Practical 2:- Initial settings: Add a User, Network Settings, Change to static IP address, Disable IPv6 if not needed, Configure Services, display the list of services which are running, Stop and turn OFF auto-start setting for a service if you don't need it, Sudo Settings

Solution:-

Step 1:- Add a User

Step to create a sudo user

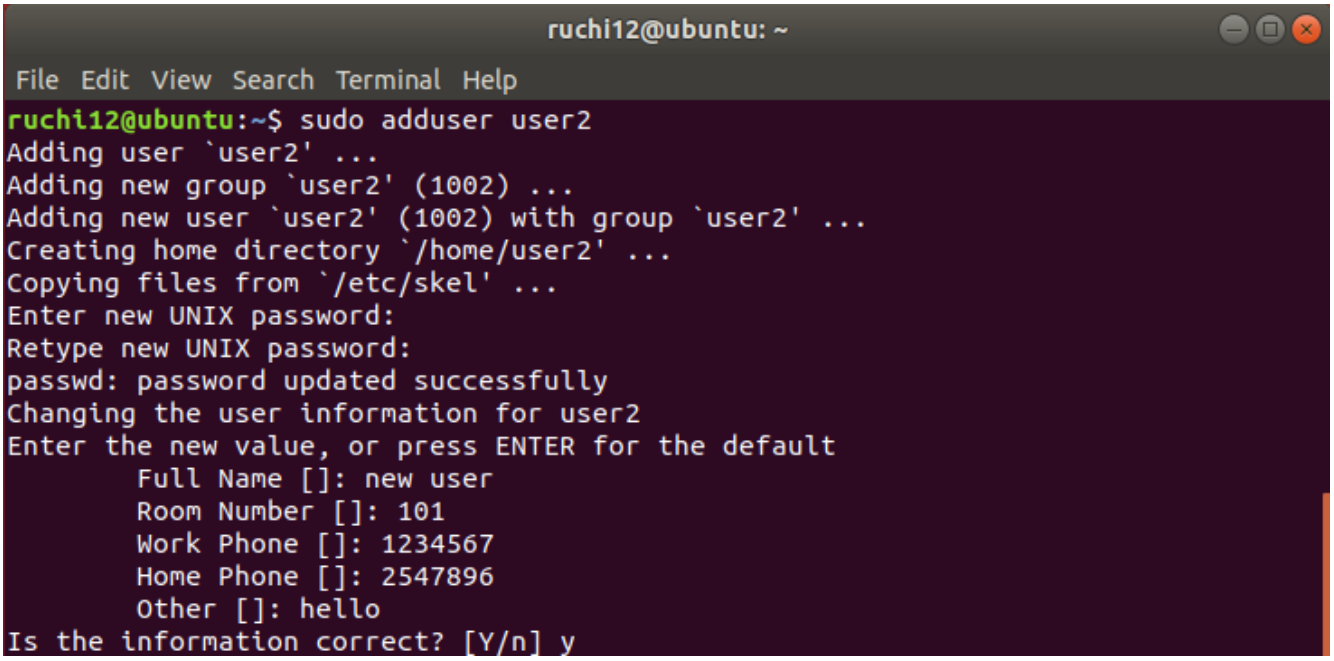
Follow the steps below to create a new user account and give it sudo access.

Step1. Log in to your server

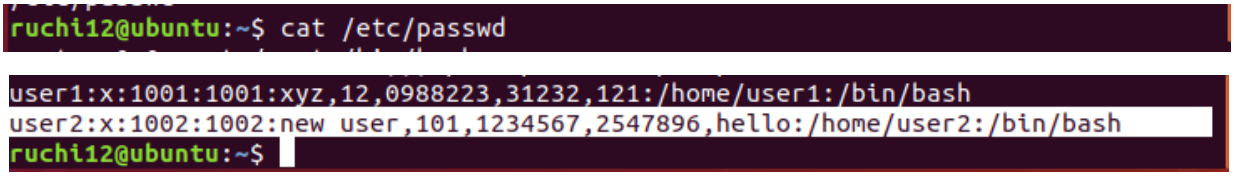
- Log in to your system as the root user:

Step 2. Create a new user account.

- Create a new user account using the adduser command. Don't forget to replace username with the user name that you want to create :
- You will be prompted to set and confirm the new user password. Make sure that the password for the new account is as strong as possible.
- Once you set the password the command will create a home directory for the user, copy several configuration files in the home directory to accept the default.
- Changing the user information.



- Access the user details



Step 2:- Network settings

To view current network parameter via the Terminal, use the following command.

- **Ifconfig**

The Ifconfig command also allow to configure the network setting, but changes made in such a manner ,will be reset to default when you restart your machine, so you can use them to temporary configure the network for testing purpose.

