



# Certified Ubuntu Professional Sample Material

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## 1. GETTING STARTED

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Ubuntu is a Debian-based Linux operating system, with Unity as its default desktop environment (GNOME was the previous desktop environment). It is based on free software and named after the Southern African philosophy of ubuntu (literally, "human-ness"), which often is translated as "humanity towards others" or "the belief in a universal bond of sharing that connects all humanity".

According to some metrics, Ubuntu is the most popular desktop Linux distribution to date. See Installed base section.

Development of Ubuntu is led by Canonical Ltd. a company based on the Isle of Man and owned by South African entrepreneur Mark Shuttleworth. Canonical generates revenue through the sale of technical support and other services related to Ubuntu. The Ubuntu project is publicly committed to the principles of open source development; people are encouraged to use free software, study how it works, improve upon it, and distribute it.

### Features

Ubuntu is composed of many software packages, the majority of which are free software. Free software gives users the freedom to study, adapt/modify, and distribute it. Ubuntu can also run proprietary software. Ubuntu Desktop is built around Unity, a graphical desktop environment.

Ubuntu comes installed with a wide range of software that includes LibreOffice, Firefox, Empathy, Transmission, and several lightweight games (such as Sudoku and chess).[16][17] Additional software that is not installed by default (including software that used to be in the default installation such as Evolution, GIMP, Pidgin, and Synaptic) can be downloaded and installed using the Ubuntu Software Center[18] or other APT-based package management tools. Programs in the Software Center are mostly free, but there are also priced products, including applications and magazines. Ubuntu can also run many programs designed for Microsoft Windows (such as Microsoft Office), through Wine or using a Virtual Machine (such as VirtualBox or VMware Workstation).

The Ubiquity installer allows Ubuntu to be installed to the hard disk from within the Live CD environment.

GNOME (the former default desktop) supports more than 46 languages.

For increased security, the sudo tool is used to assign temporary privileges for performing administrative tasks, allowing the root account to remain locked, and preventing inexperienced users from inadvertently making catastrophic system changes or opening security holes. PolicyKit is also being widely implemented into the desktop to further harden the system through the principle of least privilege.

Ubuntu can close its own network ports using its own firewall software. End-users can install Gufw (GUI for Uncomplicated Firewall) and keep it enabled.

Ubuntu compiles its packages using GCC features such as PIE and buffer overflow protection to harden its software. These extra features greatly increase security at the performance expense of 1% in 32 bit and 0.01% in 64 bit.

## 1.1. Installation

### Getting Ubuntu

Before you can get started with Ubuntu, you will need to obtain a copy of the Ubuntu installation image for or. Some options for doing this are outlined below.

### Minimum system requirements

Ubuntu runs well on most computer systems. If you are unsure whether it will work on your computer, the Live is a great way to test things out first. Below is a list of hardware specifications that your computer should meet as a minimum requirement.

- ✓ 1 GHz x86 processor (Pentium 4 or better)
- ✓ 1 GB of system memory (RAM)
- ✓ 5 GB of disk space (at least 15 GB is recommended)
- ✓ Video support capable of 1024×768 resolution
- ✓ Audio support
- ✓ An Internet connection (highly recommended, but not required)

### Downloading Ubuntu

easiest and most common method for getting Ubuntu is to download the Ubuntu cd image directly from <http://www.ubuntu.com/download>. Choose how you will install Ubuntu:

- ✓ Download and install
- ✓ Try it from a cd or USB stick
- ✓ Run it with Windows

### Download and Install / Try it from a CD or USB stick

For the Download and install, or Try it from a CD or USB stick options, select whether you require the 32-bit or 64-bit version (32-bit is recommended for most users), then click “Start download.”

Installing and run alongside Windows For the Run it with Windows option, simply select “Start download,” and then follow the instructions for the Ubuntu installer for Windows.

### 32-bit versus 64-bit

Ubuntu and its derivatives are available in two versions: 32-bit and 64-bit. is difference refers to the way computers process information. Comput- 32-bit versus 64-bit Ubuntu and its derivatives are available in two versions: 32-bit and 64-bit. is difference refers to the way computers process information. Computers capable of running 64-bit software are able to process more information than computers running 32-bit software; however, 64-bit systems require than computers running 32-bit software; however, 64-bit systems require formance enhancements by running 64-bit software.

- ✓ If your computer has a 64-bit processor install the 64-bit version.
- ✓ If your computer is older, a netbook, or you do not know the type of processor in the computer, install the 32-bit version.
- ✓ If your computer has a 64-bit processor, click on the “64-bit” option before you click “Start download.”

