Ubuntu

Author – SUSHANT AHER

https://www.linkedin.com/in/sushant-aher-devops/

What is Ubuntu?

Ubuntu is a free and open-source Linux-based operating system developed by Canonical. It is one of the most popular Linux distributions, widely used for personal, professional, and server environments. Ubuntu is known for its ease of use, security, and large community support.

Why Use Ubuntu?

1. **Open Source & Free** - Ubuntu is completely free and open-source, making it an attractive option for individuals and businesses.
2. **User-Friendly Interface** - Ubuntu offers a clean and intuitive interface, making it accessible even for beginners.
3. **Security & Stability** - With regular security updates and a strong development community, Ubuntu is one of the most secure operating systems.
4. **Software Availability** - It supports a vast repository of open-source applications and tools.
5. **Customization & Flexibility** - Users can customize Ubuntu as per their requirements, from UI themes to system configurations.
6. **Community Support** - A large community and extensive documentation make troubleshooting easier.
7. **Compatibility with Cloud & Servers** - Ubuntu is widely used in cloud computing and server management due to its robustness.
8. **Performance & Efficiency** - Ubuntu is optimized for performance and is widely used in lightweight computing environments.
9. **Developer-Friendly** - Ubuntu supports a range of development tools, making it a preferred OS for developers and engineers.

Different Versions of Ubuntu

Ubuntu has different versions catering to various needs:

1. **Ubuntu Desktop** - The standard version for personal use, featuring a GUI and pre-installed applications.
2. **Ubuntu Server** - Designed for server environments, offering optimized performance and security features.
3. **Ubuntu Core** - A minimal, containerized version of Ubuntu for IoT and embedded devices.
4. **Ubuntu Studio** - A version tailored for multimedia production, including audio, video, and graphics tools.
5. **Kubuntu, Xubuntu, Lubuntu** - Lightweight variants with different desktop environments for varied user experiences.

Ubuntu commands –

Basic Linux Commands (50)

1. pwd – Print current working directory
2. ls – List files in a directory
3. ls -l – Detailed list of files
4. ls -a – Show hidden files
5. cd <directory> – Change directory
6. cd .. – Move up one level
7. mkdir <dir> – Create a new directory
8. rmdir <dir> – Remove an empty directory
9. rm <file> – Delete a file
10. rm -r <dir> – Remove a directory and contents
11. cp <source> <destination> – Copy files
12. cp -r <source> <destination> – Copy directories
13. mv <source> <destination> – Move or rename files
14. touch <file> – Create an empty file
15. cat <file> – Show file contents
16. less <file> – View file page-wise
17. more <file> – View file with pagination
18. head <file> – View first 10 lines
19. tail <file> – View last 10 lines
20. tail -f <file> – View file changes in real-time
21. echo "Hello World" – Print text
22. clear – Clear the terminal
23. history – Show command history
24. uptime – Show system uptime
25. whoami – Show the current user

26. who – Show logged-in users
27. w – Show detailed user activity
28. date – Show system date
29. cal – Display a calendar
30. df -h – Show disk space usage
31. du -sh <dir> – Show directory size
32. lsblk – List block devices
33. blkid – Display UUID of partitions
34. mount /dev/sdb1 /mnt – Mount a drive
35. umount /mnt – Unmount a drive
36. free -h – Show memory usage
37. uname -a – Show system information
38. hostname – Display system hostname
39. uptime – Show system uptime
40. env – Show environment variables
41. export VAR=value – Set environment variable
42. alias ll='ls -lah' – Create a command alias
43. unalias ll – Remove an alias
44. passwd – Change password
45. exit – Logout from terminal
46. shutdown -h now – Shutdown the system
47. reboot – Restart the system
48. sleep 5 – Wait for 5 seconds
49. time <command> – Measure execution time of a command
50. man <command> – Show the manual for a command

File Permissions and Ownership (25)

1. chmod 777 <file> – Full permissions
2. chmod 755 <file> – Read & execute for all, write for owner
3. chmod u+x <file> – Add execute permission to the user
4. chown user:group <file> – Change file ownership

5. chgrp group <file> – Change group ownership
6. ls -l – View file permissions
7. umask 022 – Default permission setting
8. find /path -type f -perm 777 – Find files with 777 permission
9. chmod +r <file> – Add read permission
10. chmod +w <file> – Add write permission
11. chmod +x <file> – Add execute permission
12. chmod -r <file> – Remove read permission
13. chmod -w <file> – Remove write permission
14. chmod -x <file> – Remove execute permission
15. lsattr – List file attributes
16. chattr +i <file> – Make a file immutable
17. chattr -i <file> – Remove immutability
18. chattr +a <file> – Append only
19. chattr -a <file> – Remove append-only
20. stat <file> – Get detailed file information
21. getfacl <file> – Get Access Control List
22. setfacl -m u:user:rwx <file> – Set ACL for a user
23. setfacl -x u:user <file> – Remove ACL for a user
24. setfacl -b <file> – Remove all ACL entries
25. ls -ld <directory> – View directory permissions

User Management (25)

1. whoami – Show current user
2. id – Display user ID
3. who – Show all logged-in users
4. w – Show user activity
5. adduser <username> – Create a new user
6. passwd <username> – Set a user's password
7. deluser <username> – Delete a user
8. usermod -aG <group> <username> – Add a user to a group

9. groups <username> – Show user groups
10. groupadd <groupname> – Create a new group
11. groupdel <groupname> – Delete a group
12. chage -l <username> – Show password expiry info
13. chage -M 30 <username> – Set password expiry
14. su <username> – Switch user
15. sudo su – Switch to root
16. sudo -i – Open an interactive root shell
17. who -b – Show last system reboot
18. finger <username> – Display user information
19. last – Show last logins
20. lastlog – Show last login for all users
21. pkill -u <username> – Kill all processes of a user
22. w -s – Show short version of active users
23. who -r – Show current runlevel
24. who -q – Show total logged-in users
25. sudo – Execute commands as root

Networking Commands (25)

1. ping google.com – Check connectivity
2. traceroute google.com – Trace the route to a host
3. nslookup google.com – DNS lookup
4. dig google.com – Get DNS info
5. host google.com – Find IP of a domain
6. wget <URL> – Download a file
7. curl -I <URL> – Fetch HTTP headers
8. scp user@host:/path /localpath – Secure copy
9. rsync -avz <source> <destination> – Sync files
10. netstat -tulnp – Show open ports
11. ss -tulnp – Display active network connections
12. ifconfig – Show network interfaces
13. ip addr show – Show IP addresses

14. ip route show – Show routing table
15. nmcli – Manage network connections
16. iwconfig – Show wireless settings
17. tcpdump – Capture network packets
18. nmap -sS <IP> – Scan a host
19. telnet <host> <port> – Test open ports
20. netcat -zv <host> <port> – Check if a port is open
21. iptables -L – Show firewall rules
22. firewalld --list-all – Show firewall settings
23. systemctl restart networking – Restart network services
24. hostname -I – Show IP address
25. arp -a – Show ARP cache