Syntax:-

#sudo Ifconfig ens33 192.168.1.101 netmask 255.255.255.0 up

```
ruchi12@ruchiserver:~$ ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.47.134  netmask 255.255.255.0  broadcast 192.168.47.255
        inet6 fe80::20c:29ff:fe2c:ad85  prefixlen 64  scopeid 0x20<link>
        ether 00:0c:29:2c:ad:85  txqueuelen 1000  (Ethernet)
        RX packets 208  bytes 24300 (24.3 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 44  bytes 9324 (9.3 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 88  bytes 6792 (6.7 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 88  bytes 6792 (6.7 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

ruchi12@ruchiserver:~$
```

```
ruchi12@ruchiserver:~$ sudo ifconfig ens33 192.168.2.101 netmask 255.255.255.0 up
ruchi12@ruchiserver:~$ ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.2.101  netmask 255.255.255.0  broadcast 192.168.2.255
        inet6 fe80::20c:29ff:fe2c:ad85  prefixlen 64  scopeid 0x20<link>
        ether 00:0c:29:2c:ad:85  txqueuelen 1000  (Ethernet)
        RX packets 8594  bytes 543898 (543.8 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 180  bytes 23124 (23.1 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 116  bytes 9240 (9.2 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 116  bytes 9240 (9.2 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

ruchi12@ruchiserver:~$
```

Network Configuration

- To make the IP setting persistent, you need to change the network interface configuration file loaded at **/etc/network/interfaces.** Open it in text editor
  # sudo nano /etc/network/interfaces
- Your network interfaces is currently set for using DHCP, when the network address are being assigned automatically by a DHCP server. You can see the following setting for Dynamic IP:

```
  GNU nano 2.9.3                          /etc/network/interfaces

# ifupdown has been replaced by netplan(5) on this system.  See
# /etc/netplan for current configuration.
# To re-enable ifupdown on this system, you can run:
#    sudo apt install ifupdown
auto ens33
iface ens33 inet dhcp
address 192.168.3.101
netmask 255.255.255.0
gateway 192.168.3.1
dns-nameservers 192.168.3.3 192.168.3.4
```

- To set static IP address for the network interface, replace the dhcp value with the static one and add some other parameter so that the configuration will look like this:

Step 4:- Disable IPv6

- First check to see if IPv6 is already disabled. To do so, Open a terminal window and at the command line enter.

  /proc/sys/net/ipv6/conf/all/disable_ipv6

  If the return value =1

  Then IPv6 is already disabled

  Else return value =0

  IPv6 is active, and you need to continue on to step 2.

- The simplest way to instantly disable the IP version 6 network protocol system on on Ubuntu 18.04 is to execute the following commands:

  - ***#sudo sysclt –w net.ipv6.conf.all.disable_ipv6 = 1***
  - ***#sudo sysclt –w net.ipv6.conf.default.disable_ipv6 = 1***

  Then run

#sudo ip a

```
ruchi12@ubuntu:~$ sudo sysctl -w net.ipv6.conf.all.disable_ipv6=1
net.ipv6.conf.all.disable_ipv6 = 1
ruchi12@ubuntu:~$ sudo sysctl -w net.ipv6.conf.default.disable_ipv6=1
net.ipv6.conf.default.disable_ipv6 = 1
ruchi12@ubuntu:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default
qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group
 default qlen 1000
    link/ether 00:0c:29:24:c7:9a brd ff:ff:ff:ff:ff:ff
    inet 192.168.3.101/24 brd 192.168.3.255 scope global noprefixroute ens33
       valid_lft forever preferred_lft forever
ruchi12@ubuntu:~$
```

- Open the file /etc/sysctl.conf in text editor.
  # sudo nano /etc/sysctl.conf
- Add the following at the bottom of the file:
  - *net.ipv6.conf.all.disable_ipv6 = 1*
  - *net.ipv6.conf.default.disable_ipv6 = 1*
  - *net.ipv6.conf.lo.disable_ipv6 = 1*
- Save and close the file and Reboot the machine.

