

ITCK'S Linux installation notes

Kubuntu Installation:

Kubuntu is a user friendly operating system based on KDE, the K Desktop Environment. With a predictable 6 month release cycle and part of the Ubuntu project, Kubuntu is the GNU/Linux distribution for everyone. Kubuntu is an entirely open source operating system built around the Linux kernel. The Kubuntu community is built around the ideals enshrined in the Ubuntu Philosophy: that software should be available free of charge, that software tools should be usable by people in their local language and despite any disabilities, and that people should have the freedom to customize and alter their software in whatever way they see fit.

You can download Kubuntu cd from the the following website.

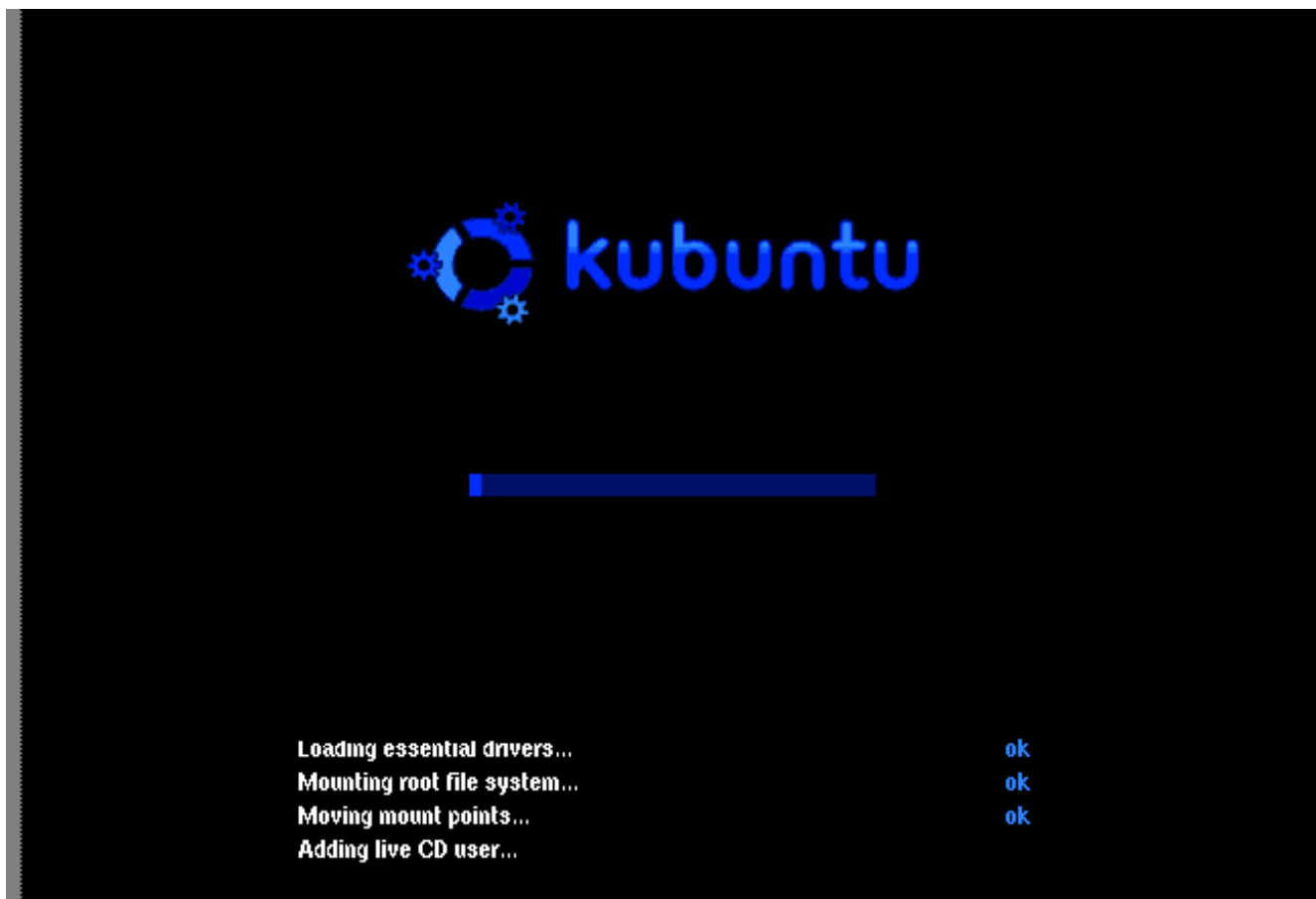
<http://www.kubuntu.org/download.php>

After downloading .iso image from the download link you need to burn a CD after that you need to boot from your kubuntu cd you should see the following screen in this screen select install kubuntu and press enter.



