read Y < <(awk -F: '/Absolute upper-left Y/{print $2}' <<< "$XWININFO")
read W < <(awk -F: '/Width/{print $2}' <<< "$XWININFO")
read H < <(awk -F: '/Height/{print $2}' <<< "$XWININFO")

# Notify the user of recording time and delay
notify-send "GIFRecorder" "Recording duration set to $D seconds. Recording will start in $DELAY seconds."

#Actual recording
sleep $DELAY
beep
byzanz-record -c --verbose --delay=0 --duration=$D --x=$X --y=$Y --width=$W --height=$H
"$FOLDER/GIFrecord_$TIME.gif"
beep

# Notify the user of end of recording.
notify-send "GIFRecorder" "Screencast saved to $FOLDER/GIFrecord_$TIME.gif"
```

---

Tags: [screencast](#)

---

[Q: How to create a screencast?](#)

---

[Q: How to create animated GIF images of a screencast?](#)

---

# Gnome Classic

## Questions

### [Q: How to customize the gnome classic panel](#)

Tags: [gnome-classic](#)

First the picture:



As you can see in the image, the colors used for the icons and the words Applications and Places (In spanish in this case) have a different background dark gray color than the rest of the panel. Also the icons look rather bigger in that panel. Now my questions are:

1. Can the background colors be customized so they look the same all the way through the panel.
2. Can the icons be somehow minimized a little so they don't look strange (bigger actually)
3. How to edit the way to add icons to the panel. I have to actually hold the ALT key and right click on it to show the context menu which shows me the option to add something. That extra key press is not friendly at all.

In this particular case I am trying to help an older man start in Ubuntu. Unity is too much for him but Gnome is friendlier for him (Learning curve is not the best for older people.. specially 68+ year old people).

Tags: [gnome-classic](#)

User: [luis-alvarado](#)

---

[Answer](#)  by [hÃ¥kon-a.-hjortland](#)

# How to get back a “GNOME 2 look and feel” in Ubuntu 11.10 Oneiric Ocelot

## 1. Install “GNOME Classic” session

```
sudo apt-get install gnome-session-fallback
```

You now get the possibility to choose the “GNOME Classic” session when you log in, but there are some problems with this session:

- The top panel’s height and its icons are too large
- The panel background is inconsistent

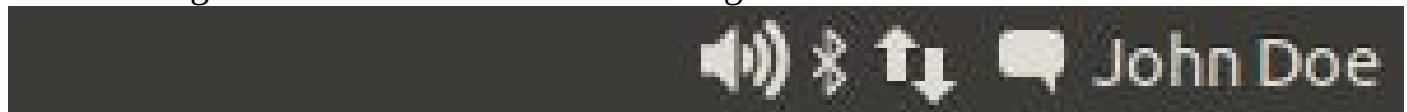
GNOME Classic:



With the fixes below:



After turning sound and bluetooth off and on again:



The fixes also work for the Radiance theme:



## 2. Reduce the size of the icons to 16 pixels

This will also reduce the height of the top panel from 30 to 24 pixels.

### 2a. Create folder for config files:

```
mkdir ~/.config/gtk-3.0
```

### 2b. Create or edit ~/.config/gtk-3.0/settings.ini and add this:

```
[Settings]
gtk-icon-sizes = panel-menu=16,16:gtk-large-toolbar=16,16
```

### 3. Fix the panel background

Note: Instead of the following solution, the background can also be fixed by using:  
(Win-)Alt-rightclick on panel -> Properties -> Background -> Solid color

**3a. Create or edit ~/.config/gtk-3.0/gtk.css and add this:**

[Skip code block](#)

```
/* Fallback Mode Panel */
/* Fix background color (needed in Ubuntu 11.10 Oneiric Ocelot). */
/* Based on /usr/share/themes/Ambiance/gtk-3.0/apps/gnome-panel.css. */

PanelWidget,
PanelApplet,
PanelToplevel {
    background-color: @dark_bg_color;
    background-image: none;
}

.gnome-panel-menu-bar,
PanelApplet > GtkMenuBar.menubar,
PanelApplet > GtkMenuBar.menubar.menuitem,
PanelMenuBar.menubar,
PanelMenuBar.menubar.menuitem {
    background-color: @dark_bg_color;
    background-image: none;
}

PanelAppletFrame {
    background-color: @dark_bg_color;
    background-image: none;
}
```

At this point, you should log out and in again using the “GNOME Classic” session in order to see the changes.

## 4. Further panel configuration

Use (Win-)Alt-middleclick-drag and (Win-)Alt-rightclick to configure the panel further.

Note that the panel items snap to the left/center/right of the panel, so they might need to be dragged some distance before they move at all.

Launchers can easily be added by dragging items directly from the Applications menu to the panel.

## 5. Fix icon spacing

There seems to be a bug which causes excessive spacing between the icons in the notification area tray:



An easy fix is to change the icons back and forth, e.g. muting/unmuting the sound and disabling/enabling bluetooth. This solution is unfortunately only temporary and must be performed again after each login.



# Final remarks

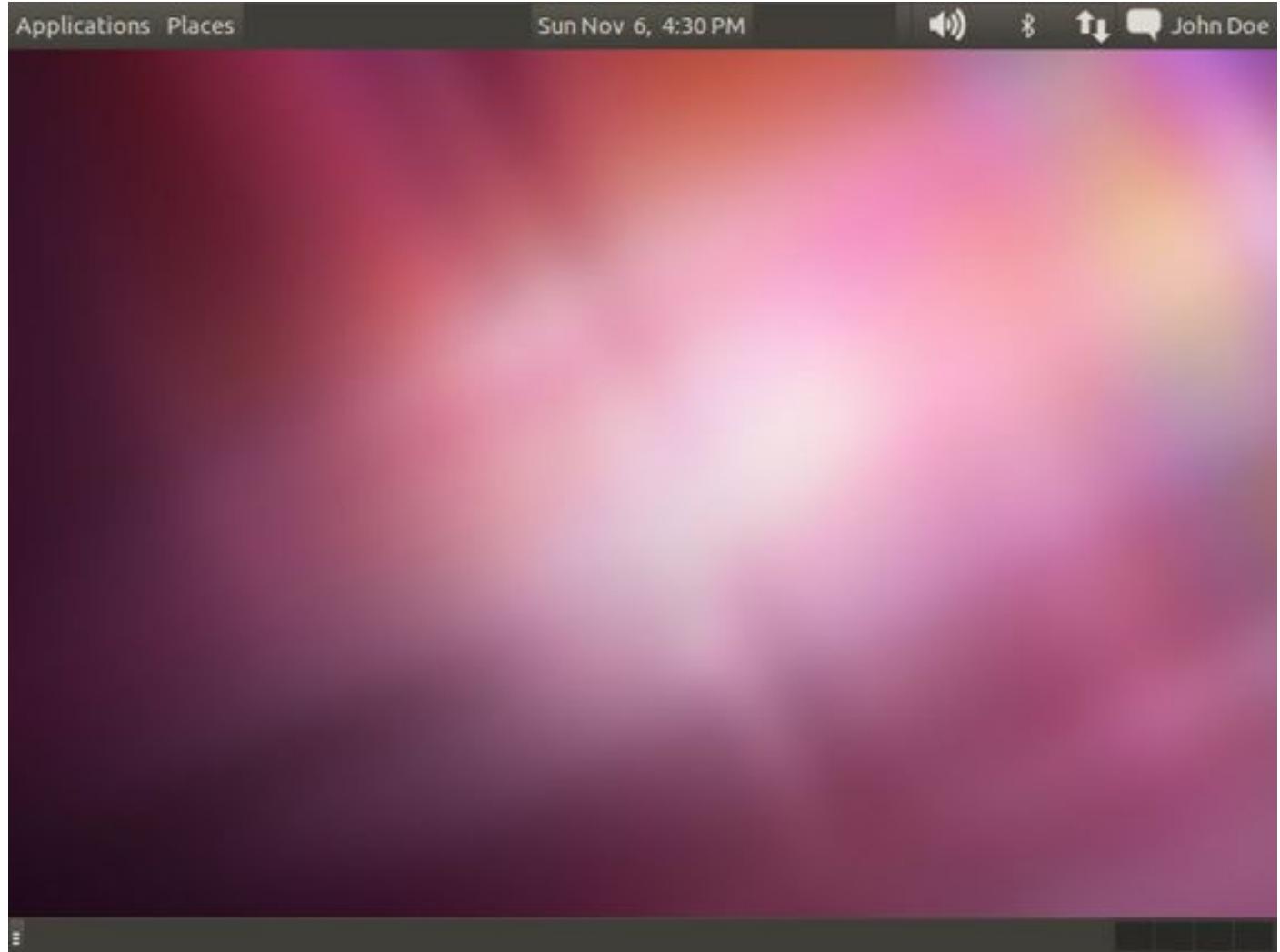
Make a note for future reference that you just added two config files in:

```
~/.config/gtk-3.0/
```

This is nice to know in case the config files mess things up with later Ubuntu releases and need to be removed again.

# Results

Before:



After:

Applications Places

Sun Nov 6, 4:38 PM

John Doe

## See also

- [How to revert to GNOME Classic?](#)
- 

**Tags:** [gnome-classic](#)

---

[Q: How to revert to GNOME Classic Desktop?](#)

---

[Q: How to customize the gnome classic panel](#)

---

# Ubuntu Touch

[Skip to questions](#), Wiki by user [oli](#)

Ubuntu Touch is the new flavor of the Ubuntu Linux Distribution especially designed for mobile devices like mobile phones and tablets. It was officially announced at the beginning of 2013 and the first Developer Preview was published on 21 Feb 2013. It is installable on the devices listed [here](#):

- Galaxy Nexus
- Nexus 4
- Nexus 7
- Nexus 10

If your device is not listed, you may be able to [port Ubuntu Touch to it](#). For further details at wikipedia: [http://en.wikipedia.org/wiki/Ubuntu\\_Touch](http://en.wikipedia.org/wiki/Ubuntu_Touch)

---

# Questions

## [Q: What is Ubuntu Touch \(Ubuntu for Phones\)](#)

**Tags:** [ubuntu-touch](#) ([Next Q](#))

Following up on Canonical's announcement, what is [Ubuntu for phones](#), where can I download a copy of the OS to run on my phone? And how do I know if it's compatible with my phone?

**Tags:** [ubuntu-touch](#) ([Next Q](#))

**User:** [tom-brossman](#)

---

[Answer](#)  by [luis-alvarado](#)

**Ubuntu Touch / Ubuntu for Phones** as the name implies, is the Ubuntu version for Mobiles (Smartphones & [Tablets](#)). This is still in **DEVELOPMENT** and any mobile phone right now would be a **DEVELOPMENT PREVIEW**, which means an unfinished, for test only product.

(Check at the bottom of this answer for updates)

Right now is too early to tell how **Ubuntu Touch** will work, will be sold, how the software will be integrated, how to get the software and work on it/with it or even be compatible with an Ubuntu Desktop.

The link you provided about [Ubuntu for Phone](#) is just a presentation of a new product, same as [Ubuntu for Android](#) and [Ubuntu TV](#), they are being worked on for a future version but at least they have been announced so end users and developers know where Ubuntu is going.

We can see right now for example:

### **Looks, Design, Features and Requirements**

- [Ubuntu Touch Status Page \(For all Supported Devices\)](#) 
- [How it will look and feel](#) 
- [Ubuntu for Phones Hardware Requirements](#) 
- [Ubuntu Table Hardware Requirements](#) 

### **Information for Developers**

- [How friendly it will be to develop in it](#) 
- [How to develop in it](#) 
- [Ubuntu Tablet Information](#) 

- [Ubuntu Table Development](#)
- [Ubuntu User Interface Toolkit \(SDK\)](#)
- [PPA To Download the SDK/QT5 \(Supports 12.04+\)](#)
- [Where to Submit your Apps](#)
- Email Contact for Developers: **gomobile@ubuntu.com**

## News About Ubuntu for Phones

- [Testing Ubuntu Touch Images](#)
- [Mark Shuttleworth on Ubuntu on Phones and Android](#)
- Video in Phoronix about Mark Shuttleworth talking about [Ubuntu on Smartphones](#)
- [Direct Youtube \(Larger\) video of Ubuntu for Phones](#)
- [“Prediction” by CNN that Ubuntu will “Fail”](#) - I added this part to make a personal statement about it, first as one of the comments found there shows:

*Funny thing that there are several windows 8 phone videos on YouTube with 50k - 500k views and they are some 2 - 11 months old. Ubuntu-phone video has almost 1M views after two (2) days...*

If you look at most Windows 8 videos and then look at that one (1) video of the Ubuntu for Phone ad you will see that it is true. It is important to know that Ubuntu for Phone is not just a normal smartphone and there is no 10 users that will end up buying one. It will have several smart ways of connecting it to a PC or TV. It can actually be used as a PC and it will have many features that will work out of the box with any Ubuntu computer (And also with Windows) integrating itself with Unity, the HUD and other Ubuntu features. This are just to name a few since there are many surprises to be seen from here until we see 13.04, 13.10 and 14.04.

The planned design style, I for one finding it awesome, it is very well made taking ideas from Unity itself while thinking on how to be more friendly to the user on phones. The hardware that is optimized is very good and I know that I will not be the only one saving up for one of this when it comes out. All of this is just my personal thoughts about it but wanted to leave some information noted from day one. If you have seen the video, you will have noticed all the information Mark Shuttleworth mentions and how well thought out the Ubuntu idea for phone is.



In [WebUpd8](#) we can see a quoted message about Ubuntu phones not ready for purchase but they are starting to work with partners to start selling them before the end of 2013. So at least until the end of 2013 when Ubuntu Smartphones start to sell, there will be little information about this.

Also remember that Ubuntu for Phones, TVs and Tablets is a milestone set between 13.10 and 14.10 when Unity's integration on all types of hardware will be complete or near completion (Less bugs, better hardware support, better ARM support, etc..).

### **Will my Android Phone work with Ubuntu for Phone? Will it be an alternative?**

Ubuntu for Phone will be another OS alternative to Phones, specially Smart Phones, that works with any phones that carry Android and have the minimum hardware requirements posted above. Phones like Samsung, HTC, Sony, LG and others that offer Android will be able to install Ubuntu for Phone on them. Of course, this will not be an App for Android, instead it will replace Android on that phone. So not only will new phones come with Ubuntu pre-installed, but it will also work on [already existing Android phones](#)

**UPDATE 6 Feb 2013** - In Slashdot we can see an article about [Ubuntu Smartphones shipping in October](#) which points to a [wsj article](#) about Ubuntu Smartphones, including a link to [Ubuntu Smartphone Designs](#). Pretty neat and open way of providing users with the ideas behind the design. This will truly turn into something big once users know they can be part of it's design. Another link is the OMGUbuntu post about [Ubuntu Phones](#)

**UPDATE 18 Feb 2013** - In The H, we can see an article about [Developer Preview for Ubuntu Phones](#) which mentions an article in the Canonical Website that mentions the releases of the [Developer Preview for Ubuntu Phones](#) on the 21 Feb 2013.

**UPDATE 19 Feb 2013** - Ubuntu has released the first Ubuntu Tour for Tablets. You can see the website at <http://www.ubuntu.com/devices/tablet>

You can also see the video here: <http://www.youtube.com/watch?v=h384z7Ph0gU>

**UPDATE 21 Feb 2013 - [The Ubuntu Phone, Tablet Developer Preview has been released](#)**

**UPDATE 22 Feb 2013 - [The Ubuntu Phone Porting Guide was unveiled](#)**

You can also visit the official [Touch site](#)

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[Answer](#) by [david6](#)

There is already a ‘working’ build for the Samsung **Galaxy Nexus** (? i9250) smartphone.

[BBC News > Technology > Ubuntu operating system comes to Android smartphones](#)

The code will initially be released as a file which can be installed on Samsung’s Galaxy Nexus phone, replacing Android.

There was a recent media presentation in London, and **engadget.com** got to play with one ..

[engadget > Canonical announces Ubuntu for smartphones, we go hands-on \(video\)](#)

This is no ordinary Galaxy Nexus. Instead of Android, it’s running a very different Linux-based OS — the long-awaited mobile version of Ubuntu — which comes with a new UI adapted for smaller screens. We’ve played with the phone briefly and we’ll have a proper hands-on video for you shortly, but in the meantime there are a few salient features to report...

**UPDATE: 26-Feb-2013**

[engadget > Ubuntu Touch Developer Preview now available for supported Nexus devices](#)

Canonical’s preview of a smartphone- and tablet-friendly flavor of Ubuntu has finally arrived for folks willing to flash a Galaxy Nexus, Nexus 4 or a Nexus tablet. Shuttleworth and friends stress that the release is intended for developers and enthusiasts ..

---

And, along come the nay-sayers ..

[networkworld.com > Ubuntu Smartphones No, Ubuntu Tablets, Yes](#)

Despite all of the giddiness though, I have not seen any phone makers step up and say they will produce and sell an Ubuntu phone. I think other than one or two strictly for the curiosity factor, we probably won’t see a headlong rush to manufacture Ubuntu phones either. We might see a CyanogenMod type of group develop an Ubuntu that can be installed on rooted versions of Android phones or maybe WebOS/Palm phones, heck maybe even a Windows phone. But, by and large, Ubuntu is not going to challenge Microsoft or even BlackBerry for smartphone market share, let alone Apple or Android.

---

[Answer](#)  by [njallam](#)

Ubuntu for Phones is a mobile version of the Ubuntu operating system.

The [link you referred to in your question](#)  is all the information we know about the OS at the moment. However, if you are interested in this as a developer, see the [developer page](#) .

The OS is not publicly available, nor is there an available device running it. All that has happened is that the product has been announced and the SDK released.

---

**Tags:** [ubuntu-touch](#) ([Next Q](#))

---

## [Q: What hardware does Ubuntu Touch support?](#)

**Tags:** [ubuntu-touch](#)

With the announcement of the Ubuntu Phone OS I'd like to know what phone (and tablet) models are supported at this time.

**Note from foss & Oli:** We are making this the master question for all future "Will this work on <insert random tablet/phone/device here>?!" questions

**Tags:** [ubuntu-touch](#)

**User:** [marco-ceppi](#)

---

[Answer](#)  by [aditya](#)

# The Touch Developer preview is out

## Supported Devices

- Nexus 4
- Nexus 10
- Nexus 7 2013 WiFi
- Galaxy Nexus
- Nexus 7

## Porting to Other Devices

Directly quoting from the Ubuntu Wiki:

We want to port Ubuntu Touch to all kinds of devices. If you have experience in porting code to Android devices or are generally knowledgeable in terms of porting, working with the Kernel and other core bits and pieces of a distribution, this might be interesting to you.

Moreover, there's really no way to tell which future devices people will choose to work on, however there is a working list of devices that the community is working to enable here:

- <https://wiki.ubuntu.com/Touch/Devices>

## Release Notes

- Be sure to check for [Known Issues](#) before you proceed.
- And [Device Specific Issues](#) as well.

## Applications Available

The Developer Preview comes with the following functioning applications:

- Gallery
- Phone (Dialer, SMS, Address Book)
- Camera
- Browser
- Media Player
- Notepad
- Music app

- Calculator
- Weather app

## Installing Applications

You can use Ubuntu SDK Alpha to install and execute applications on your Ubuntu Touch device from a computer running Qt Creator.

## Only for Evaluation

- Quoting from Ubuntu Wiki: 

The Touch Developer Preview project provides the open source code **for enthusiasts and developers**, to familiarise themselves with Ubuntu's phone and tablet experience and develop applications on **spare devices**.

It is **currently work in progress** and intended for enthusiasts who want to contribute testing and building the platform.

- Further quoting from their Install page 

It does **not provide all of the features** and services of a retail phone and cannot replace your current handset.

This process will **delete all data** from the device. Restoring Android will **not restore** this data.

So be sure to do a complete backup before venturing out.

## Flashing the device

Head here for instructions  on flashing your device.

## What to expect after flashing

- Shell and core applications
- Connection to the GSM network (on Galaxy Nexus and Nexus 4)
- Phone calls and SMS (on Galaxy Nexus and Nexus 4)
- Networking via Wifi
- Functional camera (front and back)
- Device accessible through the Android Developer Bridge tool (adb)

## Restoring Android

[Instructions are here](#)  for you to restore your Android once you have played enough.

---

**Tags:** [ubuntu-touch](#)

---

[Q: What is Ubuntu Touch \(Ubuntu for Phones\)](#)

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[Q: What hardware does Ubuntu Touch support?](#)

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# Coreutils

[Skip to questions](#), Wiki by user [braiam](#)

The GNU Coreutils package is a set of small tools for most of the basics operations in the Unix-like operative system and that are expected to have. Ubuntu as Unix-like operative system includes most of the utilities by default, to be precise:

```
arch base64 basename cat chcon chgrp chmod chown chroot cksum comm cp csplit
cut date dd df dir dircolors dirname du echo env expand expr factor false flock fmt
fold groups head hostid id install join link ln logname ls md5sum mkdir mkfifo
mknod mktemp mv nice nl nohup nproc od paste pathchk pinky pr printenv printf ptx
pwd readlink rm rmdir runcon sha*sum seq shred sleep sort split stat stty sum sync
tac tail tee test timeout touch tr true truncate tsort tty uname unexpand uniq unlink
users vdir wc who whoami yes
```

It's provided by the `coreutils` deb package.

Resources:

- [The GNU Coreutils main page](#) 
  - [info coreutils](#)  help page
-

# Questions

## [Q: What does “cp: omitting directory” mean?](#)

**Tags:** [coreutils](#)

I've issued the following command:

```
sudo cp ~/Transfers/ZendFramework-1.11.4-minimal/library/Zend/* ~/public_html/cmsk.dev/library/
```

When I do this, I start getting the following messages:

```
cp: omitting directory `Tag'  
cp: omitting directory `Test'  
cp: omitting directory `Text'  
cp: omitting directory `TimeSync'  
cp: omitting directory `Tool'  
cp: omitting directory `Translate'  
cp: omitting directory `Uri'  
cp: omitting directory `Validate'
```

and so on...

Why do I get these messages ?

**Tags:** [coreutils](#)

**User:** [mem](#)

---

[Answer](#)  by [lekensteyn](#)

By default, cp copies only the direct files in, and not subdirectories in the directory. The message cp: omitting directory 'directory' warns you that the mentioned directory is not copied.

To do so, specify the -r (or --recursive) option:

```
sudo cp -r ~/Transfers/ZendFramework-1.11.4-minimal/library/Zend/* ~/public_html/cmsk.dev/library/
```

A hint for the future, read the [manual page](#)  (command: man cp) as it contains an overview of the available options.

---

[Answer](#)  by [roger-light](#)

The message means that cp hasn't copied the directories listed. This is the default behaviour for cp - only files are copied normally, regardless of if you are specifying them explicitly or using \*. If you want directories copying use the -r switch which means "recursive".

---

---

**Tags:** [coreutils](#)

---

[Q: Progress and speed with ‘cp’?](#)

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[Q: What does “cp: omitting directory” mean?](#)

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# Touchpad

## Questions

### [Q: How to disable the touchpad?](#)

Tags: [touchpad](#)

I want my touchpad to be disabled when I use my mouse. How can I do that? touchpad-indicator has stopped working on 11.10. It used to work on 11.04. Gnome3 is not a solution as I don't like it and find it buggy.

Tags: [touchpad](#)

User: [peng-wu](#)

---

[Answer](#)  by [peng-wu](#)

Run the following command in a terminal:

```
xinput list
```

You will get an output that looks like this:

[Skip code block](#)

```
Virtual core pointer           id=2    [master pointer (3)]
Virtual core XTEST pointer     id=4    [slave  pointer (2)]
SynPS/2 Synaptics TouchPad    id=12   [slave  pointer (2)]
Virtual core keyboard          id=3    [master keyboard (2)]
Virtual core XTEST keyboard    id=5    [slave  keyboard (3)]
Power Button                   id=6    [slave  keyboard (3)]
Video Bus                      id=7    [slave  keyboard (3)]
Power Button                   id=8    [slave  keyboard (3)]
Sleep Button                   id=9    [slave  keyboard (3)]
Laptop_Integrated_Webcam_1.3M id=10   [slave  keyboard (3)]
AT Translated Set 2 keyboard  id=11   [slave  keyboard (3)]
Dell WMI hotkeys              id=13   [slave  keyboard (3)]
```

It displays all the input devices connected. Note that they all have an id. Since 12 is the id for my touchpad, running the following command will disable it.

```
xinput set-prop 12 "Device Enabled" 0
```

[Answer](#)  by [user27825](#)

check this link out: [How to disable-enable touchpad in ubuntu 11.10](#) 

The answer found there is really neat:

```
sudo add-apt-repository ppa:atareao/atareao
sudo apt-get update
sudo apt-get install touchpad-indicator
```

After this you will get a switch in your notification area.

The only thing I would wish is to be able to set the switch key to Fn-F8 (which is a touchpad key switch on my keyboard...)

---

**Tags:** [touchpad](#)

---

[Q: How to disable the touchpad?](#)

---

# User Data

## Questions

### **Q: How to migrate user settings and data to new machine?**

**Tags:** [user-data](#)

I'm new to Ubuntu and recently started using it on my PC. I'm going to replace that PC with a new machine. I want to transfer my data and settings to the nettop. **What aspects should I consider?**

Obviously I want to move my data over. **What things am I missing if I only copy the entire home folder?**

This is a home pc (not corporate) so user rights and other security issues are not a concern, except that the files should be accessible on the new machine!

Please take into account that the new machine is a nettop that doesn't have an optical drive and doesn't allow me to hook the old SATA disk into it, so any data transfer must be handled via home network (I can have both the old and the new machine turned on and connected to the home LAN) and I have an USB thumbdrive with limited capacity (2GB). *This sounds like it might limit the general applicability, but it would in fact make it more general.*

I'll make this a wiki topic because there could be several "right" answers.

*Update: Or so I thought. I don't see a choice for that.*

**Tags:** [user-data](#)

**User:** [torben-gundtofte-bruun](#)

---

[Answer](#)  by [lekensteyn](#)

User settings are stored in the Home folder by design. So, if you copy your /home/your-username to your new computer, you should be fine...

...but there are caveats:

- Permissions. It is common that "programs" (shellscripts, custom build programs) are put in the home folder. To preserve permissions, use the --preserve=mode switch (using cp) or -p (using tar)
- UserID / GroupID. Even if the usernames are equal on both systems, the user ID do not have to. Usually, this is not a problem, but if you've scripts/programs/settings relaying on the UserID, you should make sure that the user ID and group ID should be the same on the target system.

You can find the current userID and groupID by executing `id`. For example, to change the userID of user “your-username”, run `sudo usermod --uid 1234 your-username`. To change the groupID, you have to run `sudo groupmod --gid 1234 your-username`.

Settings (Firefox profile, appearance, ...) are often stored in hidden folders (or files). Hidden folders/files are prefixed with a dot, like `.mozilla` for Firefox (and other Mozilla applications).

As security is not an issue, and you want to have the copying job done as fast as possible, I suggest a combination of the netcat and tar programs. Both applications are installed by default. Make sure that the firewalls on both computers allows ingoing access to destination port 8888 (source computer) and outgoing to destination port 8888 (target computer). Put the nettop next to the computer so you can run the commands quickly.

On the source computer, you need to have the traditional netcat program installed (a.k.a. Swiss Army Knife, not the BSD one). To do so, install the `netcat-traditional` package. You may also want to configure the traditional netcat program as default. Commands to install `netcat-traditional` and use it as default:

```
sudo apt-get install netcat-traditional  
sudo update-alternatives --set nc /bin/nc.traditional
```

On the source computer, type the next command in a terminal (do not press Enter yet):

```
tar cz -C/home $(whoami) | nc -l -p 8888 -w 10
```

Explanation:

- `tar` is an utility for packing files
- `cz` creates such a packed file (“tarball”)
- The tarball is compressed using the `GZip` algorithm to lower the file size.
- `-C/home $(whoami)` changes the working directory to `/home` and puts your username folder. Alternative, you can type your `your-username` folder in the tarball
- `nc` (netcat) is used for setting up connections between machines easily
- `-l`: Listening mode, allows other machines to connect to the current machine
- `-p 8888`: Listens on port 8888 (randomly chosen number, it could be any other number higher than 1024 as well)
- `-w 10`: quit netcat after 10 seconds silence. You must connect to this source computer within this time.

Now go to the target computer (nettop). To add the files to the target machine, type (do not run it yet):

```
nc 192.168.1.2 8888 | tar xzp -C/home
```

- `192.168.1.2` is the IP address of the source computer. To get its IP address, run: `ifconfig` on the source machine
- `8888` is the port number as entered on the source machine
- `xzp`: extracts the `GZip`-compressed tarball while **preserving permissions**.
- `-C/home`: extracts the `your-username` folder to `/home/your-username`

- Optionally, add the `-v` switch to the tar command for verbose extraction, so you can get an idea of the progress. This could slow down the copy process because every file has to be printed.

Now go to the source computer, press Enter to run the server command. Quickly switch to your nettop and press Enter to run the client command.

If you have any questions, just use the comment field below.

---

[Answer](#) by [little-jawa](#)

For the software packages, you should read the following :

<http://www.omgubuntu.co.uk/2010/05/transfer-your-packages-to-a-clean-install/>

```
oldmachine$ sudo dpkg --get-selections > installedsoftware  
newmachine$ sudo dpkg --set-selections < installedsoftware  
newmachine$ sudo apt-get --show-upgraded dselect-upgrade
```

For the settings and data, it's a little more complicated :-( Most of the settings are stored in your home folder, so making a backup of your HOME may do the trick... But then of course this doesn't cover the system apps, that have their config stored in /etc...

---

[Answer](#) by [marco-ceppi](#)

The majority of all settings for applications are in your home folder hidden by default. If you press `Ctrl+h` in Nautilus you'll see these folders. I've found the easiest way is to simply rsync the folders you need over for the configurations. Something like this:

```
rsync -avz me@remote:/home/me/.foo me@remote:/home/me/.var  
me@remote:/home/me/.ack me@remote:/home/me/.bar /home/me/
```

You could also - just rsync your entire home folder to the new machine - but that may cause problems depending on your setups.

---

**Tags:** [user-data](#)

---

[Q: How to migrate user settings and data to new machine?](#)

---

# Format

## Questions

### [Q: How to format a USB flash drive?](#)

Tags: [format](#)

In Windows there is a straightforward “Format” option in a flash drive’s right-click pop-up menu. Where’s that in Ubuntu?

I understand there’s always standard partition management command line stuff there and I’ve googled the question, but isn’t there a Windows-like GUI tool for this?

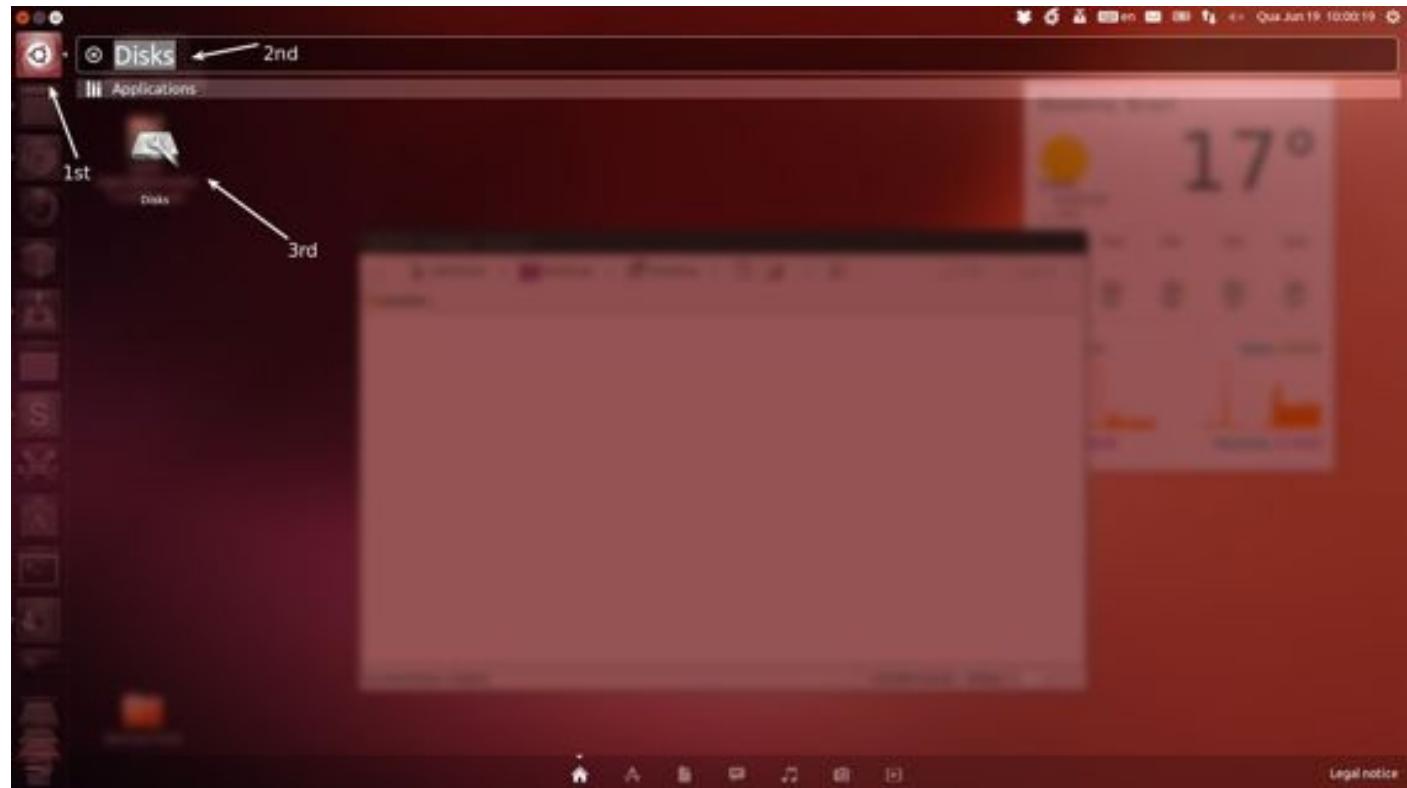
Tags: [format](#)

User: [ivan](#)

---

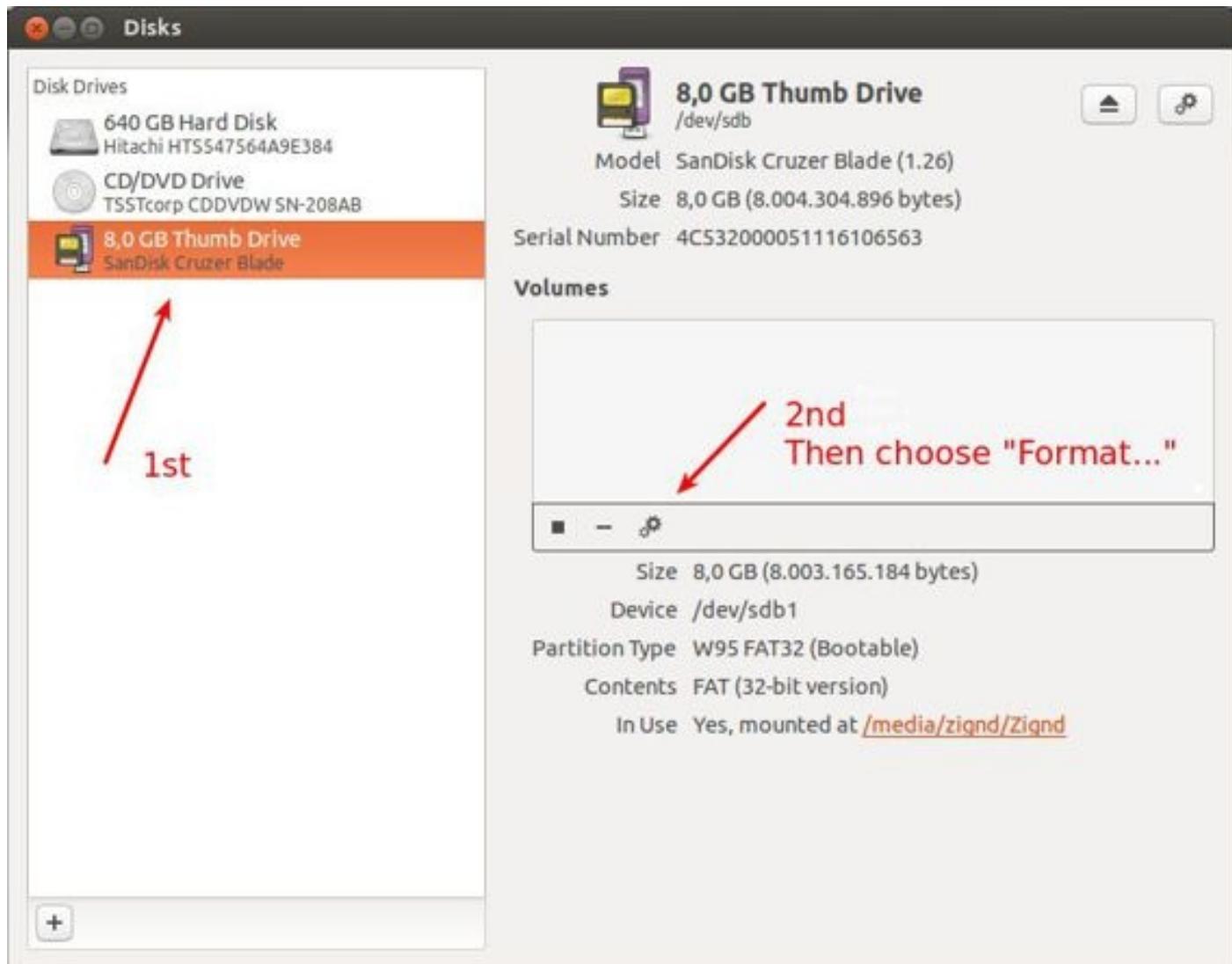
[Answer](#)  by [vojtech-trefny](#)

You can use *Disks* it’s installed by default and easy to use.



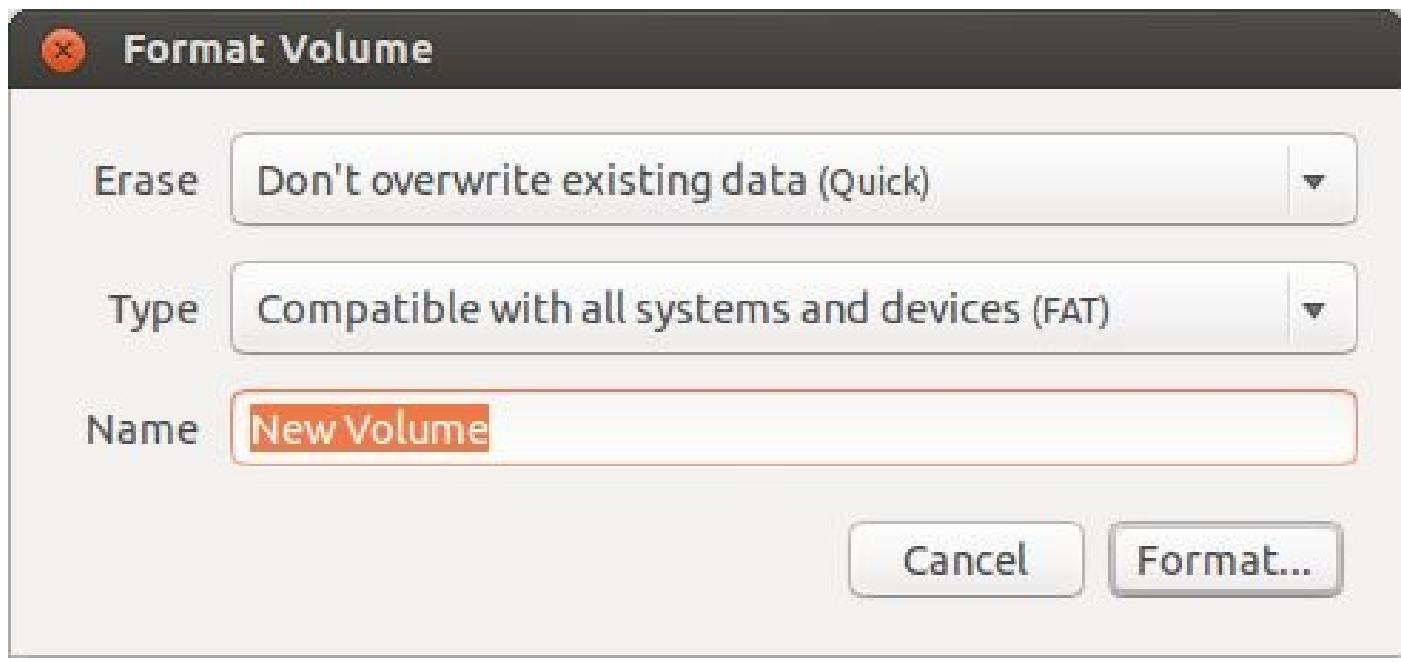
- 1st: Click on the Dash icon
- 2nd: Search for “Disks”
- 3rd: Click on Disks

The application will show up:



- 1st: Choose the USB flash drive
- 2nd: Click on the “gear” icon and choose “Format”

This little window will appear, just choose the option you want and click on Format...:



[Answer](#) by [zkriesse](#)

[gparted](#)

# Missing Image

, the only way to go with formatting drives and HD's etc. It's available for download in the Ubuntu Software Center, just search for *gParted*

---

[Answer](#) by [rahul-bhadana](#)

in ubuntu there is many method by which you can format your pendrive

**1 - by Disk utility** [see the video](#) // simplest way

---

**2- by Gparted tool** [see the video](#)

// you can install it from Ubuntu software center or you can install is by typing

