Introduction to LINUX Operating System

Agenda

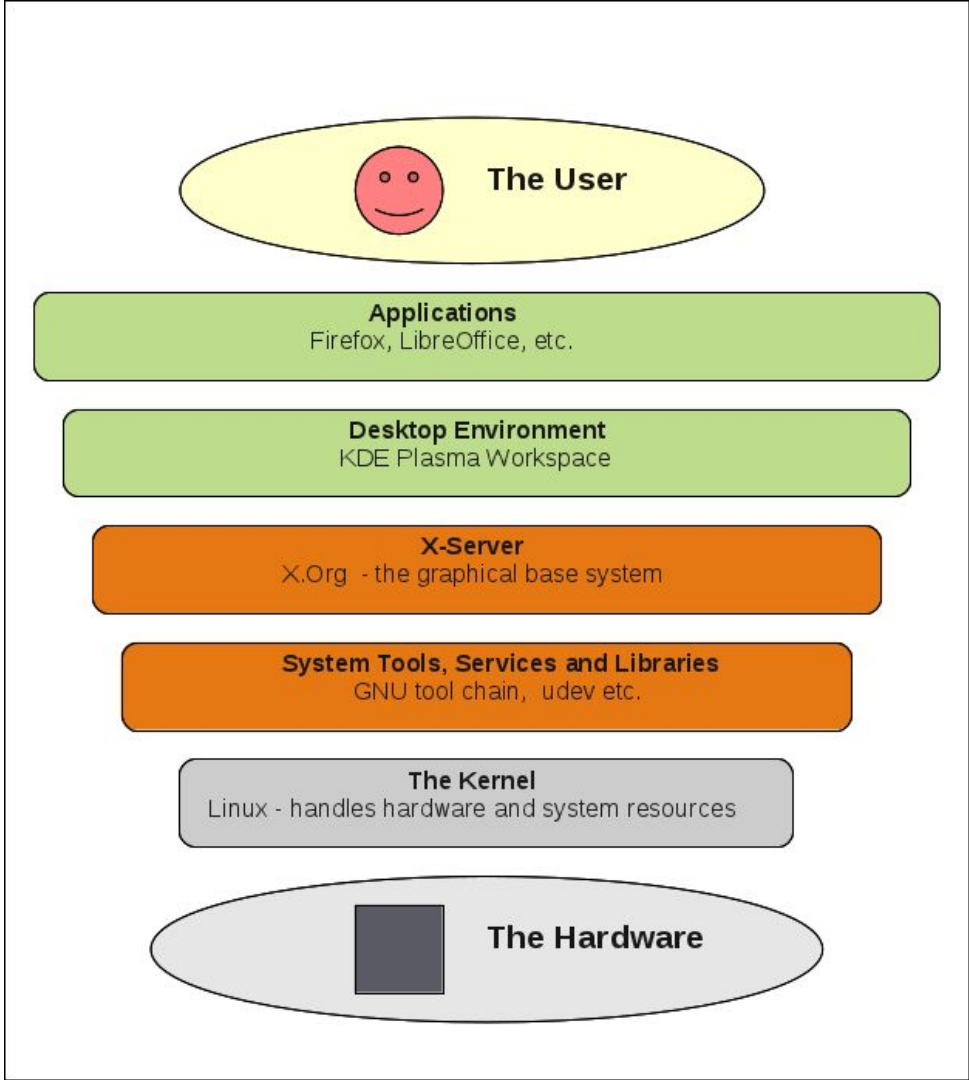
- What is Linux
- Composition of OS
- Why use Linux
- OS Comparison
- Basic Linux commands
- Dual Booting your laptop

What is Linux?

Just like Windows XP, Windows 7, Windows 8, and Mac OS X, Linux is an operating system. An operating system is software that manages all of the hardware resources associated with your desktop or laptop. To put it simply – the operating system manages the communication between your software and your hardware. Without the operating system (often referred to as the “OS”), the software wouldn’t function.

Composition of OS

- Bootloader
- Kernel
- Daemons
- Shell
- Graphical Server
- Desktop Environment
- Applications



Why use Linux?

- Unlike Windows, which is proprietary and needs to be legally purchased in order for you to use it, Linux is completely free and open-source. This means that you can download it and install it on as many computers as you like. And the open-source nature of Linux means that anyone can tweak with its source code and distribute it.
- Linux is known to be extremely resource efficient and runs great even on older computers with moderate hardware specifications.
- Lots of distributions are available.
- Availability of all popular software applications.
- Less prone to viruses and other malware.