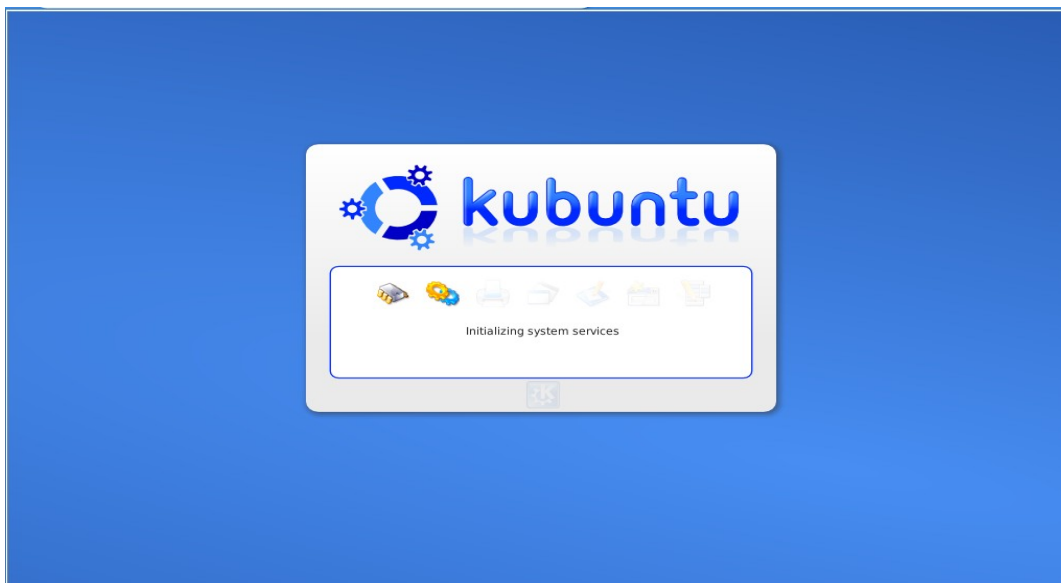
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[Now you can see on next screen kubuntu cd is loading](#)



[Kubuntu Loading](#)

Now your next screen is kubuntu initializing



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Kubuntu Initializing
you can see the following screen Kubuntu session is restoring



Kubuntu session restoring

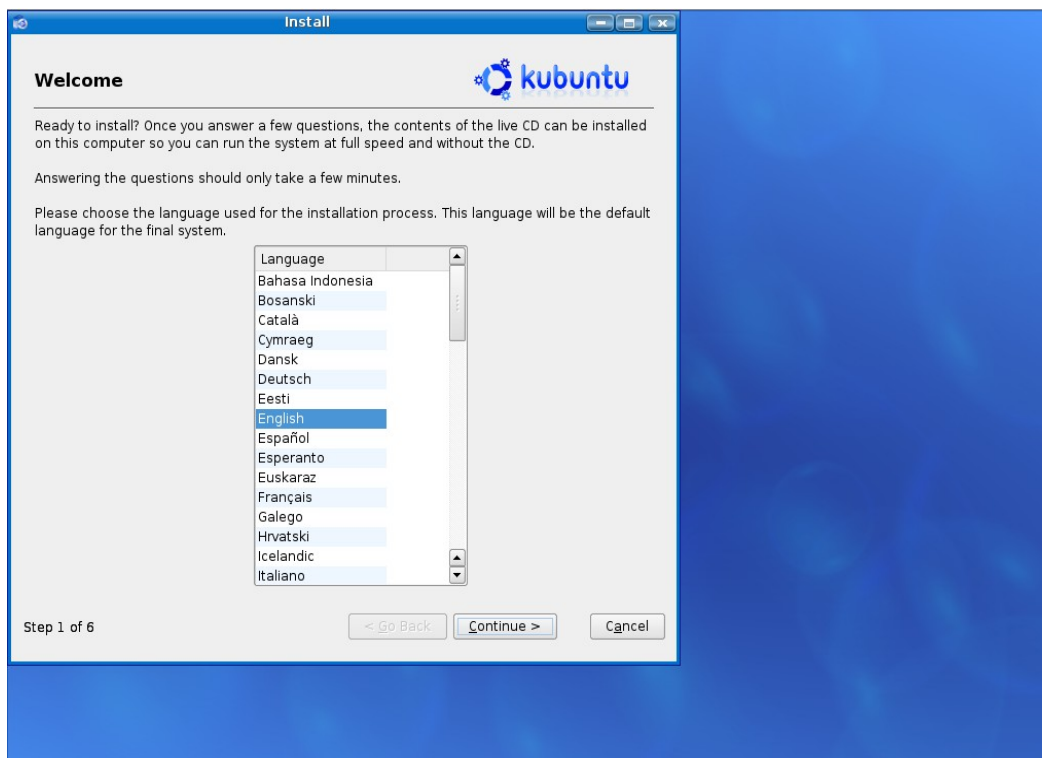
After loading complete desktop you can see the screen like below



KubuntuDesktop

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Now if you want to install kubuntu just click on install icon on your desktop. Now you need to select your installation language in this i have selected english and press continue

