**#DAY 2: -** *Basic Linux Commands*

**Here's what I covered:**

✅Introduction  
✅Basic Linux Commands  
✅Check your present working directory.  
✅List all the files or directories including hidden files.  
✅Create a nested directory A/B/C/D/E

**Introduction: -**

Linux is an open-source, Unix-like operating system kernel that serves as the core component of many different Linux distributions or "distros." It was created by Linus Torvalds in 1991 and has since become one of the most widely used operating systems in the world, especially in server environments and for various embedded systems.

Key characteristics and concepts associated with Linux include:

**Open Source:** Linux is distributed under an open-source license, which means that its source code is freely available to the public. This encourages collaboration and allows anyone to modify and distribute their own versions of the operating system.

**Kernel:** Linux refers specifically to the kernel of the operating system, which is the core part responsible for managing hardware resources, system processes, and providing a foundation for software applications to run on top of it. Linux kernels can be used in conjunction with different user interfaces, libraries, and software to create various Linux distributions.

**Linux Distributions (Distros):** A Linux distribution is a complete operating system that includes the Linux kernel along with a collection of software applications, libraries, and utilities. Popular Linux distributions include Ubuntu, CentOS, Debian, Fedora, and many others. Each distribution may have its own package manager, software repositories, and configuration management tools.

**Multitasking and Multiuser:** Linux supports multitasking, allowing multiple processes to run concurrently. It's also a multiuser system, meaning multiple users can log in and use the system simultaneously with proper permissions and access controls.

**Command-Line Interface (CLI) and Graphical User Interface (GUI):** Linux provides both a command-line interface (CLI) and graphical user interface (GUI) options. The CLI is a powerful tool for system administration and scripting, while GUI environments like GNOME, KDE, and Xfce provide a more user-friendly desktop experience.

**Security:** Linux is known for its robust security features, including user-level permissions, file system encryption, and a strong access control system. This makes it a popular choice for servers and critical infrastructure.

**Portability:** Linux can be adapted to run on various hardware architectures, making it versatile and suitable for a wide range of devices, from servers and desktop computers to embedded systems and smartphones.

**Community and Development:** The Linux community is large and active, with contributors from around the world continuously working to improve and enhance the operating system. This collaborative effort has led to frequent updates and improvements.

**Basic Linux Commands: -**

System Commands:  
  
**useradd:** This command is used to create a new user account.  
**userdel:** This command is used to delete a user account.  
**groupadd:** This command is used to create a new group.  
**groupdel:** This command is used to delete a group.  
**passwd:** This command is used to change a user’s password.  
**hostname:** This command is used to view or set the system’s hostname.  
**shutdown:** This command is used to shut down the system.  
**reboot:** This command is used to restart the system.  
**systemctl:** This command is used to manage services on the system.  
  
File Management Commands:  
  
**ls:** This command is used to list the files and directories in a directory.  
**cd:** This command is used to change the current working directory.  
**mkdir:** This command is used to create a new directory.  
**rmdir:** This command is used to delete an empty directory.  
**touch:** This command is used to create a new empty file.  
**cp:** This command is used to copy a file.  
**mv:** This command is used to move or rename a file.  
**rm:** This command is used to delete a file.

**pwd**: This command stands for "Print Working Directory." It shows you the current directory you are in.

**tree:** Display directory structure in a tree-like format.  
  
Networking Commands:  
  
**ifconfig:** This command is used to view and configure network interfaces.  
**ping:**  This command is used to test connectivity to a network host.  
**traceroute:** This command is used to display the route taken by packets to a destination.  
**telnet:** This command is used to connect to a remote host using the Telnet protocol.  
**ssh:** This command is used to connect to a remote host securely using the SSH protocol.  
**ping:**  The ping command sends the ICMP echo request to check the network connectivity.  
**netstat:** It provides statistical figures about different interfaces which include open sockets, routing tables, and connection information.  
**dig:** his command is used in DNS lookup to query the DNS name server. It is also used to troubleshoot DNS-related issues.  
**tcpdump:** It captures the traffic that is passing through the network interface and displays it.  
  
Process Management Commands:  
  
**ps:** This command is used to view a list of processes running on the system.  
**top:** This command is used to display a real-time view of the processes running on the system.  
**kill:** This command is used to terminate a process.  
**nice:** This command is used to set the priority of a process.  
**renice:** This command is used to change the priority of a process.

**List all the files or directories including hidden files**.: -

ls: - The ls command is used to list files and directories in a directory.

ls –a: - To list all files and directories, including hidden files, in the current directory under Linux

**Create a nested directory A/B/C/D/E :-**

1. Open the terminal -
2. Navigate to the desired location – for example, if you want to create nested directories in your home directory, simply type: cd ~
3. Create the nested directories: - mkdir -p A/B/C/D/E