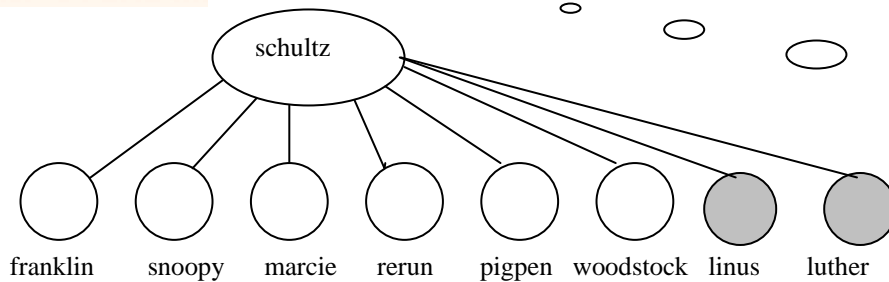


Introduction to Linux at Loyola (by Dr. Sabin hastily edited by Dr. Binkley)



UNIX is an operating system (OS) that allows simultaneous multiple users and multiple tasks. Linux is a Unix-like OS that runs on PCs.

We have a Linux workstation network composed of Dell PCs located primarily in DS130. Schultz is the central file server. It is located on the lower level of Donnelly. Many of the other machines are in DS130. The computers are all basically identical, and your home directory is available no matter which you log in. In general, no one logs in to schultz, so that it can do its main job of serving files.



Can you tell how these names were chosen?

To access the Linux network

The easiest way to use the Linux box is in DS130. Start their. Log in, open a few windows and try some of the basic commands below. Perhaps even compile a simple program ☺ These PCs have a Windowing interface as well as a more powerful command-line interface via a terminal window.



Access from a Loyola networked PC:

1. Start X-Win32 from the icon.
[This program allows you to open multiple windows on the Linux machine and have them appear, properly displayed, on your PC. You will need this when you want to edit a program.]
2. Start PuTTY from the Start/Programs menu (or an icon). Type in `machinename.cs.loyola.edu` for the Host Name (e.g. `franklin.cs.loyola.edu`). Use the default Port 22 and SSH Protocol.
[This program makes the “connection” to a machine in the Linux network.]
3. Log on with your UN and PW
Your Username will be your first initial followed by the first 7 letters of your last name.
Your initial password will be your username followed by 301.

Now that you're on

- Try several commands. Remember that Linux is case-sensitive. Try

```
man
man man
date
who
finger
pwd
who am I
ls -a -l
```

[For further information on a command, try the `man` command, e.g., `man ls` . will display mucho information on `ls`.]

- Reset your password to something you'll remember but is not obvious. Use the `yppasswd` command.
- Editors you might use – Eclipse (the most powerful environment), emacs, vi, nedit, pico, nano, ed (the simplest editor – that is simple is the commands it understands not in its usability ☺)
- To open up Eclipse in a new window (and keep your command line functional) by entering
`eclipse &`
(The `&` put the process—Eclipse in this case—in the background, so you still have access to the command line.)
Take a good look at Eclipse. Notice the different panes, called views in Eclipse. The setup is not unlike jGrasp!
- Emacs is started using `emacs &` check out the ‘tools’ ‘compile’ option.

- Vi is started typically using `'vi filename'` (to use the current window) or `'gvim filename &'` to open up a new window. See the command `'make'` (i.e., build my project please). This requires a *makefile*. Such as

```
t: t.c
    gcc t.c -o t
```

Note that the second line starts with a tab character.

In a campus lab other than DS130 that have X-Win32 available , after you log onto a workstation, to take full advantage of X-Win32's windowing capability, you must identify the computer you are using by performing the following steps:

1. Determine the IP address of the Windows machine which you are using with following steps:
From the Windows Start menu choose Control Panel
Double click on Network Connections, then choose Local area Connection
Choose Support. The IP address is listed
2. Back at the Linux prompt, issue the command:

```
setenv DISPLAY IPAddress
```

Warning: Remote access to Eclipse and some other applications may be rather slow.

For fun: Try the Website <http://www.linux.org/> for more info on Linux.

Moving Files To and From the Linux Boxes

All login or file transfer access to the Linux boxes should be via ssh. Use scp from a linux computer or WinSCP from a Windows computer. This works from on or off campus. Putty is available from <http://www.cs.loyola.edu/~ghall/putty.zip> . WinSCP is available from <http://www.cs.loyola.edu/~ghall/winscpsetup.exe>.

To and from a Windows machine, from the Windows-side:

WinSCP is a Windows utility that makes movement of files to your Windows machine or from your machine to another machine painless. It provides a window with drag-and-drop capability to move your files from Windows to Linux or vice versa. You may need to install WinSCP on your Windows machine.

On first use of WinSCP, you must type in the full name of the linux box you want to access, e.g. `snoopy.cs.loyola.edu`. (Of course the Linux boxes share a common file system, so any box will usually do.) Choose the **SCP** protocol. Then save the information so you can easily log onto the Linux machine on your next use.

The WinSCP display shows your PC files on the left and your home directory in Linux and all its files on the right. You may drag and drop files in either direction. Right clicking on the individual file or directory allows other actions. (The mouse is POWERFUL!)

On the Linux side, you can move your files to NetStorage at Loyola by accessing a WebBrowser (Firefox is installed on the Linux machines and listed in the Applications menu in DS130). Go to www.loyola.edu then choose NetStorage from the Loyola Resources. You will be directed to TS's Virtual Office. After entering your name, you can use the file icon to access the G: drive and move files to or from the Linux boxes to the G: drive.

Note on accessing the Linux network from a PC:

Getting to the Linux command line from a PC

PuTTY is the utility that gets you to a login shell from a windows box, from on or off campus. PuTTY is also available in most campus labs. PuTTY is freeware and is available from <http://www.cs.loyola.edu/~ghall/putty.zip>

To have the Linux desktop (with windows) on your PC

To have full windowing on a PC, you need additional software like X-Win32. X-Win32 is available in campus labs. There is also a free "demo" version available at the Starnet Website. <http://www.starnet.com/> To have a fully functional version, you must purchase a license (details at the website).

To transfer files between a PC and the Linux network

All login or file transfer access to the linux boxes should be via ssh. "FTP" is no longer supported. There are free utilities that you can install to allow file transfer. You should use scp (from a linux computer) or WinSCP from a Windows computer. This works from on or off campus. WinSCP allows dragging and dropping for file transfer. WinSCP is available from <http://www.cs.loyola.edu/~ghall/winscpsetup.exe>