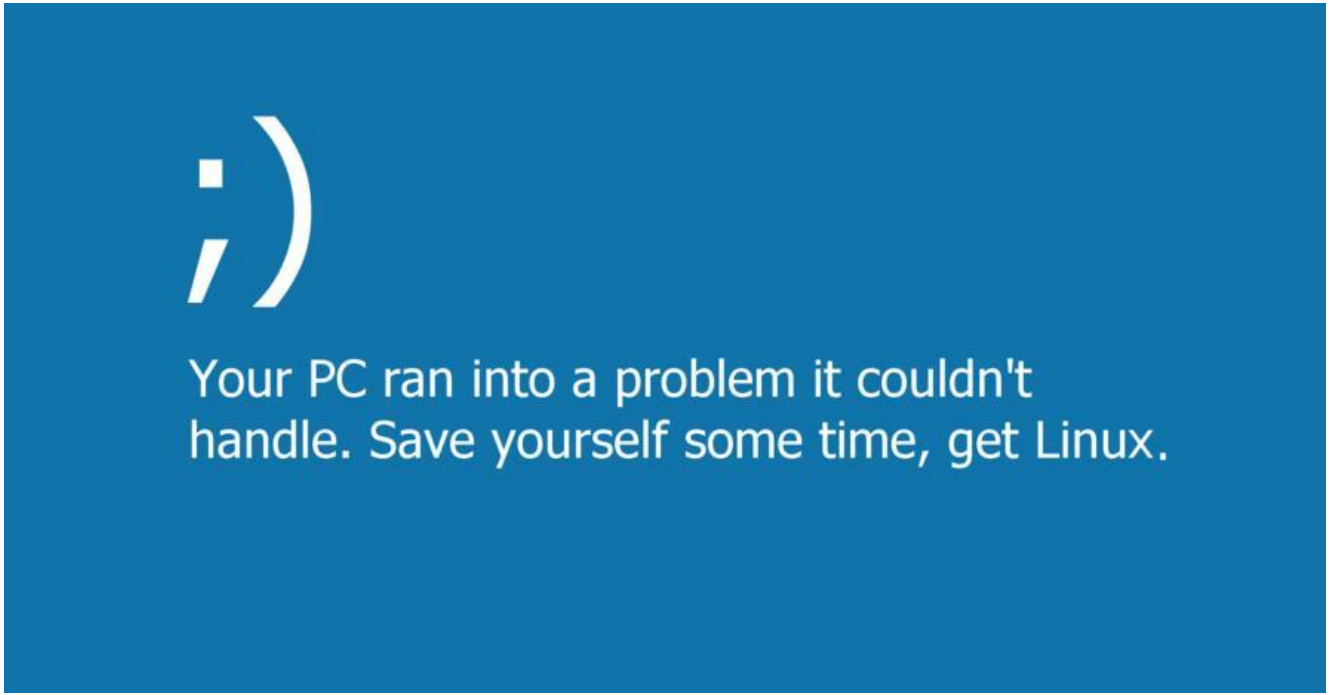
What is a “distribution”?

Linux has a number of different versions to suit nearly any type of user.

The most popular Linux distributions are:

- Ubuntu Linux
- Linux Mint
- Arch Linux
- Deepin
- Fedora
- Debian
- openSUSE.

Linux vs Windows



Basic linux Commands

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- **cd** [options(s)] [directory]: Changes the current directory.
- **ls** [option(s)] [file(s)]: If you run **ls** without any additional parameters, the program will list the contents of the current directory in short form.
  -l: detailed list
  -a: displays hidden files
- **pwd:** Show the name of the current working directory
- **mkdir** [option(s)] directoryname: Creates a new directory.
- **rmdir** [option(s)] directoryname: Deletes the specified directory, provided it is already empty.

  Need to know more about commands?Just type **help <command>** !!!

Dual Booting your Laptop

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1. Disable Fast Startup from Control Panel:
   Control Panel -> Power Options -> Choose what the power buttons do

2. Disable Secure Boot from firmware Settings:
   Shift + Restart will take you into Advanced Setting Mode,
   Go to Advanced Options and boot into the Firmware Settings,
   and disable secure startup.(mainly under Security tab, or Boot tab, or Authentication tab)

3. Download Universal USB installer for making the live USB.

Dual Booting your Laptop

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4. Using the installer, make a live usb for the .iso file you
   Downloaded.

5. Go to Disk Management, and free up some space. You will be needed
   to create 3 partitions at a later stage, so you can free up space accordingly
   . /root partition will be ideally 15-30 GB
   . swap partition will be 3-6 GB
   . /home partition is for your personal files, storage,
   so it should be 10 GB, less or more depends on you.

6. Boot your USB drive and grub menu appears.

Dual Booting your Laptop

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7. Create three partitions using that free space one by one.
   i. Logical partition, Swap partition -> ~ 3-6 GB
   ii. Logical partition, Ext4, / -> ~ 15-30 GB
   iii. Logical partition, Ext4, /home -> (Your choice) GB

8. Go ahead, "Install Now".

9. Fill out some credentials, and you will be running Ubuntu in another 5-10 minutes