Module : 19 Linux server - Deploy, configure, and maintain systems

1) Using cron for Recurring Tasks

- Cron is perfect for scheduling recurring tasks (e.g., daily backups).
- The cron daemon runs in the background and checks /etc/crontab and the /var/spool/cron directory for scheduled tasks.
- crontab -e
- * * * * * command_to_run
- Each asterisk represents a time field (minute, hour, day of the month, month, day of the week).
- Minute (0-59)
- Hour (0-23)
- Day of the Month (1-31)
- Month (1-12)
- Day of the Week (0-7) (Sunday is 0 or 7)

2) Using apt (Debian-based systems like Ubuntu)

- Install a Package
- sudo apt update
- sudo apt install curl
- Update Packages
- sudo apt update
- sudo apt upgrade
- sudo apt update

- sudo apt install --only-upgrade package_name
- Remove a Package
- sudo apt remove package_name
- sudo apt purge package_name

3) Using yum (Red Hat-based systems like CentOS, Fedora, RHEL)

- sudo yum install httpd
- sudo systemctl start httpd
- sudo systemctl enable httpd
- sudo systemctl status httpd

4) Install Kickstart Configurator

- sudo yum install system-config-kickstart
- system-config-kickstart

5) sudo yum install system-config-kickstart

- system-config-kickstart
- linux ks=hd:sdb1:/ks.cfg

6) Explanation of the Kickstart File

- Language: Sets the system language to English (US).
- Keyboard Layout: Configures the keyboard layout to US.
- Network Configuration: Sets the network interface eth0 to use DHCP.
- Root Password: Sets the root password (encrypted).
- Timezone: Configures the timezone to America/New_York and uses UTC.

- Bootloader Configuration: Installs the bootloader in the MBR of the first disk (sda).
- Partitioning Information: Clears all partitions, creates a boot partition, a swap partition, and a root partition that grows to fill the remaining space.
- SELinux Configuration: Enables SELinux in enforcing mode.
- Firewall Configuration: Enables the firewall and allows HTTP and SSH services.
- Auth Configuration: Uses shadow passwords and SHA-512 hashing for passwords.
- Installation Source: Specifies the URL for the installation source.
- Package Selection: Installs the core and base packages, along with httpd, vim, and wget.
- Post-installation Script: Logs a message after installation.
- Reboot: Reboots the system after installation is complete.

7) One way to perform a syntax check is to use the ksvalidator tool, which is part of the pykickstrat package.

- This tool checks the syntax of your Kickstart file for errors.
- Install pykickstart
- sudo yum install pykickstart
- Validate the Kickstart File

- ksvalidator /path/to/your/kickstart.cfg

8) Using firewall - cmd (with firewalld)

- Enable HTTP Traffic
- sudo firewall-cmd --zone=public --add-service=http --permanent
- Reload the Firewall to Apply Changes
- sudo firewall-cmd --reload
- Using ufw(Uncomplicated Firewall)
- Allow HTTP Traffic
- sudo ufw allow http
- Enable ufw (if not already enabled)
- sudo ufw enable
- Check the Status to Verify
- sudo ufw status

9) To reload the firewall

- sudo firewall-cmd --reload

10) Starting the HTTP Service

- sudo systemctl start httpd
- Restarting the HTTP Service
- sudo systemctl restart httpd

11) Prepare the Kickstart File

- Ensure your Kickstart file is configured correctly and validated.
- Save it to a location that will be accessible during the installation, such as a USB drive or a network location.
- Boot from Installation Media

- Insert your installation media (e.g., a CentOS, RHEL, or Fedora installation DVD or USB) and boot your system.
- Enter Boot Menu
- Access the boot menu. This usually involves pressing a key such as Esc, F2, F12 or Del during the initial boot sequence, depending on your system.
- Specify the Kickstart File
- When you reach the boot prompt, specify the location of your Kickstart file.
- Start the Installation
- Press Enter to start the installation process.
- The system will use the settings specified in your Kickstart file to automate the installation.