```
sudo apt-get install gparted
```

---

**3- by using Terminal** [see the video](#)

go to super mode by typing “su” followed by super mode password

```
fdisk -l
```

that will show all the volume in your pc or you can also use the

```
df
```

to see the usb flash drive suppose it may be /deb/sdb1

```
umount /dev/sdb1
```

that un mount the drive

```
mkfs.vfat /dev/sdb1
```

to format drive into fat32 format

---

**Tags:** [format](#)

---

[Q: How to format a USB flash drive?](#)

# Gedit

[Skip to questions](#), Wiki by user [lekensteyn](#)

gedit is a text editor which supports most standard editor features, extending this basic functionality with other features not usually found in simple text editors. gedit is a graphical application which supports editing multiple text files in one window (known sometimes as tabs or MDI).

gedit fully supports international text through its use of the Unicode UTF-8 encoding in edited files. Its core feature set includes syntax highlighting of source code, auto indentation and printing and print preview support.

gedit is also extensible through its plugin system, which currently includes support for spell checking, comparing files, viewing CVS ChangeLogs, and adjusting indentation levels.

Source: <http://projects.gnome.org/gedit/>

---

# Questions

## **Q: Prevent gedit from creating files with the ‘~’ (tilde) suffix**



**Tags:** [gedit](#)

I have observed that in gedit if I edit a file, another file is created in the same directory (the one with the same filename and a tilde ‘~’ suffix). The extra file remains even if I close gedit.

I understand the need for a temp file (eg. in case of a crash), but vim for example deletes the extra file it creates, when I close it.

Is there a way to do the same with gedit? Some configuration perhaps?

**Tags:** [gedit](#)

**User:** [george-kastrinis](#)

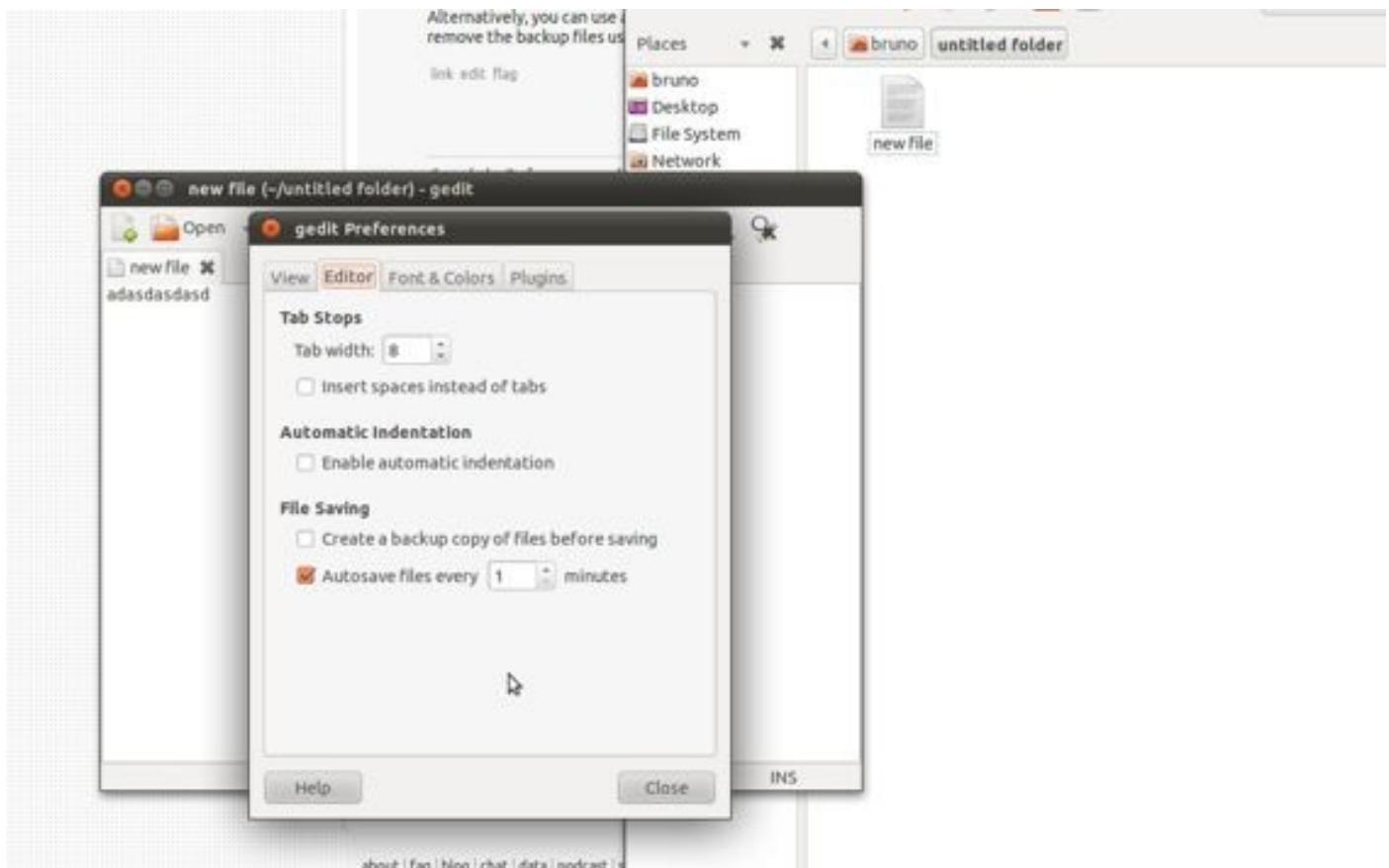
---

[Answer](#) by [bruno-pereira](#)

Those are just backups of your original files that gedit creates before saving changes to your edited documents.

In gedit preferences you need to disable *Create a backup copy of file before saving*, and if you want to automatic save your edits automatically set a timer with the option enable *Autosave files every X minutes*.

That way the ~ will be gone and your last changes will be saved on the file every x minutes in case something goes bad or your computer crashes.



The changes made to the file will be saved to the file itself and not to a temporary file.

Please be aware that if you delete the contents of a file and auto save is enable there will be a chance that you end up with a saved empty file.

Always make sure that when you close on file while auto save is enabled that the contents of the file are correct, else undo them and save the file again.

---

[Answer](#) by [luis-alvarado](#)

**GEDIT** by default has an option enabled which creates a backup file (with the prefix ~ for the backup file) every 10 minutes. You can easily disable this default behavior.

Go in the gedit menu to **Edit > Preferences > Editor** there you will find an option that says **Create a backup of files before saving**. Uncheck this option and you are done.

There is another option below that one called **autosave files every .. minutes**. I mention this one since some people like to have the backup option enabled but prefer to autosave less often, like 30 minutes or 1 hour as opposed to the default 10 minute interval.

In any case to disable the ~ (tilde) preceded file creation just disable (uncheck) the **Create a backup of files before saving**

A view of the Editor options in gedit:

# gedit Preferences



View Editor Font & Colors Plugins

## Tab Stops

Tab width: 4

Insert spaces instead of tabs

Enable automatic indentation

## File Saving

Create a backup copy of files before saving

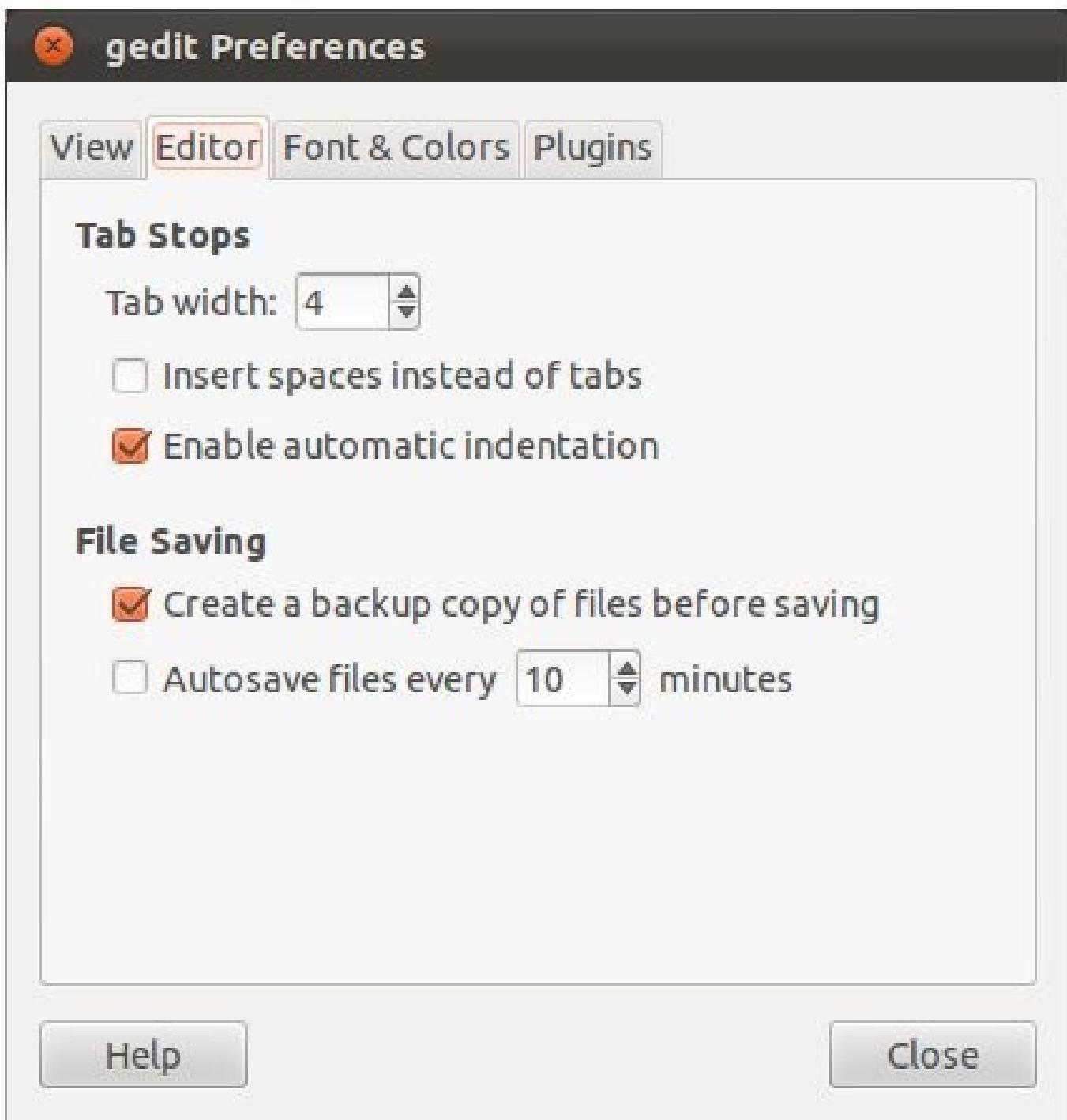
Autosave files every 10  minutes

Help

Close

[Answer](#) by [warrior64](#)

You may be able to turn off these automatic backups by going into **Edit > Preferences** and unchecking the **Create backup copies of files before saving** option under the **Editor** tab:



Alternatively, you can use a terminal to navigate to the directory where you are saving your files and remove the backup files using `rm *~`.

---

**Tags:** [gedit](#)

---

[Q: Prevent gedit from creating files with the ‘~’ \(tilde\) suffix](#)

---

# DVD

## Questions

### [Q: How can I play encrypted DVD movies?](#)

Tags: [dvd](#)

My machine can't play encrypted DVDs on a fresh install. How do I add this capability? Another useful bit of information would be what programs are best for playing DVDs, once I'm able to do so. See the [similar question here](#). Will I be able to play DVD movies from [any region](#)?

Tags: [dvd](#)

User: [eugenemarshall](#)

---

[Answer](#)  by [mac9416](#)

#### To Enable Playback:

1. Install libdvdread4:

```
sudo apt-get install libdvdread4
```

2. Then install libdvdcss:

```
sudo /usr/share/doc/libdvdread4/install-css.sh
```

#### Best Players:

[According to the Ubuntu Wiki](#), [Kaffeine](#), [MPlayer](#), xine, [Totem-xine](#), [VLC](#), and Ogle will play DVDs with libdvdread and libdvdcss installed.

I use both [Totem](#) and [VLC](#) to play DVDs. It's useful to have both installed, because sometimes one will have a playback quirk that the other will not.

#### Regions:

I believe playback will work in any region.

---

[Answer](#)  by [bessman](#)

Commercial DVDs are copy protected to ensure that you aren't able to backup your legally acquired movies, but instead have to buy new ones if they break. You also aren't allowed to enjoy them in just any manner you please; you may only watch them on certain devices with pre-installed decryption keys. Unless those devices are too old, of course; Then you have to buy new ones.

To get around this, install libdvdcss.

From [help.ubuntu.com](http://help.ubuntu.com) 

# Installing libdvdcss

---

Legal Warning: Check with your local laws to make sure usage of libdvdcss2 would be legal in your area. \*[Unless you live in Somalia or some other place with no rule of law, it's not legal]

# Ubuntu 10.04 (i386, amd64), 10.10 and 11.04 (i386, amd64)

[edit: This method has been used successfully in 11.10 and 12.04 as well]

Works for old releases that are no longer supported if you have repositories on Cd/Dvd or somewhere. So, anything from 9.04 onwards. The latest LTS, 10.04, and the radically different 11.04 also work this way.

Install the **libdvdread4** package (**no need to add third party repositories**) via Synaptic or command line:

```
sudo apt-get install libdvdread4
```

Then open a terminal window and execute:

```
sudo /usr/share/doc/libdvdread4/install-css.sh
```

Rebooting may be necessary.

After this, VLC will automatically use it. Some programs may need recompilation.

If after doing all this, you still get messages about not being able to play DVDs, check that the DVD drive has a region set ([see below](#)).

---

[Answer](#) by [marcel-stimberg](#)

This is explained in the official Ubuntu documentation under, well “Playing DVDs” ;)  
<https://help.ubuntu.com/10.04/musicvideophotos/C/video-dvd.html>

Install the libdvdnav4, libdvdread4, gstreamer0.10-plugins-bad and gstreamer0.10-plugins-ugly packages and run the following in a terminal (Applications Accessories Terminal ):

```
sudo /usr/share/doc/libdvdread4/install-css.sh
```

---

**Tags:** [dvd](#)

---

[Q: How can I play encrypted DVD movies?](#)

# License

## Questions

**Q: Is there a difference between free software and open source software?** 

**Tags:** [license](#)

Well I am a bit confused with the two terms, are there differences between them?

**Tags:** [license](#)

**User:** [mysterio](#)

---

[Answer](#)  by [eliah-kagan](#)

The terms **free software** and **open source software** do mean different things, though the categories of software they refer to are almost exactly the same.

# What is free software?

[Free software](#) is defined in terms of [freedom](#) (not [price](#)), and is not the same thing as [freeware](#). The idea is that there are certain freedoms on the part of users that free software respects (but which non-free software, also called [proprietary software](#), does not respect). This includes the freedom to use and study the software, as well as to distribute and improve it.

The [Free Software Foundation](#) is an advocacy and activist organization for free software, funds and otherwise supports the [GNU project](#) (which develops a significant fraction of the software that goes into [GNU/Linux distributions](#) such as Ubuntu) and is the organizational author of many of the most popular free software [licenses](#) including the [GNU General Public License](#). The FSF [defines free software](#) as software that respects the [four freedoms](#), which I quote here [linkifications mine]:

- (0) The freedom to run the program, for any purpose (freedom 0).
- (1) The freedom to study how the program works, and change it so it does your computing as you wish (freedom 1). Access to the [source code](#) is a precondition for this.
- (2) The freedom to [redistribute](#) copies so you can help your neighbor (freedom 2).
- (3) The freedom to distribute copies of your modified versions to others (freedom 3). By doing this you can give the whole community a chance to benefit from your changes. Access to the [source code](#) is a precondition for this.

Another useful and important source about what does and does not constitute free software is the [Debian Free Software Guidelines](#) (from the [Debian](#) project, the [GNU/Linux distribution](#) from which [Ubuntu](#) is [derived](#), see also [this article](#)).

One need not subscribe to any particular ideology to use and advocate for free software. But the ideological basis of free software is the idea that these freedoms are inherently good (or at least good for important political reasons external to technical questions of software quality and profitability), that people have the obligation to respect these freedoms, and that software should be judged in significant part by whether or not it respects these freedoms. Not all users of free software are adamant about these freedoms, and some believe in their importance but only to a limited extent, but many users are dedicated to them, and comprise the [free software movement](#).

# What is Open Source?

Some proponents of free software thought it was good for other reasons — specifically, the idea that, because of the way freedom facilitates collaboration, free software has an advantage over proprietary software and often tends to be technically superior. Some thought that freedom is inherently important but not *as* important as developing technically good software, or that freedom is as important or more important than developing technically good software but that it was important to advocate for the adoption of free software on other grounds in order to be effective.

Thus, the [open source](#) movement was born. One of the ideas that went into [this movement](#) is the notion that advocacy targeted at businesses should emphasize the technical merits and profitability of open (free) development models, rather than talking about ethical or political issues. The [Open Source Initiative](#) was formed as an advocacy organization for the open source movement and to identify and formally approve [licenses](#) as open source. The OSI's [Open Source Definition](#) is [based directly](#) on the Debian Free Software Guidelines, which should be no surprise, as the actual category of software that is considered free is almost exactly the same as the actual category of software that is considered open source.

The [old Open Source Initiative FAQ](#) expresses both the substantial similarities and differing viewpoints between *free software* and *open source* ideologies:

The Open Source Initiative is a marketing program for free software. It's a pitch for "free software" on solid pragmatic grounds rather than ideological tub-thumping. The winning substance has not changed, the losing attitude and symbolism have.

# How do the ideologies of free software and open source compare/contrast in practice?

While the ideologies behind free software and open source software are different—or are at least stated quite differently — identifying specifically how the terms differ as they are practically used in communities is a bit more complicated. Since they refer to almost exactly the same category of software, people tend to choose whichever term they think is best, whether that be for reasons of clarity, ideology, social approval, habit, or other reasons. Furthermore, while free software and open source ideologies are distinct, there are also viewpoints that seem to bridge the two, or at least to blur where one ends and the other begins. For example, in his foreword to the paperback compendium edition of [Eric S. Raymond](#)'s [\*The Cathedral and the Bazaar\*](#) (ISBN 0-596-00108-8), [Bob Young](#) wrote:

Freedom is not an abstract concept in business.

The success of any industry is almost directly related to the degree of freedom the suppliers and the customers of that industry enjoy. Just compare the innovation in the U.S. telephone business since AT&T lost its monopoly control over American consumers with the previously slow pace of innovation when those customers had no freedom to choose.

This arguably does not make direct reference to ethical and political issues. But consider one of the somewhat similar considerations cited by Peruvian Congressman [Edgar Villanueva](#) in explaining his push for the state to use free rather than proprietary software ([English translation](#) by Graham Seaman, also [hosted here](#), with [original here](#)):

In respect of the jobs generated by proprietary software in countries like ours, these mainly concern technical tasks of little aggregate value; at the local level, the technicians who provide support for proprietary software produced by transnational companies do not have the possibility of fixing bugs, not necessarily for lack of technical capability or of talent, but because they do not have access to the source code to fix it. With free software one creates more technically qualified employment and a framework of free competence where success is only tied to the ability to offer good technical support and quality of service, one stimulates the market, and one increases the shared fund of knowledge, opening up alternatives to generate services of greater total value and a higher quality level, to the benefit of all involved: producers, service organizations, and consumers.

Since the practical consequences of adopting free software include political and moral ramifications (in this case, Villanueva argues, the intellectual and economic empowerment of the Peruvian people), there is some overlap in free software and open source thinking (as well as almost complete overlap in software recommendations).

One of the initial, explicit goals of the open source movement was [de-emphasizing explicitly pro-liberty advocacy](#), as articulated early in [this article](#):

The implication of this label is that we intend to convince the corporate world to adopt our way for economic, self-interested, non-ideological reasons.

But another original motivating reason for adopting an alternative term was the idea that the term *open source* was less confusing than the term *free software*, since the English word “free” can also mean “gratis,” i.e., “having a price of zero”. See [this foundational essay](#). That attracted some people who were themselves more drawn to free software for ethical or political reasons than out of the belief that it was a better development model or business model, but who agreed that the term “free software” was lacking and ought to be replaced. While this term has proven confusing, the term “open source” has proven confusing as well, and [Richard Stallman](#) ([founder of the Free Software Foundation](#)) has [argued](#) that the term “open source” is inherently more confusing and less adequately descriptive.

# What term should I use?

As I (start to) write this, there are five answers already posted to this question. Two of them ([this](#) and [this](#)) are basically correct in their characterizations of open source, and [one of them](#) is basically correct in its characterization of free software and [another one](#) almost correct. (Please note that these answers may have been edited, so this should not be taken as judgment of them in their present state.) While I admit that the sampling here is hardly conclusive, I would suggest that each of us should use whichever term s/he prefers for reasons other than clarity, since both terms are surrounded by substantial confusion.

For situations where it is desirable to refer simultaneously to the (already overlapping) concepts of free software and open source software, there exist the synonymous terms F/OSS (Free / Open Source Software), FOSS (Free [and] Open Source Software) and FLOSS (Free / Libre / Open Source Software). See [this article](#) on those terms, as well as [this article](#) on the more general topic of alternative terms for free software.

# Is there free software that is not open source?

Probably not. Going by the [Free Software Definition](#) and the [Open Source Definition](#), freedom 0 probably requires OSD criteria 5, 6, 7, 8, 9, and 10; freedom 1 requires OSD criterion 2 (and possibly 7); freedom 2 probably requires OSD criteria 1, 7, 8, and 9; and freedom 3 probably requires OSD criteria 1, 2, 3, 4, 7, 8, and 10.

# Is there open source software that is not free?

Going by the definitions, yes, because with the exception of the requirement to provide source code, the [Open Source Definition](#) concerns itself only with what a license may require. In contrast, as per the [Free Software Definition](#), for software to be free it must actually be possible to exercise the four freedoms.

Practically speaking, the vast majority of open source software is also free software. However, the phenomenon of [tivoization](#) renders some open-source software non-free, at least in practice. When software is designed to run on a particular device, and that device is designed to prevent modified versions from actually working, users are not able to exercise freedom 1.

The relatively recent issue of devices running open source software that is in practice not free has reignited disagreement between proponents of *open source* and *free software* concepts. The open source movement touts [FOSS](#)’s technical merits. But what about when software’s functionality is not actually under the control of its user? Richard Stallman [writes](#) [ellipsis mine]:

Under pressure from the movie and record companies, software for individuals to use is increasingly designed specifically to restrict them. This malicious feature....is the antithesis in spirit of the freedom that free software aims to provide. And not just in spirit: since the goal of DRM is to trample your freedom, DRM developers try to make it hard, impossible, or even illegal for you to change the software that implements the DRM.

Yet some open source supporters have proposed open source DRM software. Their idea is that, by publishing the source code of programs designed to restrict your access to encrypted media and by allowing others to change it, they will produce more powerful and reliable software for restricting users like you. The software would then be delivered to you in devices that do not allow you to change it.

This software might be open source and use the open source development model, but it won’t be free software since it won’t respect the freedom of the users that actually run it.

There are divergent ideas about precisely what freedoms software must respect in practice in order to be free. But disputes over whether or not tivoization makes software non-free are still disputes about freedom. For example, [Linus Torvalds](#) thinks tivoization (a term he dislikes) of [Linux](#) should [not be prohibited](#), but this is out of the belief that it does not actually prevent people from freely using the software (on another device).

# How do free software and open source apply to Ubuntu?

Most of the software in Ubuntu is free software and open source software. A fraction of the software in Ubuntu is neither. (None is one but not the other.) The [Ubuntu project](#) aims to produce a system that is as free as possible while still fully usable by [as many users as possible](#).

When you install Ubuntu, you are given the option to install non-free software to perform functionality like playing MP3 files. In Ubuntu, Additional Drivers suggests and facilitates installation of non-free drivers for some devices like video and network cards. Non-free software (like Adobe Flash and Skype) is also available in the multiverse and partner repositories. Furthermore, depending on one's definition of "includes," Ubuntu might be considered to include non-free software in that the Software Center provides the ability to install proprietary payware.

While [these and other factors](#) render Ubuntu (and most other highly popular GNU/Linux distributions) not completely free, and arguably there are distributions that are [more thoroughly free](#), Ubuntu and its community have brought free software—and support for it—to thousands (if not millions) of people who would otherwise likely never have used it, and has contributed positively to the spread of free software around the world, and to people's ability to use free software in their own language. The [Ubuntu philosophy](#) is stated in terms of freedom and in terms of users' capabilities:

We believe that every computer user:

- Should have the freedom to download, run, copy, distribute, study, share, change and improve their software for any purpose, without paying licensing fees.
- Should be able to use their software in the language of their choice.
- Should be able to use all software regardless of disability.

Our philosophy is reflected in the software we produce, the way we distribute it and our licensing terms, too - Ubuntu Licence Policy.

Install Ubuntu and you can rest assured that all our software meets these ideals. Plus, we are continually working to ensure that every piece of software you could possibly need is available under a licence that gives you those freedoms.

It then goes on to discuss and praise both the *free software* and *open source* movements and to say:

Although some people regard free and open source' as competing movements with different ends, we do not. Ubuntu proudly includes members who identify with both.

Whether you consider your goals to be aligned with *free software*, with *open source*, with

both, or even with neither, you are encouraged to use Ubuntu if it serves your needs. And so long as you are willing to practice [humanity toward others](#) by following the [code of conduct](#), you are encouraged to participate in the Ubuntu community!

---

[Answer](#) by [jay](#)

“Free” can mean one (or both) of two things: “free” as in “costs nothing” (“gratis,” “free as in beer”), or “free” as in “free to be modified” (“libre,” “free as in speech”).

“Open source” merely means that the source code is made available by developers, and is not necessarily “free as in beer” nor “free as in speech” (although it can be either or both).

Here’s a useful Venn diagram: <http://www.gnu.org/philosophy/categories.html>

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**Tags:** [license](#)

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[Q: Is there a difference between free software and open source software?](#)

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# Canonical

[Skip to questions](#), Wiki by user [rolandixor](#)

[Canonical Ltd.](#) 

Canonical Ltd. is a private company founded (and funded) by South African entrepreneur Mark Shuttleworth to market commercial support and related services for Ubuntu Linux and related projects. Canonical is registered in London and employs staff around the world. Its main offices are in London, its support office in Montreal, and its OEM team in Lexington, Massachusetts, USA and Taipei, Taiwan.

*Excerpt taken from [Wikipedia](#).* 

*Canonical was founded in 2004.*

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# Questions

## [Q: Can I legally build and sell desktops with Ubuntu pre-installed?](#)

**Tags:** [canonical](#)

I'm starting a business and this is part of what I'm going to be offering. I'm almost complete with my certification in Linux Administration, but I don't know all of the ins and outs of the law Linux is under...

**Tags:** [canonical](#)

**User:** [torian-allen](#)

---

[Answer](#)  by [jacob-johan-edwards](#)

It depends. Ubuntu is [free software](#)  (beyond some redistributable binary blobs), but if you're using it for commercial purposes there are trademark restrictions.

## The Legal Fine Print

Permission from us is necessary to use any of the Trademarks under any circumstances other than those specifically permitted above. These include:

- Any commercial use. [OEM services](#)  [...]
- Use for merchandising purposes, e.g. on t-shirts and the like.
- Use of a name which includes the letters BUNTU in relation to computer hardware or software.

*Source:* [Ubuntu Trademark Policy](#) 

## Hardware with a debranded Ubuntu OS

If you remove all branding, trademarks, and references to Ubuntu, you are legally okay to sell systems with it installed. Of course, you must provide the source code of all GPL components to customers that request it.

## Hardware shipping with Ubuntu “as is”

To use the Ubuntu trademark, you must secure the [Canonical’s OEM services team’s](#)  permission. You can [contact them](#)  to see if what you’re doing is okay. This should not be too difficult, as several small vendors like [System76](#)  and [ZaReason](#)  have secured

an agreement.

---

[Answer](#) by [luis-alvarado](#)

It is completely legal to sell a computer with Ubuntu preinstalled. It even lowers the cost. It is also legal to sell CDs/DVDs with Ubuntu in them.

In both is legal because you are not selling Ubuntu, you are selling the hardware that comes with it. In the case of the PC, you are selling all that hardware that comes with Ubuntu so the end user does not need to worry about the many problems in Windows (Or the costs in Mac).

With the CD/DVD, you are selling the cost that you had to pay to have the CD/DVD. Burning the CD/DVD also has a cost as well as having a design printed on the CD/DVD.

If you worry about this, what you need to know is that the only thing illegal here is to charge directly for Ubuntu as it would something you made.

The laws of Freedom explicitly state:

- Freedom to run the program
- Freedom to access the code
- Freedom to redistribute the program to anyone
- Freedom to improve the software

These are freedoms oriented to what you can do with information, not how the information got to you. So charging for a CD of Ubuntu that you downloaded, burned, made a printing design on it, put on a plastic cover that you also bought with that nice logo you wanted to use is totally okay. Same goes for that computer you bought in pieces, assembled them, install Ubuntu and upgraded it. Installed additional tools for the end user. Tested the PC for 2 days to make sure it was perfect for your buyer. And then sold it to the buyer is also OK. You are actually charging for the work you put to offer this to the end user. Your client.. and after having Ubuntu installed in it he/she would be.. your happy client.

To give you a better feeling about this, you can see as companies like Dell, Asus and others sell Laptops with Ubuntu installed. Several universities offer CD/DVD with Ubuntu in them for a low price. Even events like Flisol offer installing Ubuntu (In this case free) since they can install it directly to the client or with a cost if they need to give out a CD/DVD of it (Of course since most of us pitch in, the cost of the CD/DVD for the new users is free).

**UPDATE** - AS mentioned by popey, there are a couple of things you need to read:

OEM Services (Read the WHOLE thing) - <http://www.canonical.com/engineering-services/oem-services/oem-services>

Trademark Policy - <http://www.ubuntu.com/aboutus/trademarkpolicy>

For the trademark, as long as you do not use a extensively modified version of Ubuntu (Extensive as in changing the directory structure, modifying many basic tools and programs, changing names, etc) you will not have a problem with the trademark. In your

case where you only mention the installation and configuration of Ubuntu you won't have problems with this.

**UPDATE 2** - As mentioned by drewbenn in his comment here is a good link about this:  
<https://www.gnu.org/licenses/gpl-faq.html#DoesTheGPLAllowMoney> which complements the rest mentioned in the answer.

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**Tags:** [canonical](#)

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**Q:** [Can I legally build and sell desktops with Ubuntu pre-installed?](#)

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# Network Manager

[Skip to questions](#), Wiki by user [hhlp](#)

Whether WiFi, wired, 3G, or Bluetooth, NetworkManager allows you to quickly move from one network to another: once a network has been configured and joined once, it can be detected and re-joined automatically the next time its available.

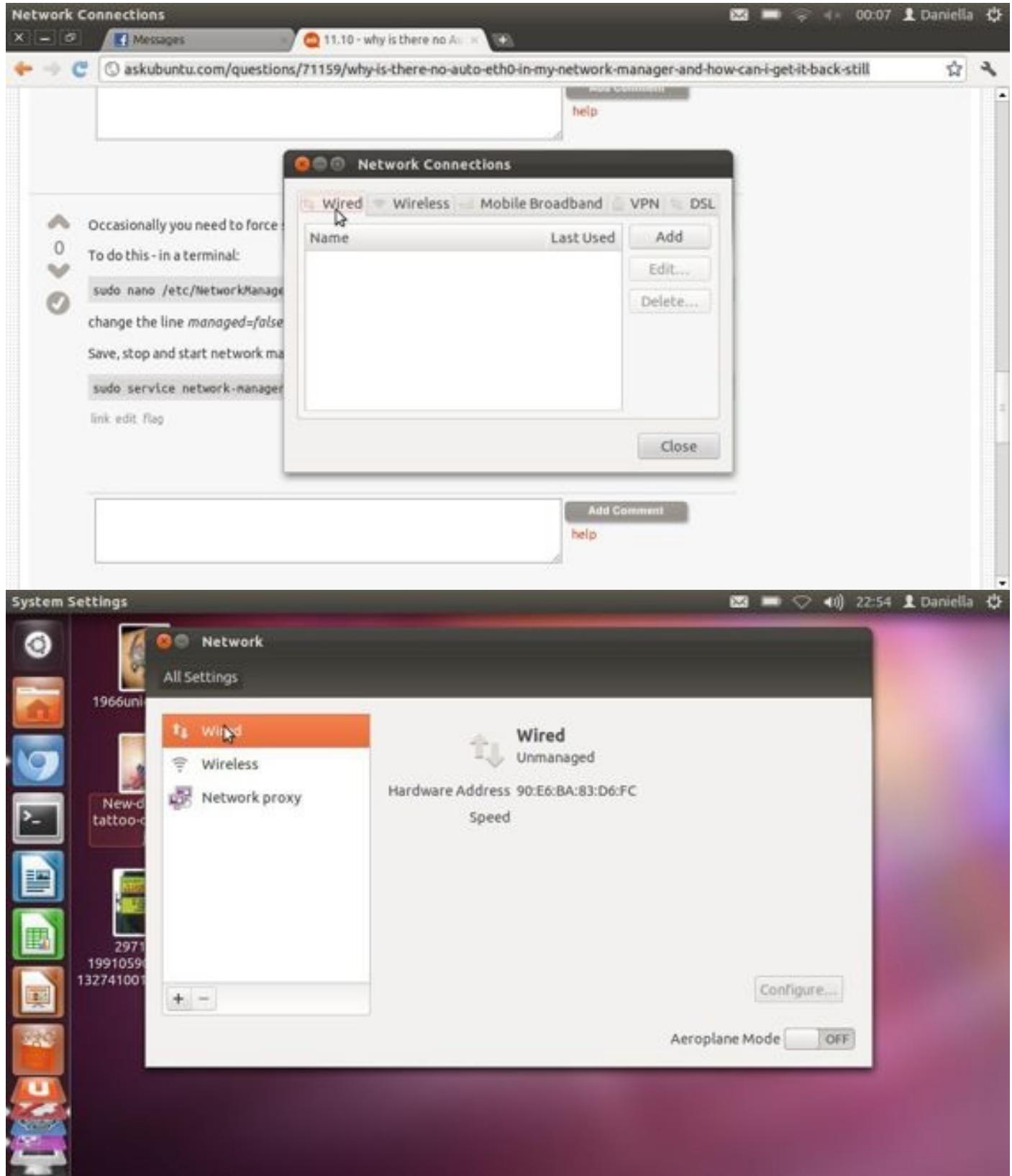
Source: [Network Manager - GNOME Live!](#) 

---

# Questions

## Q: network manager says “device not managed”

Tags: [network-manager](#)



I used to be able to share my network connection by editing the Auto Eth0 to share with

other computers in the Ipv4 section and now I upgraded my laptop to 11.10 .

Now are there no wired connections in the network manager. When I click my connections applet at the top of the tray it also says wired device not managed!

when I type ifconfig -a

#### Skip code block

```
daniella@daniella-1001HA:~$ ifconfig -a
eth0      Link encap:Ethernet HWaddr 90:e6:ba:83:d6:fc
          UP BROADCAST MULTICAST MTU:1500 Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)
          Interrupt:45

eth0:avahi Link encap:Ethernet HWaddr 90:e6:ba:83:d6:fc
          inet addr:169.254.13.40 Bcast:169.254.255.255 Mask:255.255.0.0
          UP BROADCAST MULTICAST MTU:1500 Metric:1
          Interrupt:45

lo       Link encap:Local Loopback
          inet addr:127.0.0.1 Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING MTU:16436 Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)

wlan0    Link encap:Ethernet HWaddr 00:25:d3:90:43:41
          inet addr:192.168.0.6 Bcast:192.168.0.255 Mask:255.255.255.0
          inet6 addr: fe80::225:d3ff:fe90:4341/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
          RX packets:12881 errors:0 dropped:0 overruns:0 frame:0
          TX packets:12867 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:8851081 (8.8 MB) TX bytes:2343199 (2.3 MB)
```

**Tags:** [network-manager](#)

**User:** [daniella-glover](#)

---

[Answer](#)  by [fossfreedom](#)

### wired device not managed

Most probably your interface appears in /etc/network/interfaces. By default, NetworkManager does not manage interfaces that appear in /etc/network/interfaces. You can change this behaviour.

To do this - in a terminal:

```
sudo nano /etc/NetworkManager/NetworkManager.conf
```

change the line *managed=false* to *managed=true*

Save, stop and start network manager:

```
sudo service network-manager restart
```

---

Alternatively, you can remove the interface from /etc/network/interfaces.

backup the current interfaces file:

```
sudo cp /etc/network/interfaces /etc/network_interfaces_backup
```

Then open the file:

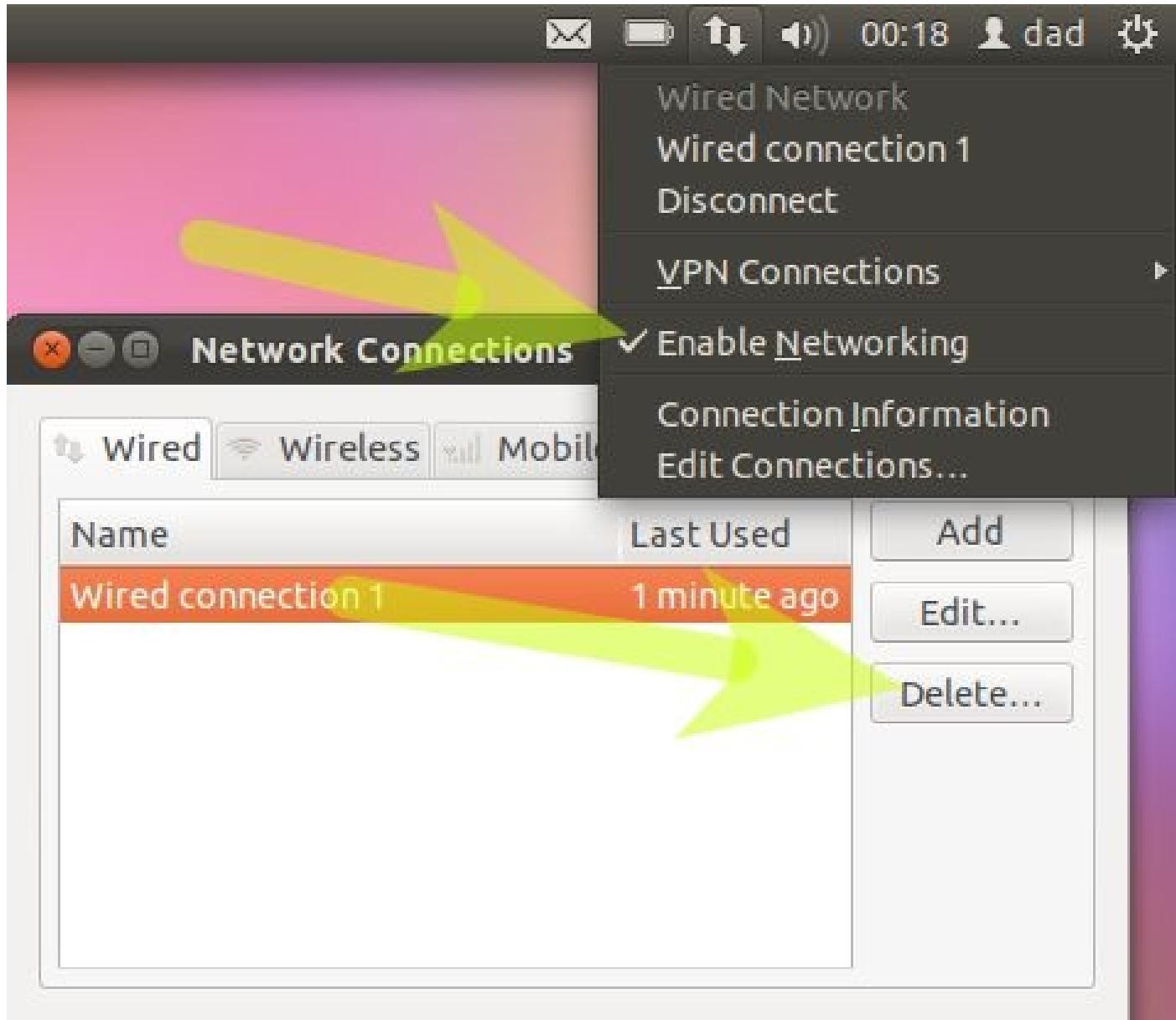
```
sudo nano /etc/network/interfaces
```

Delete everything in that file and copy and paste the following:

```
auto lo  
iface lo inet loopback
```

Save, stop and start network manager:

```
sudo service network-manager restart
```



Double check in network manager (click on the indicator) that you have *Enabled Networking* ticked and you should also force deletion of old “wired connections” and selecting the new wired connection shown in the network manager indicator.

**Tags:** [network-manager](#)

**Q:** [network manager says “device not managed”](#)



# Wireless

[Skip to questions](#), Wiki by user [ringtail](#)

# **What Questions Should Have This Tag?:**

Questions include:

- Wireless printers
  - Wireless keyboards
  - Wireless mouse.
  - Other wireless devices
-

# **Basic Definitions:**

**Bluetooth** - Short range UHF, wireless technology

**WLAN (Wireless [Local Area] Network)**- A series of devices connected in a network configuration with at least 1 device being connected wirelessly.

**Infrared Devices (IrDA)** - Devices which communicate by transmitting signal via LEDs on the Infrared spectrum of light

**802.11x (a,b,g,n)** - Standards by which specific wireless devices (commonly on network) comply. Depending on the end character specifies rate/frequency of transmissions.

---

# **Brief Introduction To The Subject:**

Wireless devices communicate by transmitting data over the air via light/radio waves. Depending on the specification certain devices will operate at differing frequencies (usually UHF or VHF). Many wireless networks will have a WAP (Wireless Access Point) through which devices can connect. These devices will use a wireless NIC (Network Interface Card), and often are set into a different subnet (in many business topologies).

Another way of connecting is Ad-Hoc, which is a full mesh form of connecting (all devices connect to each other directly). This can be a good way to connect for a small, or impromptu network, but does not function well in larger networks.

Most wireless peripherals (mice, keyboards, etc.) will use Bluetooth technology, because there is low cost, and relatively low power consumption versus other technologies.

---

# **Important Links For Learning More:**

- [How to setup a wi-fi hotspot \(access point mode\)?](#)
-

# Questions

## [Q: How to setup an Access Point mode Wi-Fi Hotspot?](#)

**Tags:** [wireless](#)

How to setup an Access Point mode Wi-Fi Hotspot?

**Point to be noted:** Wireless hotspots aren't same as ad hoc networks. Significant difference is there. In short, ad hoc networks aren't supported in most Android, Windows Phone and Blackberry devices (and may be iOS devices too) whereas AP mode Wi-Fi hotspots are. To get an idea about AP mode hotspots, ad hoc networks and their difference, refer [this](#)  and [this](#) .

**Tags:** [wireless](#)

**User:** [web-e](#)

---

[Answer](#)  by [web-e](#)

**Whether your wireless card support Access Point mode.**

First thing to be done is perform the test whether your wireless card support going into wireless access point mode. As told earlier following test is for mac80211 framework based driver.

Install iw & execute following

```
sudo aptitude install iw  
iw list
```

Look for supported interface section, where it should be a entry called AP like below

```
Supported interface modes:  
 * IBSS  
 * managed  
 * AP  
 * AP/VLAN  
 * monitor  
 * mesh point
```

If your driver doesn't shows this AP, It doesn't mean it can't create wireless hotspot. But those cards aren't in scope of this tutorial. For more tests follow [ubuntu documentation on master mode](#) .

The setup is divided in three sections,

1. Setup & host a wireless network
2. IP address setup
3. Internet sharing

### **1. Setup and host a network**

- Software required: [hostapd](#)

# Missing Image

(install it)

- Press alt + F2 and type gksu gedit & press enter. We are going to edit a lot of files.
- In gedit, press ctrl+o, ctrl+l & paste it in location box /etc/hostapd/hostapd.conf. Press Enter.
- Paste the following code,

```
interface=wlan0
driver=nl80211
ssid=test
hw_mode=g
channel=1
macaddr_acl=0
auth_algs=1
ignore_broadcast_ssid=0
wpa=3
wpa_passphrase=1234567890
wpa_key_mgmt=WPA-PSK
wpa_pairwise=TKIP
rsn_pairwise=CCMP
```

**Please make sure there are no trailing white space and the end of the line! Hostapd is very sensitive  to ending white spaces that are hard to troubleshoot!**

*Changes you need to do:*

1. Change interface=wlan0 to your wireless card name. (If you have one wireless card it should be wlan0)
2. ssid=test. test is the name of your hosted network.
3. wpa\_passphrase=1234567890, 1234567890 is the password of your network.

The configuration above creates a wpa & wpa2 enabled access point in g mode. A more detailed instruction to build configuration file can be found [here !\[\]\(d21fcb624783523db45dab209b2be3a1\_img.jpg\)](#)

Now start the hostapd. Edit the file /etc/default/hostapd and modify the line of DAEMON\_CONF like this:

```
DAEMON_CONF="/etc/hostapd/hostapd.conf"
```

Then start the hostapd service using the following command,

```
sudo service hostapd start
```

It should start a wireless network. In your mobile device now you can see a wireless network and can authenticate. But the device won't get IP address. Stop it with the command sudo service hostapd stop

**If you get any error, possibly your card doesn't support g mode. Try with other >modes. [Guide !\[\]\(1d1ecd8dbc4616ba96fc75e2b517dbec\_img.jpg\)](#)**

## Part 2: Set up DHCP server for IP address management

Install [isc-dhcp-server](#)

# Missing Image

Edit the file /etc/default/isc-dhcp-server and set INTERFACES like this:

```
INTERFACES="wlan0"
```

In gedit, press Ctrl+O, in location box paste /etc/dhcp/dhcpd.conf Find (ctrl+F) below lines and put # before it. It should look like after editing

```
# option definitions common to all supported networks
#option domain-name example.org;
#option domain-name-servers ns1.example.org, ns2.example.org;
```

Again comment out following lines too

```
#default-lease-time 600;
#max-lease-time 7200;
```

Add following lines at end

```
subnet 10.10.0.0 netmask 255.255.255.0 {
    range 10.10.0.2 10.10.0.16;
    option domain-name-servers 8.8.4.4, 208.67.222.222;
    option routers 10.10.0.1;
}
```

*Range describe how long the address pool will be. you need to adjust subnet value also.  
This config can give IP up to 15 devices*

Again press Cctr1+o in gedit and paste following in location bar  
/etc/network/interfaces, Add below

```
auto wlan0
iface wlan0 inet static
    address 10.10.0.1
    netmask 255.255.255.0
```

wlan0 is your wireless interface. Change it accordingly.

Note: After reboot the wireless will be shown as not managed. So you can't use any other wi-fi network. To get wireless with normal behaviour, put # before those newly added line and execute sudo start networking

now run

```
sudo service isc-dhcp-server start
sudo service hostapd start
```

At this point , your mobile device will see a network, authenticate it & after authentication it will get ip address something like 10.10.0.2.

## Setup internet connection settings

For Internet connection sharing we need ip forwarding and ip masquerading. Enable ip forwarding : execute

```
echo 1 | sudo tee /proc/sys/net/ipv4/ip_forward
```

Now say you are using a dial up/usb modem connection to connect to INTERNET. You need to get the logical interface name. For that execute ifconfig or ip address

For dialup/usb modem: it should be ppp0. If you want to share Ethernet connection you should use ethX where X is your ethernet device number. If you are connecting to internet through an android device with USB tethering, then the interface name should be usb0.

Now once you get the interface name execute sudo iptables -t nat -A POSTROUTING -s 10.10.0.0/16 -o ppp0 -j MASQUERADE

**The ppp0 in above command is the interface whose internet connection you are sharing over wireless.**

If you have edited upto /etc/network/interfaces you can use [this script](#) to start the service. Edit it if you are not sharing ppp0. if you are using script and want to stop the server, use sudo killall hostapd

---

A blog that is mostly a summary of what has been described here:

<http://dashohoxha.blogspot.com/2013/06/how-to-setup-wifi-access-point-on-ubuntu.html>

A script that tries to automate the steps described here:

<https://gist.github.com/dashohoxha/5767262>

Please feel free to report or fix any bugs that you notice.

---

Great helps from :

- <https://help.ubuntu.com/community/WifiDocs/MasterMode>
  - <http://linuxwireless.org/en/users/Documentation/hostapd>
  - <http://thenewbieblog.wordpress.com/2012/05/01/wifi-hotspot-setup-on-ubuntu/>
  - [How do I configure a DHCP server?](#)
- 

[Answer](#) by [shivshnkr](#)

I too had the same problem. The best solution I could find is to use **ap-hotspot** for creating a hotspot of the ubuntu machine. It works fine for connecting to almost all android, windows phones, etc.

To install it:

```
$ sudo add-apt-repository ppa:nilarimogard/webupd8
$ sudo apt-get update
$ sudo apt-get install ap-hotspot
```

Next, to start the hotspot:

```
$ sudo ap-hotspot start
```

It asks you which adapter's internet you want to share, name of the network, password,

etc. in an interactive manner.

To stop the hotspot :

```
$ sudo ap-hotspot stop
```

To configure it:

```
$ sudo ap-hotspot configure
```

If any problem, hope this [link](#) helps.

EDIT:

For now it seems there is some problem with Ubuntu 14.04, and as specified in the webupd8.org article linked, you have to downgrade hostapd:

64bit:

```
cd /tmp
wget http://archive.ubuntu.com/ubuntu/pool/universe/w/wpa/hostapd_1.0-3ubuntu2.1_amd64.deb
sudo dpkg -i hostapd*.deb
sudo apt-mark hold hostapd
```

32bit:

```
cd /tmp
wget http://archive.ubuntu.com/ubuntu/pool/universe/w/wpa/hostapd_1.0-3ubuntu2.1_i386.deb
sudo dpkg -i hostapd*.deb
sudo apt-mark hold hostapd
```

---

[Answer](#) by [hexcube](#)

# Ubuntu 14.04LTS

## Step 1: Test whether your WiFi card supports AP mode

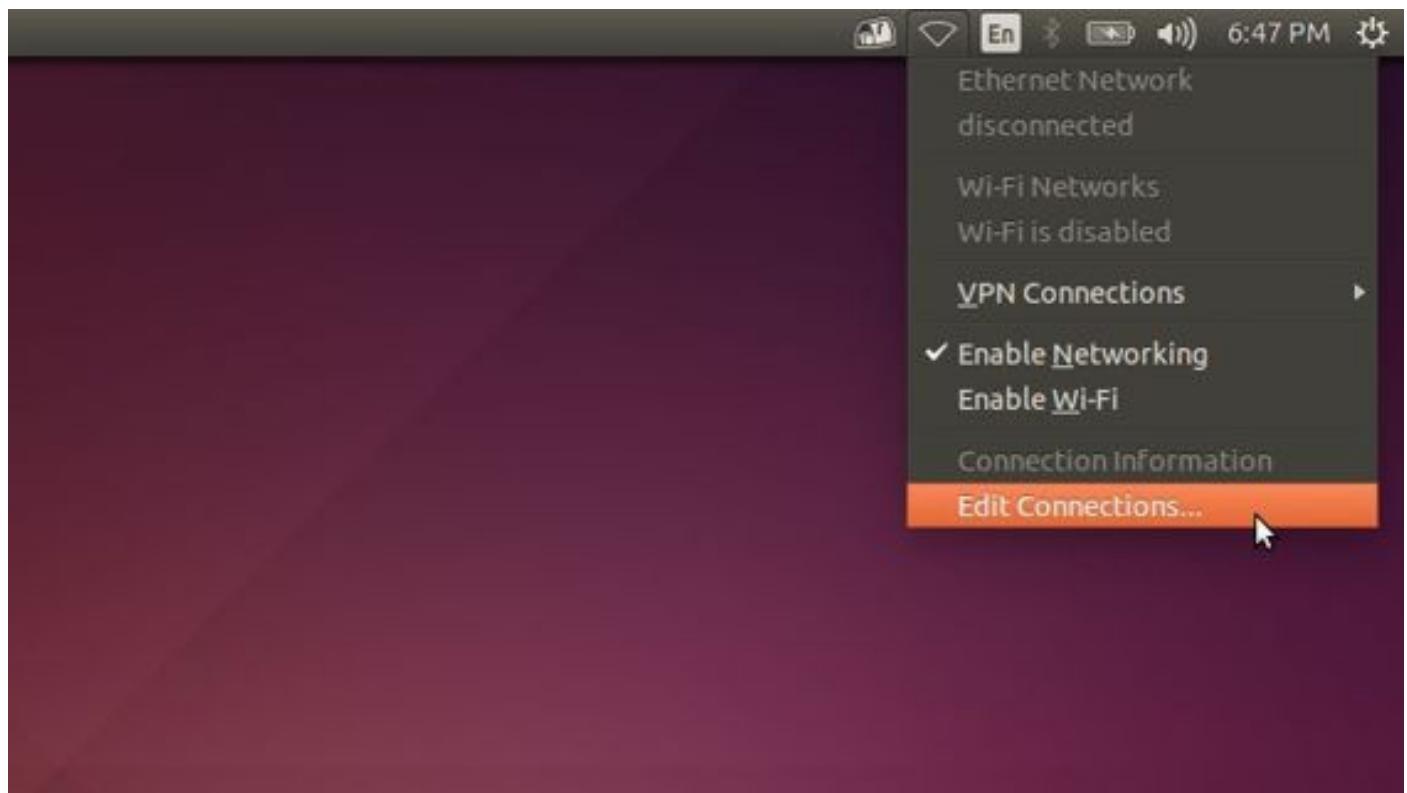
Follow the **Access Point mode check** in the [answer](#) provided by [Web-E!\[\]\(ee6fbee1d14635fac194559ea1a24d3d\_img.jpg\)](#)

## Step 2: Configure Hotspot

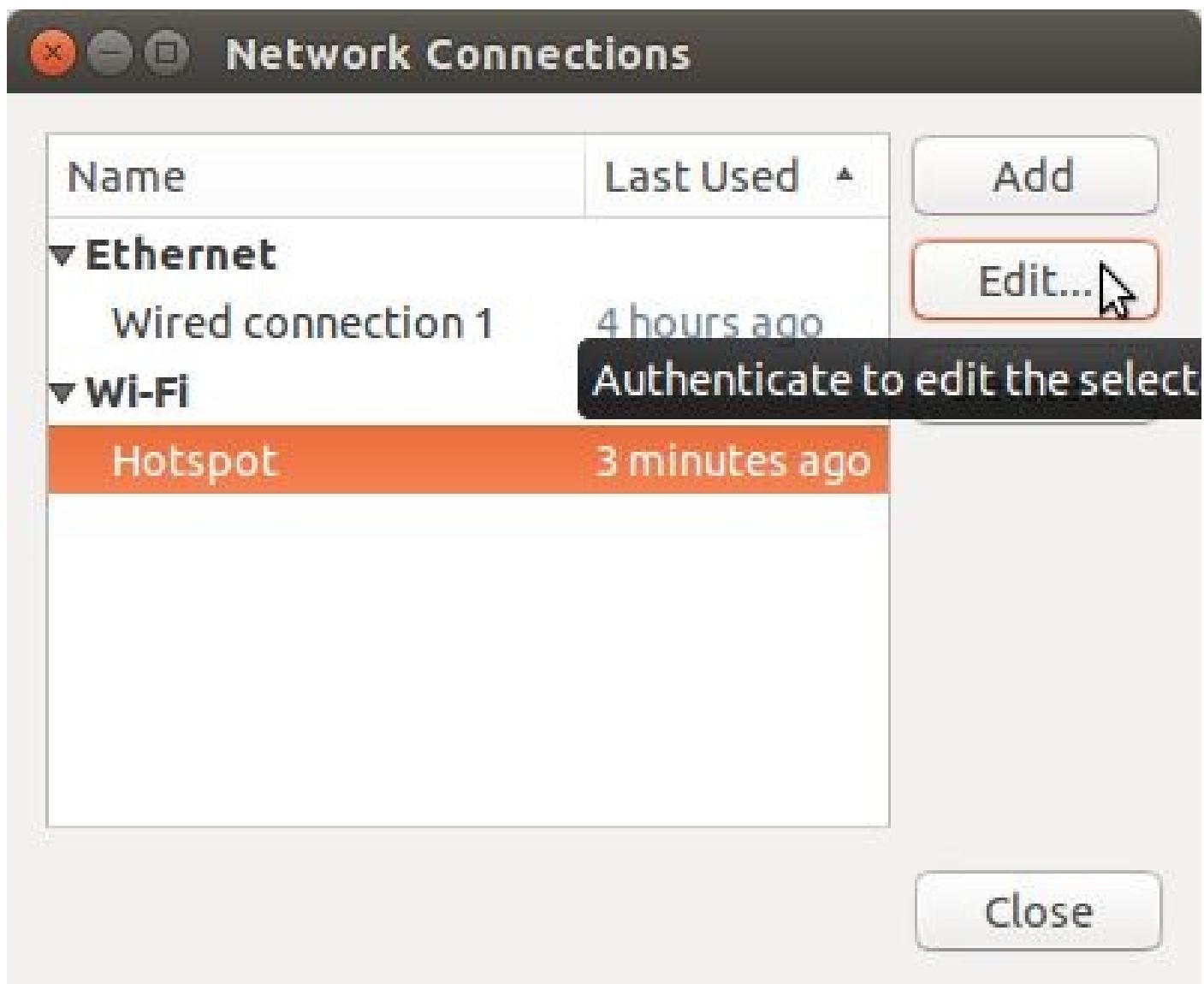
Search *Network* in Dash and open it. Press the “*Use as Hotspot*” button and *Network Manager* will start an AdHoc hotspot.



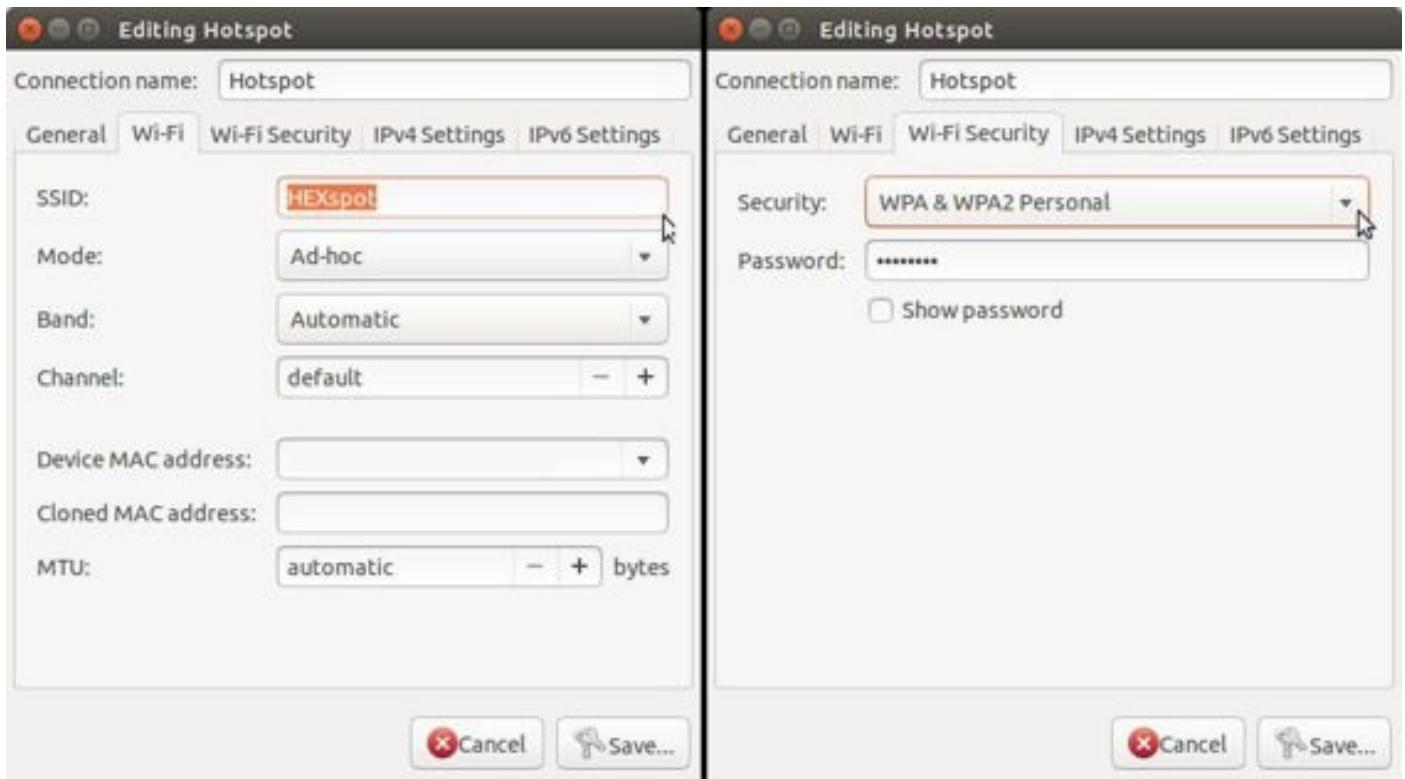
But that's not what we want, is it? ;-) Stop the hotspot. Open *Network Connections* from Dash or ‘Edit Connections’ from Network Indicator menu.



In the *Network Connections* window that appears, there'll be a connection named *Hotspot* listed under the WiFi section. Select it and click the “*Edit*” button.



In the window that appears, you can edit the broadcast name (SSID) and password of your hotspot. If you don't want to set a password, you can set the security to none and thus create an open hotspot. If you're setting a password, it's recommended to change the security key from WEP to WPA2.



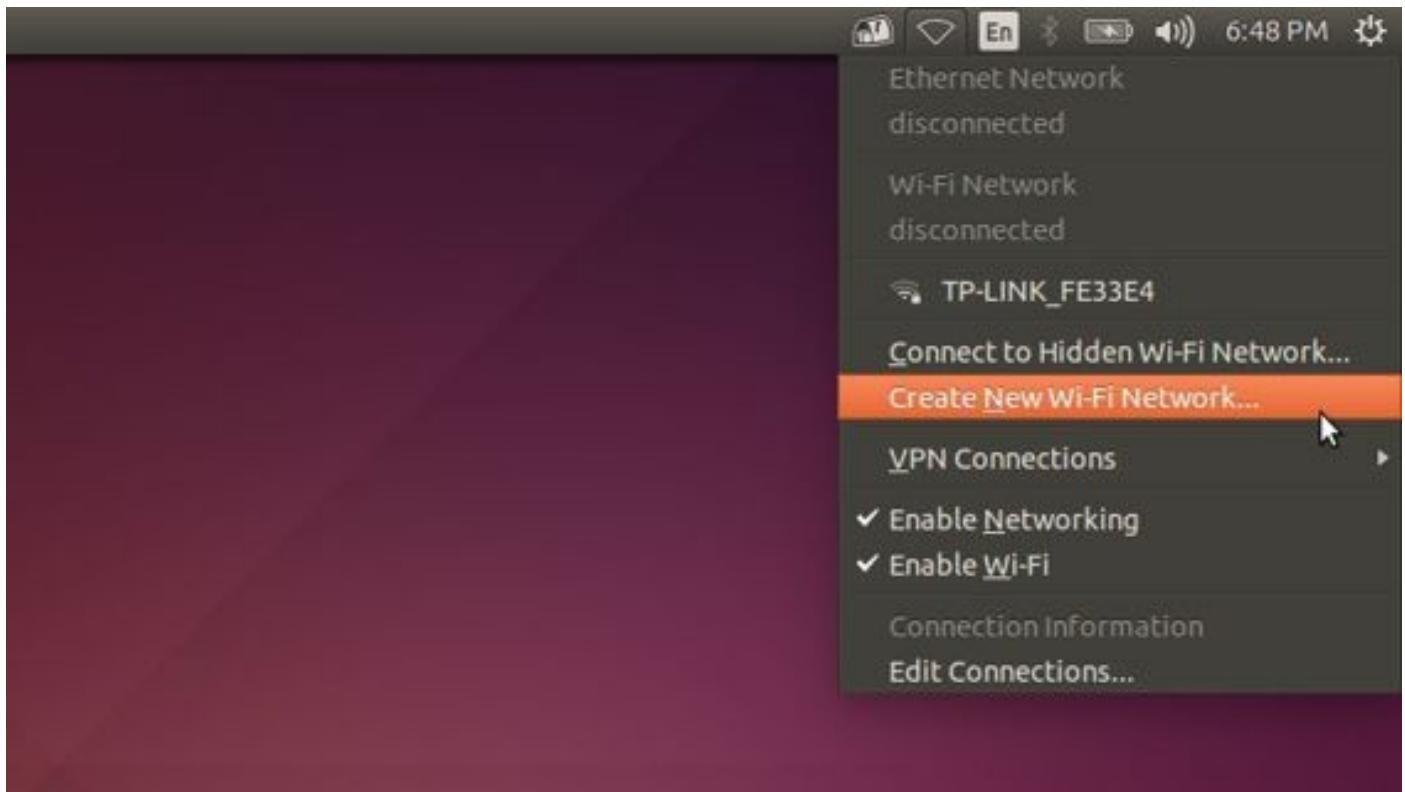
Save and close the Network Connections window after doing the configurations. Now, it's time to do a tweak, the most important part of this configuration. Open the *Terminal* and run this command:

```
sudo gedit /etc/NetworkManager/system-connections/Hotspot
```

and the configuration file will be opened in text editor. Find a line beginning with `mode=` and change it to `mode=ap` and save the file.

## Step 3: Start Hotspot

Now that the configuration part is over, we'll start the hotspot. Click on ‘*Create New Wi-Fi Network*’ from Network Indicator menu.



In the window that appears, click on the connection drop-down button and change “New...” to “Hotspot”. Press the “Create” button and your hotspot will start running. From now on, whenever you need a hotspot, you just need to do this step i.e **Step 3** only.



## Create New Wi-Fi Network



### New Wi-Fi network

Enter a name for the Wi-Fi network you wish to create.

Connection:

Hotspot



New...

Network name:

Hotspot

Wi-Fi security:

WPA2 Personal



Password:

Show password

[Cancel](#)

[Create](#)

# Explanation

**Ubuntu 14.04LTS “Trusty Tahr”**‘s default *Network Manager* (`network-manager` v9.8.8) already has the ability to start Access Point mode WiFi hotspot. But the problem is that, support for AP mode hotspot haven’t yet been implemented in *Network Manager*‘s Gnome frontend. This means that you can’t create an AP mode Hotspot directly from the GUI, atleast for now. But, *Network Manager*‘s KDE frontend has already implemented support for AP mode hotspots. This is why Kubuntu and other KDE based distro users can directly start AP mode hotspots, even though they’re having the same version of *Network Manager* backend. You may install KDE’s *Network Manager* frontend to edit hotspot configuration, as described in this blog - [Create WiFi Hotspot in Ubuntu 14.04 using KDE’s Network Manager](#). Though Fedora uses Gnome Shell, it’s *Network Manager* gnome applet is patched with AP support. Infact, Fedora had AP mode support long since **Fedora 18**, with [real-hotspot](#) patch for it’s `network-manager` v0.9.6. Let’s hope Ubuntu will also create a similar patch to start AP mode hotspots directly from *Network Manager* GUI and make our lives easier! :-)

Sources:

- Ask Fedora - [How to create and configure a hotspot in Fedora 20](#)
  - Launchpad Bug Report - [wpa\\_supplicant AP mode support not included in the build](#)
-

# Ubuntu 12.04LTS

1. First start Ubuntu's default Adhoc hotspot through *Network Manager*.
2. Then follow the **AP mode check** and **Step 1** from the [answer](#) provided by [Web-E](#).

After doing the above, run this command:

```
sudo service hostapd start
```

and the Access Point will be up and ready for connection! No need to go through **Step 2: Set up DHCP server for IP address management** and **Step 3: Setup internet connection settings** as they have already been done by *Network Manager*. Hostapd simply reuses the existing settings done for the Adhoc hotspot. If anything goes wrong, run the following command to see debug messages:

```
sudo hostapd -dd /etc/hostapd/hostapd.conf
```

This method was suggested by [Jatin Dhankhar](#) on [Open Source for You](#) magazine.

# Pros

- You just need to configure hostapd only. No need to manually do DHCP IP address management using dnsmasq/isc-dhcp-server and Internet sharing using ip forwarding and ip masquerading.
- Doesn't have problems like ap-hotspot script's dnsmasq conflict and subsequent IP management issues.

# Cons

- Works only if Wireless card supports both AP mode and IBSS(AdHoc) mode!
  - Still not as easy as GUI solutions like **Connectify**, **Virtual Router**, **real-hotspot patch**,etc.
- 

**Tags:** [wireless](#)

---

[Q: How to setup an Access Point mode Wi-Fi Hotspot?](#)

---

# Rhythmbox

[Skip to questions](#), Wiki by user [Ã'ndrÃ¼k](#)

- [Homepage](#) 

Rhythmbox is a very easy to use music playing and management program which supports a wide range of audio formats (including mp3 and ogg). Originally inspired by Apple's iTunes, the current version also supports Internet Radio, iPod integration and generic portable audio player support, Audio CD burning, Audio CD playback, music sharing, and Podcasts.

---

# Questions

## [Q: How do I install third-party rhythmbox plugins?](#)

**Tags:** [rhythmbox](#)

Now that the dust has settled and Rhythmbox has become (again) the default music-media player in 12.04 & 12.10, I'm interested in extending its functionality.

For example, the default lyric plugin does not work for me and there doesn't appear to be an sound-equalizer by default.

Having done a search, I came across the [Gnome-website](#)  that lists a number of third-party plugins, some-of which I wish to install which can resolve the above.

However, there doesn't appear to be .deb packages or a repository containing these plugins.

Instead there are links to source-code websites such as GitHub and others.

So, I'm confused - I don't know which plugins works in 12.04 or 12.10 versions of Rhythmbox (v2.96 & v2.97) and I'm not sure how to install these.

**Tags:** [rhythmbox](#)

**User:** [fossfreedom](#)

---

[Answer](#)  by [fossfreedom](#)

# Rhythmbox Plugins overview

The version of Rhythmbox that is now installed by default in 12.04 (Precise) has been ported to GTK3 libraries.

This version has been superseded in 12.10 (Quantal) with v2.97.

13.04 (Raring) has v2.98.

13.10 (Saucy) has version v2.99.1

14.04 (Trusty) has version v3.0.2

What this means in practice, is that many of the previous GTK2 based plugins no longer (or are unlikely to) work with the newer versions of Rhythmbox.

In addition, the folder locations and plugin syntax has slightly changed. If you skip to the bottom of this answer I will give an overview of this.

In terms of whether there is an easier method to install these plugins I have created my own PPA with some of the plugins which I have tried and can confirm do work in the stock rhythmbox versions found in 12.04 though to 14.04 (and later)

*to add my PPA*

```
sudo add-apt-repository ppa:fossfreedom/rhythmbox-plugins  
sudo apt-get update
```

If you want to install all the plugins:

```
sudo apt-get install rhythmbox-plugin-complete
```

Alternatively - install the individual packages as described below.

**Note 1** - Rhythmbox v2.99.1 introducing major changes to the menu structure and many plugins that expose their functionality through menus will need to be recoded & rewritten. Not all plugins have been updated. To see if your favourite plugin is available, visit [my launchpad page](#) and look for the saucy package. If it is not available, contact the plugin author (links below) to raise the issue or if possible submit code fixes.

**Note 2** - Rhythmbox v2.99.1 removes toolbar menu options. If the plugin in previous versions used the toolbar, look to activate the plugin via a *Tool* menu option

**Note 3** - Rhythmbox v3.0 and later introduces Python3 plugins. Older versions of Rhythmbox use Python2 and are no longer compatible with Rhythmbox 3

**Note 4** - if you are aware of other GTK3 working plugins not in this PPA, please drop a comment or contact me via my Launchpad ID and I'll will look into whether it is possible to include these in this PPA. For problems with the plugins themselves, contact the maintainer themselves (homepage links below).

---

[\*\*Album Art Search\*\*](#) (v2.96 - v3.0+)

Joel from Greatest Hits. Volume II: 1978-1985

3:51 of 4:48

Search all fields

Album

All 19 albums (116)

- 80's Gold: Club '80s (disc 1) (1)
- All Saints (13)
- Barbie Let's All Dance! (21)
- Beverley Craven (10)
- Céline Dion (1)

Chart Toppers: Modern Rock Hits of the 80s

| Genre          | Artist            | Album                | Time        |
|----------------|-------------------|----------------------|-------------|
| PopRock        | Billy Joel        | Greatest H...        | 3:15        |
| Soul           | Hall & Oates      | The Essent...        | 4:08        |
| Pop            | All Saints        | All Saints           | 5:09        |
| Kids           | Yolanda B...      | Barbie Let...        | 2:11        |
| Pop            | Michael B...      | Time, Love...        | 4:41        |
| Pop            | Michael B...      | Time, Love...        | 3:52        |
| Kids           | Pussycat ...      | Barbie Let...        | 3:57        |
| Easy Listen... | Beverley C...     | Beverley C...        | 4:15        |
| PopRock        | Billy Joel        | Greatest H...        | 4:13        |
| Easy Listen... | Beverley C...     | Beverley C...        | 4:07        |
| <b>PopRock</b> | <b>Billy Joel</b> | <b>Greatest H...</b> | <b>4:48</b> |

Album art search

Title: You're Only Human (Second Wind)  
Artist: Billy Joel  
Album: Greatest Hits, Volume II: 1978-1985

[Search Options: \[+\]](#)

Choose save location

Rhythmbox Location

Song Folder

Pictures Folder

[Save Album Art](#)

Searches the web for the album art of the currently playing song using Google image search APIs. From the resulting images, one can then choose an image to set as album art.

This plugin searches Google for album art. It allows to select the cover-art for the playing sound-track. You have the option to save a picture in

- the internal database rhythmbox coverart folder (*Rhythmbox Location*)
- the actual song filesystem folder (*Song Folder*)
- the users home pictures folder (*Pictures Folder*)

I'm particularly fond with this since I've helped re-coding this one to make it work in 12.04

*to install:* sudo apt-get install rhythmbox-plugin-albumartsearch

Start Rhythmbox, enable the *Album Art Search Panel* plugin

*tip* - disable the *Context Pane* so that you can display all your album art in the right-hand pane.

---

## [\*\*Android Remote\*\*](#) (v2.96 - v2.99)

# Missing Image

Allow to remote control Rhythmbox v2.96 or later with [Banshee remote application](#)  from Nikitas Stamatopoulos

*to install:* sudo apt-get install rhythmbox-plugin-android-remote

Start Rhythmbox, enable the *Rhythmbox Android Remote* plugin

- Launch banshee remote in Android phone
- Connect to the computer IP where RB is working, using port 8484. You may need to allow tcp 8484 through any firewalls.
- Control it!

Press the Menu button and then Sync to select the artist and songs to play.

Instructions for the app [here](#) .

---

## [\*\*Art Display\*\*](#) (v2.96 - v3.0+)

Brings back the large coverart display found in Rhythmbox 2.96 for later Rhythmbox users

*to install:* sudo apt-get install rhythmbox-plugin-artdisplay

Start Rhythmbox, enable the *Art Display* plugin

---

## [\*\*Close-On-Hide\*\*](#) (v3.0+)

Really close rhythmbox when clicking the x button on the window. For those people who dislike Ubuntu's predilection to hide when closing, this plugin is for you.

*to install:* sudo apt-get install rhythmbox-plugin-close-on-hide

Start Rhythmbox, enable the *Close On Hide* plugin

---

## [CoverArt Browser](#) (v2.96 - v3.0+)

# Missing Image

- [How to browse by album art in rhythmbox?](#) 

Browse your albums using the cover-art stored with your album.

*to install:* sudo apt-get install rhythmbox-plugin-coverart-browser

Start Rhythmbox, enable the *CoverArt-browser* plugin

---

## [CoverArt Search Providers](#) (v2.96 - v3.0+)

# Missing Image

Drop in replacement for the default ArtSearch plugin. This plugin allows you to control where you get your coverart from as well as having more internet search providers to search from. It also has many bug-fixes that the default ArtSearch plugin does not contain.

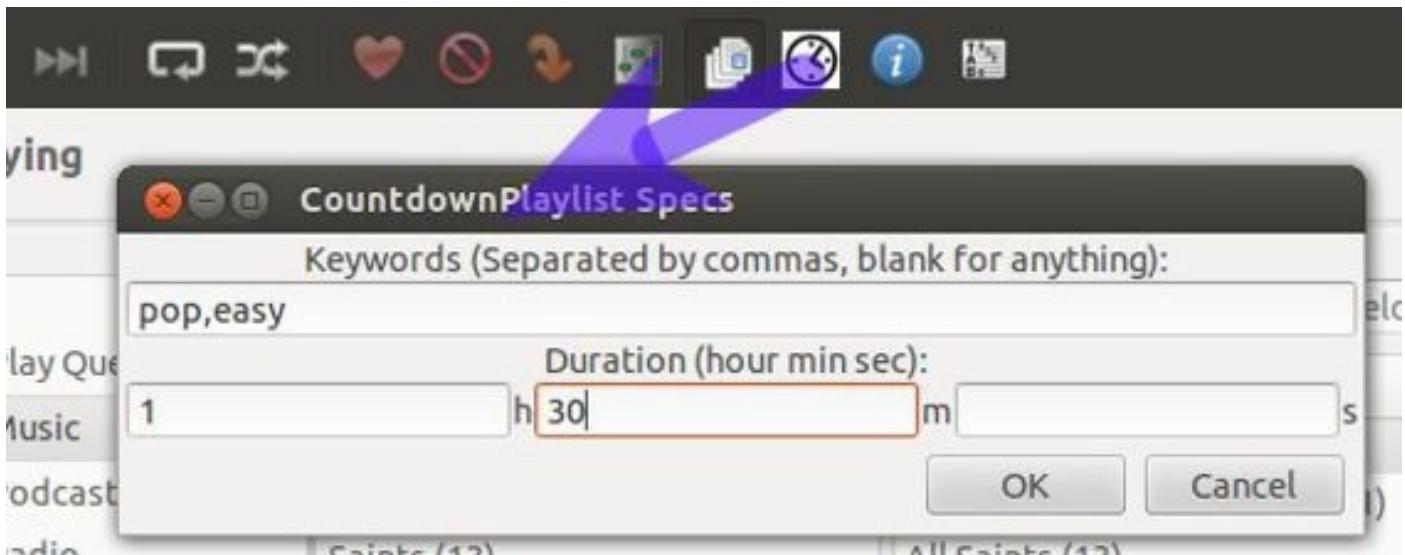
This works standalone or in combination with v0.8 & later of Coverart Browser

*to install:* sudo apt-get install rhythmbox-plugin-coverart-search

Start Rhythmbox, enable the *Coverart Search Providers* plugin

---

## [Countdown Playlist](#) (v2.96 - v3.0+)



This applet allows you to create random playlist using keywords from your music collection for whatever duration you wish to define.

*to install:* sudo apt-get install rhythmbox-plugin-countdown-playlist

Start Rhythmbox, enable the *Countdown Playlist* plugin

---

## [Desktop Art](#) (v2.96 - v3.0+)

# Missing Image

... and on mouse-over...

# Missing Image

This applet allows you to display the coverart for tracks & albums and control rhythmbox from your desktop

*to install:* sudo apt-get install rhythmbox-plugin-desktopart

Start Rhythmbox, enable the *Desktop Art* plugin

---

## [Equalizer](#) (v2.96 - v3.0+)

# Missing Image

10 band equalizer for Rhythmbox.

It does what the name suggests - it modifies the sound according to a number of presets  
*to install:* sudo apt-get install rhythmbox-plugin-equalizer

Start Rhythmbox, enable the *Equalizer* plugin. Start the Equalizer from the *Control* main-menu

---

## [Fileorganizer](#) (v2.96 - v3.0+)

When the plugin is enabled, you will notice an option in the right-click menu of music items (like songs) that will read ‘Organize selection’. Clicking this will organize the selected files following a defined structure for both folders and filenames. Thats all there is to it. See the [README file](#) for more details.

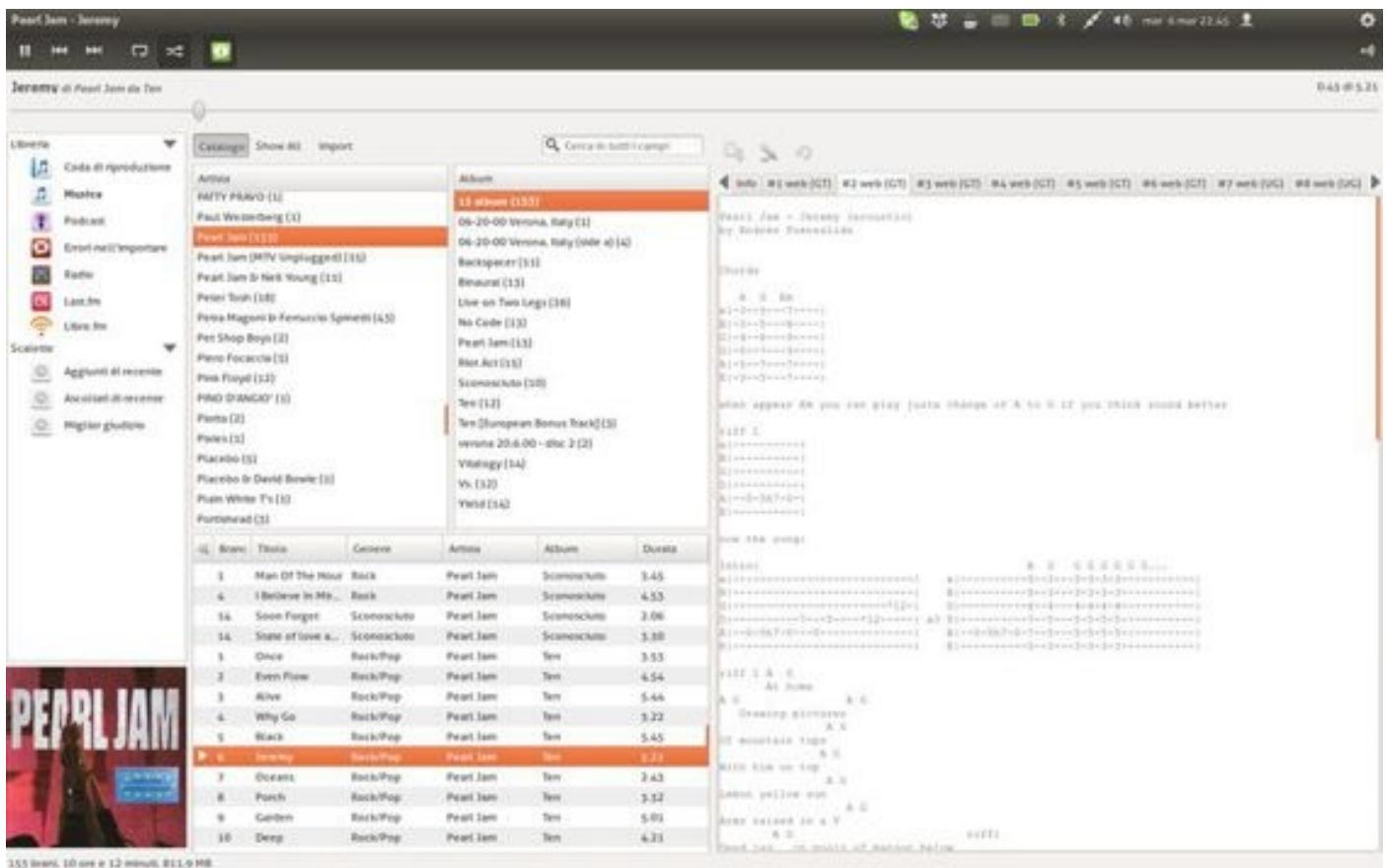
- [How do I force Rhythmbox to automatically organise my music files into folders?](#)

*to install:* sudo apt-get install rhythmbox-plugin-fileorganizer

Start Rhythmbox, enable the *File Organizer* plugin.

---

## [Guitar Tablature plugin](#) (v2.96 - v2.98)



*picture from authors website*

Find and display the guitar tablature (also for drum and bass when available) of the current playing song from tab websites. The tablatures will be showed in a small panel integrated in the Rhythmbox GUI.

*to install:* sudo apt-get install rhythmbox-plugin-tabguitar

Start Rhythmbox, enable the *Tab Search Plugin* plugin

*tip* - disable the *Context Pane* so that you can display all your guitar tablature in the right-hand pane.

## [\*\*Hide\*\*](#) (v2.96 - v3.0+)

Allows rhythmbox to either hide or minimize on launch. This is very useful to allow rhythmbox to start from *Startup Applications* without the main rhythmbox window from appearing

- [How can I start RhythmBox minimized?](#) 

*to install:* sudo apt-get install rhythmbox-plugin-Hide

Start Rhythmbox, enable the *Rhythmbox Hide* plugin

[Jump-to-Playing](#)  (v2.96 - v2.98)



Wining You by ABBA from Gold: Greatest Hits

Show All Import

Album

1 album

Gold: C

le

Genre

Artist

Knowing Me, Knowing You

Easy Listening

ABBA

Add to Play Queue

Add to Playlist

Copy

Remove

Move to the Rubbish Bin

Browse This Genre

Browse This Artist

Browse This Album

Jump to Playing Song

Properties

Adds a context menu entry and a tool-bar button to jump to the playing song.

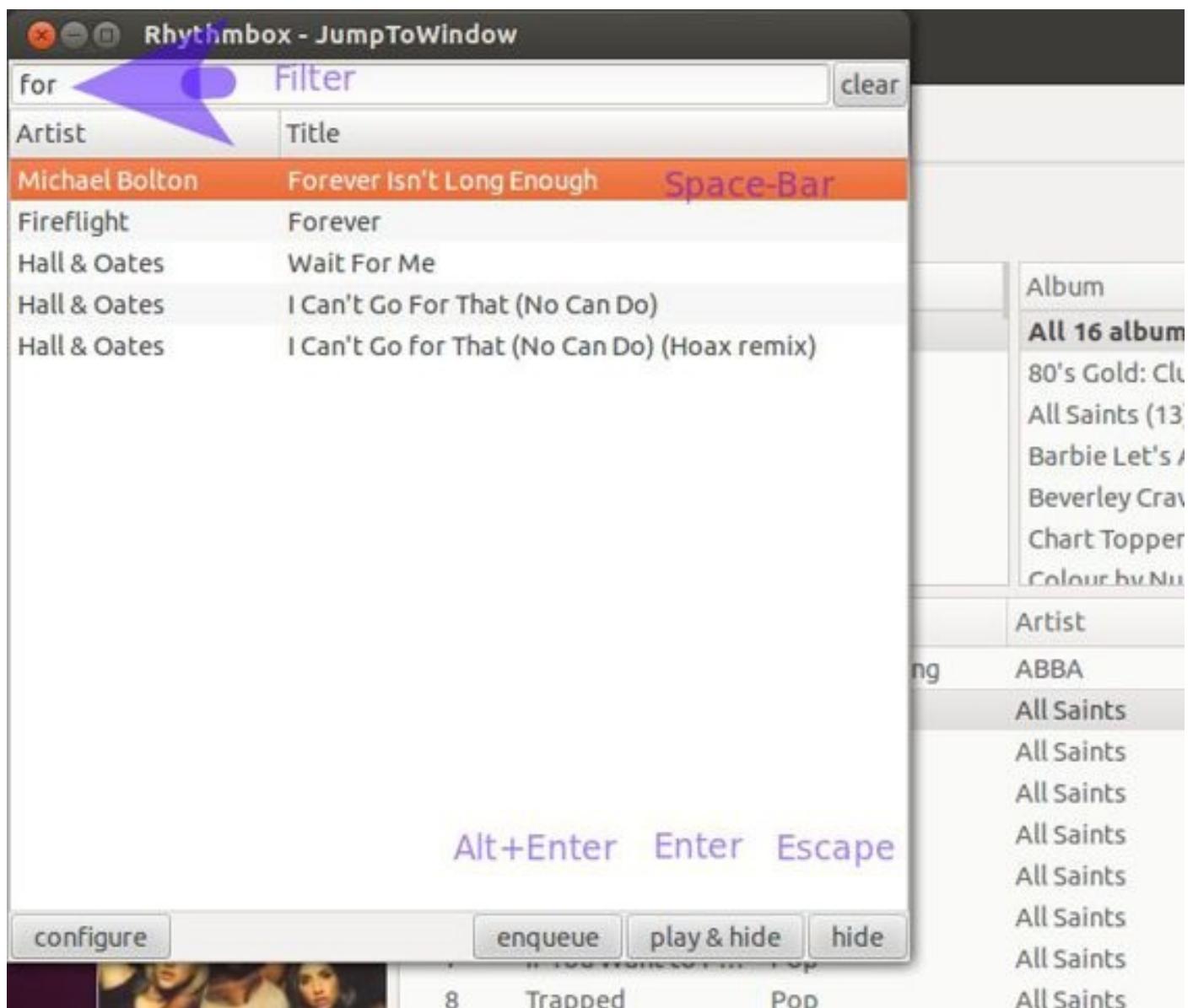
Very simple plugin - if you have a large list, clicking the toolbar button or right-clicking any song highlights in that list the currently playing song.

to install: sudo apt-get install rhythmbox-plugin-jumptoplaying

Start Rhythmbox, enable the *Jump to Playing* plugin

---

## **Jump-To-Window** (v2.96 - v3.0+)



This applet allows you to play, search, enqueue using the keyboard

It's very similar to the 'Jump to File' feature in Winamp, including the ability to enqueue a song.

It doesn't matter if Rhythmbox has focus or not - the global hotkey you define launches a window allowing you to add songs to the play queue.

To see this in action - fire-up rhythmbox, enable the plugin and press Shift+Ctrl+J to see this in action.

*to install:* sudo apt-get install rhythmbox-plugin-jumptowindow

Start Rhythmbox, enable the *JumpToWindow plugin*

*to define the global hotkey*

/usr/lib/rhythmbox/plugins/JumpToWindow/src/activate.py

For gnome go to *System -> Preferences -> Keyboard Shortcuts -> Add* and add the above command.

Use whatever keyboard combination you want e.g. CTRL+G, play a song in Rhythmbox and use CTRL+G to launch the JumpToWindow

---

## [Fullscreen](#) (v2.96 - v3.0+)

# Missing Image

This python plugin gives you a stylish full screen window usable for parties etc.:

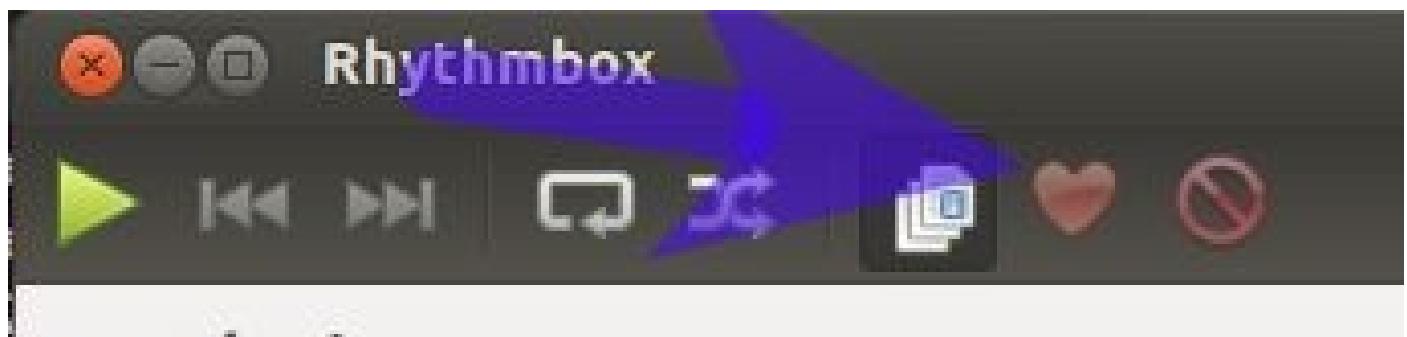
- Pulsating hover effect
- Album art
- Smoothly animated progress bar
- Control: Play/pause/skip
- Scrolling by cursor position
- Queued tracks merged
- Full screen - or maximized window via the plugin preferences

*to install:* sudo apt-get install rhythmbox-plugin-fullscreen

Start Rhythmbox, enable the *Fullscreen plugin*

---

## [lastfm-extension](#) (v2.96 - v2.98)



Add some LastFM related functionality to Rhythmbox: love/ban buttons, playcount sync and loved tracks sync.

Also available is the ability to finger-print a song i.e. find the track-details for a song based upon the audio in the track.

*to install:* sudo apt-get install rhythmbox-plugin-lastfm-extension

Start Rhythmbox, enable the *lastfm extension* plugin

Connect to your LastFM account through the preferences button. Note - you need to authorise via this button because it does not use the default LastFM plugin authorisation method.

---

## [\*\*LastFM-Queue\*\*](#) (v2.96 - v2.99)

This plugin automatically queues tracks from your music library based upon the currently playing track.

It uses LastFM (no login required) to match *similar* songs - if the list of similar songs match your music library then those tracks are queued.

*to install (64bit users only):* sudo apt-get install rhythmbox-plugin-lastfm-queue

Start Rhythmbox, enable the *Last.FM Dynamic Tracks* plugin

Then play a song - watch as other songs from your library are automatically queued.

---

## [\*\*ILyrics\*\*](#) (v2.96 - v3.0+)

re (feat. Patti LaBelle)

A screenshot of the Rhythmbox music player interface. At the top, it shows the currently playing song: "We're (feat. Patti LaBelle)" by Michael Bolton from the album "Time. Love & Tenderness". The play button indicates the song is playing at 1:00 of 4:41. Below the player, there's a search bar labeled "Search all fields" with a magnifying glass icon. To the right of the search bar, the word "Lyrics" is visible. A large purple arrow points from the search bar towards the lyrics area. On the left, there's a sidebar titled "Album" with a list of albums: "All 19 albums (116)", "80's Gold: Club '80s (disc 1) (1)", "All Saints (13)", "Barbie Let's All Dance! (21)", "Beverley Craven (10)", and "Céline Dion (1)". Below this is a section titled "Chart Toppers: Modern Rock Hits of All Time". The main content area displays the lyrics for the current song:

**Michael Bolton - We're Not Makin'  
Love Anymore (feat. Patti LaBelle)**

Here we are, just goin' through the motions one more time  
You look into my eyes, but you don't see me  
Here i am, feelin' like a stranger in your arms  
I touch you, i hold you, but lately i don't know you

Something is wrong but we go on from day to day  
And we just pretend it all away  
We act like nothing's changed  
But in our hearts we know, it's not the same

'cause we're not makin' love anymore

| Artist              | Album                | Time        |
|---------------------|----------------------|-------------|
| Billy Joel          | Greatest H...        | 3:15        |
| Hall & Oates        | The Essent...        | 4:08        |
| All Saints          | All Saints           | 5:09        |
| Yolanda B...        | Barbie Let...        | 2:11        |
| <b>Michael B...</b> | <b>Time, Love...</b> | <b>4:41</b> |
| Michael B...        | Time, Love...        | 3:52        |
| Pussycat ...        | Barbie Let...        | 3:57        |
| .. Beverley C...    | Beverley C...        | 4:15        |
| Billy Joel          | Greatest H...        | 4:13        |
| .. Beverley C...    | Beverley C...        | 4:07        |
| Billy Joel          | Greatest H...        | 4:48        |

Displays lyrics for the current playing song in the right sidebar.

This plugin searches and displays the lyrics for the currently playing song. You can also manually find lyrics for any song in your database.

This plugin is useful for those people where the inbuilt plugin does not work.

*to install:* sudo apt-get install rhythmbox-plugin-llyrics

Start Rhythmbox, enable the *lLyrics* plugin

Then restart Rhythmbox for the toolbar button to become visible.

*tip 1* - disable the *Context Pane* so that you can display all your lyrics in the right-hand pane.

*tip 2* - look for the lyrics menu option (global menu in Unity) for many more Lyrics options and functionality

---

## [Looper](#) (v3.0+)

# Missing Image

This plugin allows you to loop whole or parts of songs over and over again.

*to install:* sudo apt-get install rhythmbox-plugin-looper

Start Rhythmbox, enable the *Looper* plugin

---

## [Microblogger](#) (v2.96 - v2.98)



send notice about current music to a microblogging service from Rhythmbox  
(currently supports twitter and identica)

This plugin allows you to tweet etc the current song.

*to install:* sudo apt-get install rhythmbox-plugin-microblogger

Start Rhythmbox, enable the *Microblogging* plugin

Click the preferences button next to the plugin to connect Rhythmbox to twitter etc.

Press CTRL+M to *tweet* your currently playing song.

---

## [Open Containing Folder](#) (v2.96 - v3.0+)

The screenshot shows the Rhythmbox application interface. On the left, there's a sidebar titled 'Artist' with a list of artists: 'All 62 artists (145)', 'ABBA (1)', 'All Saints (13)', 'AmfyBIOS (1)', 'And Droyd (1)', 'The Black Eyed Peas (1)', and 'Blackmill (1)'. Below this is a track list table with columns for 'Track', 'Title', and 'Genre'. The tracks listed are: '6 Karma Chameleo', '1 Never Ever', '2 Bootie Call', '3 I Know Where It's At', '4 Under the Bridge', and '5 Heaven'. The track '3 I Know Where It's At' is highlighted with an orange background. A context menu is open over this track, listing options: 'Add to Play Queue', 'Add to Playlist', 'Copy', 'Remove', 'Move to the Rubbish Bin', 'Browse This Genre', 'Browse This Artist', 'Browse This Album', 'Open Containing Folder' (which is highlighted with an orange background and has a cursor arrow pointing to it), and 'Properties'.

| Track | Title                | Genre |
|-------|----------------------|-------|
| 6     | Karma Chameleo       |       |
| 1     | Never Ever           |       |
| 2     | Bootie Call          |       |
| 3     | I Know Where It's At |       |
| 4     | Under the Bridge     | Pop   |
| 5     | Heaven               | Pop   |

Adds an option to open the folder containing the selected track(s) to the right click context menu

This plugin allows you to find the folder for the selected music track.

*to install:* sudo apt-get install rhythmbox-plugin-opencontainingfolder

Start Rhythmbox, enable the *Open Containing Folder* plugin

---

## [\*\*ParametricEQ\*\*](#) (v3.0+)

A parametric equalizer plug-in for rhythmbox with up to 64 freely configurable bands.

use this parametric EQ to improve your room response (especially for small rooms) and frequencies below 100 Hz.

This is described in [detail here](#) 

*to install:* sudo apt-get install rhythmbox-plugin-parametriceq

Start Rhythmbox, enable the *ParametricEQ* plugin

---

## [Playlist Import/Export](#) (v3.0+)

A Rhythmbox plugin to export all of your playlists with one click or to import them back again in one click. This allows for synchronizing across computers (with any sync program), and backing up.

Define your backup folder through the plugin preferences. Then use the Tools - Export option to save your playlists. Copy the playlists to your new computer and then use the Tools - Import option to reimport the playlists.

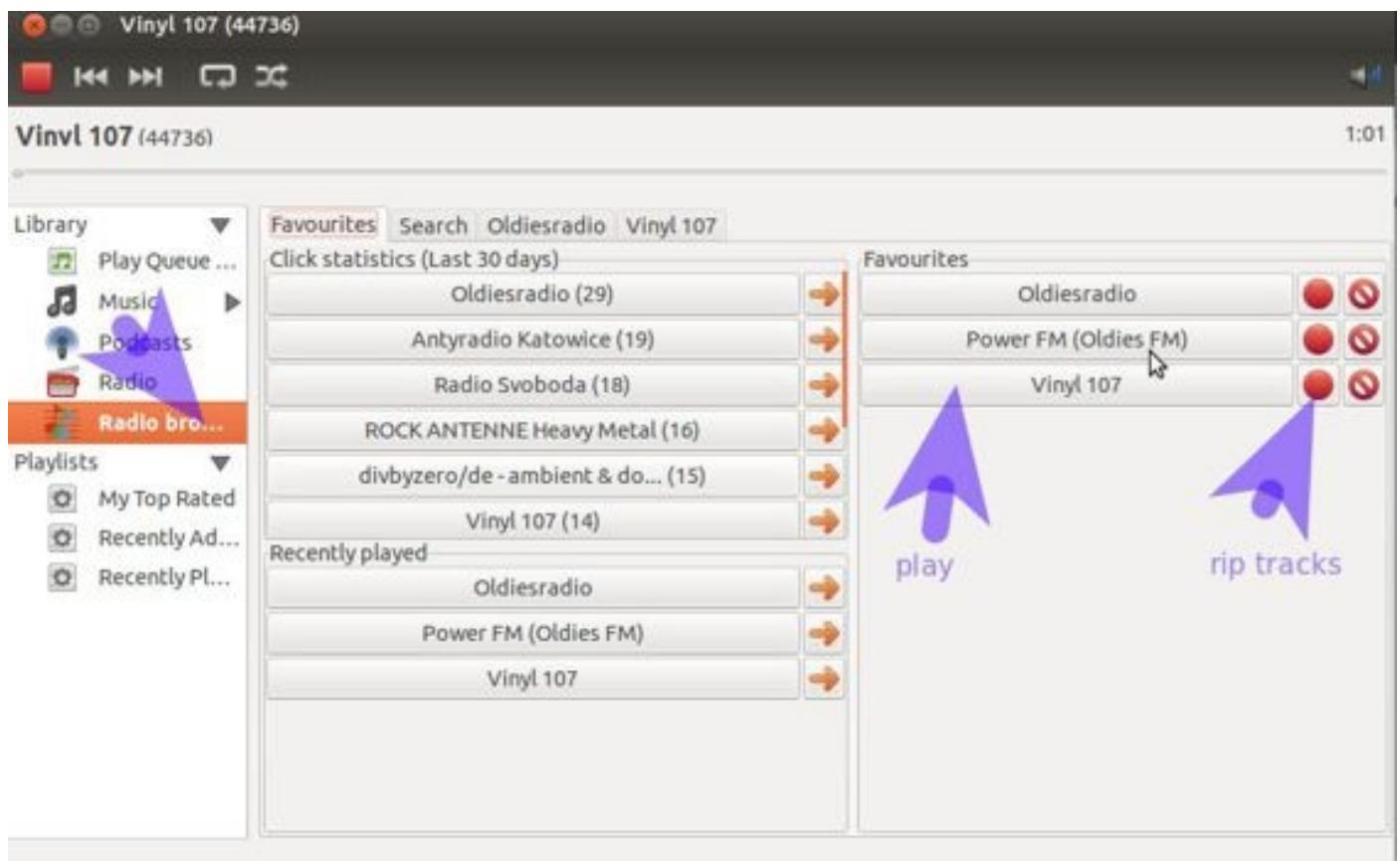
Do not use the import option without having exported first otherwise your playlists will be removed!

*to install:* sudo apt-get install rhythmbox-plugin-playlist-import-export

Start Rhythmbox, enable the *Playlist Import/Export* plugin

---

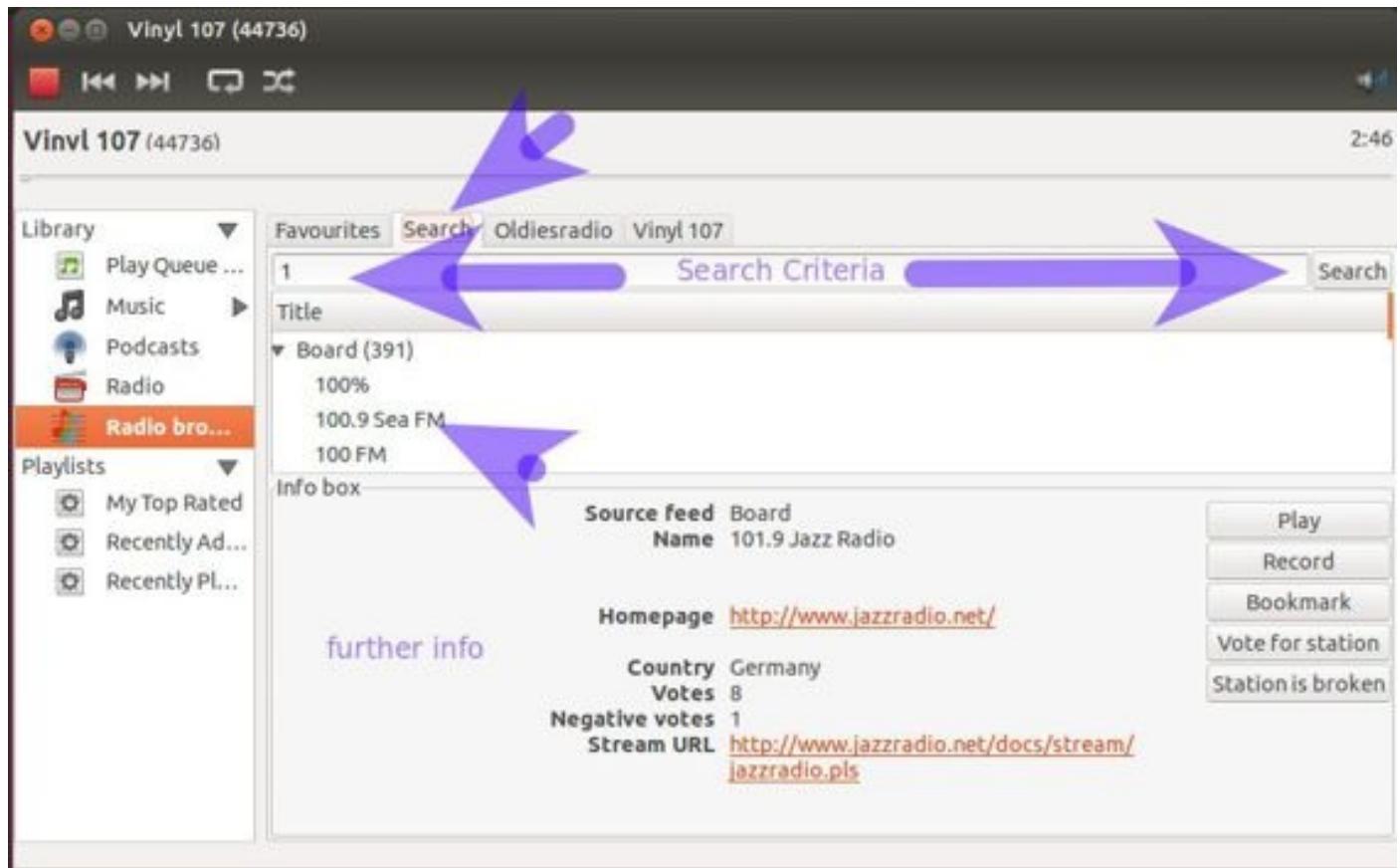
## [Radio-Browser](#) (v2.96 - v3.0+)



- [Recording the radio streaming of Radiotray or Rhythmbox](#)

Find internet radio stations and rip tracks

This plugin allows you to search the internet for radio-stations. Once found you have the ability to rip the tracks being played as MP3 files.

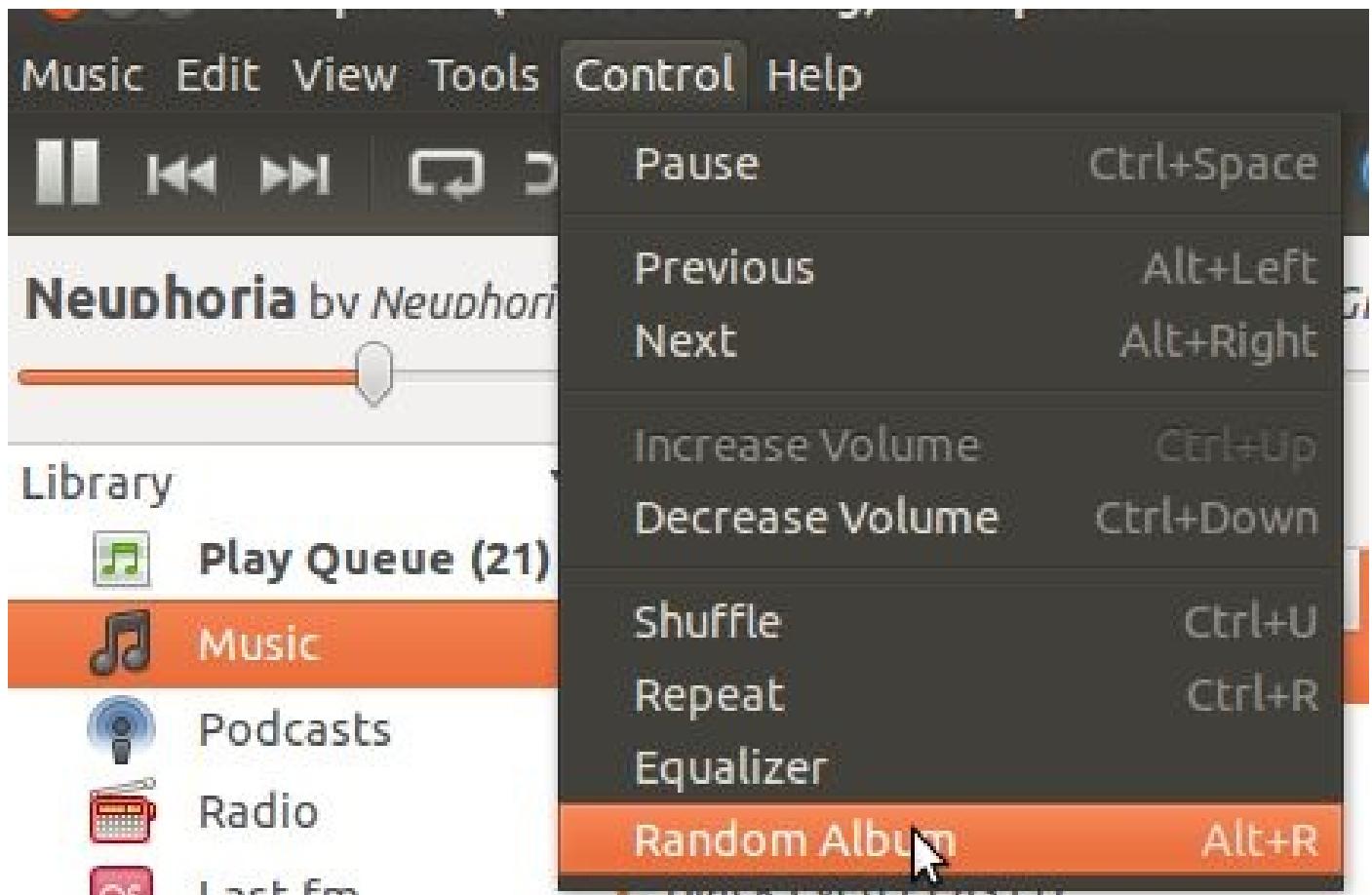


to install: sudo apt-get install rhythmbox-plugin-radio-browser

Start Rhythmbox, enable the *Internet Radio Station Browser* plugin

---

## [Random Album Player](#) (v2.96 - v3.0+)



Do you prefer listening to whole albums but aren't sure which one you're in the mood for? This plugin for Rhythmbox queues a random album and plays it immediately.

*to install:* sudo apt-get install rhythmbox-plugin-randomalbumplayer

Start Rhythmbox, enable the *Random Album Player plugin*

Press Alt+R or select from the menu *Control - Random Album*

---

## [Rating Filters](#) (v2.96 - v3.0+)

# Missing Image

This plugin allows you to filter your default Library source by Ratings.

*to install:* sudo apt-get install rhythmbox-plugin-rating-filters

Start Rhythmbox, enable the *Rating Filters plugin*

---

## [Remember-the-Rhythm](#) (v2.96 - v3.0+)



Plugin to remember the last playing song, source (radio station, playlist), browser values (genre, album, artist)

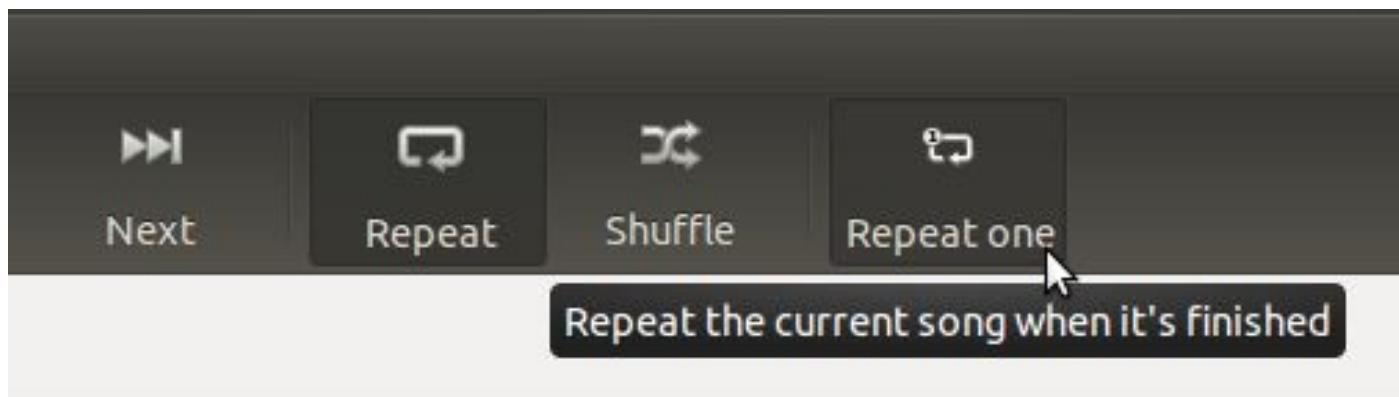
This is a very useful plugin - when you next start Rhythmbox, it will continue playing the last song that was last playing before Rhythmbox was closed.

*to install:* sudo apt-get install rhythmbox-plugin-remembertherhythm

Start Rhythmbox, enable the *Remember The Rhythm* plugin

Note - when you enable the plugin, Rhythmbox will close unexpectedly. Don't worry. Next time subsequently restart, the plugin will be enabled and will continue to work.

## [Repeat One Song](#) (v2.96 - v3.0+)



### “Repeat one song” feature for Rhythmbox

Adds a toolbar option to repeat the selected track when the toolbar option is clicked. Note - it does not repeat a song from the Play Queue.

*to install:* sudo apt-get install rhythmbox-plugin-repeat-one-song

Start Rhythmbox, enable the *Repeat One Song* plugin

## Rhythmweb (v2.96 - v3.0+)

A screenshot of the Rhythmweb web interface, which is a web-based front-end for Rhythmbox. The page has a header with a back arrow, a search bar containing 'localhost:8000', and links to Google and a home page. Below the header is an orange navigation bar with buttons for 'Play', 'Back', 'Forward', 'Repeat', 'Shuffle', 'Toggle Play-queues', and two orange arrows. The main content area is titled 'Not playing' and displays a table of songs in a play queue. On the left, there is a sidebar with a menu: 'Play Queue', 'My Top Rated', 'Recently Added', 'Recently Played', 'abc', and 'New Playlist'. The table has columns for 'Title', 'Artist', and 'Album'. The songs listed are all by Billy Joel from the album 'Greatest Hits, Volume II: 1978–1985'.

| Title                           | Artist     | Album                               |
|---------------------------------|------------|-------------------------------------|
| Tell Her About It               | Billy Joel | Greatest Hits, Volume II: 1978–1985 |
| Uptown Girl                     | Billy Joel | Greatest Hits, Volume II: 1978–1985 |
| You're Only Human (Second Wind) | Billy Joel | Greatest Hits, Volume II: 1978–1985 |
| The Night Is Still Young        | Billy Joel | Greatest Hits, Volume II: 1978–1985 |

[Rhythmweb](#) - a web site for your [Rhythmbox](#).  
Copyright © 2012 Fossfreedom, [Taylor Raack](#), 2007 [Michael Gratton](#).

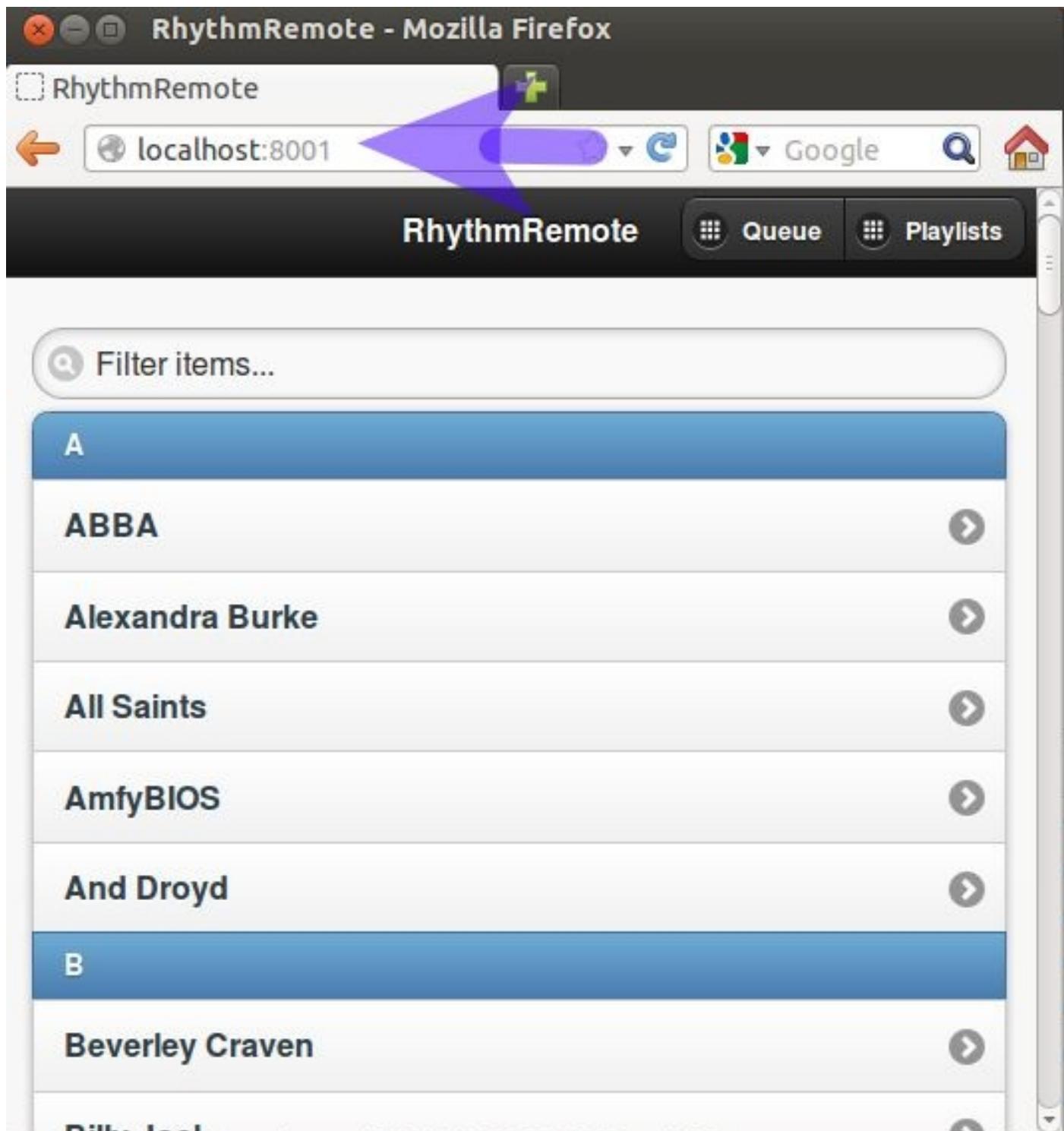
Control Rhythmbox from virtually any internet-browser enabled device - from iPod, Android, MS Windows etc

to install: sudo apt-get install rhythmbox-plugin-rhythmweb

Start Rhythmbox, enable the *Rhythmweb* plugin, then start your internet-browser enabled device and browse to the PC IP address that rhythmbox is running on - suffix the URL with :8000

---

## [Rhythmremote](#) (v2.96 - v2.99)



Control Rhythmbox from virtually an internet-browser such as Firefox

*to install (64bit users only):* sudo apt-get install rhythmbox-plugin-rhythmremote

Start Rhythmbox, enable the *Rhythmremote* plugin, then start your internet-browser enabled device and browse to the PC IP address that rhythmbox is running on - suffix the URL with :8001

---

## [\*\*Screensaver\*\*](#) (v2.96 - v3.0+)

By default, rhythmbox continues to play whenever the screensaver is activated. This plugin pauses Rhythmbox when the GNOME screensaver is activated and continues to play when the screensaver is unlocked.

*to install:* sudo apt-get install rhythmbox-plugin-screensaver

Start Rhythmbox, enable the *screensaver* plugin

---

## [\*\*Seek\*\*](#) (v2.96 - v2.98)

A simple plugin for Rhythmbox that allows you to seek forwards/backwards in the current track. Fast-forward or rewind, in other words.

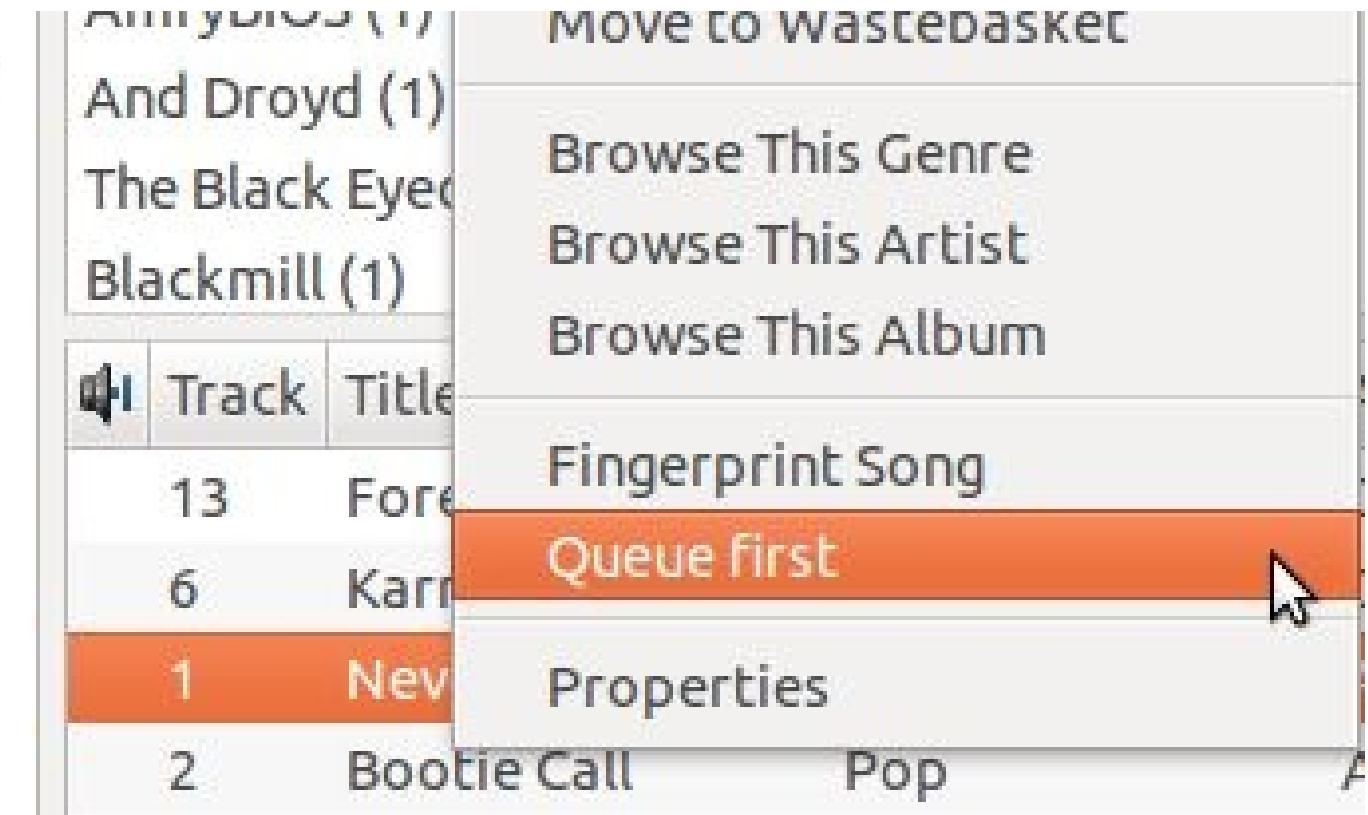
Use CTRL+Left/Right Arrow to seek forward/backwards.

*to install:* sudo apt-get install rhythmbox-plugin-seek

Start Rhythmbox, enable the *seek* plugin

---

## [\*\*Send-First\*\*](#) (v2.96 - v2.99)



Small but useful plugin that allows you to send a track or groups of tracks to the beginning of the play-queue rather than the default which is queuing at the end of the play queue.

*to install:* sudo apt-get install rhythmbox-plugin-send-first

Start Rhythmbox, enable the *Send-first* plugin

---

## [\*\*Small-Window\*\*](#) (v2.96 - v3.0+)



Adds a menu option (*View - Small Window Mode*) to shrink rhythmbox controls to a tiny window with just the essential controls visible.

*to install:* sudo apt-get install rhythmbox-plugin-smallwindow

Start Rhythmbox, enable the *Small Window* plugin

---

## [\*\*Spectrum\*\*](#) (v3.0+)

# Missing Image

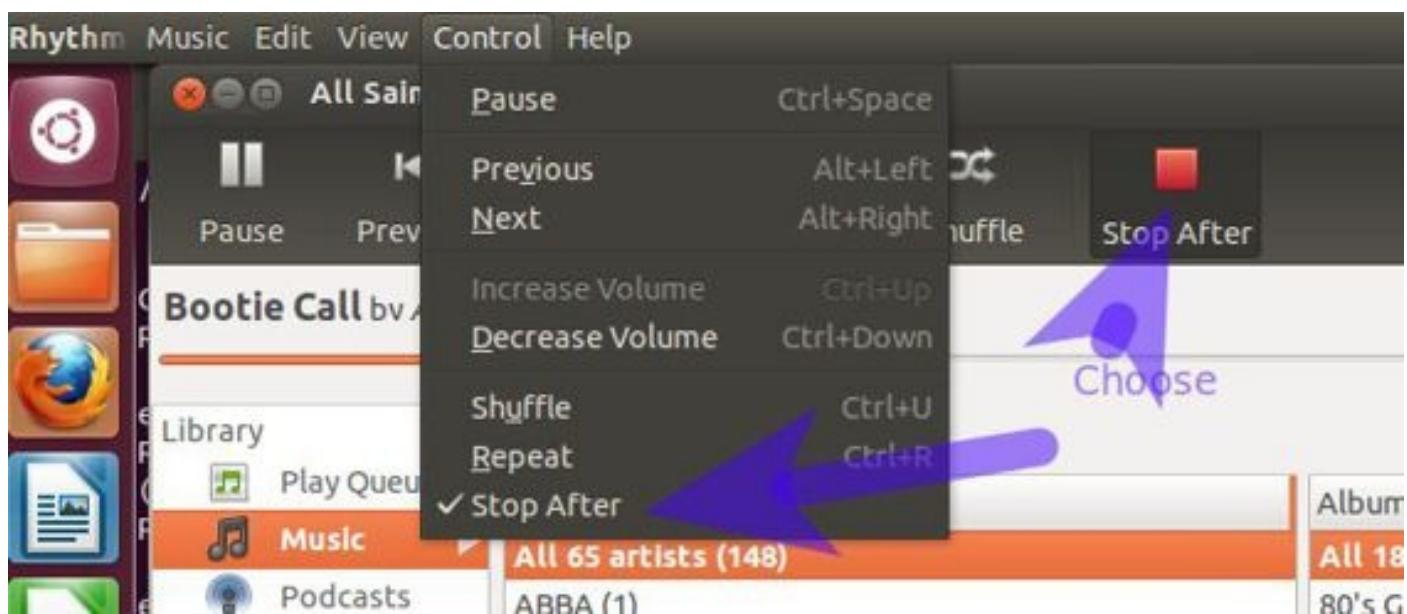
Adds a visual music spectrum to rhythmbox

*to install:* sudo apt-get install rhythmbox-plugin-spectrum

Start Rhythmbox, enable the *Spectrum* plugin and use CTRL+S to start or hide the spectrum

---

## [Stop After Current Track](#) (v2.96 - v2.98)



This is a plugin for Rhythmbox, which adds an option to stop playback after current track.

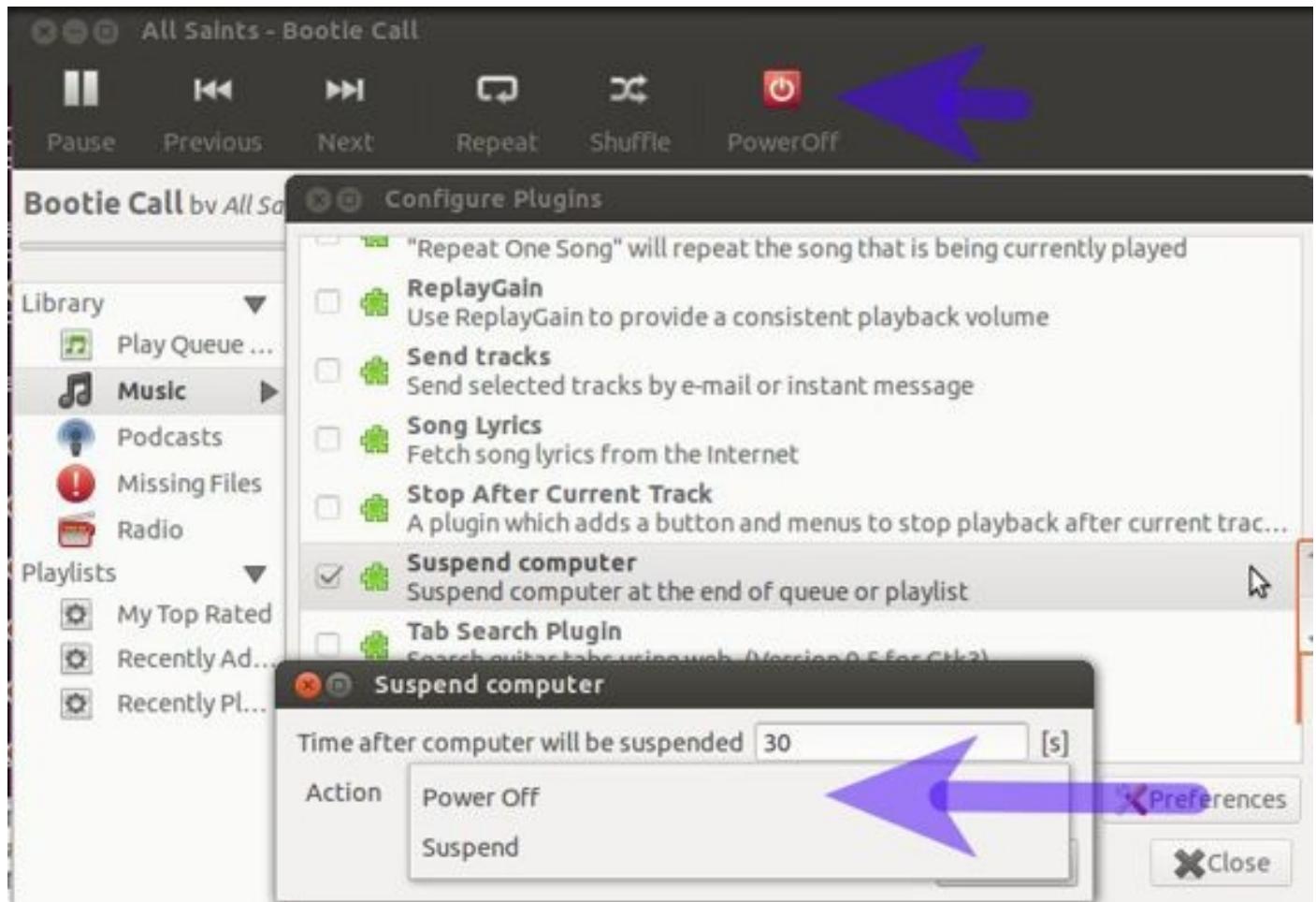
Useful where you do not want the music to stop abruptly but you do not want to wait until the current playlist finishes

*to install:* sudo apt-get install rhythmbox-plugin-stopafter

Start Rhythmbox, enable the *Stop After Current Track* plugin

---

## [Suspend PC](#) (v2.96 - v3.0+)



Suspend computer at the end of queue or playlist

Use the plugin preferences to set the timeout and also whether to shutdown (default) or to suspend your computer

to install: sudo apt-get install rhythmbox-plugin-suspend

Start Rhythmbox, enable the *Suspend plugin*

---

[\*\*tray-icon\*\* !\[\]\(1c2149fa3ced87d6a64f0ef8da1cde31\_img.jpg\) \(v2.96 - v3.0+\)](#)



This notification icon is useful for desktops that do not have a media-plugin/indicator support.

You can control rhythmbox via the icon and you can directly control the rhythmbox volume by scrolling over the icon.

To use in Unity you need to whitelist this.

*to install:* `sudo apt-get install rhythmbox-plugin-tray-icon`

Start Rhythmbox, enable the *Tray Icon* plugin

*tip* - make sure you have the *MPRIS plugin* enabled otherwise the tray-icon will not work.

---

**[Web Menu](#)**  (v2.96 - v2.98)

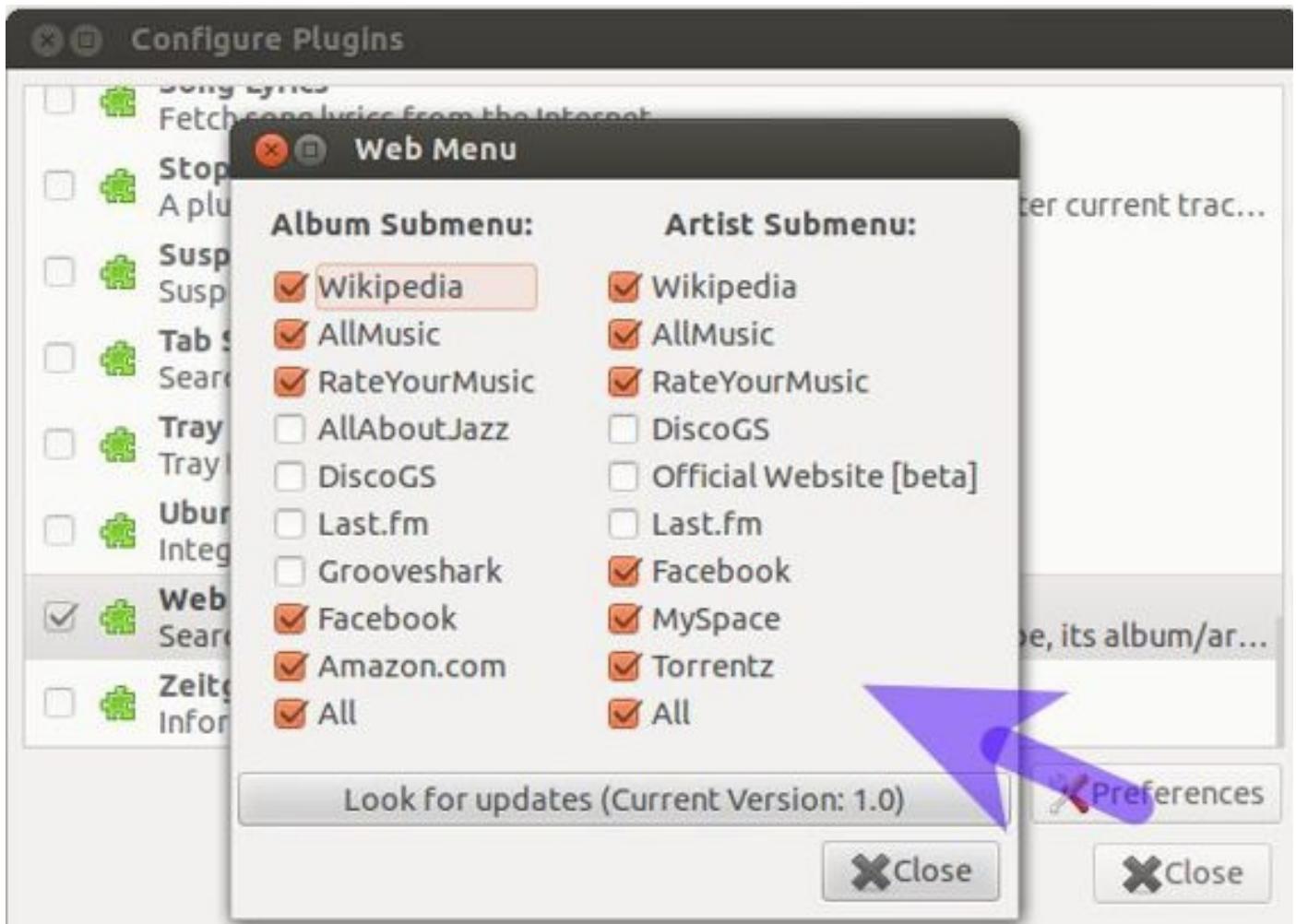
The screenshot shows a music application window. On the left, there's a sidebar with icons for Music, Podcasts, Missing Files, Radio, Playlists (My Top Rated, Recently Added, Recently Played), and a search bar. The main area displays a list of artists under the heading "Artist". A context menu is open over the entry "All Saints (13)". The menu items are: Add to Play Queue, Add to Playlist, Copy, Remove, Move to the Rubbish Bin, Browse This Genre, Browse This Artist, Browse This Album, Song on Youtube, Album (highlighted in orange), Artist, and Properties. Below the menu, a tooltip says "Look for the current album on Wikipedia". To the right, another context menu is shown for the album "All Saints (13)", listing links to Wikipedia, AllMusic, RateYourMusic, Facebook, and Amazon.com.

With one click you can:

Search current playing/selected song on Youtube. Search its album on Wikipedia, AllMusic, RateYourMusic, AllAboutJazz, DiscoGS, Last.fm, Grooveshark, Facebook, Amazon. Search its artist on Wikipedia, AllMusic, RateYourMusic, DiscoGS, Last.fm, Facebook, Myspace, Torrentz. Open the artist official website [beta].

This screenshot shows the same music application interface. A song by "All Saints" is currently playing. A context menu is open over the song title "I Know Where It's At". The menu items are: Song on Youtube (highlighted in orange), Album, Artist, and Properties. The "Album" item has a submenu with links to Wikipedia, AllMusic, RateYourMusic, Facebook, and Amazon.com. The "Artist" item also has a submenu with the same links. The "Properties" item is at the bottom of the main menu.

You can personalize your Web Menu by choosing which websites are shown in each sub-menu.



to install: sudo apt-get install rhythmbox-plugin-webmenu

Start Rhythmbox, enable the *Web Menu* plugin

---

## [Wikipedia](#) (v2.96 - v3.0+)

# Missing Image

Search for selected artist, album, track or genre at the click of a button.

By right-clicking a track, you can search Wikipedia for details about the track. This will open your default browser with the associated Wikipedia page (if available).

to install: sudo apt-get install rhythmbox-plugin-wikipedia

Start Rhythmbox, enable the *Wikipedia Search* plugin

---

# Installing plugins manually

You can install a GTK3 plugin for a specific user in their home folder:

