

Installation Tips: How to replace Windows XP with Linux

We are two Munich-based organizations supporting Linux and other Open Source Software. Munich has become THE Linux capital since the city council started changing from Windows to Linux in 2003.

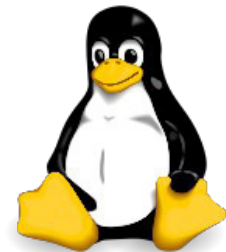
You are a regular computer user without expert knowledge and you are still using the old operating system Windows XP? You want to continue using your desktop or laptop PCs even when Microsoft stops supporting Windows XP in April 2014?

After Microsoft does not provide security updates any more, surfing the Internet with Windows XP will become less and less secure. That is why you should replace Windows XP by a more modern operating system.

This is a simple instruction for installing the powerful and free operating system Linux on computers equipped with 256 MB of memory and more. You can see how much memory (RAM, temporary working memory, as opposed to permanent hard disc memory) your computer has by checking "Control panel" -- "System" from your start menu.

These instructions contain the following chapters:

- Windows 7 and 8 usable only on more recent computers
- Download Linux and burn it on an installation CD
- For Computers with 512 MB RAM or more: Ubuntu Standard
- For Computers with 256 MB RAM or more: Ubuntu Alternate
- Ubuntu in action
- Minimalistic Linux for old computers "without PAE"
- Some more hints ...



Disclaimer for legal reasons: note that following these installation tips will completely erase your hard disc/s (all partitions: all operating systems, all data). Prior to installation you need to save all your data from all partitions (drive letters, etc.) onto an external storage device which is not attached during installation; in case of installation problems you may end up with an unusable computer (no working operating system), at your own risk. Also, there is no warranty of compatibility for Linux programs with your existing data and no other warranty of usability whatsoever.

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Windows 7 and 8 usable only on more recent computers

Windows 7 and 8 require 2 GB (= 2000 MB) of RAM and modern processors for useful operation. Linux allows you to continue using your old computers instead of having them become electronic waste.

Linux is a free operating system which can be used on older, less powerful computers, too. A Linux installation usually contains all the programs regular computer users require: Firefox web browser, an office program like LibreOffice, broadband and Wi-Fi device drivers and a lot more software. Most of the common file formats can be opened on Linux. More special windows software, however, does not necessarily exist for Linux.

The proven Linux version Lubuntu -- a light-weight Ubuntu Linux distribution -- only requires 256 MB of RAM to operate and can be installed by most lay computer users when sticking to the standard complete CD installation.

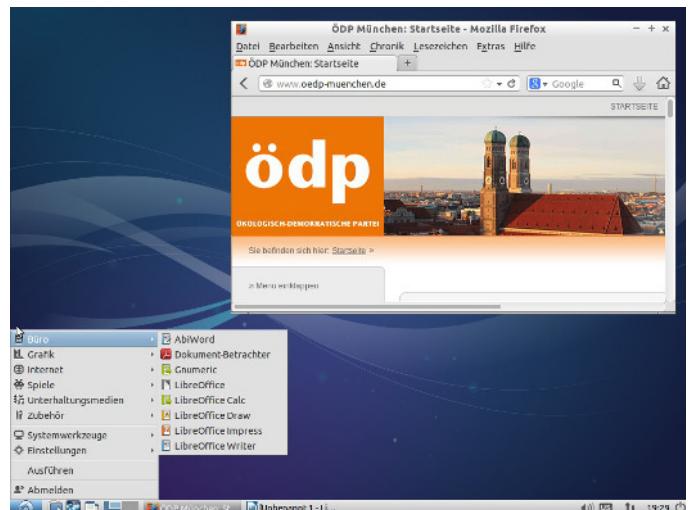
By the way, you can also choose not to install Linux but instead just run it from the CD for previewing or testing it, without changing your existing Windows installation. Advanced users could also install Linux on a separate hard disc partition. This instruction only covers a complete installation, which deletes your existing windows installation (and all other hard disc partitions with all other operating systems and data): you are responsible for saving all of the files you might need before installing Linux and you should be aware of the risk that in case of installation failure you might end up with a dysfunctional computer (no warranty).

Download Linux and burn it on an installation CD

There are many Linux installations (also known as distributions), with similar installation procedures. For computer users without expert knowledge, Lubuntu is well suited because its handling is similar to the one of Windows XP.

The Ubuntu (as opposed to Lubuntu) distribution has a more elaborate graphical user interface and requires at least 1 GB of RAM.

The closely related Linux Mint distribution unfortunately does not cover automatic upgrades to new versions (every 6 months).



There is a certain chance that a new operating system is not entirely compatible with your older computer which was specifically made for Windows XP.

So even when the specifics of your computer allow the installation of Linux (or Windows 7 or 8) you might not be able to finish the installation process successfully or operate it properly afterwards.

