Introduction to Linux, Basic Commands, File Management, and User Management

# Section 1: Linux Basics

1. What is Linux, and how does it differ from other operating systems like Windows and macOS?

\*The Linux operating system is an open-source system that serves as the foundation for many other systems , Linux open source system and Windows system not open source.

1. Name three popular Linux distributions and briefly describe one of them.

\* Kali Linux, Dabian and Ubuntu , The Dabian system is considered one of the most concerned systems for safety.

1. What is the root directory in Linux, and what is its significance?

\* It is the highest level of authority in Linux folders or commands and the rest of the volumes branch out of it.

1. Explain the difference between an absolute path and a relative path in Linux.

\* The absolute path is the island directory of the file and the relative path depends on the directory and the absolute path is indicated by the symbol / while the relative path is referred to as the symbol ./ in the command window

1. What command would you use to update the package list on a Debian-based system?

\* sudo apt update .

# Section 2: Basic Commands and Navigation

1. Write the command to display the current working directory.

\*pwd

1. How do you change to the `/etc` directory from your current location?

\* cd /etc

1. List the contents of the `/home` directory, including hidden files, in a detailed list format.

\* ls -la /home

1. Explain the purpose of the `ls -l` command and what information it provides.

\* Displays the contents and information of the directory in detail.

1. What command can be used to return to your home directory from any location in the file system?

\* cd ~

# Section 3: File Management

1. Write the command to create an empty file named `testfile.txt`.

\* touch testfile.txt

1. How do you create a directory named `testdir`?

\* mkdir testdir

1. Write the command to copy `testfile.txt` to `backup\_testfile.txt`.

\* cp testfile.txt backup\_testfile.txt

1. What command would you use to move (rename) `testfile.txt` to `newfile.txt`?

\* mv testfile.txt newfile.txt

1. Write the command to remove the directory `testdir` and its contents.

\* rm -r testdir

# Section 4: User and Group Management

1. How can you list all existing users on the system?

\* cat /etc/passwd

1. Write the command to create a new user with the username `newuser`.

\* sudo adduser newuser

1. How do you create a new group named `newgroup`?

\* sudo grouped newgroup

1. Write the command to add the user `newuser` to the group `newgroup`.

\* sudo usermod -a -G newgroup newuser

1. What command would you use to change the password for the user `newuser`?

\* sudo passwd newuser

# Section 5: Practical Application

1. Describe the steps you would take to install a Linux distribution on a virtual machine.

\* Download and install VirtualBox

\* Create a new virtual machine

\* Download the ISO file for Linux distribution

\* Configure the virtual machine

\* Start installation

1. If you are in the `/home/user` directory, what command would you use to navigate to `/var/log`?

\* cd /var/log

1. How do you display the contents of the current directory in a human-readable format?

\* ls -lh

1. Explain what the following command does: `cp -r /home/user/docs /home/user/docs\_backup`.

\* Copies the contents of the docs directory to a new directory named docs-backup

1. What is the difference between the `rm` and `rm -r` commands?

\*rm / Used to delete a file or files only.

\*rm-r / Used to delete a directory (folder) and its contents

1. Explain the significance of the `/etc` directory in Linux.

\* It is a central repository for critical system configuration files. Plays a vital role in managing the Linux system by storing network configuration files, authentication and authorization files for users.