GeeksZine

Open Source is Fun

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Just two words, *an editorial*

Hi all the geekheads or wanna be! I'm really ecstatic to present the first edition of GeeksZine, an online zine to add more fun to our lives hoping that it is already funfilled with Free Libre Open Source Software (FLOSS). If you are thinking why a new online zine as already there are many? then I won't claim it's being different in many ways. One thing I can assure you that it's gonna deliver a thing surely and that is the fun we usually miss while working with software either close source or the open source.

If you are from a close source software background then the aim of GeeksZine is to show you how easily you can add fun to you computing life with the open source software. If you are already enjoying your life with fun filled open source software then the aim is to add more fun to it. So GeeksZine is not confined to some particular domain or a set of areas of computing but it is targeted towards each and every bit of the open source software that could make our lives more fun filled.

Currently, the zine has few sections in it but I hope that we'll be able to add more sections with the help of you open source geekheads there, once this edition is out. This zine is from a geek, for the geeks and of the geeks. So if anyone of you think of any weird section and stuff to add to zine then please drop me a line, I would be more than indebted to add your section and stuff to the zine. So all the geekheads, I hope to see you every month with GeeksZine and add more fun to this world with open source software.

Keep hacking

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Is that so?, *for the first timers to floss*

So you have heard the terms Free Open Source Software, Open Source, GNU, Linux blah blah ... so many times and now you really wanna know what the hell those mean? Ok! let's spill some beans over these jargons now. Free Libre Open Source Software (FLOSS) denotes a software movement where you are in total control of your computer software. You can copy, use, change and distribute the FLOSS software without any strings attached, provided you don't be evil. The *Free* in FLOSS denotes both *without any price* and *freedom*.

GNU (a recursive acronym GNU's not Unix) was the project started by Richard M. Stallman to create a completely free and open operating system with the help of the likeminded people around the world in 80s. So GNU was the stepping stone for the FLOSS movement and it changed the entire history of the computing world later on. To ensure the everlating freedom to computer users, GNU introduced the concept of *copyleft* and free liscensing like GPL (GNU Public Liscense) etc. A Finnish University student Linus Torvalds wrote an experimental Unix alike kernel (core of an operating system) for x86 hardware architecture in 90s and released that in GPL for others to add and improve upon it. The idea of Linus clicked and finally GNU found the kernel it was looking for to make a free and open operating system known as GNU/Linux to take the world by storm.

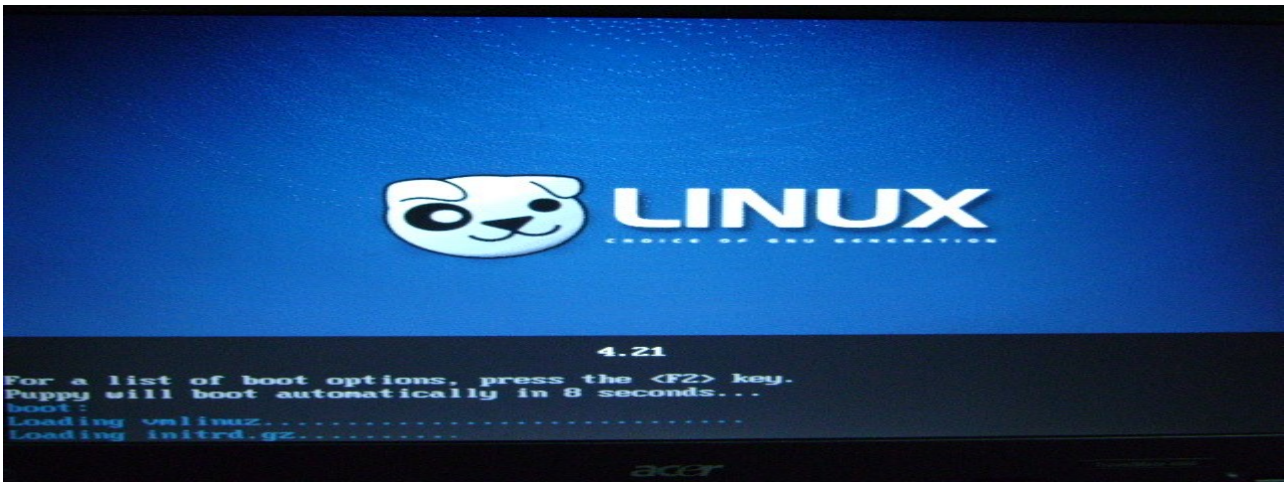
Although GNU/Linux is a great example of FLOSS but it is not confined to any hardware architecture or operating system. FLOSS is there almost in all the computing devices we encounter in this mortal world around us, from a rocket to a pacemaker. You could run FLOSS softwares on all the prominent operating systems like Windows, MacOS, Unix(es) etc. From a *firmware* to *stunning desktop,* all is freely available through FLOSS. In fact, if we realize FLOSS is the way of life as the best quality things in life like air, water, light etc. are always free for all from the nature. In fact, it all started through geek culture only as mortals work to finish jobs only but geeks work to have a lot of fun. So let's complement our computing journey through FLOSS and have tons of fun by being geeks. Long live FLOSS and Geeks!!!