So if Ubuntu Linux is not working with your computer, you might want to hedge your bets with another Linux distribution: for example Debian (from 512 MB RAM) and Crunchbang Linux (from 256 MB RAM -- with or without PAE-support, see below).

You can download Linux for free (see links below) and create a bootable (startable) CD or DVD: instruct your burning software to burn the Linux file as an ISO (image) file, not as a simple file as you normally would.

Note for more experienced computer users: you may install Linux from a bootable USB flash drive. For this, you may need to temporarily change the BIOS boot order (USB flash drive first, then CD or hard disc):

www.pendrivelinux.com/universal-usb-installer-easy-as-1-2-3

(In order to be able to create autorun.inf on the USB flash drive, you may need to temporarily disable your antivirus program.)

Before installing Linux, please save any files you may need on an external hard disc or a USB flash drive, since the internal hard disc's content will be erased when doing a complete installation. Just to be sure, disconnect your external storage device during installation.

Most of the time, the new operating system is installed in one hour together with important standard software and drivers for broadband, Wi-Fi, and other devices.

For computers with 512 MB RAM or more: Ubuntu Standard

(For Computers with less than 512 MB of RAM, there is a separate Ubuntu distribution, as explained in the next chapter.)

First download the Ubuntu ISO file and create a bootable media from it, as explained above.

Ubuntu Standard for Computers with at least 512 MB of RAM:

<http://ubuntu.net> choose: ubuntu x86 CD

(For newer computers with 64-bit: ubuntu 64-bit CD)



Here are the steps to do a complete installation, which will delete all other operating systems from your hard disc (secure all data to external storage before starting and disconnect the external storage device, see disclaimer):

After inserting the CD and rebooting the computer, you just have to answer simple questions using the arrow keys, e.g. what your language is, etc. Choose to install Ubuntu and mostly accept the default settings using "Enter" resp. "Continue".

If the installation process starts with a message: „This kernel requires the following features not present on the CPU: pae ...“, then you cannot install a Ubuntu distribution, but you have to use a completely different Linux distribution (see chapter "Minimalistic Linux").

Important notice: Please **do not** check the option "Download updates while installing" if your computer only has 512 MB of RAM: starting at 768 MB of RAM, this option can be chosen. The updates will be downloaded after the installation is successfully completed. However, please always check the option "Install this third-party software".

Option "Installation type": in order to delete any existing partitions (including the one containing Windows XP) and create a single partition on which to install Lubuntu, please select "Erase disc and install Lubuntu" or "Replace Microsoft Windows XP with Lubuntu" (if Windows XP is still on the hard disc).

In the option screen "Who are you?", you may select "Log in automatically" if you do not want your computer to ask for the password after each restart.

Before rebooting, please remove the installation CD from the CD drive.

After the installation, you may at any time install more software, e.g. LibreOffice, which offers more features than the preinstalled office software: open "System Tools" -- "Lubuntu Software Center", select the software you want to install, "Add to the Apps Basket", select "Apps Basket" and confirm your choices by clicking on "Install Packages".

For Computers with 256 MB RAM or more: Lubuntu Alternate

Computers with less than about 512 MB RAM usually cannot successfully complete the installation of the regular Lubuntu. Starting at 512 MB of RAM, however, it is possible most of the time. We recommend trying this first.

For computers with 256 to 512 MB RAM, you may try the Lubuntu Alternate distribution.

It differs from the Lubuntu Standard edition by a reduced graphical installation process and the operation mode only differs by the missing Software Center option to install additional software; still, the software installed by default covers a lot of functions, including word processing and spreadsheet calculations.

To install, download the Lubuntu Alternate ISO file (CD image) and create a bootable medium, see above.

Lubuntu Alternate for Computers with at least 256 MB RAM:

https://help.ubuntu.com/community/Lubuntu/Alternate_ISO

(Left upper corner, near "Standard PC", click on "PC 32 bit -- Standard Image Disc").

Complete installation which deletes all other operating systems and data (secure all your files to external storage, see Disclaimer):

After inserting the CD and rebooting the computer you have to answer simple questions using mostly the arrow keys, "Enter" resp. "Continue", etc.



If the installation process starts with a message: „This kernel requires the following features not present on the CPU: pae ...“, then you cannot install a Lubuntu distribution, but you have to use a completely different Linux distribution (see chapter “Minimalistic Linux”).

Proceed to answer most (but not all, see below) installation questions using the default settings. When asked for names, you do not need to enter complete words, a few characters are sufficient.

If the installation process reports “The installation program has recognized that the following partitions have attached partitions” and suggests “Detach active partitions”, then please choose “Yes” (“No” is the default): this causes all of your data and programs in all of your partitions (including Windows XP) to be deleted and overwritten.

When asked how to partition the hard disc, choose “Guided -- use entire disc”.

After that, a confirmation screen appears suggesting a (possibly incomprehensible) partitioning of the hard disc: please answer the question “Save changes to the hard discs?” below the suggestion with “Yes” (default is “No”).

