

Linux Commands

There are some basic Linux commands with their arguments and functions:

1. **ls**: List directory contents
 - **-a**: List all files, including hidden files.
 - **-l**: Use a long listing format that includes file permissions, ownership, size, and modification date.
 - **-h**: Use human-readable file sizes.

2. **cd**: Change directory
 - **<directory>**: Change to the specified directory.
 - **~**: Change to the home directory.
 - **-**: Change to the previous directory.

3. **pwd**: Print working directory
 - No arguments.

4. **mkdir**: Make directory
 - **<directory>**: Create a directory with the specified name.
 - **-p**: Create parent directories if they don't exist.

5. **rmdir**: Remove directory
 - **<directory>**: Remove the specified directory.
 - **-p**: Remove parent directories if they are empty.

6. **cp**: Copy files or directories
 - **<source>** **<destination>**: Copy the source file or directory to the destination.
 - **-r**: Copy directories recursively.
 - **-i**: Prompt before overwriting existing files.

7. **mv**: Move or rename files or directories
 - **<source>** **<destination>**: Move the source file or directory to the destination.
 - **-i**: Prompt before overwriting existing files.

8. **rm**: Remove files or directories
 - **<file>**: Remove the specified file.
 - **-r**: Remove directories and their contents recursively.
 - **-f**: Force removal without prompting.

9. **cat**: Concatenate and print files
 - **<file>**: Display the contents of the specified file.
 - **-n**: Number the output lines.

10. **less**: Display file contents page by page
 - **<file>**: Display the contents of the specified file.

- ``SPACE``: Scroll forward one screen.
 - ``b``: Scroll backward one screen.
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11. **``head``**: Display first lines of a file

- ``<file>``: Display the first 10 lines of the specified file.
- ``-n``: Specify the number of lines to display.

12. **``tail``**: Display last lines of a file

- ``<file>``: Display the last 10 lines of the specified file.
- ``-n``: Specify the number of lines to display.
- ``-f``: Output appended data as the file grows.

13. **``grep``**: Search file for lines matching a pattern

- ``<pattern>` `<file>``: Search for lines that match the specified pattern in the specified file.
- ``-i``: Ignore case when searching.
- ``-r``: Search recursively through directories.

14. **``find``**: Search for files in a directory hierarchy

- ``<directory>` `-name <pattern>``: Search for files in the specified directory that match the specified pattern.
- ``-type <type>``: Search for files of the specified type (``f`` for regular files, ``d`` for directories, ``l`` for symbolic links).

15. **``chmod``**: Change file permissions

- ``<mode>` `<file>``: Change the permissions of the specified file to the specified mode (e.g. ``chmod 644 file.txt``).
- ``-R``: Change permissions recursively for directories and their contents.

16. **``chown``**: Change file ownership

- ``<user>` `<file>``: Change the owner of the specified file to the specified user.
- ``-R``: Change ownership recursively for directories and their contents.

17. **``ps``**: Display information about running processes

- No arguments: Display information about processes owned by the current user.
- ``-e``: Display information about all processes.
- ``-f``: Use a full listing format that includes process details.

18. **``kill``**: Send a signal to a process

- ``<pid>``: Send the default signal (``SIGTERM``) to the process with the specified process ID.
- ``-s <signal>` `<pid>``: Send the specified signal to the process with the specified process ID.

19. **``top``**: Display system resource usage and processes

- No arguments: Display resource usage and process information

in real time.