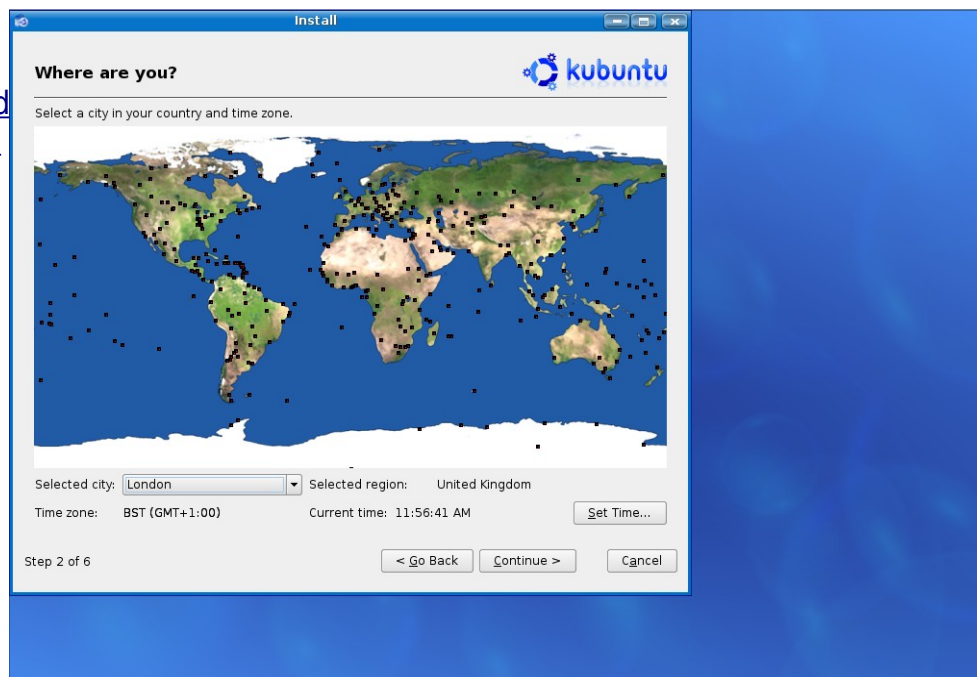


[Kubuntu language selection](#)

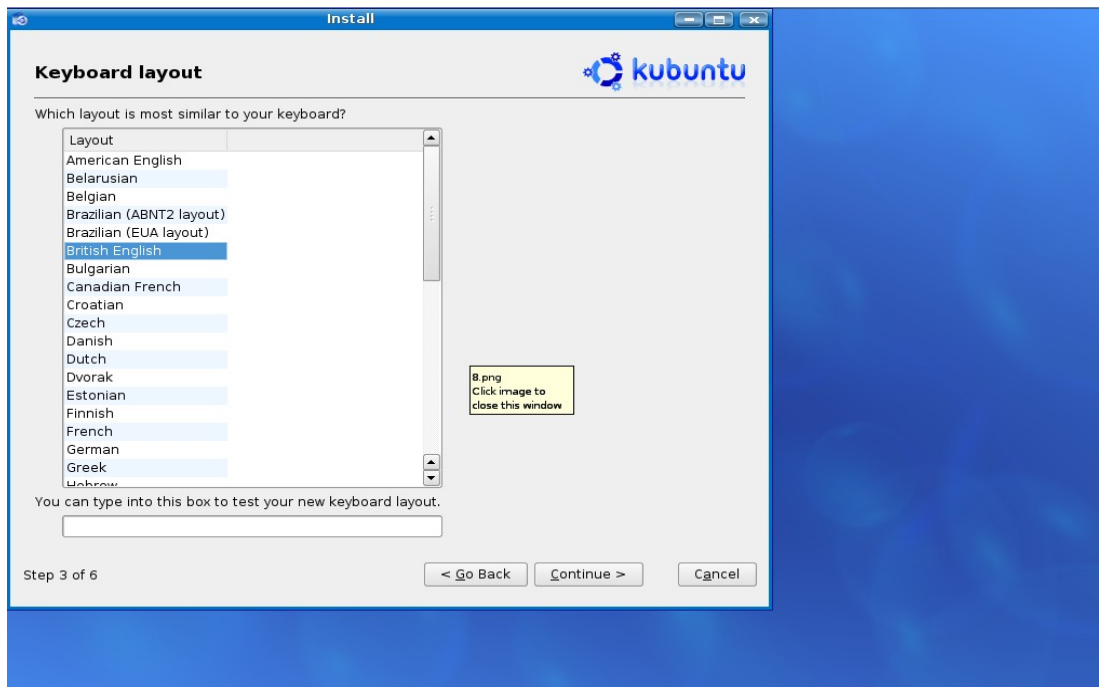
Next step is you need to select your country and time zone in this i have selected uk as country and london time zone and press continue

[Kubuntu country and time zone selection](#)

It is the time to select your keyboard language here i have selected british english and press continue