Finally, a screen asks (at the bottom): “Install the GRUB boot loader to the master boot record?” Please answer with the default “Yes” and then remove the installation CD from the CD drive before restarting as required.

After the installation you can configure Lubuntu such that it does not prompt you for a password after each restart: “System Tools” -- “Users and Groups” -- in the new window click “Change...” (to the right of “Password” in the middle of the window): just check the option “Don't ask for password on login”. As usual, you have to enter your password when making configuration changes.

Lubuntu in action

In the Lubuntu windows and settings you may encounter the word “Ubuntu”: this is not a problem, since the Lubuntu distribution is based on the Ubuntu distribution.

During operation Lubuntu usually reports new available updates. You may also update Lubuntu using “System Tools” -- “Software Updater” manually. There you also can configure updates to always automatically load in the background and automatically install:

“Settings” -- “Software & Updates”: Click “Updates” and locate the option “When there are security updates:” select the option “Download and install automatically”.

The update process updates both the operating system and the installed software.

Upgrades to higher Lubuntu versions can also be done using the update function.

Before installing such an upgrade (available approx. every 6 months), you should save all your data to an external storage device. Securing your data should be a regular maintenance task you do regularly anyway, since the computer hardware could be damaged or the software may develop bugs which could damage your data at any time.

Printers may be configured via "System Tools" -- "Printers". Click "Add" and select your printer from the list. Choosing "Forward" will search for the printer driver.

If your printer hardware is not in the list or there is no driver, you may try to "Search for downloadable Printer Driver". Mostly, however, it is sufficient to choose a printer which is similar to your real printer, maybe a predecessor of your printer model. You may also try "Generic (recommended)". If that does not work, you may search the website of your printer manufacturer for Linux drivers or search in the Internet in general for installation tips for your printer.

Scanners may be configured using "Graphics" -- "Simple Scan".

If you have a combined scanner/printer device, the printer usually works with standard drivers. To use the scanner of the combined device, often a special driver of the hardware manufacturer has to be installed.

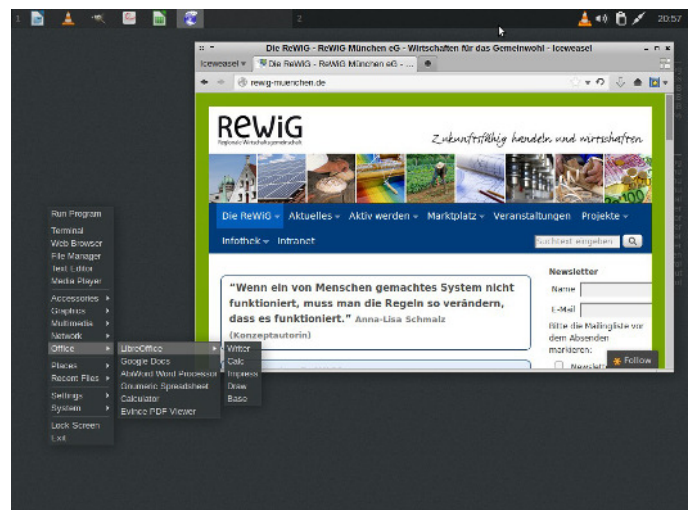
Minimalistic Linux for old computers "without PAE"

If the installation of Ubuntu aborts because the computer is "without PAE", you may try the minimalistic "Crunchbang Linux", which still includes most of the required software in its standard installation.

256 MB of RAM are recommended even for this minimalistic Linux.

Use the Crunchbang version „for Older PCs (Non-PAE)":

<http://crunchbang.org/download>
(choose 32-bit)



If you would like to try Crunchbang Linux and do not experience the PAE problem then take the version „for Modern PCs" (either 32- or 64-bit).

This Linux distribution cannot be directly downloaded, because the voluntary staff cannot afford powerful servers. Instead, use a free torrent program like uTorrent (deselect advertisements during installation):

www.utorrent.com/downloads/win (choose free, stable version)

The installation is similar to the one described for Ubuntu above. After the installation, the program menu may be opened by right-clicking on the desktop.

For additional device drivers or programs, this Linux distribution requires some expert knowledge, which can be found on the Internet.

Some more hints ...

If there is not enough RAM, you might want to purchase additional memory and add it to the computer.

ÖDP München and ReWiG München have tested these installation hints on various computers and virtual machines but there is no warranty of any sort and no services can be provided beyond the tips included herein (see disclaimer on first page).

On the Internet, Linux installation information and local Linux user groups can be found. Some organizations -- such as ÖDP and ReWiG -- offer „Linux Install Fests“. Other groups may also hold such installation meetings for their members. All you need is a room with Internet access for updates and some installation CDs or USB flash drives.

Good luck!

These tips may also be changed and copied without referring to the original author, e.g. in the name of a different organization. Removal of the disclaimer is not allowed, however, unless any reference to the original source is removed and complete responsibility is taken on by the issuing organization/person.