**File and Directory Operations**

1. **mkdir [directory\_name]:**

* This command creates a new directory with the specified name in the current working directory.
* Example: mkdir my\_directory

1. **rmdir [directory\_name]:**

* This command removes an empty directory with the specified name.
* Example: rmdir empty\_directory

1. **cd [directory\_path]:**

* Use this command to change your current working directory to the one specified by [directory\_path].
* Example: cd /path/to/directory

1. **touch [file\_name]:**

* This command creates an empty file with the specified name in the current working directory.
* Example: touch my\_file.txt

1. **ls:**

* The ls command lists files and directories in the current directory.
* It provides a basic list of names.
* Example: ls

1. **ls -l:**

* The ls -l command lists files and directories in a long format, displaying detailed information such as permissions, owner, group, size, and modification date.
* Example: ls -l

1. **pwd:**

* The pwd command prints the current working directory, showing you the full path to your current location in the file system.
* Example: ls -l

1. **cp [source] [destination]:**

* Use this command to copy files or directories. [source] is the source file or directory, and [destination] is where the source will be copied.
* Example: ls -l

1. **mv [source] [destination]:**

* This command is used to move or rename files and directories. It can also be used to move files/directories to a new location.
* Example: mv old\_file.txt new\_file.txt

1. **rm [file\_or\_directory]:**

* The rm command is used to remove files or directories. Be cautious when using this command as deleted data is typically not recoverable.
* Example: rm unwanted\_file.txt

1. **find [directory] -name [filename]:**

* The find command searches for files and directories within [directory] with names matching [filename].
* It's a powerful tool for searching within the file system.
* Example: find /path/to/search -name my\_file.txt

**Text Editing**

1. **nano [file\_name]:**

* Nano is a simple text editor for the command line.
* This command opens or creates a file for editing using the Nano editor.
* Example: ls -l

1. **vim [file\_name]:**

* Vim is a more advanced text editor with extensive features for programmers and power users.
* This command opens or creates a file for editing using Vim.
* Example: vim my\_document.txt

**Package Management**

* **Ubuntu/Debian:**

1. **sudo apt-get update:**

* This command updates the package lists on Ubuntu/Debian-based systems, ensuring you have the latest information about available packages.

1. **sudo apt-get upgrade:**

* This command upgrades installed packages to their latest versions.
* **Amazon Linux/CentOS:**

1. **sudo yum update:**

* On Amazon Linux and CentOS-based systems, this command updates installed packages.

**User and Permissions**

1. **sudo [command]:**

* The sudo command allows you to run another command with superuser privileges.
* It's often used for administrative tasks that require elevated permissions.

1. **chmod [permissions] [file]:**

* The chmod command changes the permissions (read, write, execute) of a file.
* [permissions] can be specified using numeric values (e.g., 755) or symbolic notation (e.g., u+rwx).

1. **chown [user]:[group] [file]:**

* The chown command changes the ownership of a file or directory to the specified [user] and [group].
* It's often used to transfer ownership between users.

**System Management**

1. **sudo shutdown -h now:**

* This command shuts down the EC2 instance immediately.
* The -h flag stands for "halt."

1. **sudo reboot:**

* Use this command to reboot the EC2 instance.

1. **top or htop:**

* These commands provide real-time information about system performance, including CPU and memory usage, and list running processes.

1. **df -h:**

* The df command displays disk space usage.
* The -h flag formats sizes in a human-readable format.

1. **free -m:**

* The free command shows memory (RAM) usage in megabytes.

1. **ps aux:**

* The ps command lists information about running processes, and aux provides a detailed list with user, CPU usage, and more.

1. **netstat -tuln:**

* The netstat command displays information about network ports and connections. The flags tuln filter the output to show only listening (-l) TCP (-t) and UDP (-u) ports.

**SSH and Remote Access**

1. **ssh [user]@[instance\_ip]:**

* SSH (Secure Shell) is used to securely connect to remote systems.
* Replace [user] with your username and [instance\_ip] with your EC2 instance's IP address or hostname.

1. **scp [file] [user]@[instance\_ip]:[destination]:**

* SCP (Secure Copy) is used to securely copy files between your local machine and the EC2 instance or between two EC2 instances.

1. **ssh-keygen:**

* This command generates SSH key pairs for authentication, which can be used to connect to remote servers without a password.

**Service Management(Systemd)**

1. **sudo systemctl start [service\_name]:**

* Use this command to start a system service.

1. **sudo systemctl stop [service\_name]:**

* Use this command to stop a system service.

1. **sudo systemctl enable [service\_name]:**

* This command enables a service to start automatically at boot.

1. **sudo systemctl disable [service\_name]:**

* This command disables a service from starting automatically at boot.

1. **sudo systemctl status [service\_name]:**

* This command checks the status of a system service.

**Logs and Monitoring**

1. **tail -f [log\_file]:**

* The tail command displays the last few lines of a text file, and the -f flag allows you to monitor the file for changes in real-time.

1. **journalctl -u [service\_name]:**

* The journalctl command is used to view logs for a specific systemd service.

1. **dmesg:**

* This command displays kernel messages, which can be helpful for troubleshooting hardware or driver issues.

1. **htop:**

* htop is an interactive process viewer that provides a real-time overview of system performance and allows you to manage processes.

**Package Installation**

1. **sudo apt-get install python3:**

* This command installs Python 3 on Ubuntu/Debian-based systems.

1. **sudo yum install python3:**

* This command installs Python 3 on Amazon Linux/CentOS-based systems.

1. **pip install [package\_name]:**

* Use the pip command to install Python packages. Replace [package\_name] with the name of the package you want to install.

**AWS CLI Installation (Example)**

* Download and install the AWS CLI (Amazon Web Services Command Line Interface) for AWS management.
* The specific commands for AWS CLI installation may vary depending on your Linux distribution and package manager.
* These commands provide a foundation for managing and interacting with an EC2 instance.
* Please note that some commands may require administrative privileges, which can be granted using sudo.
* Always exercise caution when working with system commands, especially those that can modify or delete data.