Banishing a ghost, *transition to floss*

You look totally determined and geared up to dirty your hands with FLOSS, in particular GNU/Linux but where to start? Installing a new operating system is a bit excess work especially when you are just starting with FLOSS. So could FLOSS provide some other way? Yes, why not? Let's now rub our FLOSS magic lamp and wish an operating system that could run without installation. Open you eyes! here is *Puppy Linux* that doesn't only run *without installation* but also provides a *fast*, complete *eye candy* without requiring nity grity hardware resources. In fact, almost all the flavours of GNU/Linux distribution are available in their live avatars but most of those require nice hardware resources to run smoothly.

There are two ways you can see the Puppy running live on your system, either booting your machine with a Puppy Linux live cd or running the live cd image of it in a virtual machine. We'll use the 1st method here and see more about the 2nd method when exploring *qemu* in a later section. Go to http://www.puppylinux.com/ and download the iso image of the latest version of Puppy Linux (the entire os is stuffed in 100 MBs only). After downloading, burn this image to a cd or mini cd through any cd burning software in your existing operation system using *burn image* option. Now restart your machine and change the *boot sequence* (by pressing Del or F2 or F10 etc. key multiple times to enter in the *bios settings*) to set cdrom drive as the first boot device. Finally, you restart again with the Puppy cd in the drive.

Your machine should show a similar screen as shown below on booting now :



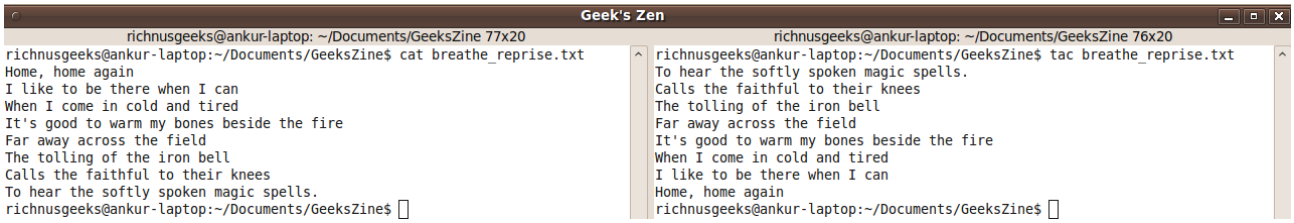
Press Enter to let the Puppy load itself into your *system ram* and run from the ram. Did you listen ram? Yes, Puppy runs entirely from ram and frees your cd rom drive to play your favorite media. Isn't is amazing? Now there comes few console mode dialog boxes to ask you about the type of mouse connected, the layout of the keyboard and the video wizard. You choose the default settings as those are appropriate most of the time. You could try with other settings too as in case of any disaster just reboot the machine with Puppy live cd again. Once thease steps are done, a beautiful desktop welcomes you as shown below :

Finally your sweet puppy is here, try to play with whole bunch of softwares it provides. It also *detects* all your existing hard disk partitions so it could be used to backup your precious data in case of any disaster to your machine. You could install puppy to your hard disk too if you want. In fact, it turns the otherwise *old and unused* machines into a powerful development platform. We'll see the various unexplored faces of Puppy in the future editions of the zine. Now I can clearly see you shouting FLOSS rulz :))