```
~/.local/share/rhythmbox/plugins
```

For a system-wide plugin there are two folders:

/usr/lib/rhythmbox/plugins and /usr/share/rhythmbox/plugins. The former contains the plugin code. The latter contains the data specific to a plugin.

A GTK3 plugin consists of two files - .plugin and the plugin module. For a plugin written in Python, this module are often files that have the suffix-filename of .py

A .plugin file has the following example entries:

## Skip code block

```
[Plugin]
Loader=python
Module=AlbumArtSearch
IAge=2
Name=Album Art Search Panel
Description=Search album art using google image search. Adapted from context pane plugin by John Iacona
Authors=Rupesh Kumar <kumar_rupesh at hotmail.com>, Luqman Aden <laden@uwaterloo.ca>
Copyright=Copyright 2010 Rupesh Kumar, 2011 Luqman Aden
Website=
```

The syntax of these .plugin files is important and differ from the GTK2 base plugins.

For some general tips when looking to install manually.

- sometimes the plugins are zipped up. Download and extract to a known folder. Create a sub-folder under ~/.local/share/rhythmbox/plugins and move the files extracted into that sub-folder.
- if no zip file is available, you may have to use git to pull the code down.

```
sudo apt-get install git
git clone git://[full git path]
```

for example:

```
git clone git://github.com/fossfreedom/rhythmbox-plugins.git
```

---

**Tags:** [rhythmbox](#)

---

[Q: How do I install third-party rhythmbox plugins?](#)

---

# NTP

## Questions

### [Q: How to force a clock update using ntp?](#)

Tags: [ntp](#)

I am running Ubuntu on an ARM based embedded system that lacks a battery backed RTC. The wake-up time is somewhere during 1970. Thus, I use the NTP service to update the time to the current time.

I added the following line to /etc/rc.local file:

```
sudo ntpdate -s time.nist.gov
```

However, after startup, it still takes a couple of minutes until the time is updated, during which period I cannot work effectively with tar and make.

#### **How can I force a clock update at any given time?**

**UPDATE 1:** The following (thanks to Eric and Stephan) works fine from command line, but fails to update the clock when put in /etc/rc.local:

```
$ date ; sudo service ntp stop ; sudo ntpdate -s time.nist.gov ; sudo service ntp start ; date
Thu Jan  1 00:00:58 UTC 1970
 * Stopping NTP server ntpd          [ OK ]
 * Starting NTP server              [ OK ]
Thu Feb 14 18:52:21 UTC 2013
```

What am I doing wrong?

**UPDATE 2:** I tried following the few suggestions that came in response to the 1st update, but nothing seems to actually do the job as required. Here's what I tried:

1. Replace the server to us.pool.ntp.org
2. Use explicit paths to the programs
3. Remove the ntp service altogether and leave just sudo ntpdate... in rc.local
4. Remove the sudo from the above command in rc.local

Using the above, the machine still starts at 1970. However, when doing this from command line once logged in (via ssh), the clock gets updated as soon as I invoke ntpdate.

Last thing I did was to remove that from rc.local and place a call to ntpdate in my .bashrc file. This does update the clock as expected, and I get the true current time once the command prompt is available.

However, this means that if the machine is turned on and no user is logged in, then the time never gets updates. I can, of course, reinstall the ntp service so at least the clock is

updated within a few minutes from startup, but then we're back at square 1.

So, is there a reason why placing the `ntpdate` command in `rc.local` does not perform the required task, while doing so in `.bashrc` works fine?

**Tags:** [ntp](#)

**User:** [ysap](#)

---

[Answer](#)  by [eric-carvalho](#)

Probably the `ntp` service is running, that's why `ntpdate` can't open the socket (port 123 UDP) and connect to ntp server.

Try from command line:

```
sudo service ntp stop  
sudo ntpdate -s time.nist.gov  
sudo service ntp start
```

If you want to put this in `/etc/rc.local` use the following:

```
( /etc/init.d/ntp stop  
until ping -nq -c3 8.8.8.8; do  
    echo "Waiting for network..."  
done  
ntpdate -s time.nist.gov  
/etc/init.d/ntp start )&
```

[Answer](#)  by [martin-schrÃ¶der](#)

Instead of `ntpdate` (which is [deprecated](#) ), use

```
sudo service ntp stop  
sudo ntpd -gq  
sudo service ntp start
```

The `-gq` tells the `ntp` daemon to correct the time regardless of the offset (`g`) and exit immediately (`q`).

---

**Tags:** [ntp](#)

---

[Q: How to force a clock update using ntp?](#)

---

# Debugging

## Questions

### [Q: I have a hardware detection problem, what logs do I need to look into?](#)

Tags: [debugging](#)

I am trying to ask a question about getting my hardware to work but I don't know what information to add to my question to get help, what do I need to do?

Related if you don't have access to a GUI:

- [How do I get information from the logs on my computer when I only have access to the command line?](#) 

Tags: [debugging](#)

User: [jorge-castro](#)

---

Answer  by [raof](#)

**The most important information you can give is what you've *done*, what you *expected* to happen, and what you *observe* has happened.**

[This question](#)  is a particularly fine example of a hardware-detection problem with a USB device.

Other examples of this could be:

I installed Ubuntu 10.04 Desktop on my Dell Optiwhatever 312 laptop. When I log in, my wireless card isn't visible in the Network Manager popup menu, although the wired network shows up there.

or

I have Ubuntu 10.04 Netbook edition on my System76 laptop. When I plug my headphones into the socket, the sound comes out the headphones but also out the speakers.

or

I'm using Ubuntu 10.04. I used the Additional Drivers program to install the current nVidia drivers for my GeForce FX 5200. Now when I boot the system stops with a black screen after the Ubuntu boot splash is finished.

After this general problem description, what other information is interesting depends on what sort of hardware you're having problems with, and what problems you're having.

In general:

- `sudo lspci -nn` will list all the PCI devices in your system. This will include all the expansion cards (Video cards, WiFi, etc) in your system, whether or not the kernel has a driver for them. This information is useful if you're not sure precisely what hardware you have.
- `lsusb` will list all the USB devices connected to your system. Again, this is useful if you're not sure precisely what hardware you have. It's also useful to check that the device is actually plugged in correctly!
- `/var/log/udev` and `/var/log/dmesg` will have information about what devices the kernel has detected. These logs are generally very big. Unless you know what parts of the log are interesting it's not a good idea to include these in your question, although a link to them could be useful.
- `sudo lshw --class X` can also give a bit of valuable hardware info.

For **Video** problems:

- `/var/log/Xorg.0.log` is the X server log file. This is useful for all video problems. This file can get long so feel free to just put it on [pastebin.ubuntu.com]. [2](#)  Be sure to give a link to your “paste” so we can find it when we need to.
- `LIBGL_DEBUG=verbose glxinfo` will display information about 3D acceleration support, useful for problems with 3D or desktop effects.
- `lspci -nn | grep VGA` will list all the video cards in your system, useful if you are not sure what type of video card you have.
- `/usr/lib/nux/unity_support_test -p` should be used for compiz and other Unity compatibility issues.

For **Audio** problems:

- `cat /proc/asound/cards` will list the audio devices that have been detected. You should include this.
- `cat /proc/asound/card0/codec#0` will contain information about the first sound card, including information about the input/output ports connected to it. If you have a problem with plugging in a microphone, headsets, or external speakers, include this. You may also have more than one sound device. In that case, there will be more than one `/proc/asound/card???` directory.
- Wiki: [Debugging Sound Problems](#) 

---

[Answer](#)  by [fossfreedom](#)

# Wireless Cards

Wireless connectivity issues are fortunately becoming rarer with each Ubuntu release. However problems still occur.

The following information will help diagnose wireless connectivity issues in questions posted on Ask Ubuntu, you can open a terminal by hitting **Ctrl-Alt-T** and typing in one of these commands, then edit your question to add the information.

## How the kernel recognises your network cards

```
sudo lshw -class network
```

## Details of your USB wireless card

```
lssusb
```

This can give a long list depending upon how many USB devices are connected. If in doubt, post the entire list.

## Details of your PCI wireless card

```
lspci
```

This can give a long list depending upon how many PCI devices are fitted. If in doubt, post the entire list.

## How to see if a wireless card is soft-blocked or hard-blocked:

```
rfkill list all
```

## Errors whilst connecting

Often you can see useful errors by looking at your kernel logs.

If you attempt to connect via network manager you can see what errors are produced by looking at **dmesg**

Suggested procedure - type **dmesg**, then attempt to connect and then type **dmesg** again. The new output displayed should give an indication as to the error.

Another useful output is **dmesg | grep -i firmware** - if you see some errors in the output then this can indicate you need to install some firmware - usually a package from

the repository.

## NDISWrapper

Searching on Google will sometimes bring results suggesting using NDISWrapper. This is an old technique where obtaining a Windows XP driver can be made to work in Ubuntu.

Generally, this should be avoided in current versions of Ubuntu since the drivers in the kernel have less compatibility issues.

If you have any wireless issues post the results of the four command-line entries above into your question BEFORE trying NDISWrapper.

---

[Answer](#) by [florian-diesch](#)

See <https://wiki.ubuntu.com/DebuggingHardwareDetection>

<https://wiki.ubuntu.com/DebuggingProcedures> is usually a good starting point if you want to know what information is useful for a bug report.

---

**Tags:** [debugging](#)

---

[Q: I have a hardware detection problem, what logs do I need to look into?](#)

---

# Resolv.Conf

[Skip to questions](#), Wiki by user [hhlp](#)

The resolver is a set of routines in the C library that provide access to the Internet Domain Name System (DNS). The resolver configuration file contains information that is read by the resolver routines the first time they are invoked by a process. The file is designed to be human readable and contains a list of keywords with values that provide various types of resolver information.

Not to be confused with “resolvconf”, a program that manages the `resolv.conf` file.

See also [resolvconf](#).

---

# Questions

## Q: How do I add a DNS server via resolv.conf?

**Tags:** [resolv.conf](#)

Is /etc/resolv.conf useless in [Ubuntu 12.04 LTS](#)  (Precise Pangolin)?

I see that the DNS server information is stored in [NetworkManager](#)  now. The nmcli command line tool can list that for you.

If I want to add one more [DNS](#)  server, will adding it to /etc/resolv.conf by using the resolvconf package help?

**Tags:** [resolv.conf](#)

**User:** [nulledpointer](#)

---

[Answer](#)  by [stgraber](#)

If /etc/resolv.conf contains nameserver 127.0.0.1 then adding entries to /etc/resolvconf/resolv.conf.d/tail won't really do anything useful. If you are using NetworkManager then you should instead statically add nameserver addresses via network indicator Edit Connections... | Edit... | IPv4 Settings | Additional DNS servers.

If you *really* want to add more entries to /etc/resolv.conf, create a /etc/resolvconf/resolv.conf.d/tail and add them there.

As with every Ubuntu release, it's recommended to read the Ubuntu Release Notes, available here:

- <https://wiki.ubuntu.com/PrecisePangolin/ReleaseNotes/UbuntuDesktop> 

The Desktop and Common Infrastructure sections contain a link to

- <http://www.stgraber.org/2012/02/24/dns-in-ubuntu-12-04/>  covering the changes to the DNS infrastructure in 12.04.
- 

[Answer](#)  by [randall-cook](#)

I found another approach [here](#)  that involves adding a line like the one below to /etc/dhcp/dhclient.conf:

```
prepend domain-name-servers x.x.x.x, y.y.y.y;
```

Likewise, I found a third approach [here](#)  that involves adding lines to /etc/network/interfaces:

```
auto eth0
iface eth0 inet static
    . . .
```

```
dns-nameservers 8.8.8.8 8.8.4.4
```

Update: Here is the [official documentation](#) for the third approach.

[Answer](#) by [azendale](#)

It sounds like you are talking about the resolvconf package.

Install the [resolvconf](#) package.

Run

```
cd /etc/resolvconf/resolv.conf.d  
sudo cp -p head head.orig #backup copy, always do this  
sudo nano head
```

The top of the file is a scary warning. The file /etc/resolv.conf is autogenerated from the contents of this file; the warning is there so it will get put in /etc/resolv.conf when /etc/resolv.conf is generated. To the end of the file, add

```
nameserver <ip_of_nameserver>
```

Press **Ctrl x** and answer yes to saving the file. To finish up, regenerate /etc/resolv.conf so the changes are applied right now:

```
sudo resolvconf -u
```

Then check the contents of /etc/resolv.conf to see the line you added is now there. Further, it will still be there the next time your machine boots or your network service is restarted, whichever comes first.

**Tags:** [resolv.conf](#)

[Q: How do I add a DNS server via resolv.conf?](#)

# Extract

## Questions

### [Q: What command do I need to unzip/extract a .tar.gz file?](#)

Tags: [extract](#)

I received a huge .tar.gz file from a client that contains about 800 mb of image files (when uncompressed.) Our hosting company's ftp is seriously slow, so extracting all the files locally and sending them up via ftp isn't practical. I was able to ftp the .tar.gz file to our hosting site, but when I ssh into my directory and try using unzip, it gives me this error:

```
[esthers@clients locations]$ unzip community_images.tar.gz
Archive: community_images.tar.gz
  End-of-central-directory signature not found. Either this file is not a zipfile, or it
constitutes one disk of a multi-part archive. In the latter case the central directory and zipfile
comment will be found on the last disk(s) of this archive.
note: community_images.tar.gz may be a plain executable, not an archive
unzip: cannot find zipfile directory in one of community_images.tar.gz or
community_images.tar.gz.zip, and cannot find community_images.tar.gz.ZIP, period.
```

What command do I need to use to extract all the files in a .tar.gz file?

Tags: [extract](#)

User: [emmys](#)

---

Answer  by [djeikyb](#)

Type `man tar` for more information, but this command should do the trick:

```
tar -xvzf community_images.tar.gz
```

To explain a little further, tar collected all the files into one package, `community_images.tar`. The gzip program applied compression, hence the `gz` extension. So the command does a couple things.

- `f`: this must be the last flag of the command, and the tar file must be immediately after. It tells tar the name and path of the compressed file.
- `z`: tells tar to decompress the archive using gzip
- `x`: tar can collect files or extract them. `x` does the latter.
- `v`: makes tar talk a lot. Verbose output shows you all the files being extracted.

---

Tags: [extract](#)

---

[Q: What command do I need to unzip/extract a .tar.gz file?](#)

---



# Udev

[Skip to questions](#), Wiki by user [kevin-bowen](#)

udev is the [Linux kernel](#)'s generic device manager.

Primarily, it manages device nodes in [/dev](#). It is the successor of [devfs](#) and [hotplug](#), so it handles the [/dev](#) directory and all [user space](#) actions when adding and removing devices, including firmware load.

*Source:* [Copied](#) with modification from [udev on Wikipedia](#).

---

# Questions

## Q: I can read from /dev/null; how to fix it?

Tags: [udev](#)

I read the [Wikipedia article on /dev/null](#)  and was playing around by moving files to /dev/null.

For this I created a test\_file and put some contents in it:

```
$ touch test_file
$ echo "This is written by Aditya" > test_file
$ cat test_file
This is written by Aditya
```

Thereafter I tried to move the file to /dev/null:

```
$ mv test_file /dev/null
mv: inter-device move failed: test_file to /dev/null; unable to remove target: Permission denied
```

Since, this gave me a Permission denied Error; I went ahead and used sudo as I normally do whenever I encounter a Permission denied error.

```
$ sudo mv test_file /dev/null
```

The command succeeded and test\_file is no longer present in the directory.

However, the Wikipedia article says that it is not possible to recover anything moved to /dev/null and it gives an EOF to any process that tries to read from it. But, I can read from /dev/null:

```
$ cat /dev/null
This is written by Aditya
```

What did I do wrong and how do I fix /dev/null back to normal? And why did I encounter Permission denied error in the first place?

Tags: [udev](#)

User: [aditya](#)

---

[Answer](#)  by [benoit](#)

/dev/null is a file. A special file. A device file like /dev/sda or /dev/tty that talks to a piece of hardware on your system.

The only difference with /dev/null is that no hardware is linked to it. Any data you send to it is silently discarded. Like the following command:

```
$ echo "Hello World" > /dev/null
```

which won't print anything on your terminal because you send the output of echo to null, to the void, a black hole thus.

But when you did mv test\_file /dev/null you've replaced the special file /dev/null

by a normal text file, holding a copy of the content of your `test_file`. In other words, you've lost your `/dev/null`.

Now, what you have to do is (to reconstruct it):

```
$ sudo rm /dev/null  
$ sudo mknod /dev/null c 1 3  
$ sudo chmod 666 /dev/null
```

`chmod` is required to fix the permissions as noted by [hope](#) in [his answer](#).

You should reconstruct it because a lot of script send by default output to `/dev/null`. If `/dev/null` is no more a black hole but a regular text file, it may grow, grow and fill your file-system up. And I'm sure you want to avoid this.

And much more dangerous, a lot of scripts assume that reading from `/dev/null` will read nothing; breaking this assumption can lead to random garbage written in files all around your system... practically impossible to fix up.

And remember that Linux is multi-tasking: while you are playing with `/dev/null`, a lot of processes are running and can wreak havoc even during a few seconds "window of opportunity".

If you want to play with `/dev/null` you can create a copy and experiment with it:

```
sudo mknod -m 0666 /tmp/null c 1 3
```

Will create a `/tmp/null` file that works in the exactly same way of `/dev/null` but that you can manipulate and test without any risk for your system.

---

[Answer](#) by [hope](#)

[@Benoit](#) is nearly correct in [his answer](#). You will also need to fix permissions.