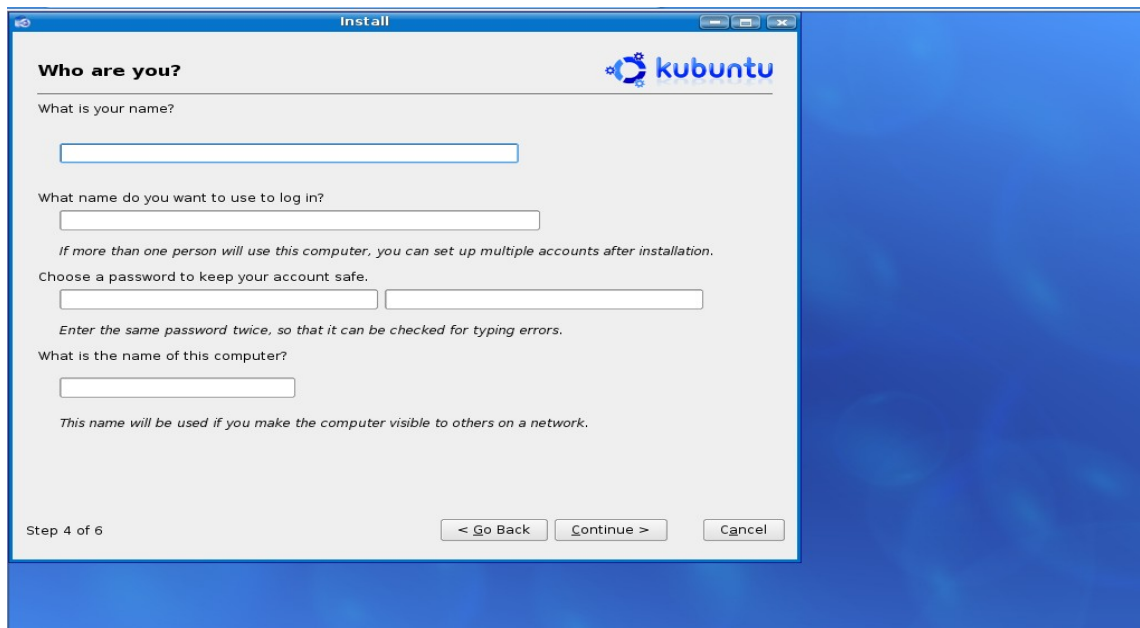


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Kubuntu keyboard language selection

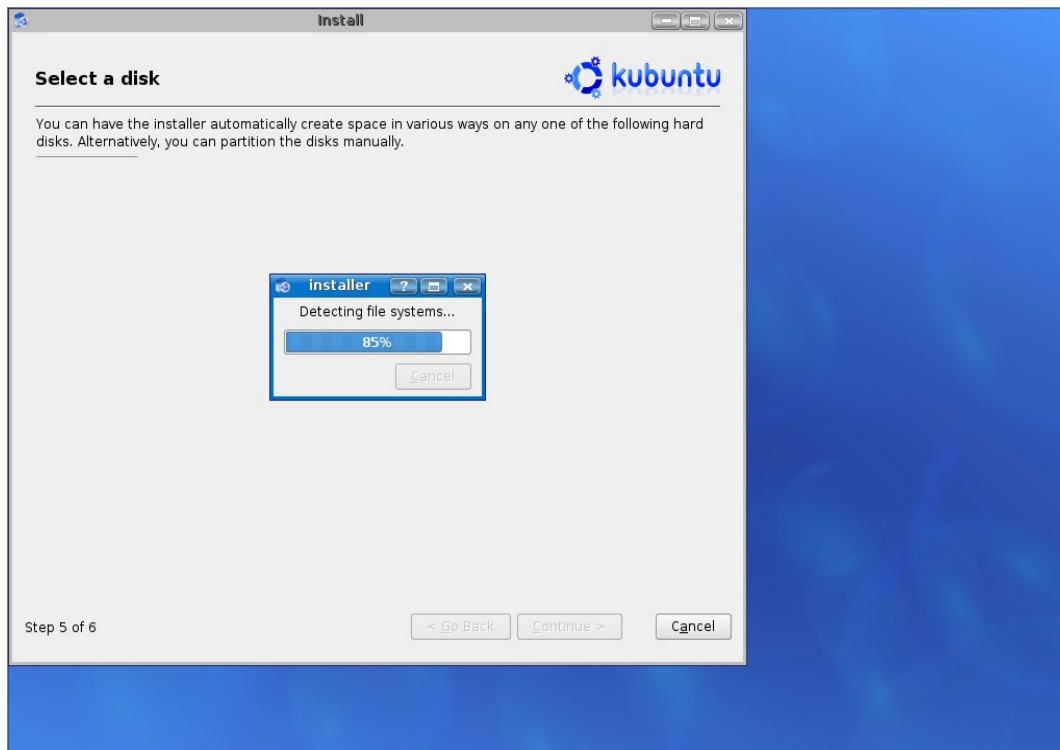
Now you need to create user and assign the hostname for your computer and press continue