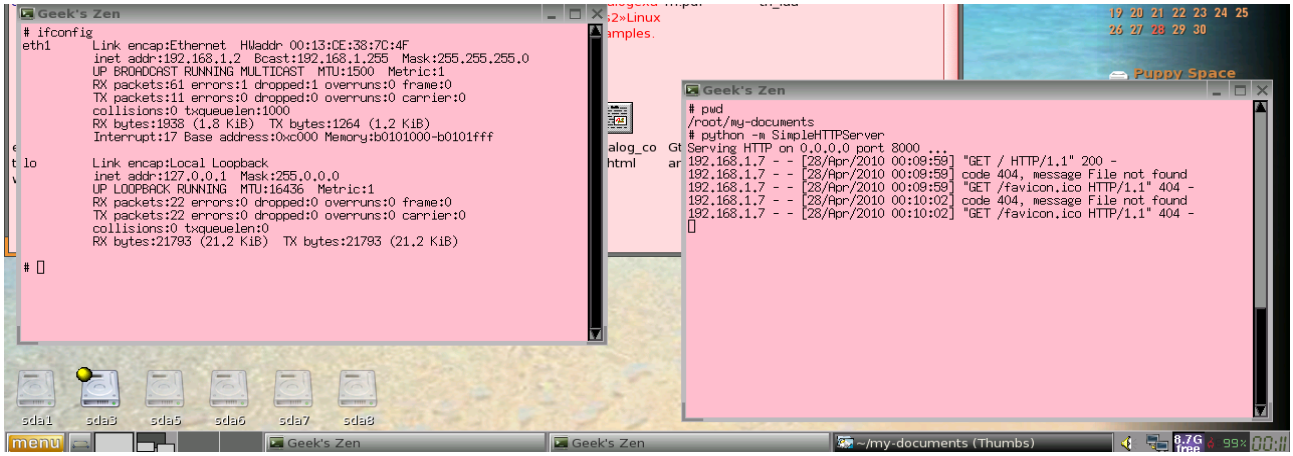
Surprising the master, *cool tricks*

- Command line terminals are an indispensable part of *IXs. We all need those sooner or later. Usually we want to open many terminals at a time to do various things in those but placing those in the same screen is a bit chaotic. We have an utility on GNOME desktop environment known as *terminator* that is able to create multiple terminals in same window. To install it on Ubuntu, issue command *sudo apt-get install terminator*. These multiple terminals could be created by horizontally, verticallly or tab dividing the window. The basic key combinations are : Ctrl + Shift + O for the *horizontal* division, Ctrl + Shift + E for the *vertical* division, Ctrl + Shift + T for the *tab* division etc. Ctrl + Tab is the key combination to switch between the created terminals. The terminator supports a hell lot of functionalities and we can create very complicated arrangements of the terminals through it. For more info about the terminator, access its man page through *man terminator* command. An example screenshot of the terminator is shown below :

- *cat* is a command in *IXs to display the content of a file to standardout, that is by default the text console. Logically, if we reverse cat then it becomes tac and that should show the content of a file in reverse. Is this logic applicable in the real life? Yes it is, *tac* displays the content of a file in a down to top manner. Try yourself and have fun :) A screenshot of the same is shown below :