```
$ sudo rm /dev/null  
$ sudo mknod /dev/null c 1 3  
$ ls -l /dev/null  
crw-r--r-- 1 root root 1, 3 Mar 18 08:38 /dev/null  
$ sudo chmod 666 /dev/null  
$ ls -l /dev/null  
crw-rw-rw- 1 root root 1, 3 Mar 18 08:38 /dev/null
```

This restores the permissions. Otherwise, as a non-root user you wouldn't be able to echo `foo > /dev/null`.

---

[Answer](#) by [malte-skoruppa](#)

There is a big difference between *overwriting* a file and *writing to* a file.

When you *write something to* `/dev/null`, e.g.,

```
$ echo Hello > /dev/null
```

...it gets silently discarded. For this you need write permissions to `/dev/null`, which everyone has:

```
$ ls -l /dev/null  
crw-rw-rw- 1 root root 1, 3 Mar 18 13:17 /dev/null
```

When you *overwrite* `/dev/null`, as you did with the `mv` command, you replace the special

file /dev/null with whatever you moved there. **Don't do this!** The reason you needed root privileges to do that is because to overwrite a file, you need write permissions *to the directory that contains the file*, in this case /dev:

```
$ ls -ld /dev  
drwxr-xr-x 16 root root 4640 Mar 18 13:17 /dev
```

To restore /dev/null, issue the commands

```
$ sudo rm /dev/null  
$ sudo mknod -m 0666 /dev/null c 1 3
```

(Also see [U&L StackExchange: How to create /dev/null](#))

---

Tags: [udev](#)

---

[Q: I can read from /dev/null; how to fix it?](#)

---

# Branding

[Skip to questions](#), Wiki by user [warrior64](#)

The Ubuntu Wiki has an [article](#) about the Ubuntu brand.

See the [Ubuntu brand guidelines](#) for guidelines, values and assets to assist with conveying the brand to others, according to Canonical's specifications.

---

# Questions

## [Q: What's the meaning of the Ubuntu logo? Where does it come from?](#)

**Tags:** [branding](#)

What's the meaning of the Ubuntu logo? Where does this logo come from?

**Tags:** [branding](#)

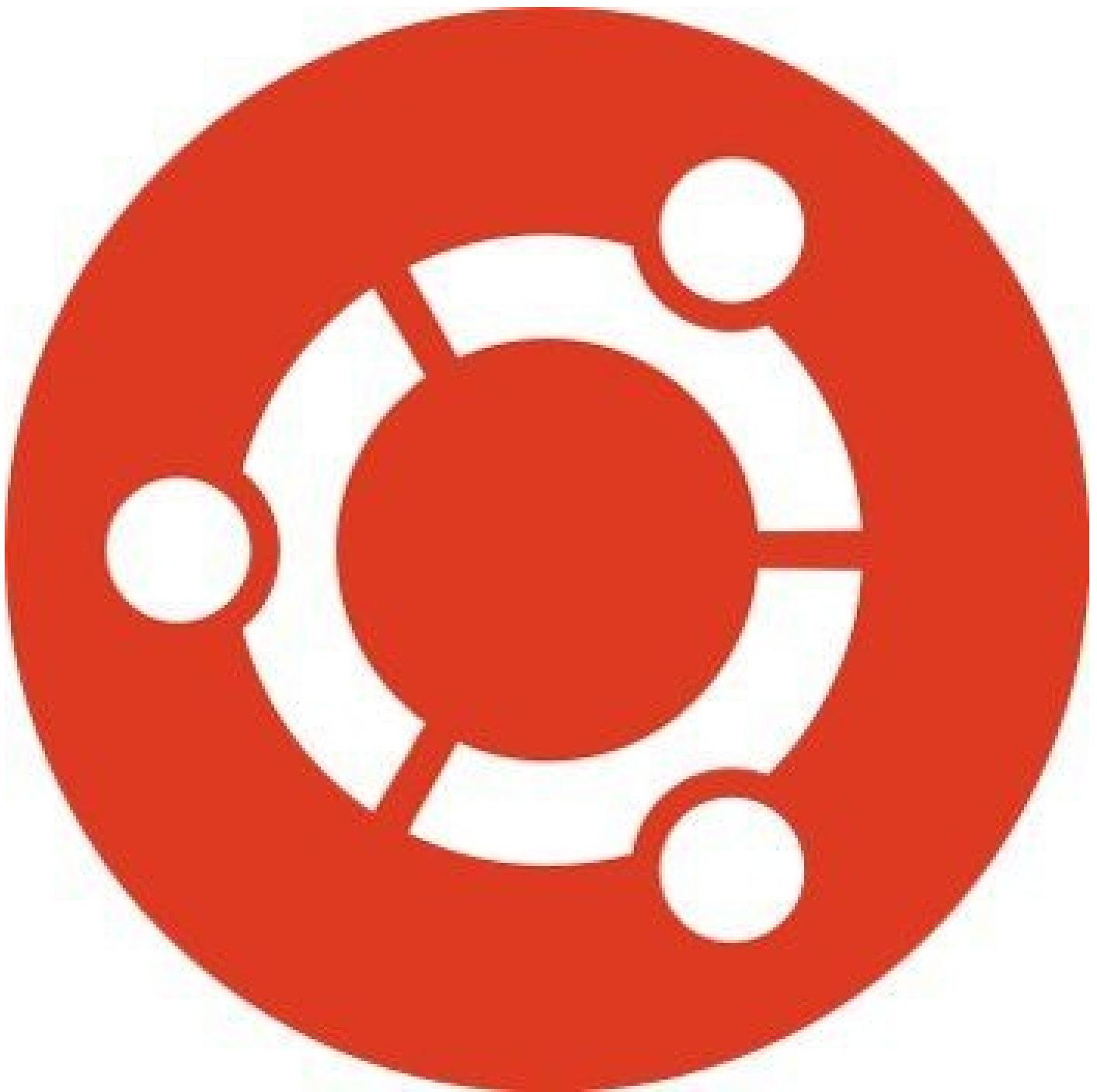
**User:** [tom-brito](#)

---

[Answer](#)  by [rinzwind](#)

Ubuntu means “an ethic or humanist philosophy focusing on people’s allegiances and relations with each other”. And the logo is a graphical representation of 3 people holding their arms out, making a circle. See these 2 images:





So the logo is perfectly describing the word Ubuntu.

---

[Answer](#) by [mahmudin-ashar](#)

The Ubuntu logo is called “**circle of friends**”, read following reference may be will interest to you.

- <http://www.ubuntubuzz.com/2011/08/20-thing-should-know-about-ubuntu.html>

---

**Tags:** [branding](#)

---

[Q: What's the meaning of the Ubuntu logo? Where does it come from?](#)

---

# Webapps

[Skip to questions](#), Wiki by user [rolandixor](#)

Web applications are websites or web pages that can be run as applications by themselves. These include Chrome/Firefox/Opera/etc webapps as well apps you host on (for example) your Ubuntu server.

---

# Questions

## **Q: How do I remove a website from Ubuntu's web applications?**

**Tags:** [webapps](#)

I thought I would try out the new webapps ppa and everything seems to be working fine. However, google reader now floods my messaging menu with all my feeds and turns the icon blue. How can I remove a specific site (google reader) from accessing webapps after I have accepted it?

**Tags:** [webapps](#)

**User:** [edm](#)

---

[Answer](#)  by [web-e](#)

### **Update**

Easy way for 12.10 onwards:

Go to the Software Center and search for the specific web app and uninstall it. E.g.

`unity-webapps-gmail` or `unity-webapps-googledocs`

---

### **Hard way, for 12.04 and older Ubuntu versions**

Press Alt + F2 , run dconf-editor.

Now go to com canonical unity webapps.

Edit Allowed domain value and remove the undesired entry.

| Name                         | Value   |
|------------------------------|---|
| <b>allowed-domains</b>       | ['facebook.com', 'youtube.com', 'mail.google.com', 'plus.google.com', ''] |
| <b>dontask-domains</b>       | []  |
| index-update-time            | 43200   |
| integration-allowed          | <input checked="" type="checkbox"/>                                       |
| <b>preauthorized-domains</b> | ['amazon.ca', 'amazon.cn', 'amazon.com', 'amazon.co.uk', 'amazon.de', ''] |

To prevent any more popups for a site, add the site URL to:

Firefox :Edit>preferences>General> Desktop integration > exception

or

Chrome : Settings > Extension > Desktop integration > Exception

- [How do I disable unity webapps notifications from popping up everytime I visit a supported webpage?](#) 

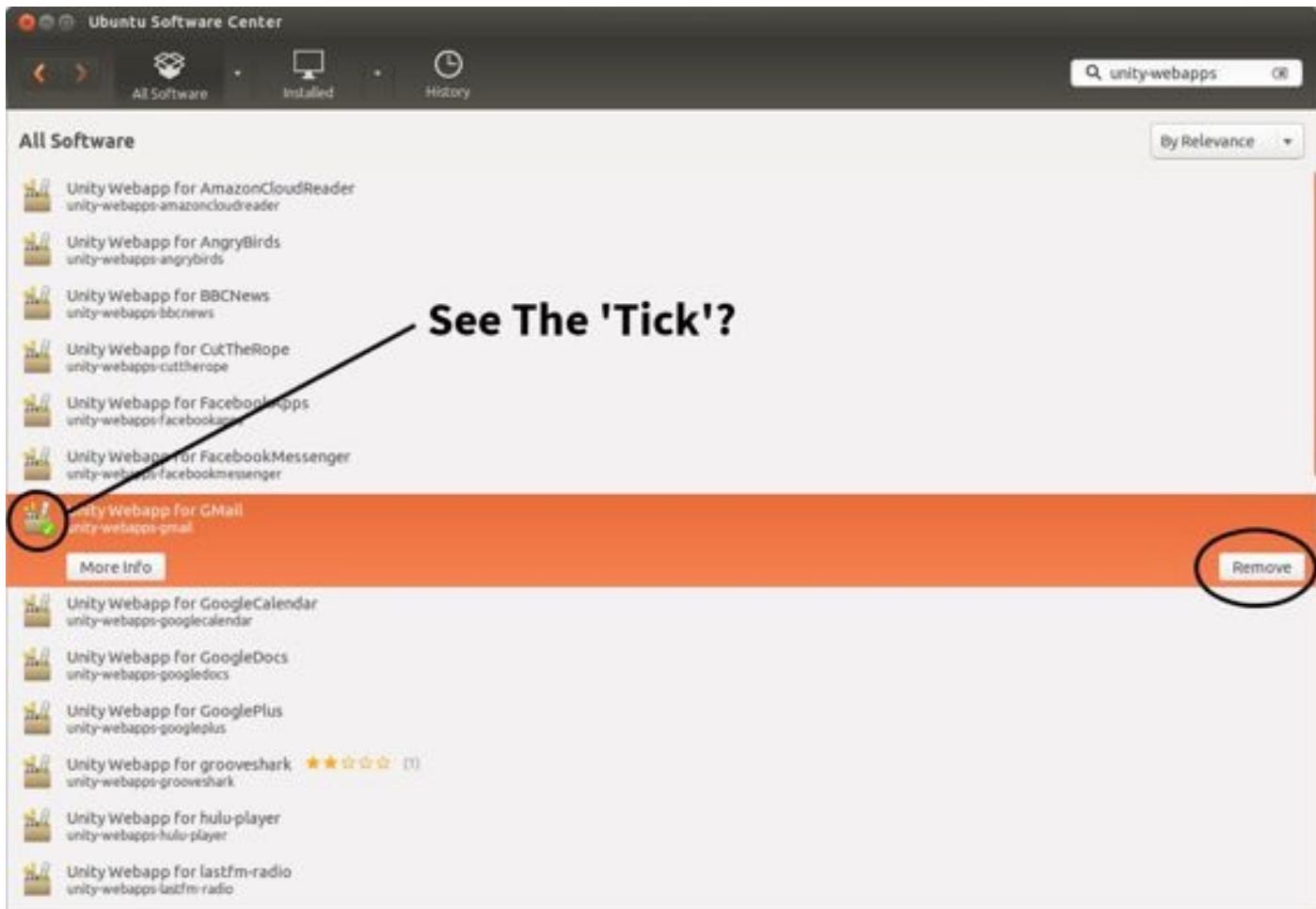
Answer  by its me

*(A small addition to Web-E's excellent answer.)*

Go to the Dash Ubuntu Software Center search ‘unity-webapps’

You'll now see a list of all the web apps supported by the Unity desktop. Web apps you've installed will have a tick mark on them, and from there installing/removing web apps should be goddamn easy!

**WARNING!** Do NOT remove the *unity-webapps-service* package (titled “Service for Web Apps integration with the Unity desktop”). This program runs the Desktop service used for Web Apps integration with Unity desktop.



Answer by [roman](#)

The .desktop files for these web applications are located in `~/.local/share/applications`. Removing these files (e.g. `Googleplusgooglecom.desktop`, `LinkedInlinkedincom.desktop`) will immediately remove the entries from the messaging menu.

Source: <http://ubuntuforums.org/showthread.php?p=12267655>

**Tags:** [webapps](#)

**Q: How do I remove a website from Ubuntu's web applications?**

# Custom Distributions

## Questions

### [Q: How to customize the Ubuntu Live CD?](#)

**Tags:** [custom-distributions](#)

I would like to customize Ubuntu live CD by installing some additional packages. I have followed this [link](#)  but it doesn't seem to work. Can anyone provide clear instructions?

**Note:** I do not prefer Remastersys, manual way will be appreciated.

# Customization

Packages that I want to install:

- Thunderbird
- Samba
- SSH

Changes that I need:

- Remove Games menu from the Application menu
- Firefox shortcut on desktop
- Radiance as the default theme
- Different default Ubuntu wallpaper

# **Configuration file changes**

- I want the panel to be placed at the bottom
- I want to paste my Samba configuration file instead of default Samba configuration
- I have few Firefox shortcuts and folders I would like to show that in Desktop
- Also it will be nice if you say me how to change the icon sets

# Recent Updates

- I have customized Ubuntu 10.10 with Firefox shortcuts and few folders on desktops. Everything went smooth. But the installer gets crashes after choosing the timezone. How do i fix this issue?
- Also setting wallpaper affects the login screen. The wallpaper which i set is displayed on the login screen also. I just want the default one for the login screen.

**Tags:** [custom-distributions](#)

**User:** [karthick87](#)

---

[Answer](#)  by [izx](#)

# Creating a custom 12.04 CD with Gnome-Classic using Ubuntu-Builder

(for now, this is specific to Karthik's needs; I will update answer later with more general/Unity-specific stuff)

## 1. Get Ubuntu Builder and your source ISO

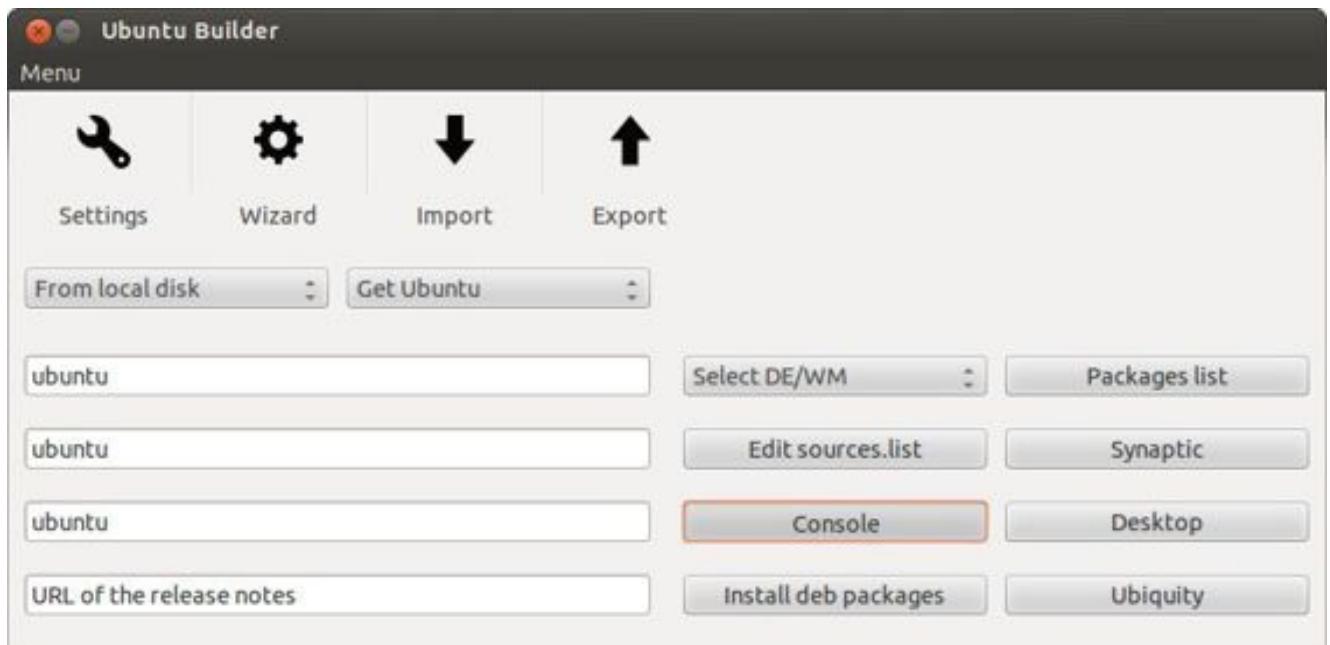
[Ubuntu Builder](#) automates many of the preliminary steps that had to be done by hand (mount ISO, extract squashfs, create chroot, etc.) It gives you Synaptic and a “graphical” chroot as well (Unity UI).

Download the latest version deb [from here](#), and install with Software Centre or dpkg -i.

Also download the Ubuntu Desktop ISO you're planning to work with.

## 2. Ubuntu Builder Basics

- Start Ubuntu Builder from the Launcher. I recommend you set all three fields to “Ubuntu” (like the actual LiveCD), because setting custom fields led to Software Center crashing. When you install, you can choose your own username, machine name, etc. as always.



- Load your ISO; I loaded the 64-bit with the *Local Disk* option, although Ubuntu Builder should be able to download the ISO if you want it to.
- The buttons on the right are self-explanatory. **Console** gives you a CLI chroot, while **Desktop** gives you a [graphical one!](#), i.e. a LiveCD session itself (this one may take

a while to load). Note that the Select DE/WM does an incomplete job sometimes, so it's better to install via *apt-get*/Synaptic.

### 3. Updating, adding Gnome Classic and other package management

**Note:** All this can also be done from Synaptic if you are more comfortable with that.

- You can edit the *sources.list* with the button (or via the console) to add your own mirrors, ppas, etc.

Let's start with:

- Remove the games

```
apt-get remove --purge aisleriot gnome-games-data gnomine mahjongg -y
```

- Do a general update and dist-upgrade to the latest stuff (optional, but recommended since the Gnome-classic and other packages you add will be the latest versions) — on 12.04, this step also installs Thunderbird and the core Samba components. It will also save time on the actual install.

```
apt-get update && apt-get dist-upgrade
```

- Install Gnome Classic (*gnome-shell* to pull in indicators, etc.), Samba and SSH:

```
apt-get install gnome-shell samba ssh
```

### 4. Customization 1: Files, configs and removing the top-panel

**Note:** All commands must be run from the chrooted console of Ubuntu Builder *unless otherwise noted* (usually when copying files from your own system). The absolute path of the chroot is /home/ubuntu-builder/FileSystem

1. Replace Samba configuration file (from your own system terminal, i.e. outside chroot!)

```
sudo cp /path/to/mysmb.conf /home/ubuntu-builder/FileSystem/etc/samba/smb.conf
```

2. Put Firefox shortcut on desktop:

```
mkdir -p /etc/skel/Desktop && cd /etc/skel/Desktop  
cp /usr/share/applications/firefox.desktop .  
chmod +x firefox.desktop
```

3. Copy custom shortcuts and folders to Desktop (from outside chroot!)

```
sudo cp -r /path/to/mydesktopitems/ /home/ubuntu-builder/FileSystem/etc/skel/Desktop/
```

4. Set gnome-classic as the default shell:

```
/usr/lib/lightdm/lightdm-set-defaults -s gnome-classic
```

## 5. Remove the top Gnome-Classic panel and move top-items to the bottom-panel:

- Open the default panel layout:

```
nano /usr/share/gnome-panel/panel-default-layout.layout
```

- Delete the top-panel, by removing lines 1-4:

```
[Toplevel top-panel]
expand=true
orientation=top
size=24
```

- Move the Start Menu to the bottom left by modifying the **bolded** value for the *italicized* parameter as below:

```
[Object menu-bar]
object-iid=PanelInternalFactory::MenuBar
toplevel-id=bottom-panel
pack-index=0
```

- Move the indicators to the bottom right, just to the left of the Workspace Switcher, by modifying the **bolded** value for the *italicized* parameters as below:

```
[Object indicators]
object-iid=IndicatorAppletCompleteFactory::IndicatorAppletComplete
toplevel-id=bottom-panel
pack-type=end
pack-index=1
```

- Remove the “Show Desktop” button from the bottom left; I prefer the Start Menu to be the first thing there, you can leave it or move it to the bottom right, etc. Delete these lines:

```
[Object show-desktop]
object-iid=WnckletFactory::ShowDesktopApplet
toplevel-id=bottom-panel
pack-index=0
```

- Save and exit.

## 5. Customization 2: Backgrounds and Themes

Note: /usr/share/glib-2.0/schemas contains most of the default background/theme settings; I found it easier to directly modify those for a LiveCD instead of having to deal [complicated stuff](#) just to, for example, prevent the login screen background from being the same as the desktop background.

### 1. Disable the login screen (*lightdm*) from “copying” the desktop background and other changes:

- Open nano /usr/share/glib-2.0/schemas/com.canonical.unity-greeter.gschema.xml
- You can change the login background from the default here if you want:

```
<key name="background" type="s">
<default>'/usr/share/backgrounds/warty-final-ubuntu.png'</default>
```

- Disable “copying” the desktop background by setting this to false:

```
<key name="draw-user-backgrounds" type="b">
<default>false</default>
```

- Set the login theme to Radiance:

```
<key name="theme-name" type="s">
<default>'Radiance'</default>
```

2. Change the default wallpaper; here, we'll set it to the included “[Tie My Boat](#)”  (/usr/share/backgrounds/Tie\_My\_Boat\_by\_Ray\_Garca.jpg):

- Open nano /usr/share/glib-2.0/schemas/10\_gsettings-desktop-schemas.gschema.override, and change the below line to the path for your file:  
picture-uri='file:///usr/share/backgrounds/warty-final-ubuntu.png'

3. Change the theme to *Radiance*

- Open Ubuntu’s theme override file `nano /usr/share/glib-2.0/schemas/ubuntu-artwork.gschema.override, and change the *Ambiance* below to *Radiance*:

```
[org.gnome.desktop.interface]
gtk-theme="Ambiance"
...
[org.gnome.desktop.wm.preferences]
theme="Ambiance"
```

4. Important: Compile the modified schemas!

- Now that we’re done customizing, compile the modified schemas with:  
glib-compile-schemas /usr/share/glib-2.0/schemas

## 6. Build, test and install!

- Press the Build button in Ubuntu Builder to begin building the custom Live-CD ISO. UB automatically handles the cleanup, etc. that previously had to be done manually.

The screenshot shows a terminal window with the title "Building ISO Image". The menu bar includes File, Edit, View, Search, Terminal, and Help. The main area displays the following text:

```
STARTING BUILDING PROCESS

# Checking configs [DONE]
# Checking folders [DONE]
# Loading configs [DONE]
# Deleting obsolete files [DONE]
# Setting up distribution informations [DONE]
# Cleaning up the build environment [DONE]
# Copying boot files [DONE]
# Creating File System
Parallel mksquashfs: Using 4 processors
Creating 4.0 filesystem on /home/ubuntu-builder/ISO/casper/filesystem.squashfs,
block size 131072.
[=====]\ ] 27900/99390 28%
```

- The ISO can be found in `/home/ubuntu-builder`; you can test it using the built-in QEMU, or in another virtual machine.
- My finished CD size was 778 MB (after removing the old .23 kernel), with Unity and Gnome 3D still available if the user wishes to, so that's pretty good for a customization! :)

### **The following should result:**

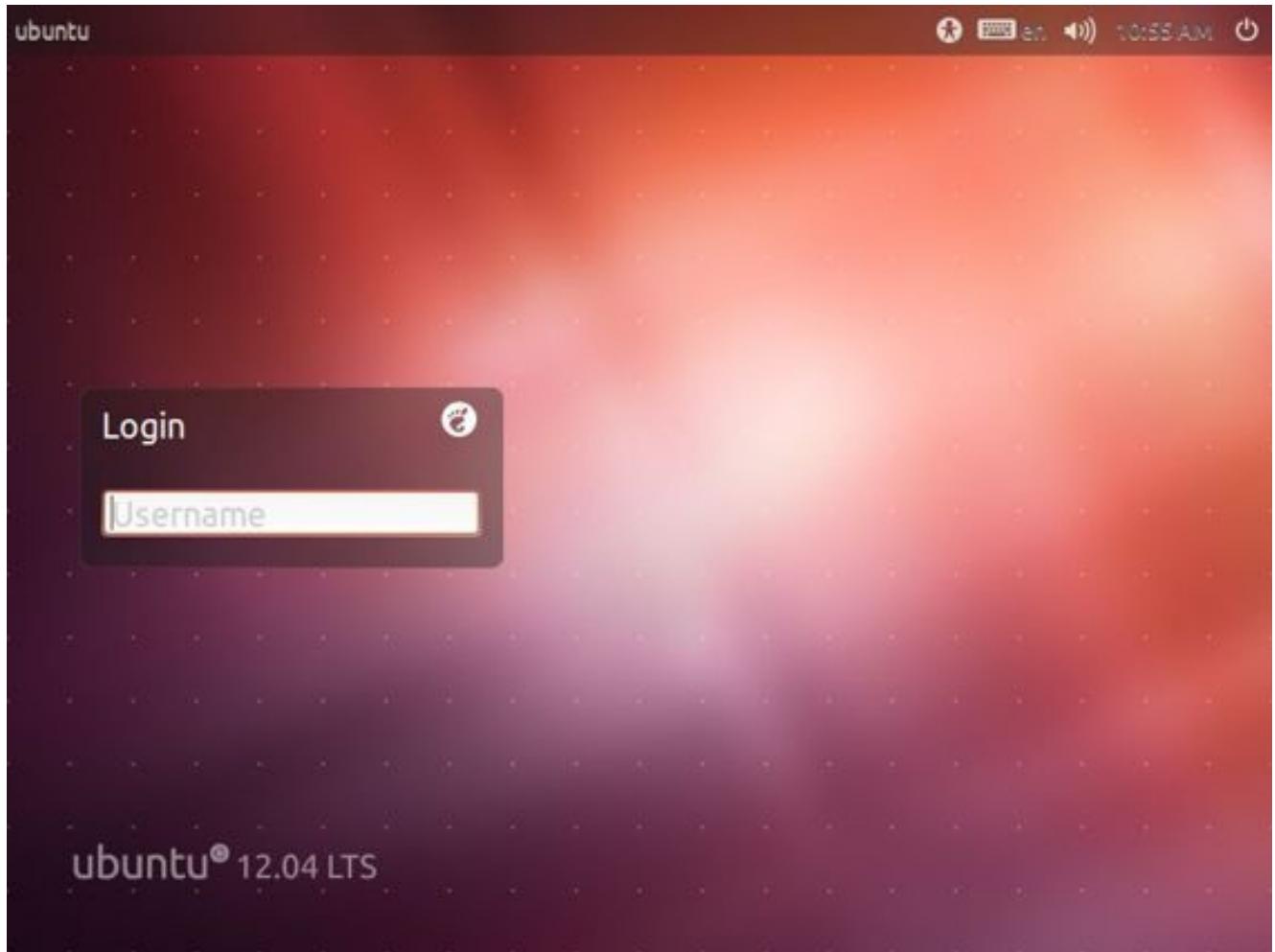
1. After bootup, you get the “Try Ubuntu” or “Install Ubuntu” option:



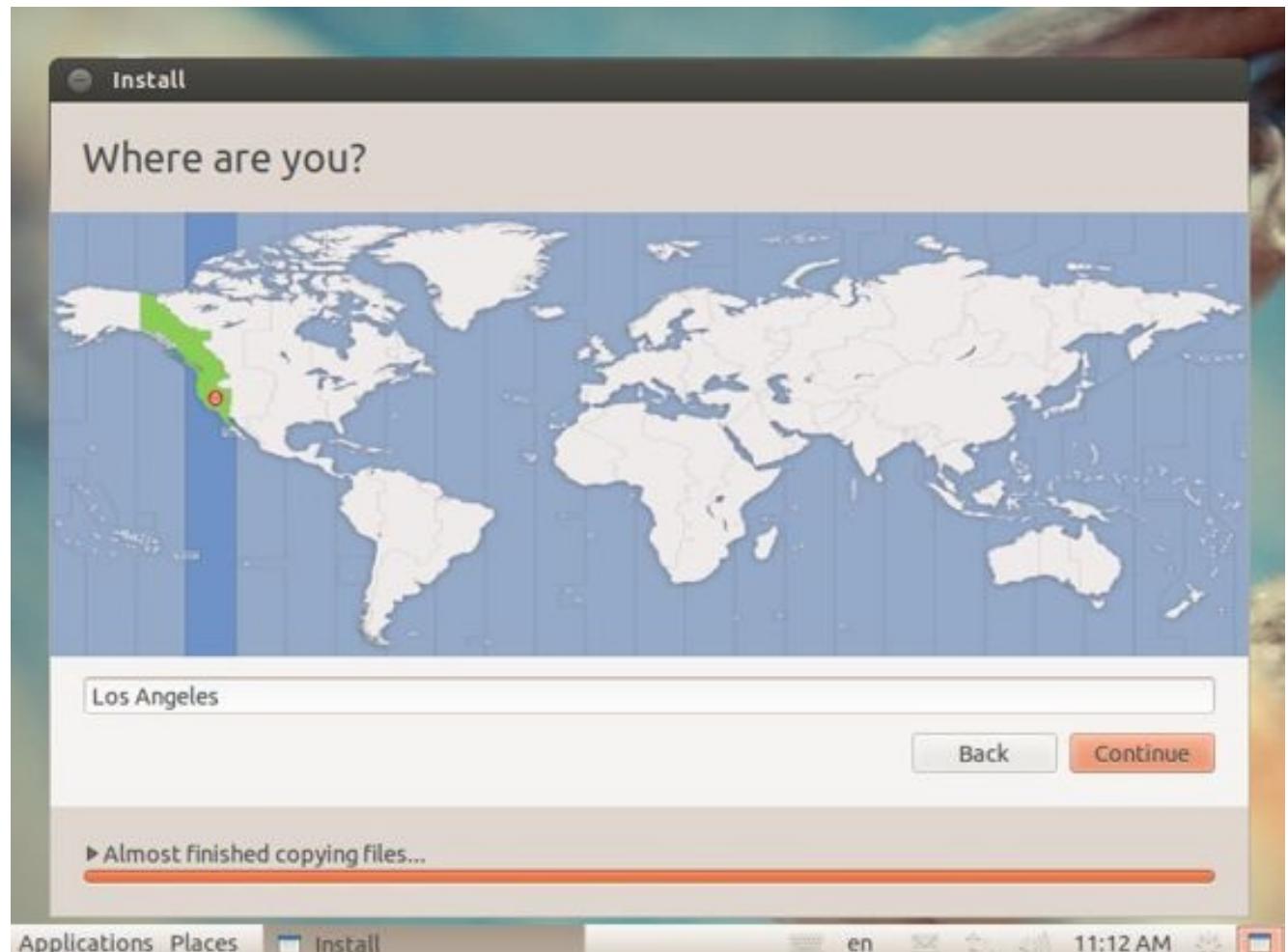
2. Clicking “Try” gets us our custom desktop!



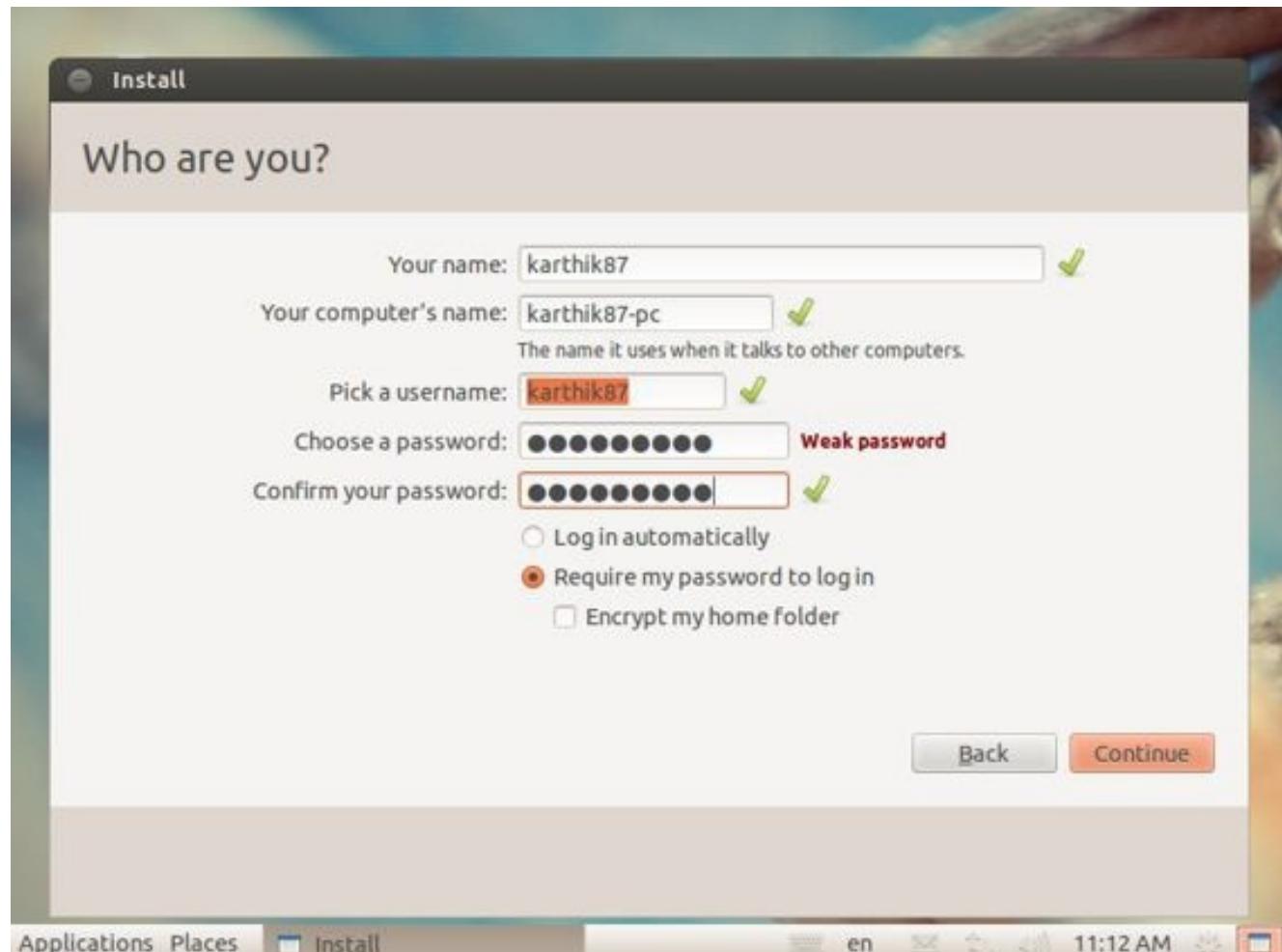
3. And logging out (login with ubuntu, blank password) shows that the login wallpaper is kept at the default:



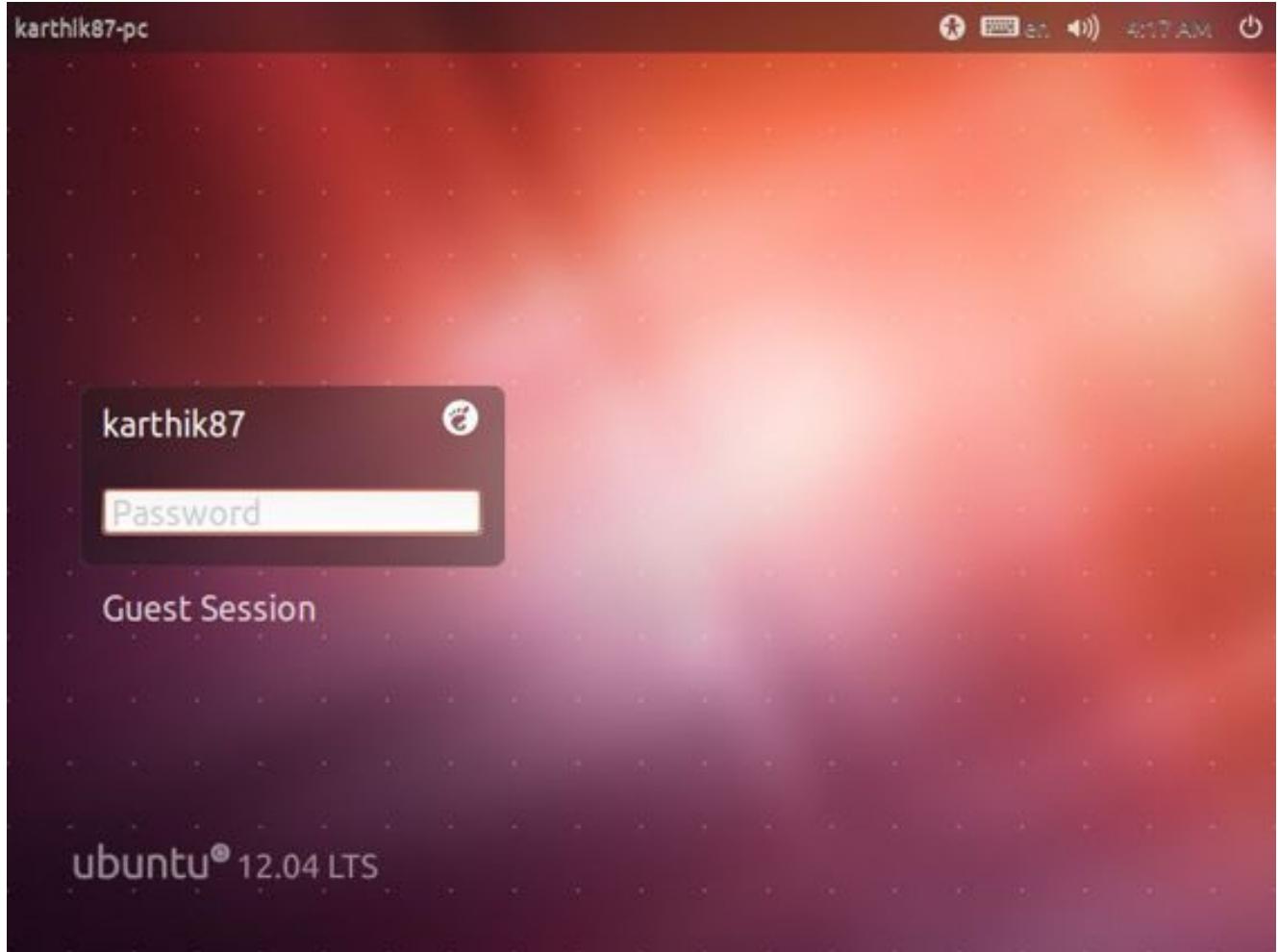
4. Installer does not crash upon Timezone selection:



5. Select username, etc. for install:



6. Installed login screen:



7. Installed desktop:



---

[Answer](#) by [rinzwind](#)

# Creating your own Custom Live 11.04 CD.

## 1. Preparations

- First you download the [Live CD ISO](#). While it is downloading install some software that is needed for rebuilding: `sudo apt-get install squashfs-tools dchroot`

[Squashfs](#)

# Missing Image

is a compressed read-only filesystem for Linux.

[dchroot](#)

# Missing Image

allows users to execute commands or interactive shells in different chroots.

- Mount the Live CD:

```
mkdir /tmp/livecd  
sudo mount -o loop ~/Downloads/ubuntu-11.04-desktop-i386.iso /tmp/livecd
```

If you use another ISO or another location for your download please adjust accordingly.

- Create a working area and copy contents over to the working area:

```
mkdir -p ~/livecd/cd  
rsync --exclude=/casper/filesystem.squashfs -a /tmp/livecd/ ~/livecd/cd  
mkdir ~/livecd/squashfs ~/livecd/custom  
sudo modprobe squashfs  
sudo mount -t squashfs -o loop /tmp/livecd/casper/filesystem.squashfs ~/livecd/squashfs/  
sudo cp -a ~/livecd/squashfs/* ~/livecd/custom
```

- If you get an error like this while doing modprobe:

```
sudo modprobe squashfs  
WARNING: Deprecated config file /etc/modprobe.conf,  
all config files belong into /etc/modprobe.d/
```

move the `modprobe.conf` `mv /etc/modprobe.conf /etc/modprobe.conf.OLD` and try again!

- Network access:

```
sudo cp /etc/resolv.conf /etc/hosts ~/livecd/custom/etc/
```

- Create a pseudo filesystem:

```
sudo chroot ~/livecd/custom  
mount -t proc none /proc/  
mount -t sysfs none /sys/  
export HOME=/root
```

## 2. Customizing

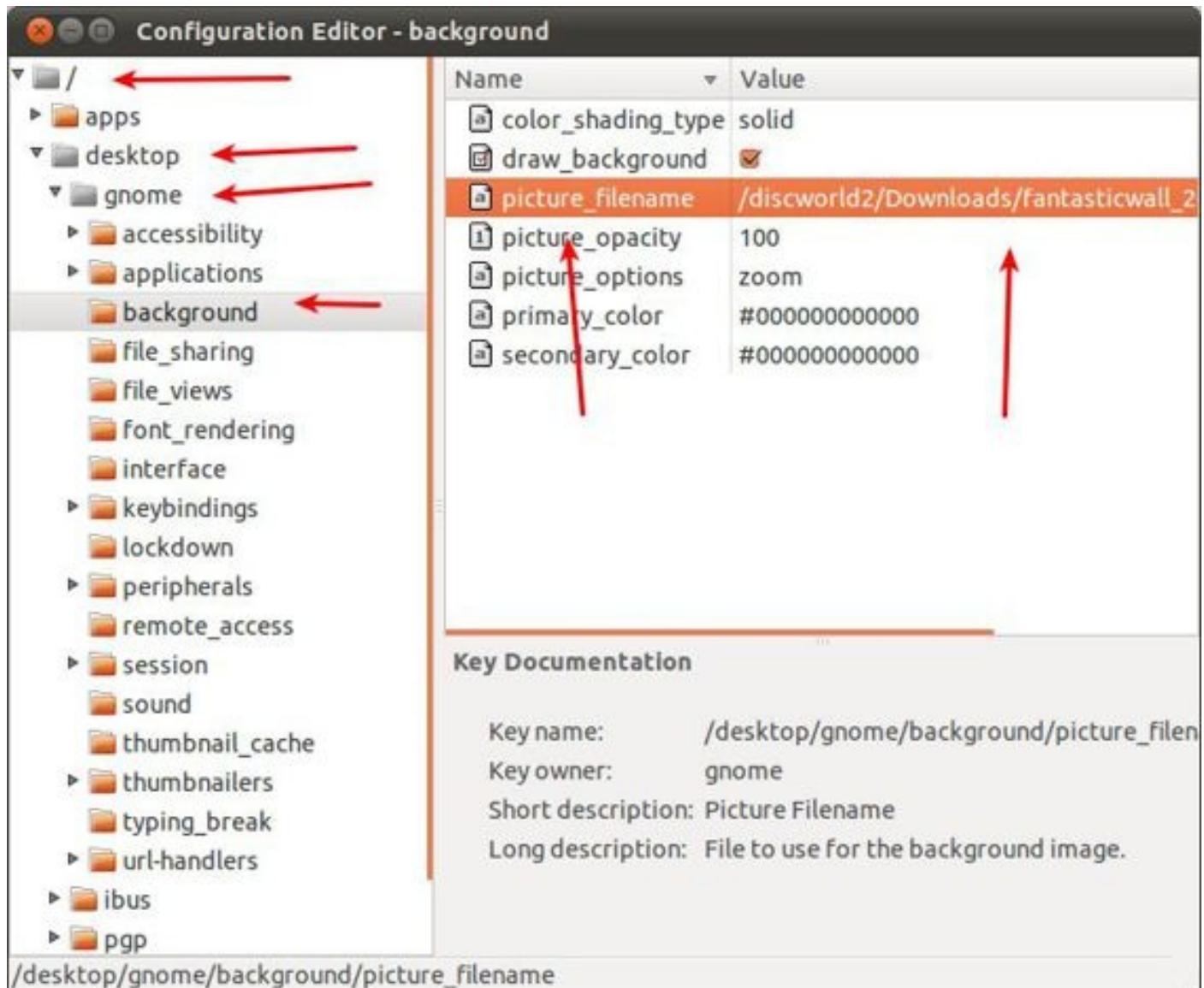
- You can get a list of all packages with `dpkg-query -W --showformat='${Package}\n' | less`
- You can remove games with `apt-get remove --purge gnome-games*`
- Update your sources with `sudoedit /etc/apt/sources.list`. Comment out lines you do not want and uncomment the ones you do want, add in PPAs if you want and then you need to update with `apt-get update && apt-get dist-upgrade`
- Adding packages like thunderbird, Samba, Samba system config and SSH is done the same way as you would normally install from commandline. So `sudo apt-get install thunderbird samba system-config-samba ssh` will add those.
- If you've manually downloaded the package from you can install it with `sudo dpkg -i {file_name}.deb`
  - You can check Ubuntu Software Center, Synaptic or the [packages website](#) for the names if more need to be installed.
  - You might consider adding (wireless) network utilities.
  - You will quickly run over 800 Mb; if you do you either remove more packages to get under 800 or you need to use a DVD when burning. Removing libre office will free up you 33+ Mb if you do not need it.
- To create an AskUbuntu shortcut on the desktop:

```
mkdir -p /etc/skel/Desktop && perl -e 'print("[Desktop Entry]\nVersion=1.0\nName=Ask\nUbuntu\nComment=Ask Questions About Ubuntu\nGenericName=Question and Answers\nExec=xdg-open\nhttp://askubuntu.com\nTerminal=false\nX-MultipleArgs=false\nType=Application\nIcon=firefox\nCategories=Internet;\n");' > /etc/skel/Desktop/askubuntu.desktop && chmod ugo+x /etc/skel/Desktop/askubuntu.desktop
```

You can add more of these (skip the mkdir part) by editing the URL to something else. Courtesy of dv3500ea

- Changing settings inside gconf-editor.

You can change any gconf option if you know what the path is of that option and the value you want it to be (and the type of the value of course).



Changing the wallpaper is done with the path I pointed arrows to:

/desktop/gnome/background/, it is a string value and it uses ‘picture\_filename’ as an option. The value it currently holds on my desktop is ‘/discworld2/Downloads/fantasticwall\_2.jpg’. The background itself should be copied into /usr/share/backgrounds/. Make sure to set permissions and owner.

- Examples:

To change the wallpaper (change the filename in the 1st command to your own image) to this image and to change the theme to Radiance you can use this information to create commands to set this for your live cd:

```
gconftool-2 --direct --config-source xml:readwrite:/etc/gconf/gconf.xml.defaults --set -t string /desktop/gnome/background/picture_filename /discworld2/Downloads/fantasticwall_2.jpg
gconftool-2 --direct --config-source xml:readwrite:/etc/gconf/gconf.xml.defaults --set -t string /desktop/gnome/interface/gtk_theme Radiance
```

Courtesy of dv3500ea

- Enable remote desktop:

```
gconftool-2 --direct --config-source xml:readwrite:/etc/gconf/gconf.xml.defaults --set -t bool /desktop/gnome/remote_access/enabled true
```

Settings for icons, panels etc are all done by adding a command like this.

- Alternatively you can edit /etc/gconf/gconf.xml.defaults/%gconf-tree.xml (or when you are down save this file for future usage). All the configuration settings done through gconftool-2 are stored in this file.

- Change the default timezone used by the live cd

```
dpkg-reconfigure tzdata
```

- Change locale setting to english (of course change it to what you want)

```
locale-gen en  
update-locale LANG=en LANGUAGE=en LC_ALL=en
```

- Configure configuration files.

If you want to have a custom configuration file for a certain package you can do this in several ways.

The difficult (but most logical) way would be to either find the package, change the configuration file and repackage it or to find the source files, figure out where they store their dummy config file and change that and then rebuild the package. - Of course this only works if the default configuration file is included in the source package. Many packages auto-generate their config files in the {packagename}.postinst script so it would make it rather difficult to get this done.

The easiest way would be to create a script and copy your current config to /etc/skel so they get added to your desktop (similar to adding firefox shortcuts as explained above) and after installing click the desktop link to set the config file to the place it needs to be. The script could both do the copying and removal of both the script and config file from your desktop after it successfully installed. This method can be used to update the Samba configuration (put your current config in /etc/skel/. Put a script in there that has execute permissions and contains a move of said config to /etc/samba/smbd.conf and all you need to do afterwards is execute the script).

- This basically always works since it replaces a post-install manual action with a post-install manually activated script. But it also means it is not part of the custom live cd.

### 3. Cleaning up

```
apt-get clean
rm -rf /tmp/*
rm -f /etc/hosts /etc/resolv.conf
umount /proc/
umount /sys/
exit
```

This removes all the temporary files; not what we created. `~/livecd/` is readonly so a normal `rm` will not remove these files. You need to mount it with write access (or as I did use the new live cd to boot and mount the home and `rm` it from there).

## 4. Setting up the ISO

- Manifest files.

