

Linux Install

1. Start machine, use `Del` to get BIOS and load default settings.
2. Insert CD and use `F8` to boot to CD at start.
3. After boot up, login as `root`.
4. Use the `network` command to probe NIC driver, `P sky` or just enter or ... ??
5. Use `fdisk` or `cdisk` to set up partitions.

Why do we have more than one partition to hold our file system? What is a swap partition? Why might we use different file systems on different partitions? Why might we have different block sizes for different partitions?

6. Use `setup` to check keyboard layout, assign partitions, select `Base Linux` (set a) and `Network Tools` (set n). Choose `menu` as the install option and accept all the sub-packages.
7. Set up the network parameters when requested. Choose any sensible name then:

Gateway = 164.11.7.200

Netmask = 255.255.255.0

DNS = 164.11.222.253

Own ID = 164.11.7.xx (where xx is 1 to 253 [not 200!])

Domain = netlab.cems.uwe.ac.uk

Set up the time zone, the mouse etc when prompted. Do not set up a root password.

8. Remove the CD and reboot. Should start up okay.

9. Setting up users:-

10. Login as `root` and set up some users by editing the necessary files in `/etc`. Use `pico`, `vi`, `nano`, `elvis`, `emacs` or whatever editor you installed! Try logging in as the new user using a separate terminal. Does it work? Explain and correct any problems. You may need to use utilities such as `chmod`, `chown` and `chgrp` – why? What do they do? Investigate the use of scripts to automate the process. How do you remove users – manually or by scripts?

Capture evidence of your changes by using `script` or copying the altered files to a floppy disc (use `mcopy`). Explain the fields that were set up by you.

11. Investigating the network:-

12. Use some of the network commands that are available, e.g.

```
ping 164.11.222.253
```

```
ping kenny
```

```
arp
```

```
route
```

```
ifconfig
```

Explain the output you get. Do they all work? If they don't: explain why and try to correct the problem. Use the `man` pages to see what switches are available and try them out (if you haven't installed the manual then it might be a good idea to do so!)

Use `ifconfig` to change your IP address to a new value. Test out the new value and then reset it!

13. Now to start installing necessary packages:-

14. Create a sub-dir (`mkdir /mnt/slack (say)`), then mount the remote file system using NFS:-

```
mount -t nfs 164.11.222.253:/home/slackware /mnt/slack -o nolock
```

to get at the slackware stuff. Why do we need the `-o nolock` option? Investigate how to make it so that this is not needed.

Research the use of `fstab` and `mtab`. How do we allow services, such as NFS, to start automatically at boot up? Allow NFS to start automatically.

15. `cd /mnt/slackware`. There should be `slackware-11` and `slackware-12`,

```
cd slackware-12.1/slackware!
```

16. Install the X windows stuff:-

17. `cd x ./install-packages` to install all the x stuff (you could just select the bits you think you want/need!).

18. Install KDE stuff:-

19. `cd ../kde` so we can install the KDE windows manager.

20. `installpkg kdebase-xxxx.tgz` and `kdelibs-xxxx.tgz`.

21. Try `startx`. This will probably fail on not finding alias 'fixed' font, especially if you did not install all the x packages.

22. `cd ../x` and `installpkg *misc*.tgz` so all `misc` fonts are installed.

23. Try `startx` again. This will now probably get errors 'cannot find a library xxx.yyy.zzz'. This may happen for several libs so repeat the next step and this one until it works or ...!

24. `cd ../l` and use `installpkg` to install the missing library. Some may be hidden under different names, so go to <http://packages.slackware.it> and search for the filename in the `slackware-12` distribution. This should indicate which package to install!

25. When you eventually have KDE running you might like to install more functionality, e.g. can you add/remove users using a GUI supplied in KDE?

26. You will probably find that not all the keyboard keys work properly, e.g. the @ key displays “, and vice versa, even though we set up a UK keyboard we have an American one! Use your editor to change the X configuration file so that we have the proper keyboard!

27. **Configure Konqueror** to allow access beyond the local network. The proxy server is:

`http://www.cems.uwe.ac.uk/proxy.pac`

Install Firefox, Mozilla, Seamonkey or some other browser and configure it.

28. **Set up NFS** to `export` a directory (and its files) for other users to access. Experiment with the `allow/deny` system to permit (or not) others to get at the files.

29. **Set up the Apache web server** to allow others to access a directory (and its [html] files) by browsing from other computers on the sub-net.

30. Investigate X windows and GUI login.

The system set-up boots up in text mode and we use `startx` to get a GUI system. Linux works by passing through different run-levels as it starts up and shuts down. Edit the necessary start-up script to get the system to start using a GUI login screen. There are several different windows display managers, e.g. `kdm`, `gdm` and `xdm` to deal with this. Try to change from the default.

There are many X windows session managers, e.g. `KDE`, `blackbox`, `twm` and `windowmaker`. Set up at least two different ones that users can select from by either modifying their X startup scripts or from the login screen.

31. Extras.

Add extra features, such as `ftp`, that you think might be useful!

Notes:

Make sure that you get evidence at every stage. Not only of the working system, but also problems you had. Collect evidence of alterations to configuration files (use `mcopy`) and the commands you enter (with their results, by using `script`). You can perform screen captures using the X application `xv`, but you will need to install it! You may decide not to include all the items in your presented document, but it is better to have too much and omit some than not have enough evidence!

Instead of using a floppy disc (via `mcopy`) you could learn how to `mount` a flash stick so you can transfer information using removable storage!

When in text mode you can get a new login terminal by the use of `Alt-F1`, `Alt-F2` etc, up to six terminals.

From graphics mode you can get a new terminal by using `Ctrl-Alt-F2` etc. To return to graphics mode use `Alt-F7`. To kill graphics mode completely use `Ctrl-Alt-Backspace`.

To reboot the system, type `reboot`. To shutdown the system type `halt` (you may need to power down manually).

Some 'useful' web sites:

1. The Slackware home, <http://www.slackware.com>. Use this to look at the Slackware Book and general FAQs.

2. The Slackware packages page, <http://packages.slackware.it>. This enables you to find files needed when installing some of the software and the packages that contain them.

3. Some beginners' sites that discuss the installation/problems of installing Linux,

<http://www.basicconfig.com>

<http://www.tuxfiles.org>

4. Slackware 12.0 Basics – a book covering installation and configuring aspects of linux.

<http://www.slackbasics.org/pdf/slackware-basics.pdf>

5. A brief description of Linux Configuration Files, based on RedHat but should be much the same for Slackware, <http://www.ibm.com/developerworks/linux/library/l-config.html>.

6. Introduction to Linux and Linux installation,

Basic commands etc. http://dsl.org/cookbook/cookbook_toc.html

Linux install and admin. <http://www.tldp.org/LDP/gs/>

There are lots of articles, tutorials and free books about Linux on the web – just try a quick search for the feature you want!