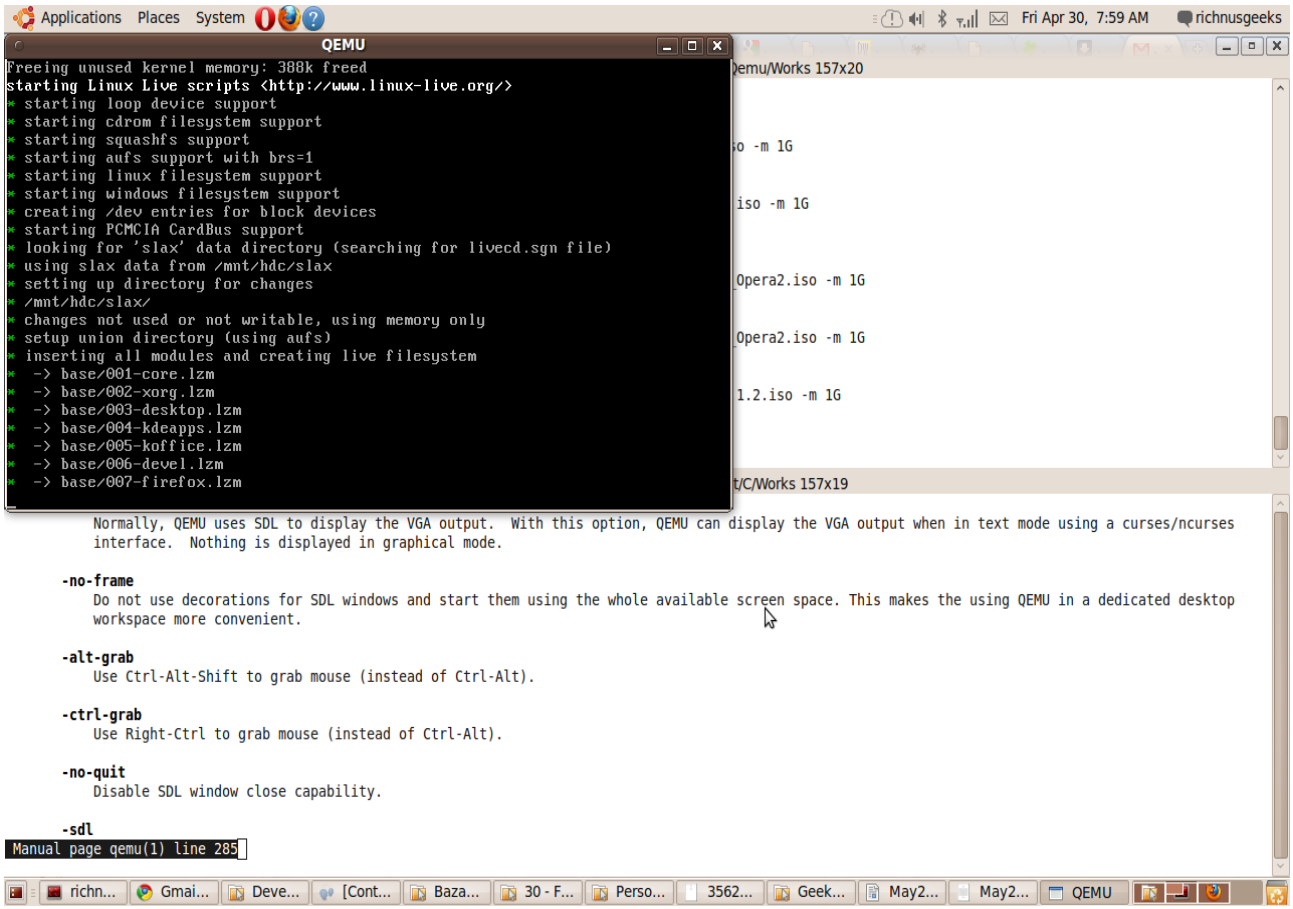
- Sharing data is a very frequent activity in the computer world. There are many great ways and utilities to share data with other people on our network. Python provides a very quick and simple way to share data with people on the same network. To share the data in a directory, go to that directory (through *cd* command) and execute command *python -m SimpleHTTPServer*. Now the entire content under this directory could be accessed on the network by typing *http://<ip address of your machine>:8000* in a web browser. Once your done with the sharing, cancel the data serving by pressing Ctrl + C key combination. As python is cross platform so is this method of the data sharing. Example screenshots of this way of sharing data between two machines are shown below :