Kubuntu create user and hostname

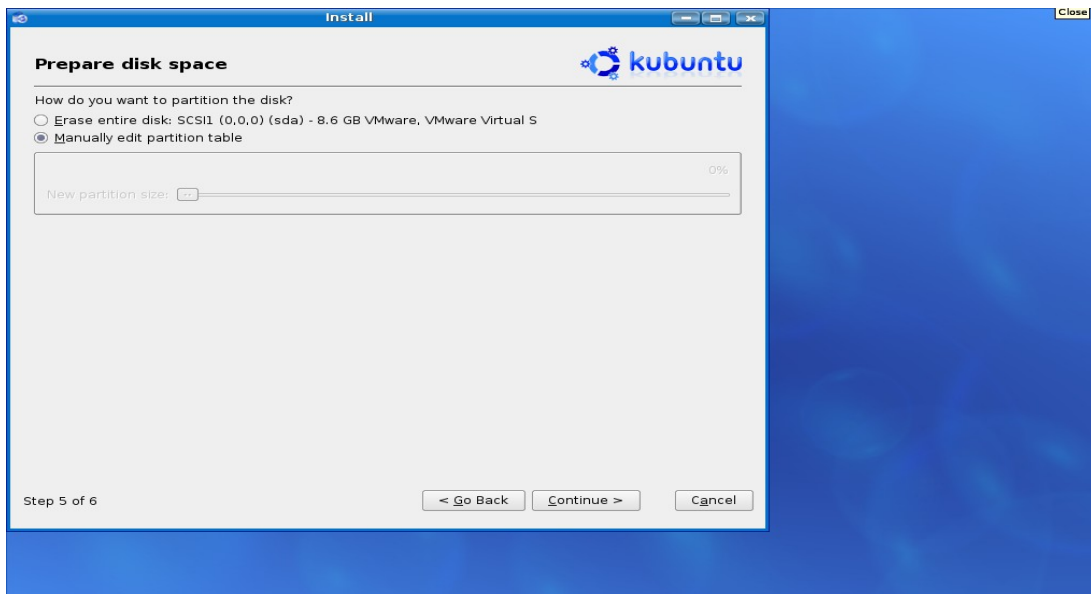
Here you can see Hard Disks initializing

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Kubuntu Initializing disks

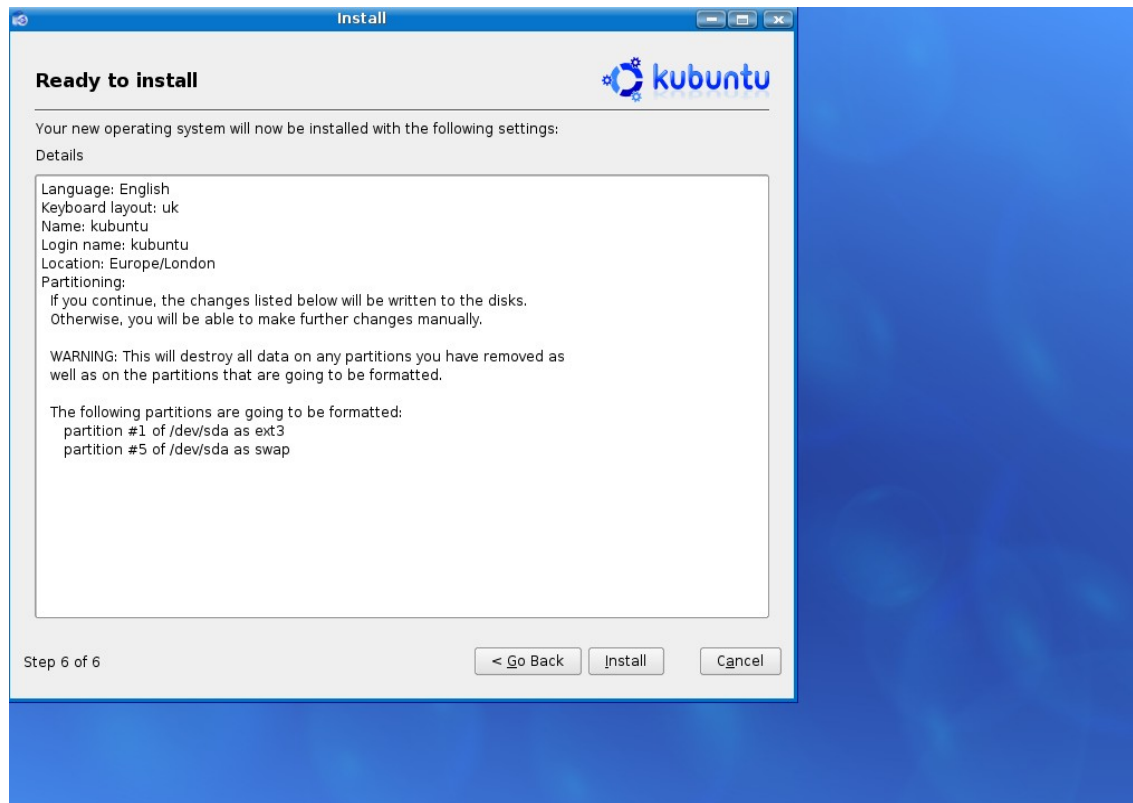
Now you need to select how you want to partition your hard disk. Options available for this is erase complete hard disk or manual edit the partition table i have selected second option and created the partitions and press continue