- ``-u <user>``: Display resource usage and process information for the specified user.
 - ``-p <pid>``: Display resource usage and process information for the specified process ID.
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20. **df`**: Display disk space usage

- No arguments: Display disk space usage for all mounted file systems.
 - ``-h``: Use human-readable file sizes.
 - ``-T``: Display file system type.
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21. **du`**: Display disk usage of files and directories

- ``<file or directory>``: Display disk usage of the specified file or directory.
 - ``-h``: Use human-readable file sizes.
 - ``-s``: Display summary only.
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22. **tar`**: Manipulate archive files

- ``c``: Create a new archive file.
 - ``x``: Extract files from an archive file.
 - ``t``: List the contents of an archive file.
 - ``f``: Use the specified file as the archive file.
 - ``z``: Compress or decompress files using gzip.
 - ``j``: Compress or decompress files using bzip2.
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23. **gzip`**: Compress files using the gzip algorithm

- ``<file>``: Compress the specified file.
 - ``-d``: Decompress the specified file.
 - ``-k``: Keep the original file after compressing or decompressing.
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24. **gunzip`**: Decompress files compressed with gzip

- ``<file>``: Decompress the specified file.
 - ``-k``: Keep the original file after decompressing.
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25. **ssh`**: Connect to a remote host over SSH

- ``<user>@<host>``: Connect to the specified host as the specified user.
 - ``-p <port>``: Use the specified port for the SSH connection.
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26. **scp`**: Copy files between hosts over SSH

- ``<source>` `<destination>``: Copy the source file or directory to the destination over SSH.
 - ``-r``: Copy directories recursively.
 - ``-P <port>``: Use the specified port for the SSH connection.
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27. **rsync`**: Copy files between hosts efficiently

- ``<source>` `<destination>``: Copy the source file or directory to the destination.
- ``-r``: Copy directories recursively.

- `-a`: Preserve file permissions and ownership.
 - `-v`: Verbose output.
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28. **`ping`**: Test network connectivity to a host

- `<host>`: Test network connectivity to the specified host.
- `-c <count>`: Send the specified number of packets.
- `-i <interval>`: Wait the specified number of seconds between packets.

29. **`ifconfig`**: Configure network interfaces

- No arguments: Display network interface configuration.
- `<interface>` `<address>`: Configure the specified network interface with the specified IP address.
- `up`: Enable the specified network interface.

30. **`route`**: Display or modify the routing table

- No arguments: Display the routing table.
- `add <network> gw <gateway>`: Add a route to the specified network via the specified gateway.
- `del <network>`: Delete the route to the specified network.

31. **`netstat`**: Display network connections and statistics

- No arguments: Display active network connections.
- `-a`: Display all network connections, including listening sockets.
- `-r`: Display the routing table.

32. **`iptables`**: Configure firewall rules

- `<chain>` `<rule>`: Add a rule to the specified chain (e.g. `iptables INPUT -p tcp --dport 22 -j ACCEPT`).
- `-L`: List the current firewall rules.
- `-F`: Flush all firewall rules.

33. **`systemctl`**: Control the systemd system and service manager

- `start <service>`: Start the specified service.
- `stop <service>`: Stop the specified service.
- `restart <service>`: Restart the specified service.
- `status <service>`: Display the status of the specified service.

34. **`journalctl`**: Query the systemd journal

- No arguments: Display all log messages in the journal.
- `-u <unit>`: Display log messages for the specified systemd unit.
- `-f`: Follow the journal in real time.

35. **`passwd`**: Change user password

- No arguments: Change the password for the current user.
- `<user>`: Change the password for the specified user.

36. **`useradd`**: Add a new user account

- ``<user>``: Create a new user account with the specified username.
 - ``-m``: Create a home directory for the new user.
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37. **userdel**: Delete a user account
- ``<user>``: Delete the specified user account.
 - ``-r``: Remove the user's home directory and mail spool.
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38. **groupadd**: Add a new group
- ``<group>``: Create a new group with the specified name.
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39. **groupdel**: Delete a group
- ``<group>``: Delete the specified group.
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40. **sudo**: Execute a command with superuser privileges
- ``<command>``: Execute the specified command with superuser privileges.
 - ``-u <user>``: Execute the command as the specified user.
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41. **su**: Switch to another user account
- ``<user>``: Switch to the specified user account.
 - ``-``: Switch to the specified user account and its environment.
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42. **whoami**: Display current user name
- No arguments.
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43. **hostname**: Display or set the system hostname
- No arguments: Display the current hostname