```
chmod +w ~/livecd/cd/casper/filesystem.manifest
sudo chroot ~/livecd/custom dpkg-query -W --showformat='${Package} ${Version}\n' >
~/livecd/cd/casper/filesystem.manifest
sudo cp ~/livecd/cd/casper/filesystem.manifest ~/livecd/cd/casper/filesystem.manifest-desktop
```

- Regenerate squashfs file.

```
sudo mksquashfs ~/livecd/custom ~/livecd/cd/casper/filesystem.squashfs
```

- Update md5 sums.

```
sudo rm ~/livecd/cd/md5sum.txt
sudo -s
(cd ~/livecd/cd && find . -type f -print0 | xargs -0 md5sum > md5sum.txt)
```

## 5. Creating the ISO.

```
cd ~/livecd/cd
sudo mkisofs -r -V "Ubuntu-Live-kartick87" -b isolinux/isolinux.bin -c isolinux/boot.cat -cache-inodes -J -l -no-emul-boot -boot-load-size 4 -boot-info-table -o ~/Downloads/ubuntu-11.04-desktop-i386.iso .
```

## 6. Comments:

- Everything was tested with an Ubuntu 11.04 Live CD. Only thing that went wrong was chrooting: I added dchroot to the files you need to install to do this.
  - Regarding “should create some firefox shortcuts on desktop”, “Should change the default theme to radiance” and “Should change the default ubuntu wallpaper”. I edited these in after dv3500ea put it into the comments; I did not test this while creating the 11.04 live cd.
- 

[Answer](#)  by [nickguletskii](#)

# Creating a live CD from an existing/new installation

**EDIT:** This method doesn't seem to work anymore. I suggest you try other methods suggested in this QA.

A good way would be making a live CD from a current installation. This can be done using a virtual machine (just don't install any VM tools inside the guest OS)

So, first we need a fresh install(if you can't install it for real, try using a virtual machine) with only things that you need (in your case thunderbird, samba and ssh). Then we tweak the system and record where the tweaks are (e.g. you change your desktop background, the settings are in `~/.gconf` or you add firefox shortcuts, they are located in `~/Desktop`). This is needed for step 4.

1. Set up some variables:

```
export WORK=~/temp
export CD=~/livecd
export FORMAT=squashfs
export FS_DIR=casper
```

Replace `~/temp` with a path to a temporary directory in which we will work in.

Replace `~/livecd` with a path to the CD tree.

2. Make the folder structure. `sudo mkdir -p ${CD}/{$FS_DIR},boot/grub}`  
 `${WORK}/rootfs`

3. Now we will need to install some packages:

```
sudo apt-get install grub2 xorriso squashfs-tools
```

4. Now we will copy the current installation, modify the exclude flags to fit your needs:

```
sudo rsync -av --one-file-system --exclude=/proc/* --exclude=/dev/* \
--exclude=/sys/* --exclude=/tmp/* --exclude=/home/* --exclude=/lost+found \
--exclude=/var/tmp/* --exclude=/boot/grub/* --exclude=/root/* \
--exclude=/var/mail/* --exclude=/var/spool/* --exclude=${WORK}/rootfs \
--exclude=/etc/fstab --exclude=/etc/mtab --exclude=/etc/hosts \
--exclude=/etc/timezone --exclude=/etc/shadow* --exclude=/etc/gshadow* \
--exclude=/etc/X11/xorg.conf* --exclude=/etc/gdm/custom.conf \
/ ${WORK}/rootfs
```

If you have a separate boot partition, execute this: `sudo cp -av /boot/*`  
 `${WORK}/rootfs/boot`

In your case, you want to copy settings and some files from the home directory. First, define what directories we want to copy: `CONFIG='config .gconf Desktop`  
`someotherfolder andanotherfolder'` And now we copy that:

```
cd ~ && for i in $CONFIG
do
sudo cp -rpv --parents $i ${WORK}/rootfs/etc/skel
done
```

5. Now we chroot into the new system and modify it.

```
sudo mount --bind /dev/ ${WORK}/rootfs/dev
```

```
sudo mount -t proc proc ${WORK}/rootfs/proc
sudo mount -t sysfs sysfs ${WORK}/rootfs/sys
sudo mount -t devpts devpts ${WORK}/rootfs/dev/pts
sudo chroot ${WORK}/rootfs /bin/bash
```

The next commands are done in chroot:

```
LANG=
apt-get update
apt-get install casper
```

Casper contains live scripts. If you want an installer too, run this:

```
apt-get install ubiquity ubiquity-frontend-gtk
```

Or if you want KDE:

```
apt-get install ubiquity ubiquity-frontend-kde
```

## 6. Update modules.dep and initramfs:

```
depmod -a $(uname -r)
update-initramfs -u -k $(uname -r)
```

## 7. Remove non-system users - do not worry, we have copied the settings and data into the “skeleton” of users. That means all new users will have them.

```
for i in `cat /etc/passwd | awk -F ":" '{print $1}'` 
do
    uid=`cat /etc/passwd | grep "^[${i}]" | awk -F ":" '{print $3}'` 
    [ "$uid" -gt "999" -a "$uid" -ne "65534" ] && userdel --force ${i} 2>/dev/null
done
```

## 8. Clean up:

```
apt-get clean
find /var/log -regex '.*?[0-9].*?' -exec rm -v {} \;
find /var/log -type f | while read file
do
    cat /dev/null | tee $file
done
rm /etc/resolv.conf /etc/hostname
```

## 9. Exit chroot. exit

## 10. Now, we copy the kernel:

```
export kversion=`cd ${WORK}/rootfs/boot && ls -1 vmlinuz-* | tail -1 | sed 's@vmlinuz-@@'` 
sudo cp -vp ${WORK}/rootfs/boot/vmlinuz-$kversion ${CD}/boot/vmlinuz
sudo cp -vp ${WORK}/rootfs/boot/initrd.img-$kversion ${CD}/boot/initrd.img
sudo cp -vp ${WORK}/rootfs/boot/memtest86+.bin ${CD}/boot
```

## 11. If you have installed the installer, you will need to do this, so that the installer doesn't install things like casper:

```
sudo chroot ${WORK}/rootfs dpkg-query -W --showformat='${Package} ${Version}\n' | sudo tee ${CD}/${FS_DIR}/filesystem.manifest
sudo cp -v ${CD}/${FS_DIR}/filesystem.manifest{,-desktop}
REMOVE='ubiquity casper user-setup os-prober libdebian-installer4'
for i in $REMOVE
do
    sudo sed -i "/${i}/d" ${CD}/${FS_DIR}/filesystem.manifest-desktop
done
```

## 12. Unmount what we have mounted:

```
sudo umount ${WORK}/rootfs/proc
sudo umount ${WORK}/rootfs/sys
sudo umount ${WORK}/rootfs/dev/pts
```

```
sudo umount ${WORK}/rootfs/dev
```

### 13. Convert to squashfs:

```
sudo mksquashfs ${WORK}/rootfs ${CD}/${FS_DIR}/filesystem.${FORMAT}
```

14. Make filesystem.size: echo -n \$(sudo du -s --block-size=1 \${WORK}/rootfs | tail -1 | awk '{print \$1}') | sudo tee \${CD}/casper/filesystem.size

15. And md5: find \${CD} -type f -print0 | xargs -0 md5sum | sed "s@\${CD}@.@" | grep -v md5sum.txt | sudo tee \${CD}/md5sum.txt

### 16. Now grub.cfg:

```
sudo nano ${CD}/boot/grub/grub.cfg
```

(replace nano with your fav text editor, it doesn't matter) Paste this and save:

```
set default="0"
set timeout=10

menuentry "Ubuntu GUI" {
linux /boot/vmlinuz boot=casper quiet splash
initrd /boot/initrd.img
}

menuentry "Ubuntu in safe mode" {
linux /boot/vmlinuz boot=casper xforcevesa quiet splash
initrd /boot/initrd.img
}

menuentry "Ubuntu CLI" {
linux /boot/vmlinuz boot=casper textonly quiet splash
initrd /boot/initrd.img
}

menuentry "Ubuntu GUI persistent mode" {
linux /boot/vmlinuz boot=casper boot=casper persistent quiet splash
initrd /boot/initrd.img
}

menuentry "Ubuntu GUI from RAM" {
linux /boot/vmlinuz boot=casper nopersistent toram quiet splash
initrd /boot/initrd.img
}

menuentry "Check Disk for Defects" {
linux /boot/vmlinuz boot=casper integrity-check quiet splash
initrd /boot/initrd.img
}

menuentry "Memory Test" {
linux16 /boot/memtest86+.bin
}

menuentry "Boot from the first hard disk" {
set root=(hd0)
chainloader +1
}
```

17. If you want, you can add an additional menu entry, which allows you to jump straight into Ubiquity.

```
menuentry "Install Ubuntu" {
linux /boot/vmlinuz boot=casper only-ubiquity quiet splash
```

```
|initrd /boot/initrd.img  
|}
```

18. Make the CD/DVD! `sudo grub-mkrescue -o ~/live-cd.iso ${CD}`
19. Test it using a virtual machine!

All credit goes to capink, because the guide is from [here](#).

---

**Tags:** [custom-distributions](#)

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[Q: How to customize the Ubuntu Live CD?](#)

---

# Overlay Scrollbars

[Skip to questions](#), Wiki by user [binarylife](#)

The overlay-scrollbars is part of the [Ayatana Project](#). 

- [Wiki page](#) 
  - [Launchpad Project](#) : For bug reports and source code.
-

# Questions

## Q: How do I disable overlay scrollbars?

Tags: [overlay-scrollbars](#)

It looks like Ubuntu 11.04 will come with [overlay scrollbars](#)  by default. I *do* like them, but I don't like the current mix of scrollbar types as many applications don't yet use those overlay scrollbars.

Is there a way to disable overlay scrollbars (**without** removing the `overlay-scrollbar` package)?

Tags: [overlay-scrollbars](#)

User: [htorque](#)

---

Answer  by [erigami](#)

In **12.04 LTS** there's a [slightly cleaner way to do it](#) . Just run

```
gsettings set org.gnome.desktop.interface ubuntu-overlay-scrollbars false
```

in a terminal. Apps opened afterwards will have the non-ayatana scrollbar.

To get the default behavior back, run

```
gsettings reset org.gnome.desktop.interface ubuntu-overlay-scrollbars
```

If you are using **12.10 or later**, run

```
gsettings set com.canonical.desktop.interface scrollbar-mode normal
```

And to return to the default, run

```
gsettings reset com.canonical.desktop.interface scrollbar-mode
```

---

Answer  by [htorque](#)

You can disable the scrollbars either

- For your user:

Add the line

```
export LIBOVERLAY_SCROLLBAR=0
```

to the file `~/.xprofile` (create one, if it doesn't exist).

- Or globally:

Create a file `/etc/X11/Xsession.d/99disable-overlay-scrollbars` and add above line (requires root permissions, see [this answer](#)  about how to create a file as root).

- Or per application:

- o [Is there a way to blacklist an individual application from using overlay-scrollbars?](#)
- 

[Answer](#) by [sebastian-r&hl](#)

You can remove the scrollbars completely by typing

```
sudo apt-get remove overlay-scrollbar liboverlay-scrollbar
```

---

**Tags:** [overlay-scrollbars](#)

---

[Q: How do I disable overlay scrollbars?](#)

---

# Image Processing

## Questions

### [Q: How to easily resize images?](#)

Tags: [image-processing](#)

I would like to know how to re-size images in Ubuntu. What is the easiest tool to do so?

Tags: [image-processing](#)

User: [myusuf3](#)

---

[Answer](#)  by [richard-holloway](#)

You want simple?

Install nautilus-image-converter

# Missing Image

---

It adds two context menu items in nautilus so you can right click and choose “Resize Image”. (The other is “Rotate Image”).

You can do a whole directory of images in one go if you like and you don’t even have to open up an application to do so.

Very simple to use, very simple to configure.

---

[Answer](#)  by [aneeshep](#)

First install imagemagick

```
sudo apt-get install imagemagick
```

Open a terminal and run this command:

```
convert -resize 50% source.png dest.jpg
```

It will reduce the size by 50%

You can also specify the size:

```
convert -resize 1024X768 source.png dest.jpg
```

---

[Answer](#)  by [oli](#)

If you're just doing a couple of images, most image editors in Ubuntu (Gimp, F-Spot, etc) will let you do a basic resize.

If you want to edit tens, hundreds or thousands of images, I prefer [Phatch](#). Phatch is a GUI-based batch photo editor that will let you perform a whole load of transformations on images. `sudo apt-get install phatch`

ImageMagick is good but it's a bit tedious if you don't know the setting names for things. You can very quickly learn Phatch by clicking around.

---

---

**Tags:** [image-processing](#)

---

---

[Q: How to easily resize images?](#)

---

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# Juju

[Skip to questions](#), Wiki by user [jorge-castro](#)



Juju is apt-get for the cloud. Think of it as installing things onto a *group* of machines instead of one machine, and having them all automatically configure and talk to each other at the service level. Juju runs on HP Cloud, Amazon Web Services, OpenStack based private clouds, or on raw bare metal via [MAAS](#)

With Juju, different authors are able to create service charms independently, and make those services coordinate their communication through a simple protocol. Users can then take the product of different authors and very comfortably deploy those services in an environment. The result is multiple machines and components transparently collaborating towards providing the requested service.

## Basic Information

- [Homepage](#)
- [Documentation](#)
- Charms project: <https://launchpad.net/charm>
- Charms-Tools project: <https://launchpad.net/charm-tools>
- Charms-Store Demo : <https://jujucharms.com/sidebar>
- Getting started: <https://juju.ubuntu.com/docs/getting-started.html>

# How can I contact the Juju team?

## Juju development

- Mailing list: <https://lists.ubuntu.com/mailman/listinfo/juju> 
- IRC #juju on Freenode

## General Server information

- Mailing list: <https://lists.ubuntu.com/mailman/listinfo/ubuntu-server> 
  - IRC #ubuntu-server on Freenode
-

# Questions

## [Q: How do I configure juju for local usage?](#)

**Tags:** [juju](#)

I'm too cheap to pay for EC2, and I don't have enough servers to set up my own openstack, how do I configure juju to use Linux Containers (LXC) on something like my laptop?

**Tags:** [juju](#)

**User:** [jorge-castro](#)

---

[Answer](#)  by [jorge-castro](#)

# Install Juju:

```
sudo add-apt-repository ppa:juju/stable  
sudo apt-get update  
sudo apt-get install juju-core
```

## For 12.04 LTS users:

You need a newer backported kernel for LXC support:

```
sudo apt-get install juju-local linux-image-generic-lts-raring linux-headers-generic-lts-raring
```

## **For everyone else (13.xx):**

Your kernels are new enough, you just need to install the local provider:

```
sudo apt-get install juju-local
```

# Configuration:

After that you might get error for SSH authorized/public key not found. Generate an SSH key if you haven't already.

```
ssh-keygen -t rsa
```

First configure your environment local environment, if you've not set up Juju before do a:

```
juju init
```

This will write out an example config file that will work. Then you need to tell Juju to use the local provider and then bootstrap:

```
juju switch local  
juju bootstrap
```

The first time this runs it might take a bit, as it's doing a netinstall for the container, it's around a 300 megabyte download. Subsequent bootstraps should be much quicker.

You deploy charms from the charm store using the following commands:

```
juju deploy mysql  
juju deploy wordpress  
juju add-relation wordpress mysql
```

When it's deployed juju should return something like this in `juju status`:

[Skip code block](#)

```
services:  
mysql:  
charm: cs:precise/mysql-27  
exposed: false  
relations:  
cluster:  
- mysql  
db:  
- wordpress  
units:  
mysql/0:  
agent-state: installed  
agent-version: 1.13.1.1  
machine: "2"  
public-address: 10.0.3.98  
wordpress:  
charm: cs:precise/wordpress-16  
exposed: false  
relations:  
db:  
- mysql  
loadbalancer:  
- wordpress  
units:  
wordpress/0:  
agent-state: pending  
agent-version: 1.13.1.1  
machine: "1"  
public-address: 10.0.3.134
```

In this example, navigating the browser to 10.0.3.134 should take you to the wordpress configuration page.

References:

- Mailing list [thread](#)
  - [Documentation](#)
- 

**Tags:** [juju](#)

---

[Q: How do I configure juju for local usage?](#)

---

# Multiarch

## Questions

### [Q: What happened to the ia32-libs package?](#)

Tags: [multiarch](#)

The ia32-libs package is no longer present in Ubuntu 12.04 repositories for a 64bit system. Are there any available replacement packages available for download?

Tags: [multiarch](#)

User: [ubuntuser](#)

---

[Answer](#)  by [lekensteyn](#)

The ia32-libs package was a hack to get 32-bit packages installed on a 64-bit installation. Since Ubuntu version 11.10 (Oneiric), [Multi Arch](#)  has been added. One of the objectives for it is removing the ia32-libs package. Instead, you have to install the 32-bit libraries of a package with:

```
sudo apt-get install package-name:i386
```

You don't have to worry about this for packages in the standard repositories (e.g. the wine package). For external software, it's a bit more difficult because you have to find the dependencies manually. In that case, use your favorite search engine to find which libraries you need.

It seems that ia32-libs still exist, but merely as a convenience package to include common 32-bit libraries. This package now uses Multi Arch to install the 32-bit packages correctly.

---

[Answer](#)  by [galgalesh](#)

# **Ubuntu 13.10**

## **What happened?**

The ia32-libs package has been completely replaced by `lib32z1 lib32ncurses5 lib32bz2-1.0`. This should not be a problem because its functionality is still there, just in other packages. However, we do not live in an ideal world where everyone maintains their packages and all software is FOS, so some packages still depend on the ia32-libs.

# How can I install package x that depends on ia32-libs

There are 2 ways:

1. You can repackage it manually so it does not depend on the ia32-libs anymore. (preferred)
2. You can install ia32-libs from the Ubuntu 13.04 (Raring Ringtail) repository (**not preferred at all!, only if first method does not work**)

## 1. Repackage old packages

I will use the citrix receiver as an example, but you can use this method for any .deb package:

First, download the citrix receiver .deb package from their website and make a temporary directory do do the hacking in.

```
mkdir ica_temp
```

Extract the package

```
dpkg -x icaclient_13.0.0.256735_amd64.deb ica_temp  
dpkg -d control icaclient_13.0.0.256735_amd64.deb ica_temp/DEBIAN
```

Open the file in gedit (or your favorite editor)

```
sudo gedit ica_temp/DEBIAN/control
```

Find the line that starts with Depends: .... remove ia32-libs and add lib32z1 lib32ncurses5 lib32bz2-1.0

Rebuild the modified package

```
dpkg -b ica_temp icaclient-modified.deb
```

And install it

```
sudo dpkg -i icaclient-modified.deb  
sudo apt-get install -f
```

*Installing the citrix receiver requires some hacking too. You can find the full installation instructions on [the Ubuntu wiki](#)*

You can do this with any old .deb package that still depends on ia32-libs.

## 2. Install ia32-libs from raring repository

**Please note that is it very bad practice to install old packages!** Sadly, for some binary installers, you do not have any other choice.

You can download the ia32-libs package from [the raring repository](#). Download it and install it manually, then the dependencies should be resolved.

---

**Tags:** [multiarch](#)

---

[Q: What happened to the ia32-libs package?](#)

---

# OpenPGP

[Skip to questions](#), Wiki by user [hhlp](#)

OpenPGP is a non-proprietary protocol for encrypting email using public key cryptography. It is based on PGP as originally developed by Phil Zimmermann. The OpenPGP protocol defines standard formats for encrypted messages, signatures, and certificates for exchanging public keys.

---

# Questions

## [Q: How do I make a PGP key?](#)

**Tags:** [openpgp](#)

How do I make a [PGP key](#)? I'd like to have it for signing PPA uploads and such.

**Tags:** [openpgp](#)

**User:** [jrg](#)

---

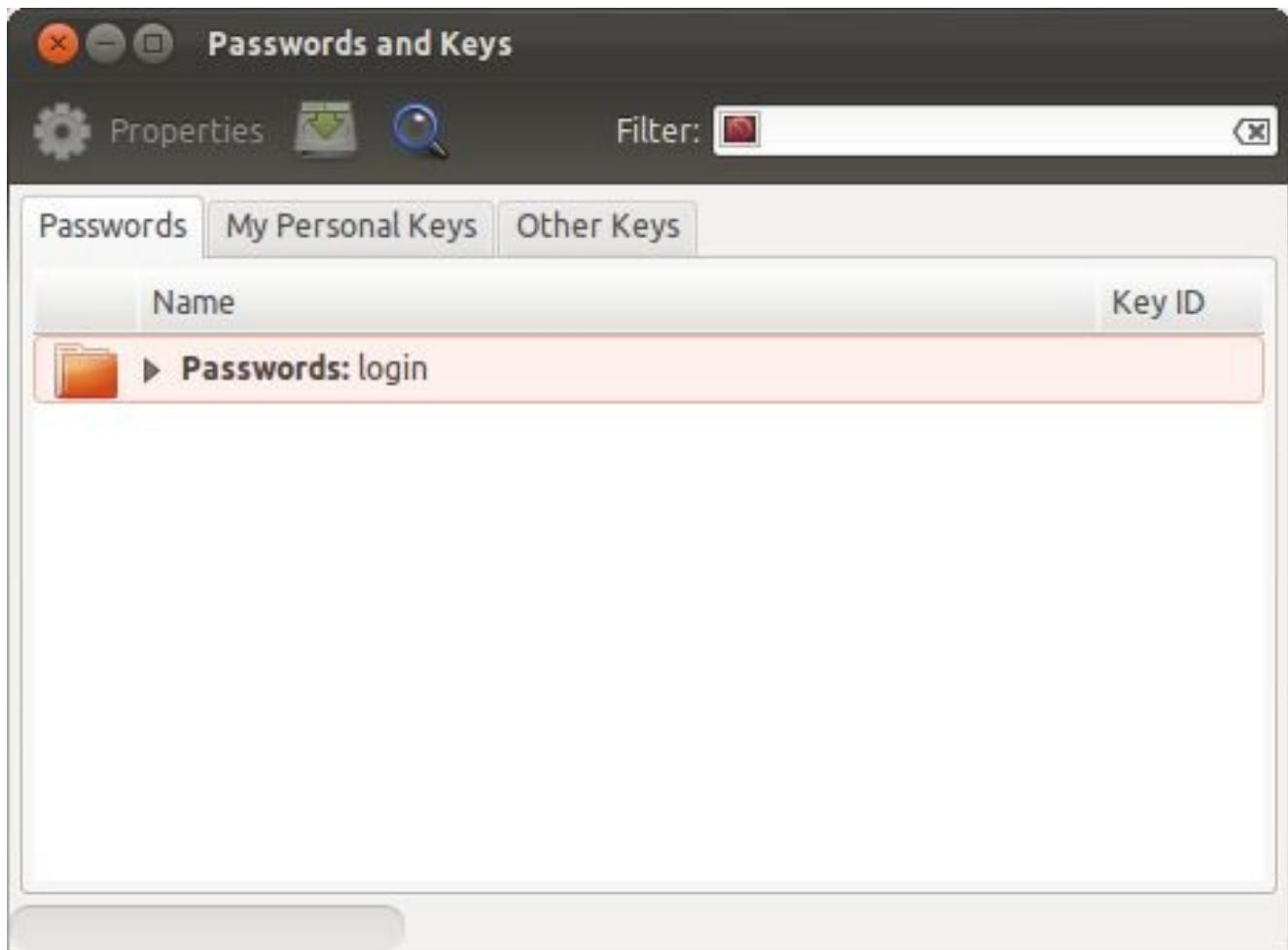
[Answer](#)  by [octavian-damiean](#)

# Generating a PGP Key

Here is a GUI way to generate a new PGP key.

1. Open the *Passwords and Keys (Seahorse)* application

*This screen will appear.*



2. Either go to File New in the global menu or hit `ctrl + N`
3. In the *Create New ...* window select *PGP Key* and hit *Continue*



4. Enter your full name and your email address, the comment is optional



5. Enter a strong password which you'll remember



6. Wait for the *Generating key* dialog to finish (this may take a while)
7. You're done!

You can find your key in the *Passwords and Keys* application's *My Personal Keys* tab.

A screenshot of the "Passwords and Keys" application. The title bar says "Passwords and Keys". Below it is a toolbar with icons for Properties, a green checkmark, a hand, and a magnifying glass. There is also a "Filter:" dropdown and a close button. The main area has tabs for "Passwords", "My Personal Keys" (which is selected), and "Other Keys". A table below shows a single row: Name (John Doe, john@doe.com) and Key ID (146CEEFB). At the bottom, a message says "Selected 1 key".

# Uploading your key to Launchpad

Uploading your key to Launchpad is just a few clicks.

1. Go to [Launchpad.net](https://Launchpad.net) and log in
2. On your profile page click on the yellow edit button (a round button with a grey pencil icon) next to *OpenPGP keys*

*Note: The URL to that page looks like this https://launchpad.net/~yourusername*



3. Open the application *Passwords and Keys (Seahorse)*
4. Navigate to the *My Personal Keys* tab
5. Select your key and go to Remote Sync and Publish Keys in the global menu
6. Hit Sync

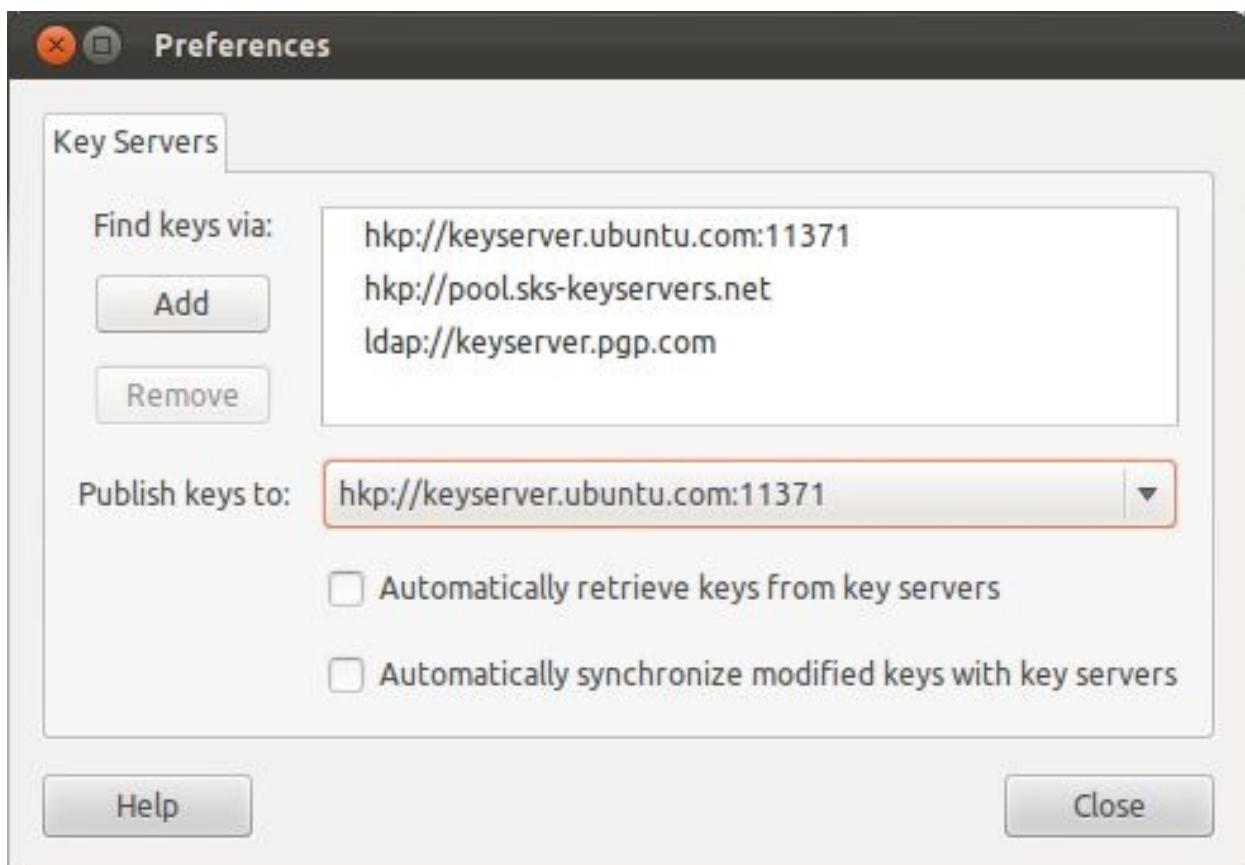


Note: The *Sync* button may be grayed out if no sync server is selected. In that case:

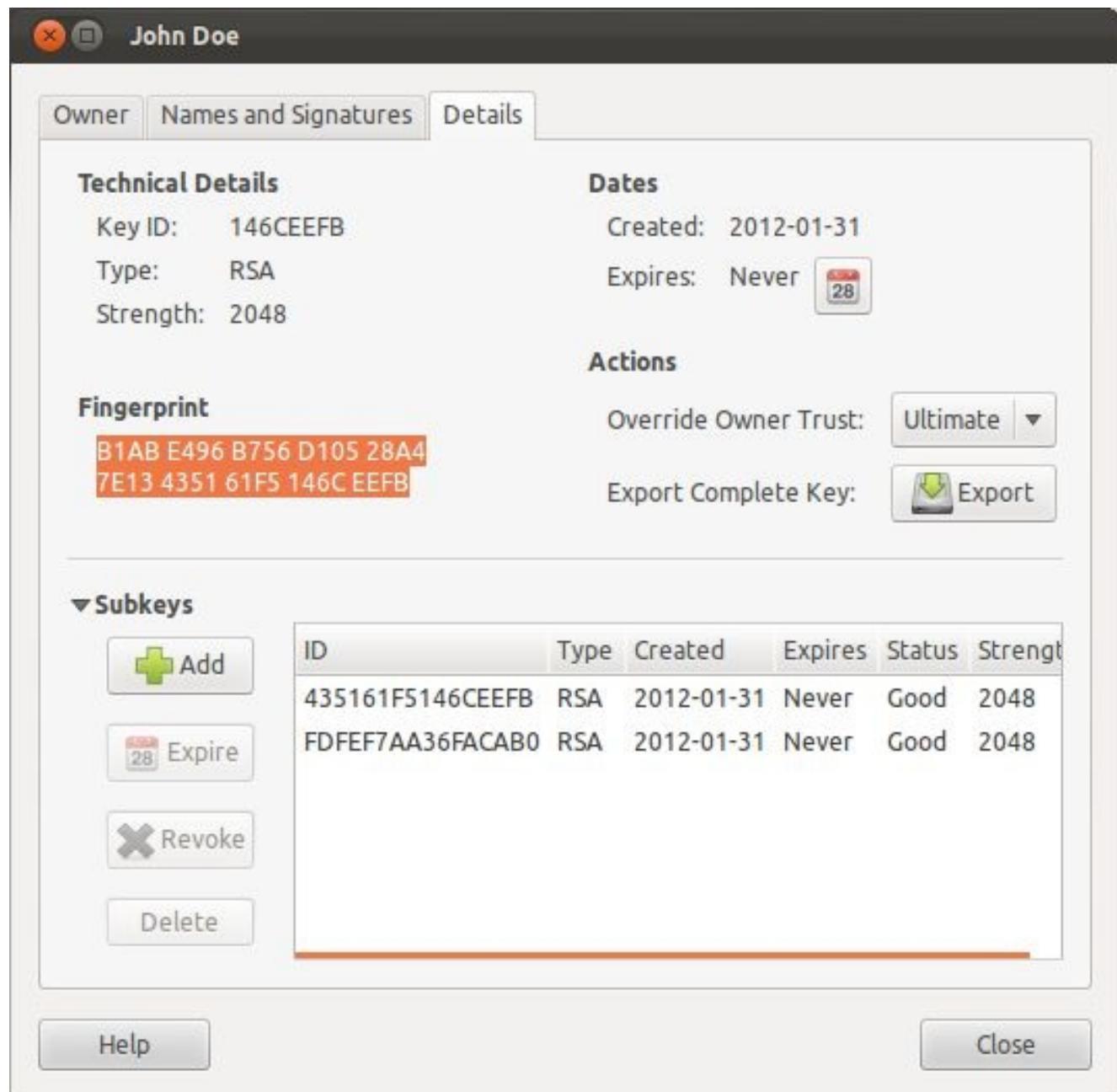
- Hit the *Key Servers* button



- Select the `hkp://keyserver.ubuntu.com:xxxxx` key server from the *Publish keys to* list and hit close



7. Double click your PGP Key from the list on the *My Personal Keys* tab
8. In the key window that just appeared navigate to the *Details* tab, select the *Fingerprint* with your mouse and hit `ctrl + c`



- Paste the just copied fingerprint into the *Fingerprint* text field on the *Change your OpenPGP keys* page on Launchpad and hit *Import Key*

## Import an OpenPGP key

To start using an OpenPGP key with your Launchpad account, simply paste its fingerprint below.  
The key must be registered with the Ubuntu key server. ([How to get the fingerprint](#))

Fingerprint:

Example: 27E0 7815 B47C 0397 9005 8589 27D9 A27B F3F9 6058

Next, Launchpad will send e-mail to you at [mainerror@gmail.com](mailto:mainerror@gmail.com) with instructions on finishing the process.

or

- You're done!

[Answer](#) by [hlp](#)

## Creating your OpenPGP keys with gpg

Step 1: Open a terminal and type:

```
gpg --gen-key
```

Step 2: GPG will now ask you a number of questions about the type of key you want to generate. follow the steps below to select the default option each time.

Step 3: Check that your key has been generated by typing `gpg --list-keys` and, if successful.

pub 1024D/12345678 -> this is the important number

Step 4: **Launchpad doesn't store your key directly**, so you need to export your public key to a key server, such as `keyserver.ubuntu.com`:

```
gpg --keyserver keyserver.ubuntu.com --send-keys 12345678
```

Replace **12345678** with the pub id you noted in step 3.

If successful, GPG will display a message similar to:

```
gpg: sending key 12345678 to hkp server keyserver.ubuntu.com
```

## Importing your key into Launchpad with gpg

Step 1: **Launchpad identifies your OpenPGP key by its fingerprint**. In your terminal, you can ask GPG for your key's fingerprint by typing:

```
gpg --fingerprint
```

GPG will display a message similar to:

```
Key fingerprint = `0464 39CD 2486 190A 2C5A 0739 0E68 04DC 16E7 CB72`
```

copy only the numeric fingerprint: 0464 39CD 2486 190A 2C5A 0739 0E68 04DC 16E7 CB72.

Step 2: Visit your [OpenPGP](#)

Step 3: Paste the fingerprint that you copied in step 1 into the Fingerprint text-box, then click the Import Key button. Launchpad will use the fingerprint to check the Ubuntu key server for your key and, if successful, send you an encrypted email asking you to confirm the key import.

**Note :** this is a brief ... from launchpad process..... both process take a while so just take your time...

---

**Tags:** [openpgp](#)

---

[Q: How do I make a PGP key?](#)

---

# Logitech

## Questions

### [Q: Is Logitech's Unifying receiver supported?](#)

Tags: [logitech](#)

Logitech has a Unifying receiver that you can add several devices using the same USB device. Is this supported in Ubuntu and if so do I have to additionally configure something so that when adding a new wireless device it gets recognized by the same receiver.

Info: <http://www.logitech.com/en-us/66/6079> 

Tags: [logitech](#)

User: [luis-alvarado](#)

---

Answer  by [lekensteyn](#)

I've a Logitech Illuminated Keyboard and M525 mouse here, both are using the Logitech Unifying USB receiver. They works out-of-the box, Plug & Play!

lsusb | grep Logitech:

```
Bus 002 Device 004: ID 046d:c52b Logitech, Inc. Unifying Receiver
```

dmesg | grep Logitech:

```
input: Logitech USB Receiver as /devices/pci0000:00/0000:00:1d.0/usb2/2-1/2-1.2/2-1.2:1.0/input/input2
generic-usb 0003:046D:C52B.0001: input,hidraw0: USB HID v1.11 Keyboard [Logitech USB Receiver] on
usb-0000:00:1d.0-1.2/input0
input: Logitech USB Receiver as /devices/pci0000:00/0000:00:1d.0/usb2/2-1/2-1.2/2-1.2:1.1/input/input3
generic-usb 0003:046D:C52B.0002: input,hiddev0,hidraw1: USB HID v1.11 Mouse [Logitech USB Receiver]
on usb-0000:00:1d.0-1.2/input1
generic-usb 0003:046D:C52B.0003: hiddev0,hidraw2: USB HID v1.11 Device [Logitech USB Receiver] on
usb-0000:00:1d.0-1.2/input2
```

Having that said, [Logitech only supports](#)  Unifying software for Windows and Mac OS X. For Linux, I have created the `ltunify` tool which is described in detail on my article [Logitech Unifying for Linux: Reverse Engineering and unpairing tool](#) .