Kubuntu partiton table selection

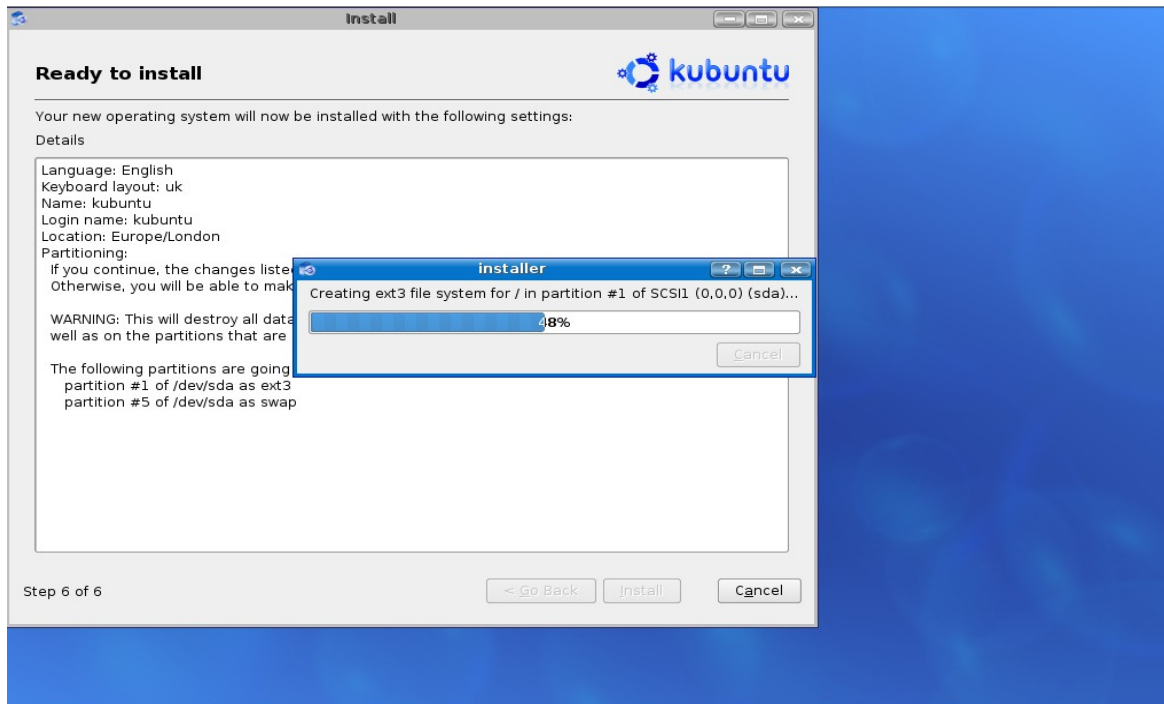
It will show you the summary of your kubuntu installation and press continue

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[Kubuntu summary of installation](#)

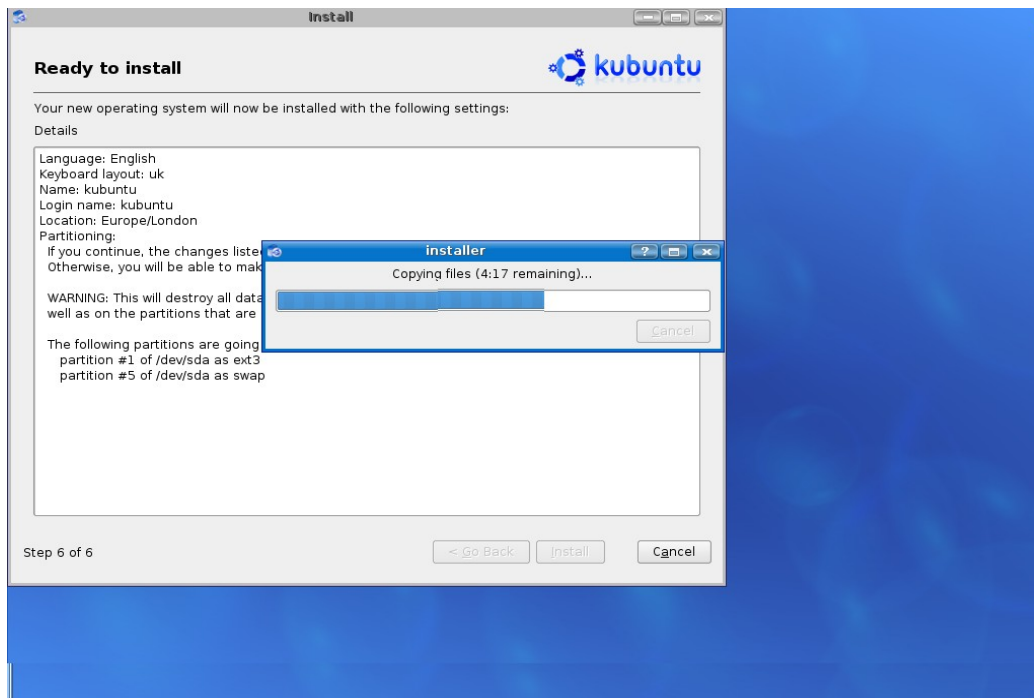
the next screen is creating file system for your partitions progress



[Kubuntu creating file system](#)