### **Downloading Ubuntu as a torrent**

When a new version of Ubuntu is released, the download servers can get “clogged” as large numbers of people try to download or upgrade Ubuntu at the same time. If you are familiar with using torrents, you can download the torrent file by clicking “Alternative downloads,” and then “BitTorrent download.” Downloading via torrent may improve your download speed, and will also be help to spread Ubuntu to other users worldwide.

## **1.2. Burning The CD image**

Once your download is complete, you will be left with a file called ubuntu 12.04-desktop-i386.iso or similar (i386 here in the file name refers to the 32-bit version. If you downloaded the 64-bit version, the file name contains amd64 instead). This file is a CD image—a snapshot of the contents of a CD—which you will need to burn to a .

### **Creating a bootable USB drive**

If your PC is able to boot from a USB stick, you may prefer to use a USB memory stick instead of burning a CD. Scroll down to “Burn your CD or create a USB drive,” select CD or USB stick, choose the OS you are using to create the USB drive, and then click Show me how. If you select the “USB Stick” option, your installation will be running from the USB memory stick. In this case, references to Live CD, will refer to the USB memory stick.

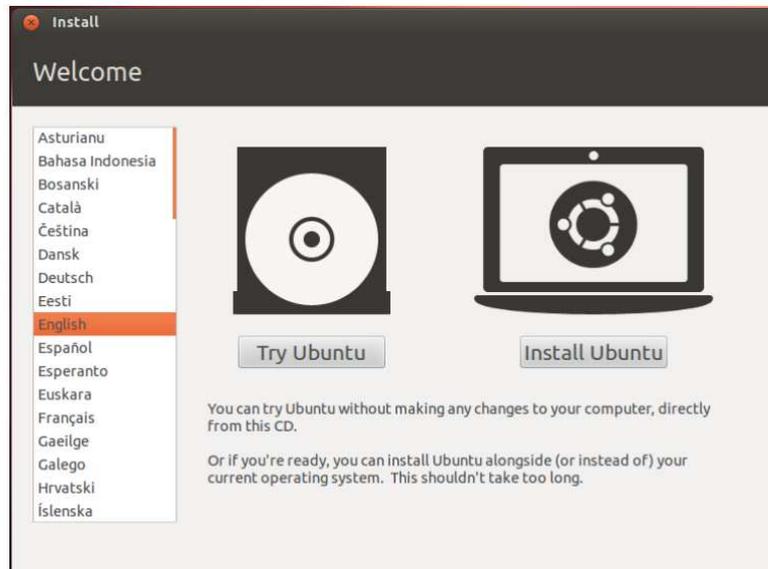
### **Trying out Ubuntu**

The Ubuntu CD and USB stick function not only as installation media, but also allow you to test Ubuntu without making any permanent changes to your computer by running the entire operating system from the CD or USB stick.

Your computer reads information from a CD at a much slower speed than it can read information off of a hard drive. Running Ubuntu from the Live CD also occupies a large portion of your computer’s memory, which would usually be available for applications to access when Ubuntu is running from your hard drive. The Live CD/USB experience will therefore feel slightly slower than it does when Ubuntu is actually installed on your computer. Running Ubuntu from the CD/USB is a great way to test things out and allows you to try the default applications, browse the Internet, and get a general feel for the operating system. It’s also useful for checking that your computer hardware works properly in Ubuntu and that there are no major compatibility issues.

To try out Ubuntu using the Live CD/USB stick, insert the Ubuntu CD into your CD drive, or connect the USB drive and restart your computer.

After your computer finds the Live CD/USB stick, and a quick loading screen, you will be presented with the “Welcome” screen. Using your mouse, select your language form the list on the left, then click the button labeled Try Ubuntu Ubuntu will then start up, running directly from the Live CD/USB drive.



Once Ubuntu is up and running, you will see the default desktop. We will talk more about how to actually use Ubuntu in Chapter 2: The Ubuntu Desktop, but for now, feel free to test things out. Open some applications, change settings and generally explore—any changes you make will not be saved once you exit, so you don’t need to worry about accidentally breaking anything.

When you are finished exploring, restart your computer by clicking the “Power” button in the top right corner of your screen (a circle with a line through the top) and then select Restart. Follow the prompts that appear on screen, including removing the Live CD and pressing Enter when instructed, and then your computer will restart. As long as the Live CD is no longer in the drive, your computer will return to its original state as though nothing ever happened!

### 1.3. Installing Ubuntu—Getting Started

At least 5GB of free space on your hard drive is required in order to install Ubuntu; however, 15 GB or more is recommended. This will ensure that you will have plenty of room to install extra applications later on, as well as store your own documents, music, and photos. To get started, place the Ubuntu CD in your CD drive and restart your computer. Your computer should load Ubuntu from the CD. When you first start from the CD, you will be presented with a screen asking you whether you want to first tryout Ubuntu or install it. Select the language you want to view the installer in and click on the Install Ubuntu button. This will start the installation process.

