**Module 7 – Linux Server: Deployment of Network Services**

**57. Difference between LILO and GRUB**

* **LILO (Linux Loader):** Old boot loader, doesn’t support dynamic configs, no filesystem awareness.
* **GRUB (GRand Unified Bootloader):** Modern, supports multiple OSes, understands filesystems, menu-based.

**58. Recover Linux Password**

1. Boot into GRUB menu → edit boot entry.
2. Add init=/bin/bash to kernel line.
3. Boot → system drops to root shell.
4. Run: mount -o remount,rw / → passwd root → reboot.

**59. Command to format partition in Linux**

* mkfs  
  Example:

mkfs.ext4 /dev/sdb1

mkfs.xfs /dev/sdb2

**60. Enable “quota” in Linux**

1. Edit /etc/fstab → add usrquota,grpquota options.
2. Remount filesystem: mount -o remount /home
3. Initialize quotas: quotacheck -cug /home
4. Turn on: quotaon /home
5. Set user quota: edquota username

**61. Mount Partition in Linux**

mount /dev/sdb1 /mnt

umount /mnt

Permanent mount → edit /etc/fstab.

**62. Use of mdadm command**

* Used to **manage software RAID arrays**.  
  Example:

mdadm --create --verbose /dev/md0 --level=1 --raid-devices=2 /dev/sdb /dev/sdc

**63. Configure secure Apache web server**

* Install: yum install httpd or apt install apache2
* Enable HTTPS (SSL/TLS) with mod\_ssl and certificates (/etc/httpd/conf.d/ssl.conf)
* Harden config: disable directory listing, set permissions, use firewall.

**64. Run Windows software on Linux**

* Use **Wine** (compatibility layer), **PlayOnLinux**, or **virtual machines (VirtualBox/VMware)**.

**65. Difference between Windows and Linux**

* Windows: Proprietary, GUI-focused, paid license, less customizable.
* Linux: Open-source, CLI & GUI, free, secure, highly customizable.

**66. Advantage of Open Source**

* Free to use & modify
* Transparency & security
* Community support
* No vendor lock-in

**67. Install & configure web servers (Apache example)**

yum install httpd -y

systemctl enable httpd

systemctl start httpd

firewall-cmd --add-service=http --permanent

firewall-cmd --reload

**68. Host a simple website & configure virtual hosts**

* Create /var/www/site1/index.html
* Add config: /etc/httpd/conf.d/site1.conf

<VirtualHost \*:80>

ServerName site1.local

DocumentRoot /var/www/site1

</VirtualHost>

* Restart Apache: systemctl restart httpd

**69. Install & manage databases (MySQL/MariaDB)**

yum install mariadb-server -y

systemctl enable mariadb

systemctl start mariadb

mysql\_secure\_installation