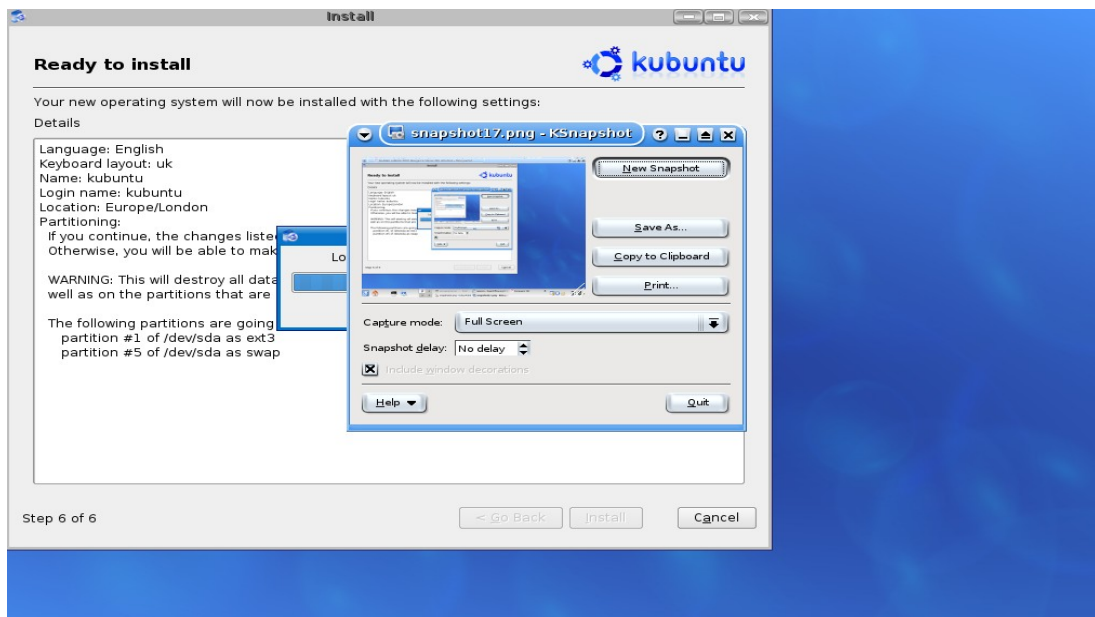
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It is copying all the required file for your installation



Kubuntu copying files

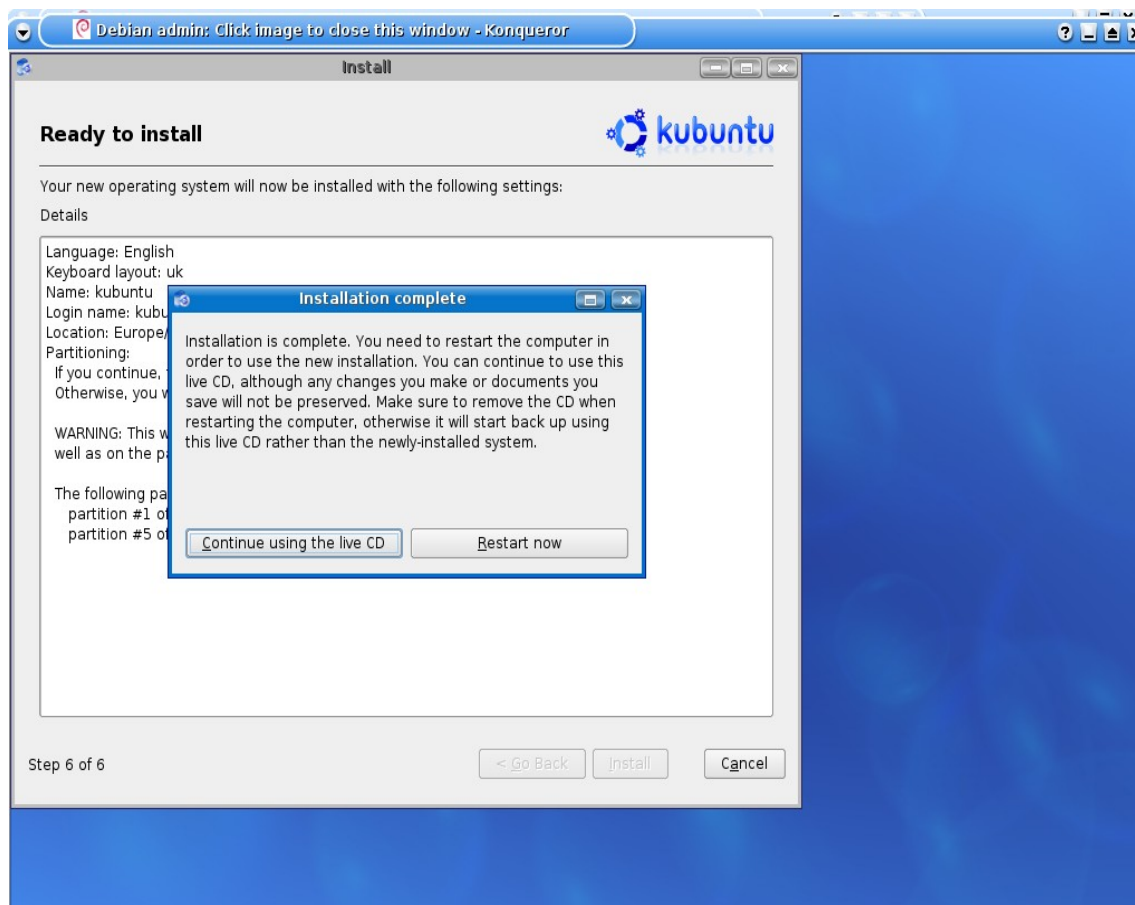
Loading required modules in progress



Kubuntu loading modules

This is your final step of kubuntu installation you can see installation completed message now click on reboot button to reboot your new kubuntu installation.

