

Command	Description
ip link show	display information about all network interfaces on the system
ifconfig -a	display all network interfaces, including those that are currently down (inactive)
ip a	display all IP addresses and network interfaces on your system
ifconfig eth0 192.168.1.10 netmask 255.255.255.0	Configure an IP address 192.168.1.10 and 255.255.255.0 and default gateway 192.168.1.1 as the network interface eth0.
ifconfig eth0 0.0.0.0	Delete an IP address as the network interface eth0
iwconfig	configure wireless network interfaces
ifconfig eth0 up	activates the eth0 interface, making it ready for use
ifconfig eth0 down	deactivates the eth0 interface, making it ready for use
hostname	view a computer's hostname. A hostname is a name that is given to a computer that attached to the network that uniquely identifies over a network.
hostname -i	displays the loopback address
hostname -l	shows all configured network interfaces and their associated IP addresses on the host
ping	test connectivity to another host
netstat	used to display <ul style="list-style-type: none"> • Active Internet connections • Active UNIX domain sockets • Active Bluetooth connections
netstat -r	display kernel IP routing table.
ifconfig eth0 hw ether AA:BB:CC:DD:EE:FF	Add MAC address on eth0
route add default gw 192.168.1.1 eth0	Add default gateway 192.168.1.1 as the network interface eth0.
ip route show	View the Routing Table
route del default gw 192.168.1.1	To Delete Default Gateway
traceroute	track the path that packets take from your system to a destination host across a network
tar -zcvf utas.tar.gz *.txt	Compress all text Files -c :Create a new archive -v :Verbose output (show files processed) -f :Specify the archive file

	-z :Compress using gzip
tar -zxvf utas.tar.gz	Decompress utas.tar.gz file -c :Create a new archive -x :Extract an archive -v :Verbose output (show files processed) -z :Compress using gzip
mkfs	used to create a filesystem on a disk partition or logical volume
lvcreate	to create a Logical Volume (LV) inside a Volume Group (VG), which is a core part of the LVM (Logical Volume Manager) system
vgcreate	create a Volume Group (VG) in the LVM (Logical Volume Manager) system
pvcreate	initialize a physical volume (PV) for use with LVM (Logical Volume Manager).
fdisk	powerful tool used to create, delete, and manage disk partitions on MBR (Master Boot Record) disks
lsblk	List all disks and partitions
fdisk -l	View partitions with sizes
df -h	View disk usage
du -h	View estimate file and directory space usage
lshw	View list detailed information about your hardware
lshw -class cpu	Show only CPU info
lshw -class memory	Show RAM details
lshw -class disk	Show disk and storage info
lshw -class network	Show network interfaces
sudo apt update sudo apt install lvm2	Steps to Create LVM in Ubuntu Step 1- Install LVM Tools (if not installed)
sudo pvcreate /dev/sdX sudo pvs	Step 2- Create Physical Volume (PV)
sudo vgcreate my_vg /dev/sdX sudo vgs	Step 3- Create Volume Group (VG)
sudo lvcreate -L 10G -n my_lv my_vg sudo lvs	Step 4- Create Logical Volume (LV)

sudo mkfs.ext4 /dev/my_vg/my_lv	Step 5- Format the Logical Volume
sudo mkdir /mnt/mydata sudo mount /dev/my_vg/my_lv /mnt/mydata	Step 6- Mount the Logical Volume
sudo apt update sudo apt upgrade	<u>Install Webserver package</u> Step 1- Update your system
sudo apt install apache2	Step 2- Install Apache
sudo systemctl start apache2 sudo systemctl enable apache2 sudo systemctl status apache2	Step 3- Start and Enable Apache
sudo ufw allow 'Apache' sudo ufw status	Step 4- Allow web traffic through the firewall
ip a *or* hostname -l	Step 5- Test if Apache is working
sudo nano /var/www/html/index.html Write your own HTML Open your browser and go to: http://your_server_ip	Step 6- Manage your web files
sudo apt update sudo apt install isc-dhcp-server	<u>Install DHCP Server</u> Step 1- Install DHCP Server package
sudo nano /etc/dhcp/dhcpd.conf subnet 192.168.1.0 netmask 255.255.255.0 { range 192.168.1.100 192.168.1.200; option routers 192.168.1.1; option subnet-mask 255.255.255.0; option domain-name-servers 8.8.8.8, 8.8.4.4; option domain-name "mydomain.local"; }	Step 2- Configure the DHCP server
sudo nano /etc/default/isc-dhcp-server Find the line: INTERFACESv4="" and set it to your network interface	Step 3 - Specify which network interface will serve DHCP
sudo systemctl restart isc-dhcp-server sudo systemctl status isc-dhcp-server	Step 4- Restart the DHCP server
sudo apt-get install iptables	Installing Iptables (built-in firewall)
sudo iptables -L	Checking current Iptables status

sudo iptables -F	Deleting rules
iptables -I INPUT -s 192.168.100.0 -j DROP	Drop all incoming traffic from specific IP address as 192.168.100.0/24
iptables -I INPUT -s 192.168.100.0 -j ACCEPT	Allow all incoming traffic from specific IP address as 192.168.100.0/24
iptables -A INPUT -p icmp -i eth0 -j DROP	block incoming ping request using eth0 interface on Linux
iptables -A INPUT -p tcp --dport 80 -j ACCEPT	Enable HTTP Traffic
iptables -A INPUT -p tcp --dport 80 -j DROP	Disable HTTP Traffic
iptables -A INPUT -p tcp --dport 443 -j ACCEPT	Enable HTTPS Traffic
iptables -A INPUT -p tcp --dport 443 -j DROP	Disable HTTPS Traffic
iptables -A INPUT -i lo -j ACCEPT	Allow Loopback Access
iptables -A INPUT -i lo -j DROP	Block Loopback Access
sudo ufw enable	Enable UFW
sudo ufw default deny incoming	Deny all incoming traffic by default
sudo ufw default allow outgoing	Allow outgoing connections
sudo ufw allow ssh	Allow SSH (port 22)
sudo ufw allow http sudo ufw allow https	Allow HTTP (port 80) and HTTPS (port 443)
sudo ufw status verbose	Check UFW status