If you have an Internet connection, the installer will ask you if you would like to “Download updates while installing.” We recommend you do so. The second option, “Install this third-party software,” includes the Fluendo MP3 codec, and software required for some

wireless hardware. If you are not connected to the Internet, the installer will help you set up a wireless connection.

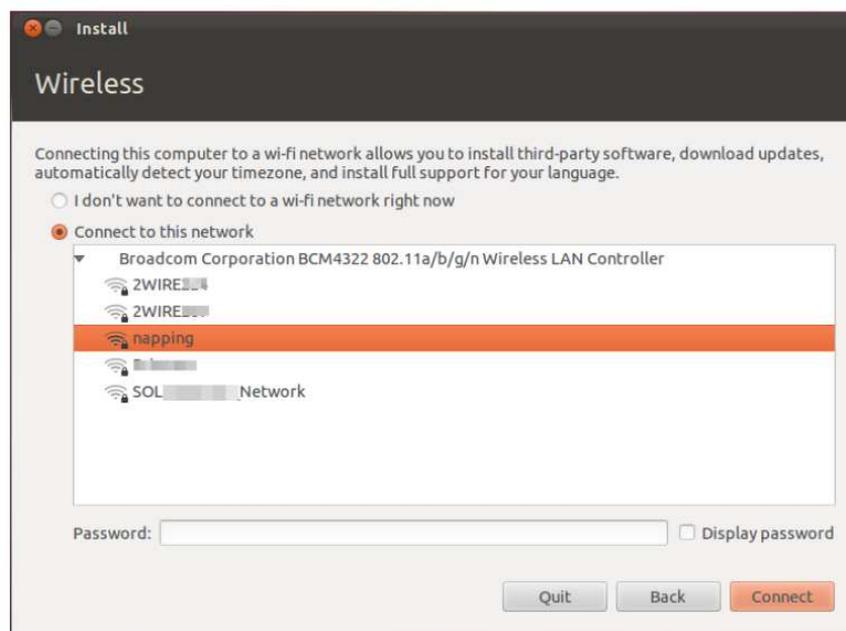
The “Preparing to install Ubuntu” screen will also let you know if you

have enough disk space and if you are connected to a power source (in case you are installing Ubuntu on a laptop running on battery). Once you have selected your choices, click Continue.

### Internet connection

If you are not connected to the Internet, the installer will ask you to choose a wireless network (if available).

- ✓ Select Connect to this network, and then select your network from the list
- ✓ If the list does not appear immediately, wait until a triangle/arrow appears next to the network adapter, and then click the arrow to see the available networks.
- ✓ In the **Password** field, enter the network WEP or WPA key (if necessary).
- ✓ Click Connect to continue.



### Allocate drive space

This next step is often referred to as partitioning. Partitioning is the process of allocating portions of your hard drive for a specific purpose. When you allocate portions of your hard drive for a specific purpose, you create partitions that will be used for different types of information. Partitioning can sometimes seem complex to a new user; however, it does not have to be. In some cases, it can seem complex to a new user; however, it does not have to be. In fact, the Ubuntu installer will automatically detect any existing operating system installed on your machine, and present installation options based on your system. The options listed below depend on your specific system and may not all be available:

- ✓ Install alongside other operating systems
- ✓ Install inside Windows

- ✓ Upgrade Ubuntu ... to 12.04
- ✓ Erase ... and install Ubuntu
- ✓ Something else

### Install alongside other operating systems

If you are a Windows or Mac user and you are trying to install Ubuntu for the first time, select the Install alongside other operating systems option. This option will enable you to choose which operating system you wish to use when your computer starts. Ubuntu will automatically detect the other operating system and install Ubuntu alongside it.

For more complicated dual-booting setups, you will need to configure the partitions manually.



### Upgrade Ubuntu ... to 12.04

This option will keep all of your Documents, music, pictures, and other personal files. Installed software will be kept when possible (not all your personal files. Installed software will be kept when possible (not all your wide settings will be cleared).

## 1.4. Installing From CD/DVD

**Download the Ubuntu ISO file:** You can get the ISO file from the Ubuntu website. An ISO file is a CD image file that will need to be burned before you can use it. There are two options available from the Ubuntu website (you can also buy official Ubuntu CDs, which come in packs of 10):

- ✓ 14.04 LTS has continuous updates and provides technical support. It is scheduled to be supported until April 2019. This option will give you the most compatibility with your existing hardware.
- ✓ Ubuntu builds (not yet released) 14.10, 15.04, and 15.10 will come with limited support. They will have the newest features, though they may not work with all hardware. These releases are geared more towards experienced Linux users.
- ✓ If you have a Windows 8 PC or a PC with UEFI firmware, download the 64-bit version of Ubuntu. Most older machines should download the 32-bit version.