```
sudo apt-get install git gcc
git clone https://git.lekensteyn.nl/ltunify.git
cd ltunify
make install-home
```

This will fetch the sources and install the program to `$HOME/bin/ltunify`, if `$HOME/bin` did not exist before, then you may have to re-login or reopen your terminal. After doing so, you can pair a new device with the `sudo ltunify pair` command and unpair devices with a command like `sudo ltunify unpair mouse` (be sure to have a second device that

you can use after detaching your Unifying device!).

A graphical tool is also available, [Solaar](#). It has better support for functionality of newer devices such as [swapping the functionality of FN keys](#). It is available through the [ppa:daniel.pavel/solaar](#) PPA (if you do not know how to install such a “PPA”, see [What are PPAs and how do I use them?](#)). After installation, you can search for *Solaar* in the applications menu and start it from there.

---

[Answer](#) by [travis-r](#)

The first device you plug in just works, but if you get another keyboard or mouse then you need to pair it with the existing receiver. Here’s a script you can use to pair your devices on Linux:

- [https://github.com/treeder/logitech\\_unifier](https://github.com/treeder/logitech_unifier)

Works great.

---

[Answer](#) by [luis-alvarado](#)

I would like to complement Lekensteyn’s answer by including a feature I did not know about. I have a Logitech Anywhere MX mouse and when the batteries were almost out, I got the following message:



So the Unifying receiver is not only supported by it offers (Depending on the device) several features like the image above. This image was with Ubuntu 12.10

On Ubuntu 13.04 using the same PPA, with version 0.8.9 you can see the following:

- A panel icon (Battery icon) that measures how much battery the wireless mouse has left
- A menu (After clicking the battery icon) that shows all mice that have been paired

- Clicking on the **Unified Receiver** option will reveal a second window that shows each mouse individually with several options.



I recommend to read [this excellent article about Logitech Unifying Technology](#) written by Lekensteyn.

Also see the list of current [supported devices](#) and to install it simply add the PPA:

```
sudo add-apt-repository ppa:daniel.pavel/solaar
sudo apt-get update
sudo apt-get install solaar
```

Logout and login again and Solaar should appear on your top panel. You can also execute the app from the Dash by typing “Solaar”.

---

**Tags:** [logitech](#)

---

[Q: Is Logitech's Unifying receiver supported?](#)

---

# Password Recovery

## Questions

### [Q: Authentication token manipulation error](#)

Tags: [password-recovery](#)

I forgot my Ubuntu password so I booted into recovery and dropped into a root shell prompt and this is what happened:

```
root@username-PC:~# passwd username
Enter new UNIX password:
Retype new UNIX password:
passwd: Authentication token manipulation error
passwd: password unchanged
```

Tags: [password-recovery](#)

User: [era878](#)

---

[Answer](#)  by [brandon](#)

Also make sure you are mounting the file system read/write.

After immediately selecting ‘Drop into root shell prompt’ I found the filesystem was mounted read only, which prevents resetting the password.

Choosing the option to remount / as read/write and going back into the root shell prompt enabled the password change.

The command to run prior to changing the password is: `mount -rw -o remount /`

---

Tags: [password-recovery](#)

---

[Q: Authentication token manipulation error](#)

---

# Media

## Questions

### [Q: How can I extract audio from MP4 or FLV video files?](#)

Tags: [media](#)

Is there an application that allows me to extract the audio from a MP4 or FLV video file and store it as an MP3 file for use in a portable media player?

Tags: [media](#)

User: [bhargav](#)

---

[Answer](#)  by [anwar-shah](#)

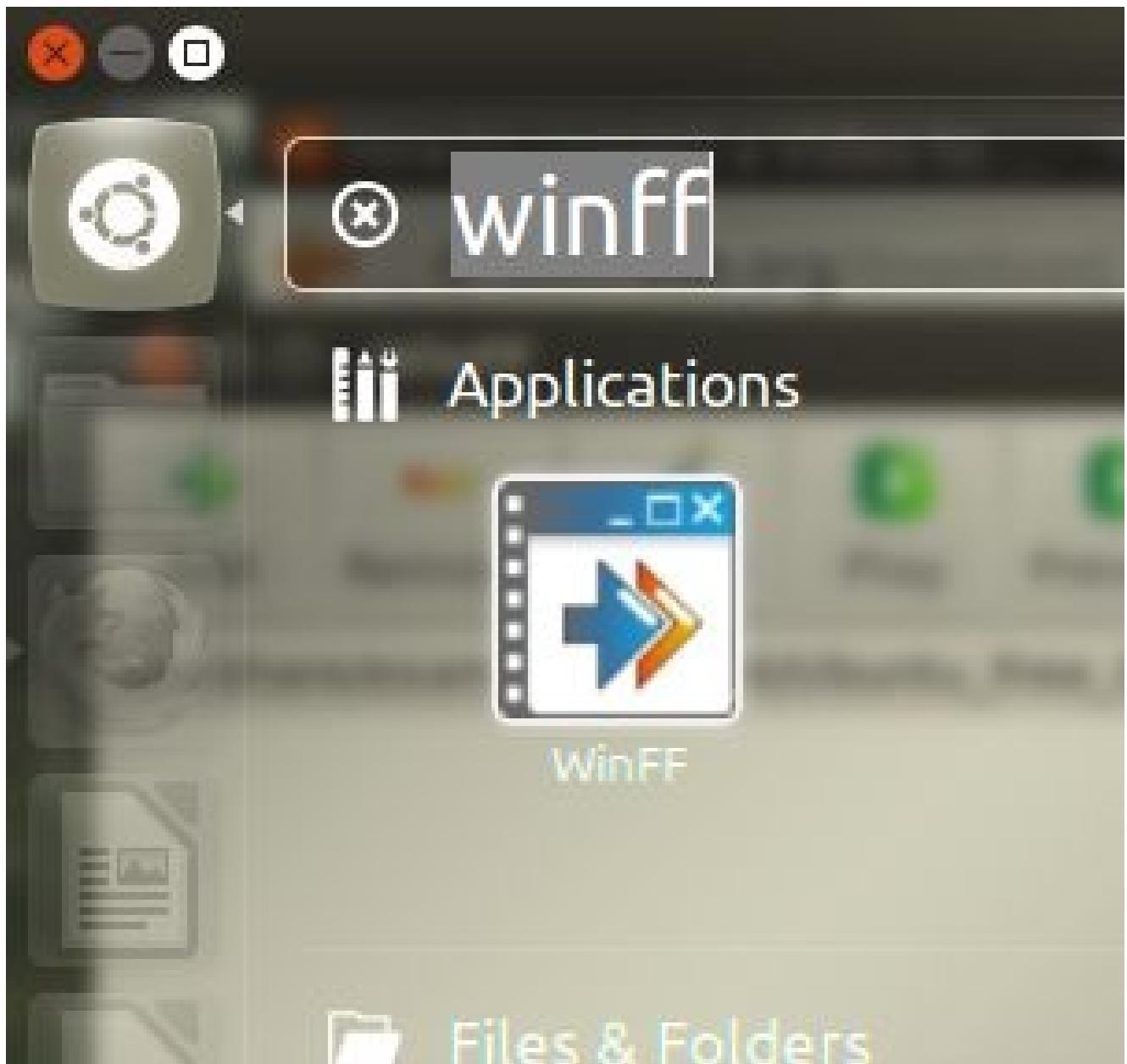
You can do the same in 12.04 by using several software.

# Using WinFF

1. Install winff and libavcodec-extra-53 first

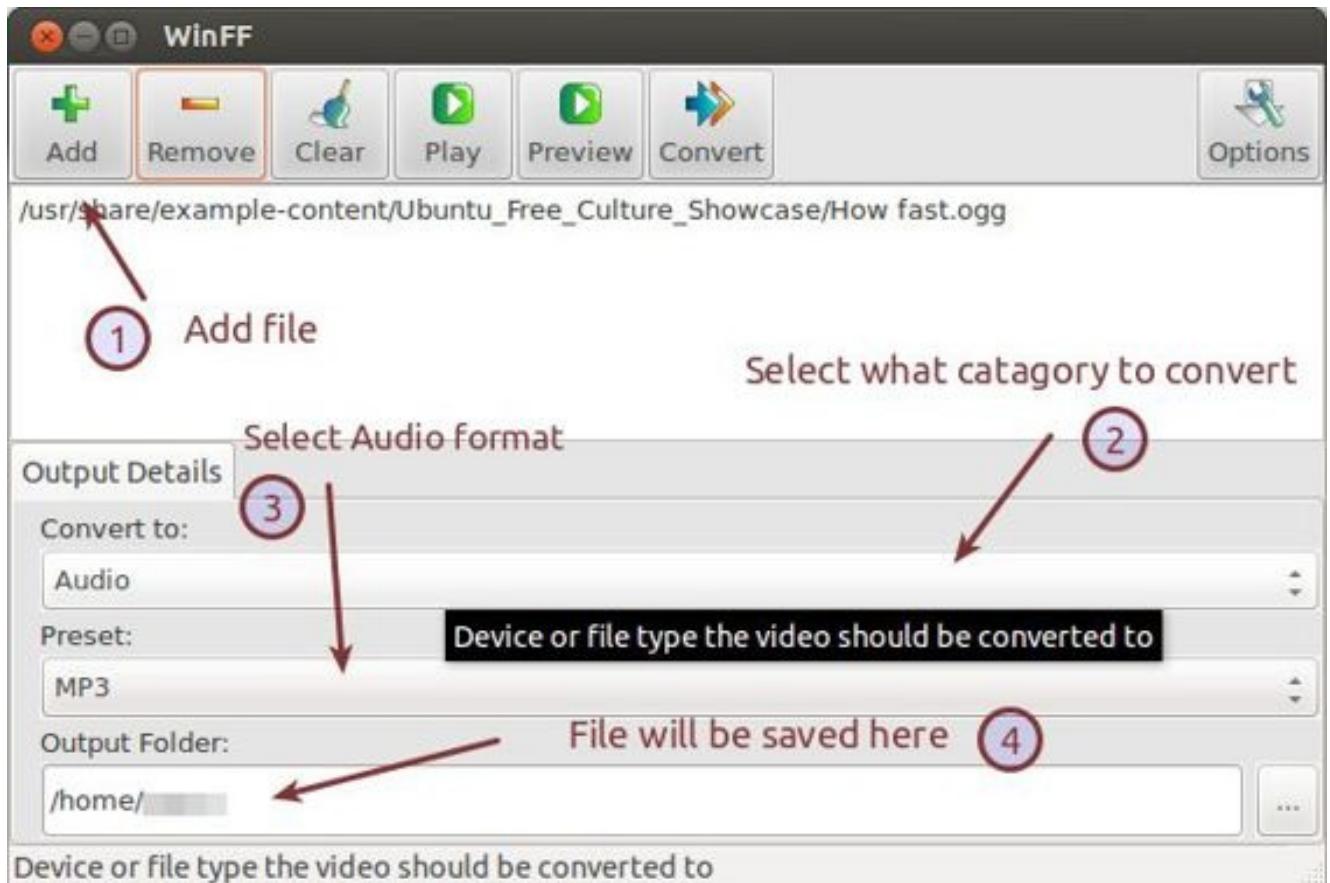
```
sudo apt-get install winff libavcodec-extra-53
```

2. Open Winff from dash

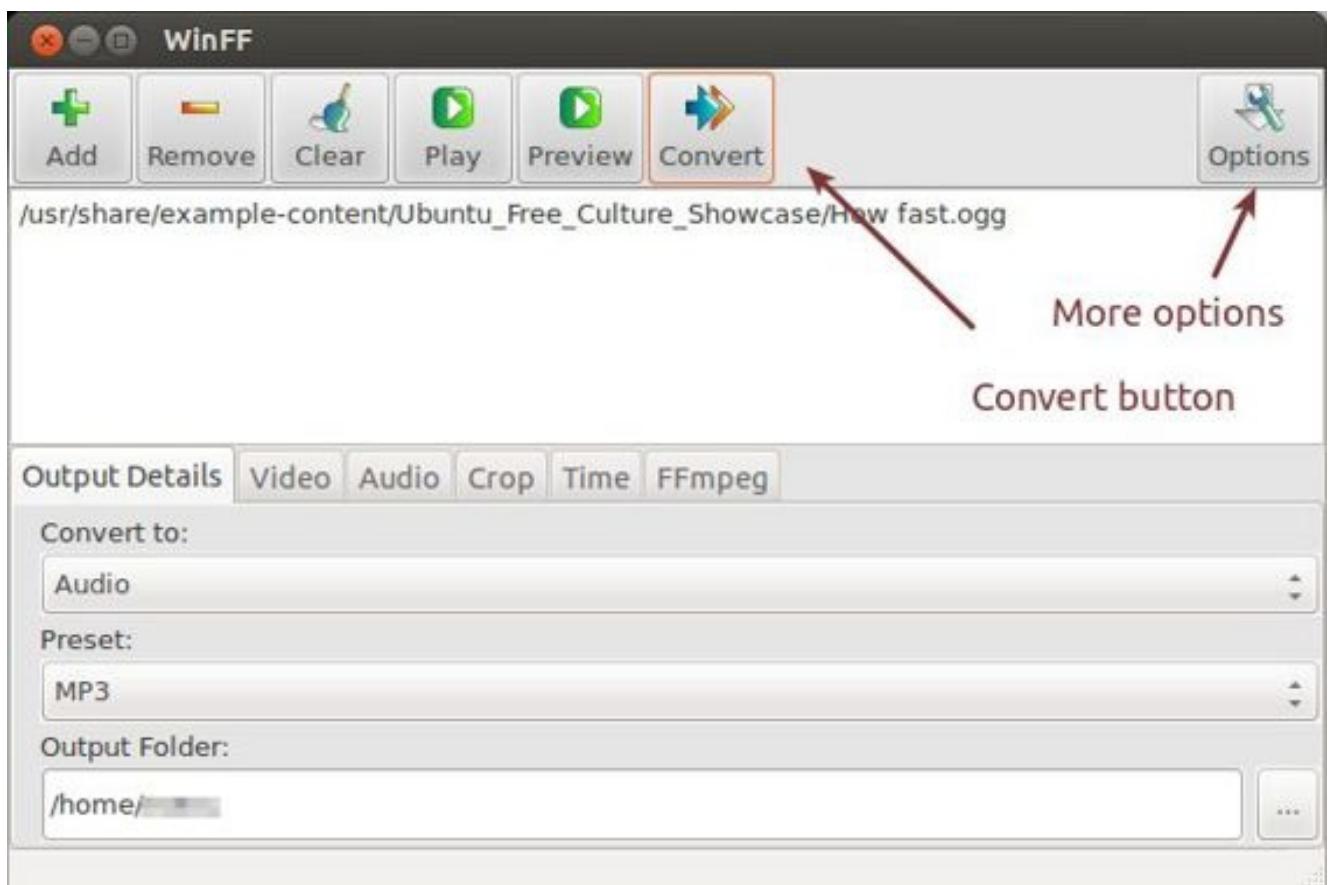


3. Then in Winff window, do these

1. Add file
2. Select what category to convert (select Audio)
3. Select Audio file format (mp3)
4. Type the output folder for converted file



1. Then click the **Convert** button. You can also click **Options** button to file tune the audio format and other options.



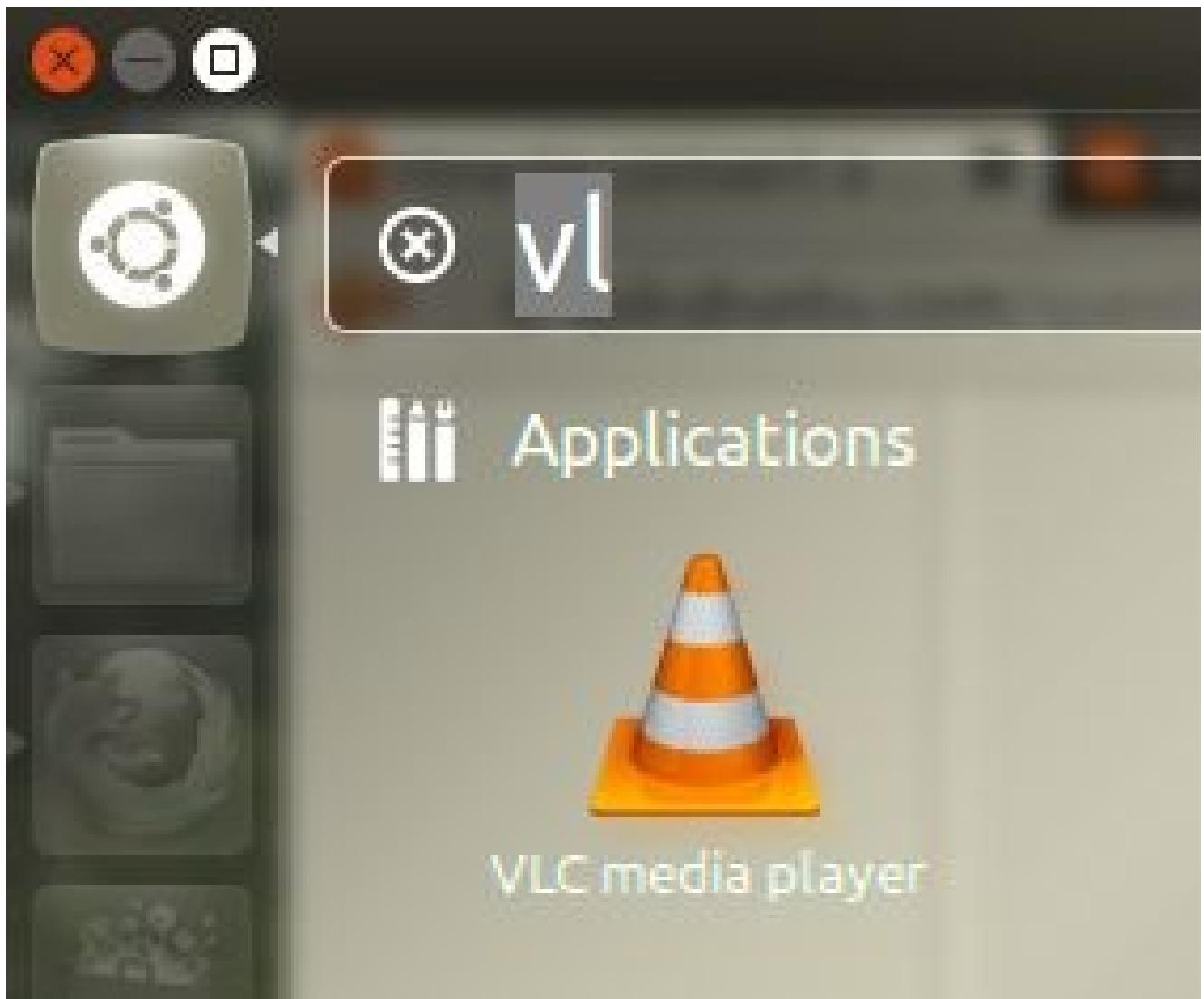


# Using VLC

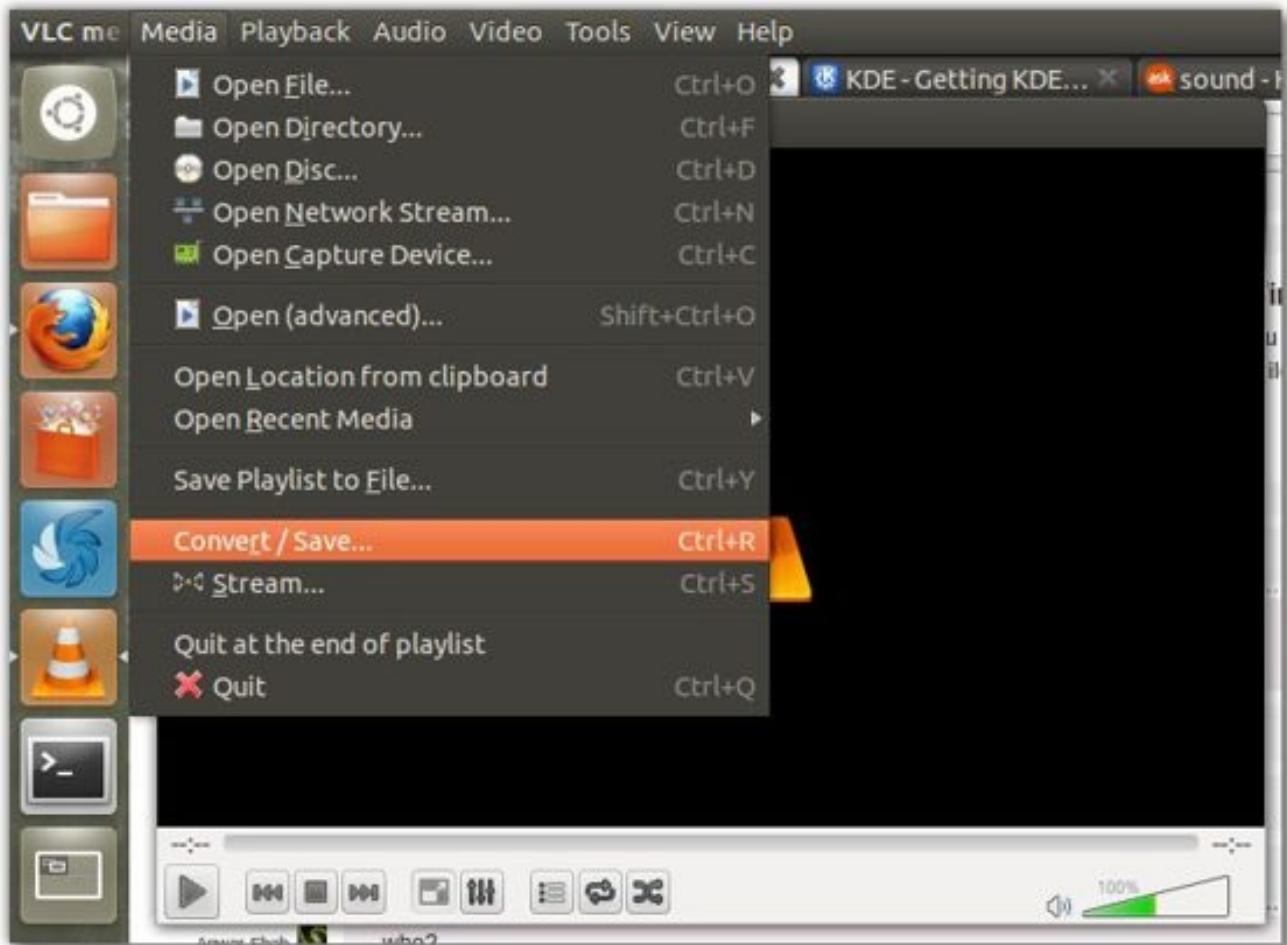
1. Install VLC and “libavcodec-extra-53” package first

```
sudo apt-get install vlc libavcodec-extra-53
```

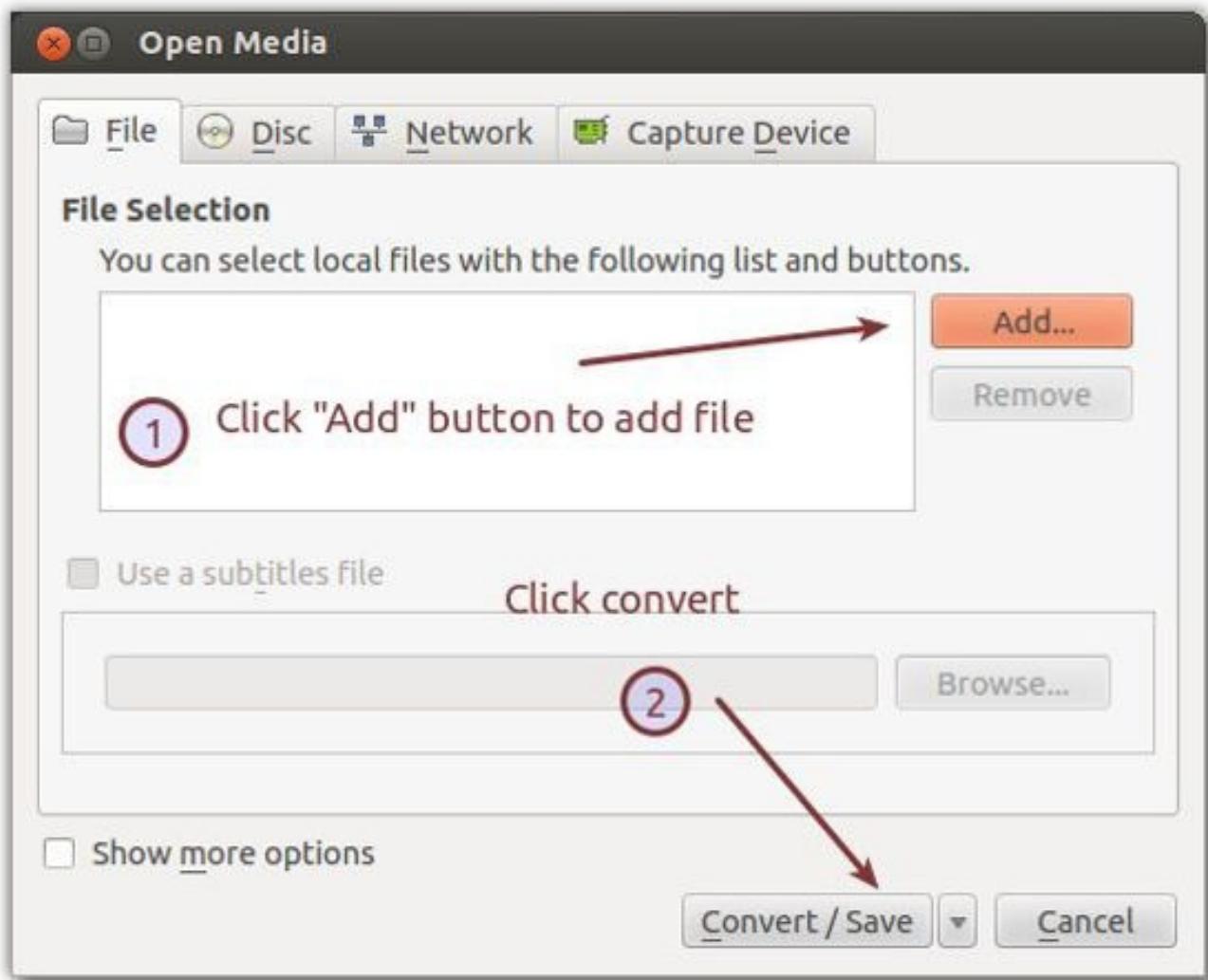
2. Open VLC from dash by pressing Super key and typing “VLC” there



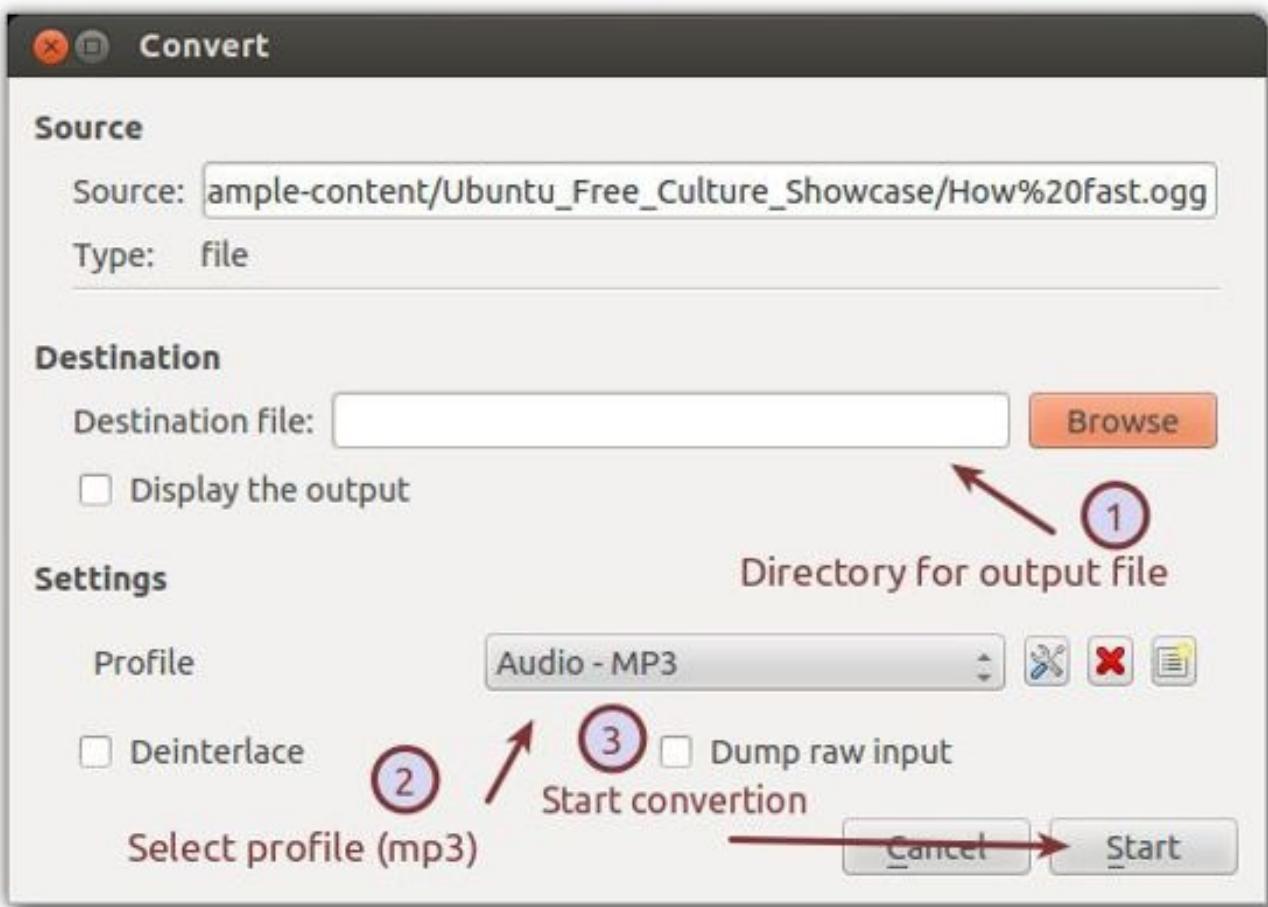
3. Then from top panel menu, Select **Media Convert/Save**.



4. Then Add file to convert in the new window. Then click **Convert** button.



5. In the new window, Select the directory for output file, select the conversion profile (Audio mp3) and click **Start** button.



# Using command line

1. First install the tools

```
sudo apt-get install ffmpeg libavcodec-extra-53 libav-tools
```

2. Use this simple command to extract the audio file

```
avconv -i /input-file-name-with-path output-filename.mp3
```

For example to convert the “How fast.ogg” video file into how-fast.mp3 use this command:

```
avconv -i /usr/share/example-content/Ubuntu_Free_Culture_Showcase/How\ fast.ogg how-fast.mp3
```

See the [manual page](#) for more options and information.

---

[Answer](#) by [binw](#)

you can do it using ffmpeg. Install ffmpeg using following command:

```
sudo apt-get install ffmpeg libavcodec-unstripped-52
```

The package libavcodec-unstripped-52 is available in Multiverse repo, so you will need to enable it.

After installing these packages, you can use a command like the one below to extract the audio as mp3:

```
ffmpeg -i video.mp4 -f mp3 -ab 192000 -vn music.mp3
```

The **-i** option in the above command is simple: it is the path to the input file. The second option **-f mp3** tells ffmpeg that the ouput is in mp3 format. The third option i.e **-ab 192000** tells ffmpeg that we want the output to be encoded at 192Kbps and **-vn** tells ffmpeg that we dont want video. The last param is the name of the output file.

---

[Answer](#) by [duffydack](#)

soundconverter is another tool that can convert audio formats and also video to audio only:

# Missing Image

or via the terminal:

```
sudo apt-get install soundconverter
```

---

**Tags:** [media](#)

[Q: How can I extract audio from MP4 or FLV video files?](#)

---

# Image Editor

## Questions

### [Q: Is there a program like Microsoft Paint?](#)

Tags: [image-editor](#)

Greetings, I'm slowly getting used to Ubuntu; for I've been a Windows user as long as I've used any computer. I'm hoping someone can suggest a good graphics software.

I'm simply looking for one that works close to Microsoft Paint.  
Does Ubuntu offer anything like it?

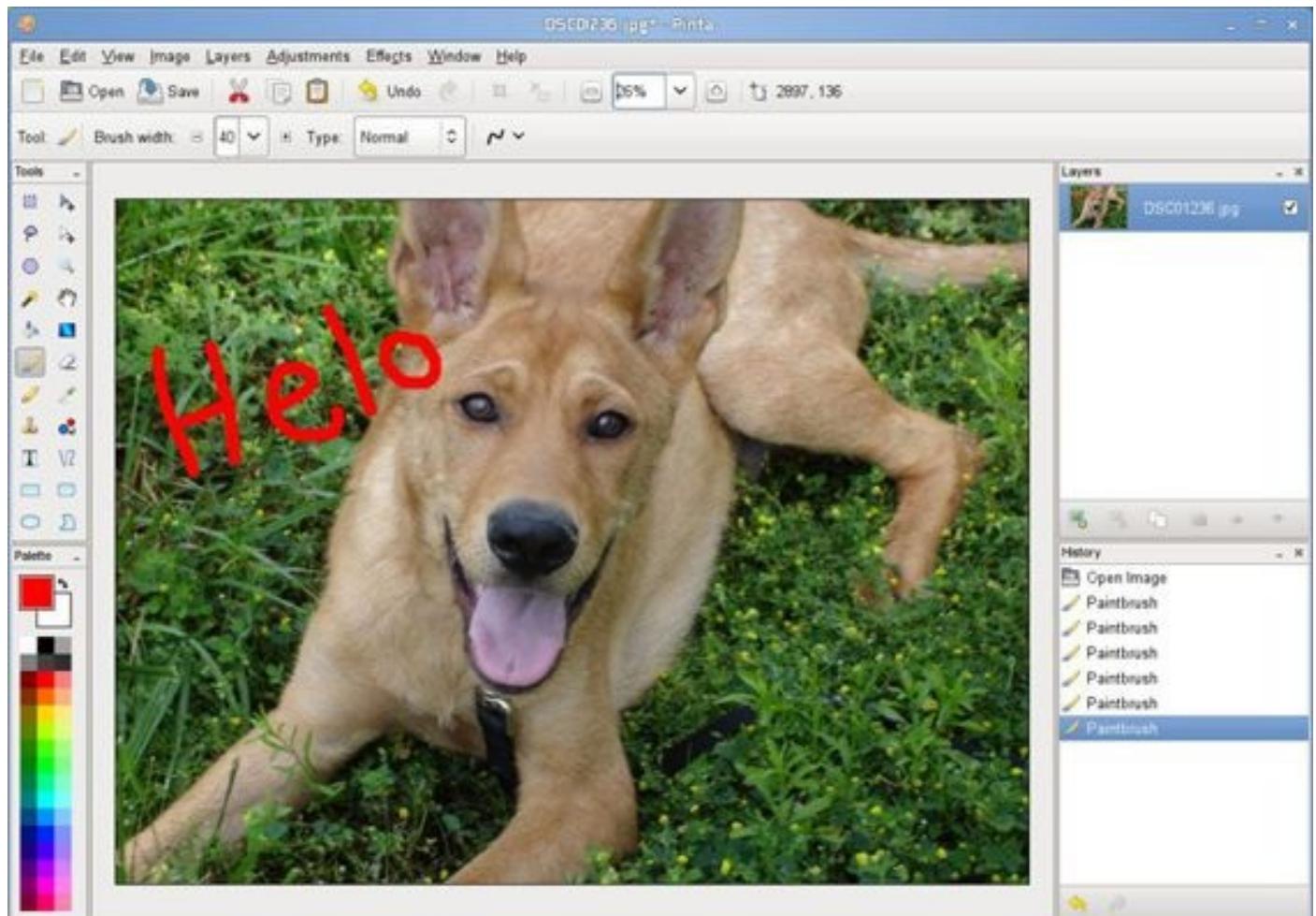
Tags: [image-editor](#)

User: [james-litewski](#)

---

[Answer](#)  by [fossfreedom](#)

The closest MS Paint clone is [Pinta](#) . I regard it as vastly superior to MS Paint, but it retains its simplicity.





[Answer](#) by [raylu](#)

There is also *Gnome Paint*.





available on the  
Software Centre



---

**Tags:** [image-editor](#)

---

**Q:** [Is there a program like Microsoft Paint?](#)

---

# CPU Architecture

## Questions

### [Q: How do I check if I have a 32-bit or a 64-bit OS?](#)

**Tags:** [cpu-architecture](#)

I downloaded and installed the latest 11.04 version from the official Ubuntu site.

However I don't know if it installed the 32-bit or 64-bit version.

In Windows 7 I could right click *My PC* and there the information was on display. Any easy ways in Ubuntu?

**Tags:** [cpu-architecture](#)

**User:** [only-bolivian-here](#)

---

[Answer](#)  by [rinzwind](#)

I know at least 2 ways. Open a terminal and type:

1. `uname -a`

Result for 32-bit Ubuntu:

Linux discworld 2.6.38-8-generic #42-Ubuntu SMP Mon Apr 11 03:31:50 UTC  
2011 i686 i686 **i386** GNU/Linux

whereas the 64-bit Ubuntu will show:

Linux discworld 2.6.38-8-generic #42-Ubuntu SMP Mon Apr 11 03:31:50 UTC  
2011 x86\_64 x86\_64 **x86\_64** GNU/Linux

or

2. `file /sbin/init`

Result for 32-bit Ubuntu:

/sbin/init: ELF **32-bit** LSB shared object, **Intel 80386**, version 1 (SYSV),  
dynamically linked (uses shared libs), for GNU/Linux 2.6.15, stripped

whereas for the 64-bit version it would look like:

/sbin/init: ELF **64-bit** LSB shared object, **x86-64**, version 1 (SYSV),  
dynamically linked (uses shared libs), for GNU/Linux 2.6.15, stripped

---

[Answer](#)  by [ballpark](#)

# Ubuntu 12.04+ with Unity

- Hit Command(mac) or Window key.
- Type Details, and select “Details” icon
- Read “OS type” field
- 64 bit OS will read “64-bit”



## Alternative to get the above screen:

- click System Menu (gear at top right corner)
- click “About this Computer”

I know the terminal responses are good but I guess this is the GUI answer. :)

# Ubuntu 11.04 with Unity

- Hit Command(mac) or Window key.
  - Type System info, and select System Info icon
  - Read “OS type” field
  - 64 bit OS will read “64-bit”
- 

[Answer](#) by [hemant-metalia](#)

refer <http://www.howtogeek.com/howto/24842/how-do-i-know-if-im-running-32-bit-or-64-bit-linux-answers/>

Use the command:

```
/bin/uname -m
```

You will typically get:

```
i686
```

for 32-bit (maybe ‘i586’ is another possibility too?), and:

```
x86_64
```

for 64-bit.

---

**Tags:** [cpu-architecture](#)

---

[Q: How do I check if I have a 32-bit or a 64-bit OS?](#)

---

# VMware Tools

[Skip to questions](#), Wiki by user [i08in](#)

The VMware Tools are software installed on a guest VM for improving performance when running on a VMware ESXi, Player or Workstation on host.

This software provides:

- VMware Network acceleration
- VMware Video acceleration
- Host to Guest time synchronization
- Seamless mouse movement between host and guest
- Cut & Paste - Guest to Host and Guest to Guest (with VMware Toolbox) (possibly only on gnome)
- Disk Shrink (with VMware Toolbox running at root)
- Startup/Shutdown Scripts (with VMware Toolbox running at root)
- HeartBeat (VMware/Esx only ?)

---

## See also:

- [Ubuntu wiki on VMware Tools](#) 
-

# Questions

## [Q: How do I mount shared folders in Ubuntu using VMWare tools?](#)

**Tags:** [vmware-tools](#)

Experts. I've successfully installed VMWare tools for Ubuntu. Everything seems to work fine, but shared folders were not mounted automatically.

How do I get them to work?

If I run `vmware-hgfsclient` in terminal, I get the list of shared folders, but `ls -l /mnt/hgfs` is empty. Actually there's no `hgfs` dir in `/mnt`. I know I should probably use the `vmware-hgfsclient` tool, but I really don't know how.

P.S. I wouldn't ask if I could understand the `vmware-hgfsclient` help I've read.

Any suggestions?

**Tags:** [vmware-tools](#)

**User:** [v-light](#)

---

[Answer](#)  by [azizur](#)

I have set up on Windows 7 host with Ubuntu 11.04 Desktop with VMWare Tools installed on.

# **Virtual Machine settings**

- Folder sharing = Always Enabled
- Make sure you have at least one Folder shared between the host and guest

# On the Ubuntu Guest

- check /mnt/hgfs that you can access your shared folder.

If you don't see your shared folders (automounted) inside /mnt/hgfs , run VMware configuration tools:

```
sudo vmware-config-tools.pl
```

- update your fstab using the details below:

```
gksu gedit /etc/fstab
```

(I am using ubuntu desktop so use other text editor to enter the next line at the end of the file)

```
.host:{shared-folder} /{path-to-mount-on} vmhgfs  
defaults,ttl=5,uid=1000,gid=1000 0 0
```

- Restart your vm (You may need to restart few times or get error message saying unable to mount just skip the error and restart)

---

[Answer](#) by [ltd911](#)

run vmware-config-tools.pl, AGAIN!

Refer: <http://www.laotudou.com/vmware-player-share-folder.html>

---

**Tags:** [vmware-tools](#)

---

[Q: How do I mount shared folders in Ubuntu using VMware tools?](#)

---

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