

Appendix

Installing Ubuntu Alongside Windows in Dual-Boot

The Ubuntu operating system can be installed on almost all modern days personal computers. It supports a wide range of processor, motherboard and hardware combinations. We can download the freely available Ubuntu distributions from the Internet and create a bootable disk, which can be used to install Ubuntu on any computer system.

We can use Ubuntu as the only operating system and can also use it alongside an existing Windows operating system. A computer running both Windows and Ubuntu operating systems is known as a dual boot system. The dual boot system allows the user to choose a particular operating system at the start. Here, we will discuss how to install Ubuntu 22.04 along with the pre-existing Microsoft Windows operating system to set up a dual boot system.

Installation Requirements:

- A computer with Windows already installed (preferably with some free disk space).
- A USB drive with at least 4GB capacity (to create a bootable Ubuntu installer).
- An Internet connection (recommended for downloading updates during installation).
- A backup of your important Windows data (essential).

Installation steps:

1. Prepare the Windows system for dual boot:

- Back up all important data stored in the Windows system.
- Create a Windows drive partition with at least 500 GB free space. You may free up existing D:\ or E:\ partition or create a new partition. Windows disk management utility can be used to create, resize or format a partition. However, it is recommended to back up the data before doing any modification in the existing partition system. For detailed information related to modifying Windows partition refer to <https://support.microsoft.com/en-us/topic/microsoft-support-how-to-re-partition-without-destroying-the-data-c3d64de0-4672-b21f-de4e-b4908fb35ae3> (Alternatively, searching “How to modify windows partition” also leads to similar page.)

2. Ubuntu Installation:

Once an empty partition or free space is created in the Windows system, we can start the Ubuntu installation process as mentioned below.

- Download the Ubuntu 22.04 installation image from <https://ubuntu.com/download/desktop>
- Write the downloaded ISO of Ubuntu 22.04 to a USB drive (pen drive) to create the installation media. Note that, simple copy paste to USB drive does not create a bootable media. We need a specialized software tool to create a boot image drive. Use the following link to create a bootable USB of Ubuntu 22.04 <https://etcher.balena.io/>



- Once the bootable USB drive is created, insert it into the laptop or PC and boot or restart the device.
- Once the media boot-up a new grub screen, as shown in the figure 1, should appear on your monitor. From the menu select *Install Ubuntu* and hit Enter to continue.
- After the boot media finishes loading into RAM you will end up with a completely functional Ubuntu system running in live mode. On the Launcher choose Install Ubuntu, and the installer utility will start. Choose the preferred language and keyboard layout and click on the *Continue* button to proceed further.



Figure 1: Ubuntu Installation Screen

- The next screen will ask for installation preference, as shown in figure 2. choose the first option *Normal Installation* and hit the *Continue* button.
- The next screen will ask to select an Installation Type. Choose *Install Ubuntu alongside Windows* option. It will automatically take care of all the partition steps.
- Once the installation starts, follow all the on screen instructions, until the installation process is completed.
- After successful installation, restart the machine. As shown in figure 3, the computer will show the Grub boot loader screen, which allows us to choose between Windows and Ubuntu. Select Ubuntu and start working with Ubuntu. In case you need to switch back to Windows, just reboot the computer and select Windows from the Grub menu.

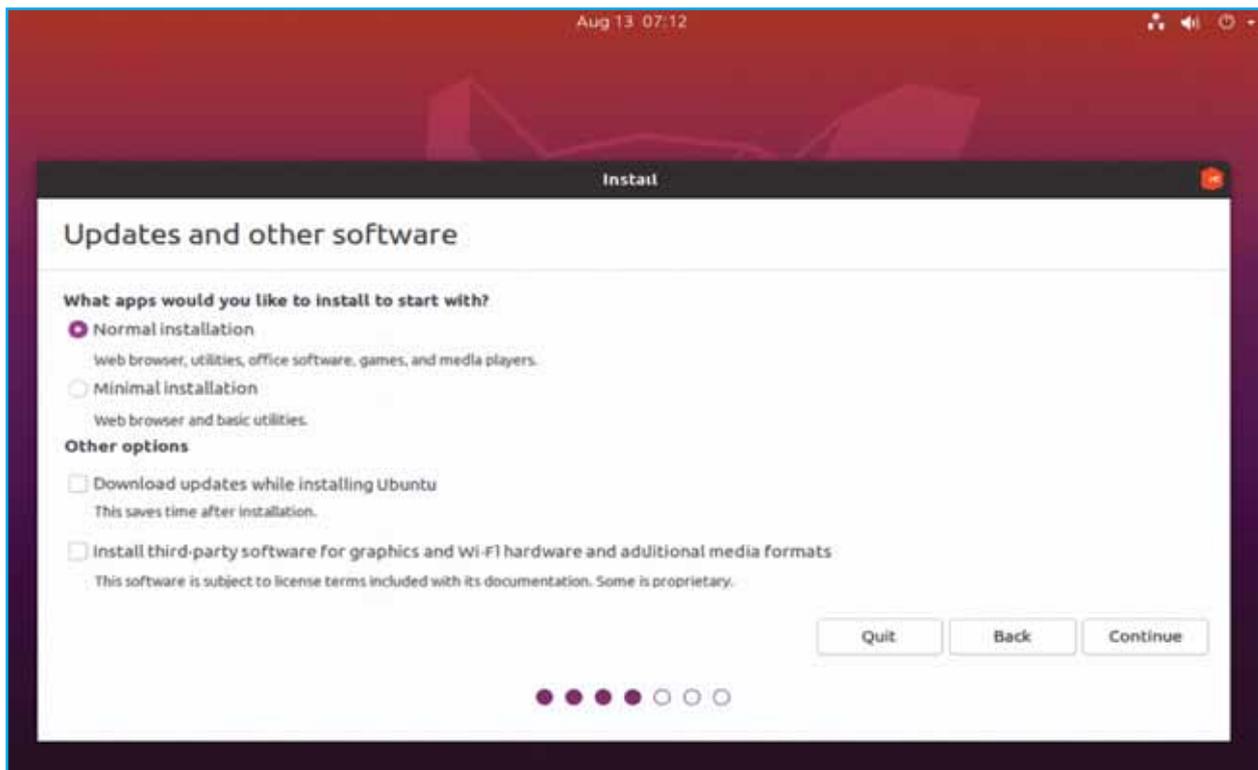


Figure 2 : Ubuntu Installation Preferences



Figure 3 : Grub Bootloader

Note : For detailed instructions and latest updates related to Ubuntu installation on various platforms refer the link : <https://ubuntu.com/tutorials/install-ubuntu-desktop#1-overview>