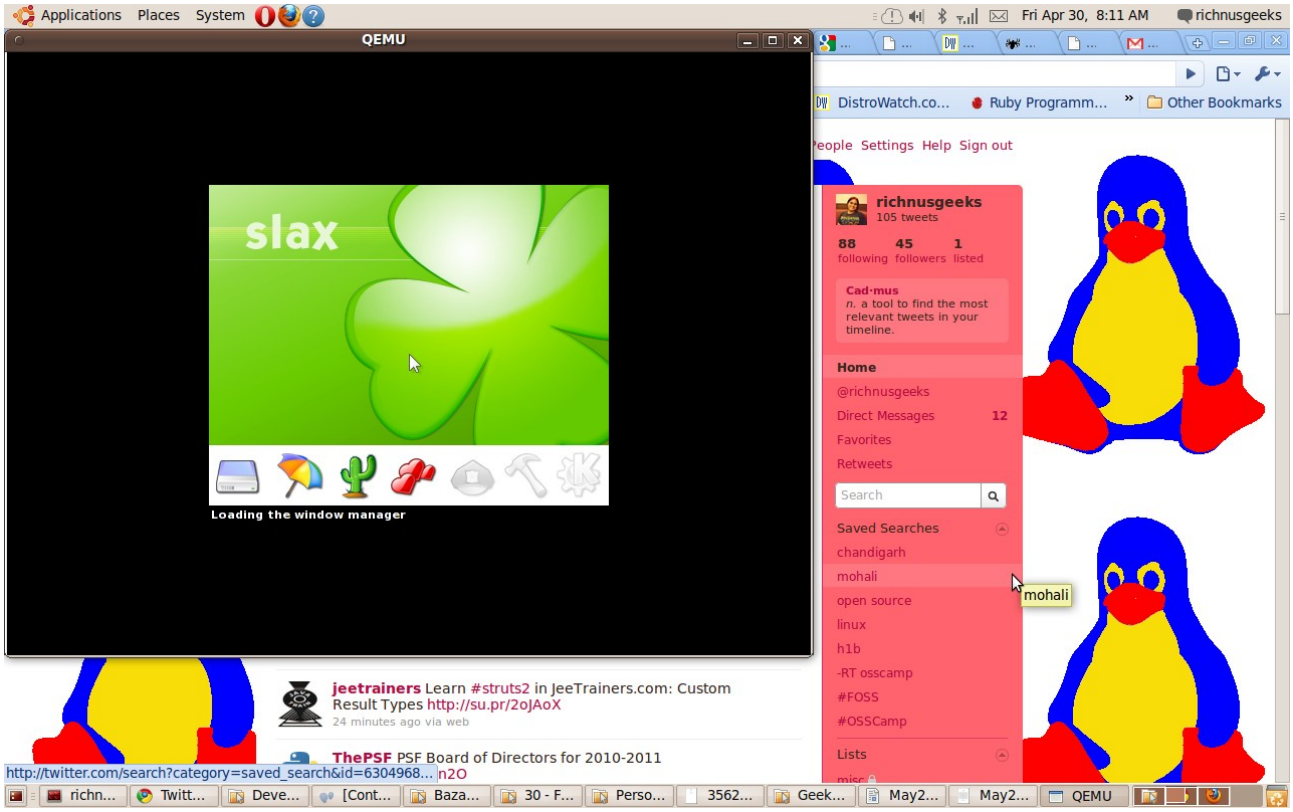


Learning the hard way, *cool floss software tools*

Now it's the time to explore a cool FLOSS tool known as *qemu*. Qemu is a processor and system *virtualization* software. It provides a software created computer with various peripherals from ram to video card in your machine. You could run any compatible operating system in this virtual machine. You can run the live operating systems images through qemu and it also let you install the operating systems in *virtualized hard disks*. This way you can play with various operating systems *without installing* those to your physical hard disk or burning the live iso cds. Qemu is available for both Windows as well as GNU/Linux so you could run various combinations of both the os on each other.

To install qemu on Ubuntu, type command *sudo apt-get install qemu* in a text console and/or get the windows installer from http://wiki.qemu.org/Main_Page . To run a live iso image through qemu virtualizing a system with 1GB ram, the command is *qemu -cdrom filename.iso -m 1G* . The screenshots of qemu booting and running a live version of Slax Linux is shown below :





Qemu provides many options to control each and every aspect of the created virtual machine from the model of processor to the amount of ram. You could explore those options through manual page of it by typing *man qemu* in a text console.

We can also create virtualized hard disks through *qemu-img* utility. It is installed with qemu and to create the vistualized hard disk named mydisk of 10 GB in qemu recommended qcow2 image format, the command is *qemu-img create -f qcow2 mydisk 10G* . To install an os in this virtualized disk, issue command *qemu -hda mydisk -cdrom filename.iso* . Now qemu recognizes mydisk as hard disk 0 and you could *partition* it and install the os in it. Once you're done with the installation of the os in the virtualized disk, boot the virtual machine with command *qemu -boot mydisk* and voila! you are running the os in reality through your virtual machine.

It's just the tip of the iceberg and we'll explore more about qemu in the coming issues of GeeksZine.

The last rap*, an epilogue*

All the thoughts and the information in this zine is based upon the various freely and openly available resources on the internet and the personal experiences. So we don't guarantee the fittment of the opinions and the softwares mentioned for some particular purposes. Please try the information provided in the zine on your risk only and we are not resposible for any damage and loss caused by that.

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