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[Kubuntu Installation Completed](#)

Linux File System Types

Linux supports many filesystem types such as ext, ext2, ext3, xia, minix, umsdos, msdos, vfat, proc, smb, ncp, iso9660, sysv, hpfs, affs and ufs, reiserfs and no doubt, over time more will be added. But here we will discuss a few important of them.

➤ **EXT**

The Extended File System, ext, was introduced in April, 1992. With a maximum partition size of 2GB and a maximum file name size of 255 characters, it removed the two biggest minix limitations. However, there still was no support for the separate access, inode modification and data modification timestamps. Also, its use of linked lists to keep track of free blocks and inodes caused the lists to become unsorted and the filesystem to become fragmented.

➤ **EXT2**

The Second Extended File System (ext2) was released in January, 1993. It was a rewrite of ext which features (1) improved algorithms that greatly improved its speed, (2) additional date stamps (such as date of last access, date of last inode modification and date of last data modification) and (3) the ability to track the state of the filesystem. Ext2 maintains a special field in the *superblock* that indicates the status of the filesystem as either *clean* or *dirty*. A dirty filesystem will trigger a utility to scan the filesystem for errors. Ext2 also features support for a maximum file size of 4TB (1 terabyte is 1024 gigabytes). Consequently, it has completely superseded ext, support for which has been removed from the Linux kernel.

Ext2 is the most portable of the native Linux filesystems because drivers and other tools exist that allow accessing ext2 data from a number of other operating systems. However, as useful as these tools are, most of them have limitations, such as being access utilities rather than true drivers, not working with the most recent versions of ext2, not being able to write to ext2 or posing a risk of causing filesystem corruption when writing to ext2.

➤ **Journaling Filesystems**

The lack of a journaling filesystem was often cited as one of the major factors holding back the widespread adoption of Linux at the enterprise level. However, this objection is no longer valid, as there are now four such filesystems from which to choose.

Journaling filesystems offer several important advantages over static filesystems, such as ext2. In particular, if the system is halted without a proper shutdown, they guarantee consistency of the data and eliminate the need for a long and complex filesystem check during rebooting. The term *journaling* derives its name from the fact that a special file called a *journal* is used to keep track of the data that has been written to the hard disk.

In the case of conventional filesystems, disk checks during rebooting after a power failure or other system crash can take many minutes, or even hours for large hard disk drives with capacities of hundreds of gigabytes. Moreover, if an inconsistency in the data is found, it is sometimes necessary for human intervention in order to answer complicated questions about how to fix certain filesystem problems. Such downtime can be very costly with big systems

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used by large organizations.

In the case of a journaling filesystem, if power supply to the computer is suddenly interrupted, a given set of updates will have either been fully *committed* to the filesystem (i.e., written to the hard disk), in which case there is not a problem, and the filesystem can be used immediately, or the updates will have been marked as not yet fully committed, in which case the file system driver can read the journal and fix any inconsistencies that occurred. This is far quicker than a scan of the entire hard disk, and it guarantees that the structure of the filesystem is always self-consistent. With a journaling filesystem, a computer can usually be rebooted in just a few seconds after a system crash, and although some data might be lost, at least it will not take many minutes or hours to discover this fact

➤ **EXT3**

Ext3 has been integrated into the Linux kernel since version 2.4.16 and has become the default filesystem on Red Hat and some other distributions. It is basically an extension of ext2 to which a journaling capability has been added, and it provides the same high degree of reliability because of the exhaustively field-proven nature of its underlying ext2. Also featured is the ability for ext2 partitions to be converted to ext3 and vice-versa without any need for backing up the data and repartitioning. If necessary, an ext3 partition can even be mounted by an older kernel that has no ext3 support; this is because it would be seen as just another normal ext2 partition and the journal would be ignored.

➤ **ReiserFS**

ReiserFS, developed by Hans Reiser and others, was actually the first journaling filesystem added to the Linux kernel. As was the case with ext2, it was designed from the ground up for use in Linux. However, unlike ext3, it was also designed from the ground up as a journaling filesystem rather than as an add-on to an existing filesystem, and thus it is widely considered to be the most advanced of the native Linux journaling filesystems. Features include high speed, excellent stability and the ability to pack small files into less disk space than is possible with many other filesystems.

A new version of ReiserFS, designated Reiser4, was also released. It is a complete rewrite from version 3 and is said to result in major improvements in performance, including higher speeds, the ability to accommodate more CPUs, built-in encryption and ease of customization.

➤ **JFS**

JFS was originally developed by IBM in the mid-1990s for its AIX Unix operating system, and it was later ported to the company's OS/2 operating system. IBM subsequently changed the licensing of the OS/2 implementation to open source, which led to its support on Linux. JFS is currently used primarily on IBM enterprise servers, and it is also a good choice for systems that multiboot Linux and OS/2.

➤ **XFS**

➤ XFS was developed in the mid-1990s by Silicon Graphics (SGI) for its 64 bit IRIX Unix servers. These servers were designed with advanced graphics processing in mind, and they feature the ability to accommodate huge files sizes. The company likewise converted XFS to open source, after which it was also adopted by Linux. Because it is

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a 64-bit filesystem, XFS features size limitations in the millions of terabytes (in contrast to the still generous 4TB limit of ext2).