

1. Distinguish between man and whatis commands? Justify with proper example.

Answer: The man command lets you access the detailed manual pages of a Linux command. It offers information, including command options, syntax, and usage examples. For instance, when you type ``man ls``, it shows the full documentation of the ls command and explains how to use it effectively. In contrast, the whatis command gives a quick, one-line description of what a command does. For example, when you run ``whatis ls``, it simply outputs "ls (1) - list directory contents," providing a brief summary for quick reference.

2. Use the tee command to save the output of ls -l into a file while also displaying it.

Answer: The tee command is a useful tool that lets you see the output of a command on your screen while also saving it to a file. For example, the command ``ls -l | tee output.txt`` lists the files in the current directory in long format, shows the list in the terminal, and saves the same output to a file named output.txt. This way, you can have both immediate visual feedback and a saved copy for later.

3. Explain with an example how the tee command can be used in logging.

Answer: Tee is very handy in logging situations where you want to watch a command's output live while keeping a record of it. For example, running ``some_command | tee logfile.txt`` executes some_command, displays its output on your screen, and saves the entire output into logfile.txt. This method lets you track what happened during a command execution for troubleshooting or audit purposes, without losing live visibility.

4. List the steps involved in installing Ubuntu 25.04 LTS on Oracle VirtualBox.

Answer: To install Ubuntu 25.04 LTS on Oracle VirtualBox, first download the Ubuntu ISO file from the official website. Then, open VirtualBox and create a new virtual machine, assigning appropriate memory and disk space based on your system's resources. Next, attach the downloaded ISO file to the VM as a virtual CD/DVD drive. Start the VM to boot from the ISO and launch the Ubuntu installer. Follow the on-screen instructions to select your language, keyboard layout, disk partitioning, and create a user account. Once the installation finishes, reboot the VM to start using the new Ubuntu system.

5. During Ubuntu OS installation, you face a Kernel Panic Error. How would you troubleshoot it?

Answer: If you encounter a Kernel Panic error during installation, first check if your hardware is compatible with Ubuntu 25.04. Make sure the installation file (ISO) is not corrupted by verifying its checksum. Updating your system BIOS or UEFI to the latest version can also resolve compatibility issues. Trying to boot the installer in safe or recovery mode may help bypass driver problems. Disconnect unnecessary peripherals to avoid hardware conflicts. If the issue persists, consider testing your hardware for faults.

6. Write the command to display the system's hostname? How to change hostname using sysctl command?

Answer: You can display the current system hostname by running the command ``hostname``. If you want to temporarily change the hostname (which lasts until the system reboots), use ``sudo sysctl kernel.hostname=newname``, replacing "newname" with your desired hostname.

7. Which command is used to show the calendar of the year 1984 with August month?

Answer: `cal 8 1984` displays the calendar for August 1984.

8. Write a command to display system uptime and logged-in users together.

Answer: `uptime; who` shows how long the system has run and the users currently logged in.

9. Use the find command to list all ".c" files in /home/user.

Answer: `find /home/user -type f -name "*.c"` lists all C source files recursively in /home/user.

10. How do you change file permissions to allow only the owner to read and write?

Answer: `chmod 600 filename` restricts file access so only owner can read/write; no access for group or others.