**PART I** **Basic Linux Commands / Administration**

**PART II** **Linux Installation / Basic System Configuration And Administration**

**PART III** **Network Services Installation / Configuration / Administration [Primary And Secondary Services]**

# *PART I*

| SR. NO. | DATE | DAY | TOPIC |
|---------|------|-----|-------|
| 1. | | | **Installation of Linux / Win$**<br><br>**Building a Dual-Boot System**<br><br>**Installing Debian based system from a bootable pendrive** |
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| 2. | | | **01 Listing Files and Dirs**<br><br>**02 Working with Files / Dirs**<br><br>**03 Date and Time**<br><br>**04 Processes and Daemons**<br><br>**05 Linux Editors – vi, nano, mcedit** |
| 3. | | | **01 The df command - Partitions and FileSystems**<br>· **Difference between a Partition and Filesystem**<br>· **Checking Disk Space and Usage**<br>· **fdisk - The partition table**<br>· **Min / Max partitions to install Linux**<br>   **Min : /boot, swap, /**<br>     **Max : /boot, /home, swap, /, /var, /usr**<br>     **Why so many partitions ?**<br>**02 Symlinks –Hardlinks**<br><br>**03 Hardware inventory - dmesg / lspci -v** |
| 4. | | | **01 Archiving Utils - tar command**<br>  **Compression Utils - gzip, bzip2**<br>**02 The ps cmd / process status - top, nice, renice**<br>**03 FSHSTND - File System Hierarchy Standard - FHS.ORG**<br>   **01 Perm/Security**<br>   **02 File/Group Perm of Files/Dirs** |
| 5. | | | `systemd* Daemon Management` |

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| 6. | | | **TCP/IP- Configuration (Need to introduce concept of VLANs and a detailed understanding of /etc/network/interfaces file) and Samba-1**<br>**CLI**<br><br>**# nmcli connection modify eth0 ipv4.addresses 192.168.0.20**<br>`1. /etc/hosts`<br>`2. /etc/hostname`<br>`3. /etc/sysconfig/network-scripts/ifcfg-ens33`<br><br>Curses-based<br>**===========**<br>**# nmtui**<br><br>**GUI**<br>**====**<br>`# gnome-control-center network/wifi]`<br>`        or`<br>`# nm-connection-editor` |
| 7. | | | **fstab  - Part I -**<br><br>**Device  Drivers  -  Block  and  Serial  (Character)  See 61/device-drivers**<br><br>**Working With  DVDRWs, Flash**<br><br>**mount, umount**<br><br>**fstab - Part II**<br><br>**LABEL, defaults etc** |
| 8. | | | · **Installation of software in Debian based system**<br>· **Installing from rpm**<br>· **Installing from source code [tarball]**<br>· **Creating a repository (.repo) and Installing with yum*  (YellowDog Updater Modifier)**<br>· **Creating a repository (dnf) and Installing with dnf* (Dandified yum)**<br>· **DNF* commands in lieu of yum* (to include structure of a debian package and a very good understanding of dependencies)**<br>· **How to install/config EPEL - (Extra Pkgs for Enterprise Linux)** |
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| | | | # *PART II* |
| 9. | | | **Setting up User and Group Quotas with /etc/fstab** |
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| 10. | | | **Adduser – How to create users – User Administration.** |
| 11. | | | **PAM-1** |

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| 12. | | | **PAM-2** |
| 13. | | | **LVM2 - Logical Volume Management** |
| 14. | | | **Setting up Telnet, FTP, Wireshark, OpenSSH, DHCP Servers** |
| 15. | | | **Trouble-Shooting**<br>**01-How-to-put-secure-grub2-pwd**<br>**02-How-to-remove-grub2-pwd**<br>**03-How-to-boot-into-single-user-mode   -7-Steps**<br>**04-How-to-boot-into-single-user-mode**<br>**-The-Easy-Way-3-Steps**<br>**05-Re scue-Mode                    -9-Steps**<br>**06-Rescue-Mode                -The-Easy-Way-4-Steps**<br>**07-Emergency-Mode** |
| | | | *PART III* |
| 16. | | | **Firewall Configuration with iptables** |
| 17. | | | **AUTOFS** |
| 18. | | | **Setting up a Web Server with Apache – Part – 1 + Nginx** |
| 19. | | | **Nginx** |
| 20. | | | **Setting up a Primary/Secondary/Caching DNS Server DNSMASQ with BIND.** |