**Burn the ISO file:** Open up your burning program of choice. There are free and paid programs available that can burn an ISO to a CD or DVD.

- ✓ Windows 7, 8, and Mac OS X can all burn ISO files to a disc without having to download a separate program.

**Boot from the disc:** Once you have finished burning the disc, restart your computer and choose to boot from the disc. You may have to change your boot preferences by hitting the Setup key while your computer is restarting. This is typically F12, F2, or Del.

**Try Ubuntu before installing:** Once you boot from the disc, you will be given the option to try Ubuntu without installing it. The operating system will run from the disc, and you will have a chance to explore the layout of the operating system.

- ✓ Open the Examples folder to see how Ubuntu handles files and exploring the operating system.
- ✓ Once you are done exploring, open the Install file on the desktop.

**Install Ubuntu:** Your computer will need at least 4.5 GB of free space. You will want more than this if you want to install programs and create files. If you are installing on a laptop, make sure that it is connected to a power source, as installing can drain the battery faster than normal.

- ✓ Check the “Download updates automatically” box, as well as the “Install this third-party software” box. The third-party software will allow you to play MP3 files as well as watch Flash video (such as YouTube).

**Set up the wireless connection:** If your computer is not connected to the internet via Ethernet, you can configure your wireless connection in the next step.

- ✓ If you didn't have an internet connection in the previous step, hit the Back button after setting up the wireless connection so that you can enable automatic updates.

**Choose what to do with your existing operating system:** If you have Windows installed on your system, you will be given a couple options on how you'd like to install Ubuntu. You can either install it alongside your previous Windows installation, or you can replace your Windows installation with Ubuntu.

- ✓ If you install it alongside your old version of Windows, you will be given the option to choose your operating system each time you reboot your computer. Your Windows files and programs will remain untouched.
- ✓ If you replace your installation of Windows with Ubuntu all of your Windows files, documents, and programs will be deleted.

**Set your partition size:** If you are installing Ubuntu alongside Windows, you can use the slider to adjust how much space you would like to designate for Ubuntu.

Remember that Ubuntu will take up about 4.5 GB when it is installed, so be sure to leave some extra space for programs and files.

✓ Once you are satisfied with your settings, click Install Now.

**Choose your location:** If you are connected to the internet, this should be done automatically. Verify that the timezone displayed is correct, and then click the Continue button.

**Set your keyboard layout:** You can choose from a list of options, or click the Detect Keyboard Layout button to have Ubuntu automatically pick the correct option.

**Enter your login information:** Enter your name, the name of the computer (which will be displayed on the network), choose a username, and come up with a password. You can choose to have Ubuntu automatically log you in, or require your username and password when it starts.

**Wait for the installation process to complete:** Once you choose your login info, the installation will begin. During setup, various tips for using Ubuntu will be displayed on the screen. Once it is finished, you will be prompted to restart the computer and Ubuntu will load.

### 1.5. Using the Windows Installer

Download the installer from the Ubuntu website. If your browser prompts you, select Run, Save, or Open. The Windows installer is not compatible with Windows 8. You must use the method in the previous section.

✓ The Windows installer will install Ubuntu alongside Windows. Your files and programs will not be affected. When you reboot your computer, you will be able to choose which operating system you would like to load.

**Choose your username and password:** Once you run the installer, you will be presented with the configuration menu. Choose your new Ubuntu username and password.

✓ You can also change the size of the Ubuntu installation. A larger installation will give your Linux operating system more space to install programs and add files, but this will take away from the free space that Windows has access to.

✓ You can choose your Desktop environment. The three most common are:

- ✓ Ubuntu (the most popular) has Unity, a unique and intuitive desktop environment.
- ✓ Kubuntu has KDE which resembles Windows
- ✓ Xubuntu uses Xfce, which is faster and good for PCs that are 2-3 years old.
- ✓ Lubuntu uses LXDE, and can be used with very old PCs or netbooks with as little as 512MB of RAM.

**Click Install to start:** The installer will begin downloading the files necessary to install Ubuntu on your computer. Installation will happen automatically.

- ✓ Downloading the files can take a significant amount of time depending on your internet connection. You can use your computer while the files download in the background.

**Restart your computer:** Once the installation is complete, you will be given the option to reboot now or later. When you reboot, you will see a new menu before Windows starts that allows you to choose between Windows and Ubuntu.

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