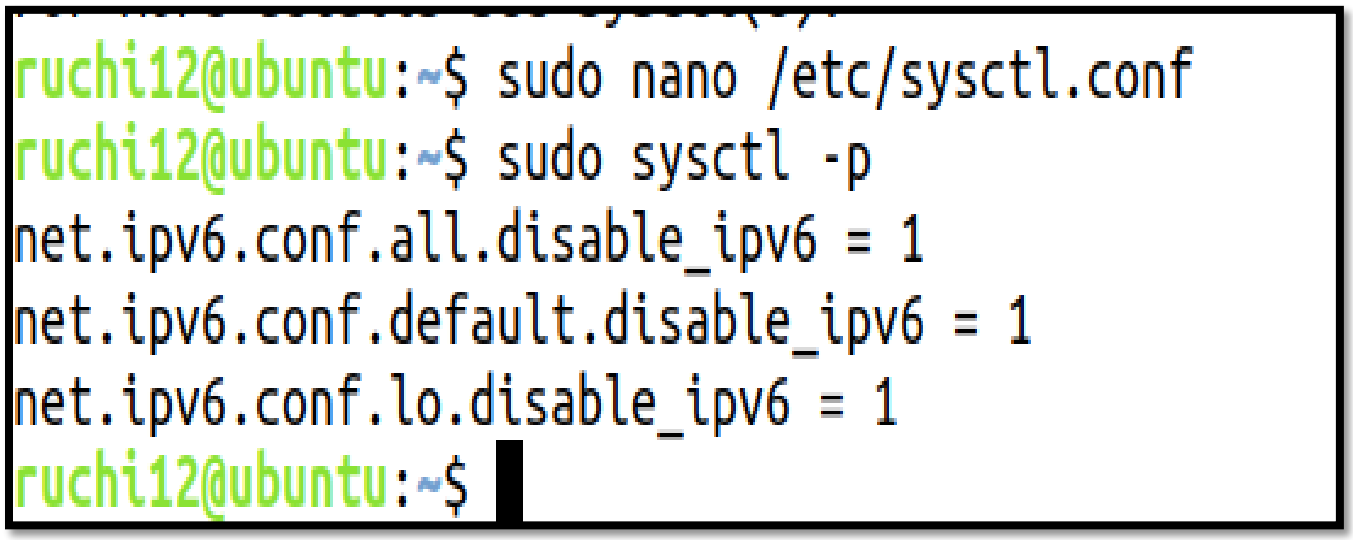
```
ruchi12@ubuntu: ~
File  Edit  View  Search  Terminal  Help
  GNU nano 2.9.3                  /etc/sysctl.conf                    Modified

###################################################################3
# Functions previously found in netbase
#

# Uncomment the next two lines to enable Spoof protection (reverse-path filter)
# Turn on Source Address Verification in all interfaces to
# prevent some spoofing attacks
#net.ipv4.conf.default.rp_filter=1
#net.ipv4.conf.all.rp_filter=1
net.ipv6.conf.all.disable_ipv6 =1
net.ipv6.conf.default.disable_ipv6=1
net.ipv6.conf.lo.disable_ipv6=1

# Uncomment the next line to enable TCP/IP SYN cookies
# See http://lwn.net/Articles/277146/
# Note: This may impact IPv6 TCP sessions too
#net.ipv4.tcp_syncookies=1

# Uncomment the next line to enable packet forwarding for IPv4
#net.ipv4.ip_forward=1


^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^\ Replace   ^U Uncut Text^T To Spell  ^_ Go To Line
```

- Now run following command to update to reconfiguration the kernel parameters with the new values set in step 3

  # sudo sysclt –p

- To check to see if IPv6 is disabled or not, run following command **/proc/sys/net/ipv6/conf/all/disable_ipv6**

  It should not return 1 indicating that IPv6 is disabled .



Step 5:- Configure services

- Display the list of services running
  #systemctl –t service
- The list of all services

  # systemctl list-unit-files –t service

- Stop and turn off auto start setting for services if you don't need it

  # systemctl stop servicename'

  # systemctl disable servicename

```
ruchi12@ubuntu:~$ systemctl -t service
  UNIT                                                                LOAD   ACTIVE SUB     DESCRIPTION
  accounts-daemon.service                                             loaded active running Accounts Service
  acpid.service                                                       loaded active running ACPI event daemon
  apparmor.service                                                    loaded active exited  AppArmor initialization
  apport.service                                                      loaded active exited  LSB: automatic crash repor
  avahi-daemon.service                                                loaded active running Avahi mDNS/DNS-SD Stack
  bluetooth.service                                                   loaded active running Bluetooth service
  bolt.service                                                        loaded active running Thunderbolt system service
  clean-mount-point@media-ruchi12-CDROM.service loaded active running Clean the /m
  clean-mount-point@media-ruchi12-RUHI.service loaded active running Clean the /me
  clean-mount-point@media-ruchi12-Ubuntu\x2018.04.3\x20LTS\x20amd64.service loaded
  colord.service                                                      loaded active running Manage, Install and Genera
  console-setup.service                                               loaded active exited  Set console font and keyma
  cron.service                                                        loaded active running Regular background program
  cups-browsed.service                                                loaded active running Make remote CUPS printers
  cups.service                                                        loaded active running CUPS Scheduler
  dbus.service                                                        loaded active running D-Bus System Message Bus
  fwupd.service                                                       loaded active running Firmware update daemon
  gdm.service                                                         loaded active running GNOME Display Manager
  geoclue.service                                                     loaded active running Location Lookup Service
  grub-common.service                                                 loaded active exited  LSB: Record successful boo
  kerneloops.service                                                  loaded active running Tool to automatically coll
  keyboard-setup.service                                              loaded active exited  Set the console keyboard l
  kmod-static-nodes.service                                           loaded active exited  Create list of required st
  ModemManager.service                                                loaded active running Modem Manager
lines 1-25...skipping...
  UNIT                                                                LOAD   ACTIVE SUB     DESCRIPTION
  accounts-daemon.service                                             loaded active running Accounts Service
  acpid.service                                                       loaded active running ACPI event daemon
  apparmor.service                                                    loaded active exited  AppArmor initialization
  apport.service                                                      loaded active exited  LSB: automatic crash report generation
  avahi-daemon.service                                                loaded active running Avahi mDNS/DNS-SD Stack
  bluetooth.service                                                   loaded active running Bluetooth service
  bolt.service                                                        loaded active running Thunderbolt system service
  clean-mount-point@media-ruchi12-CDROM.service loaded active running Clean the /media/ruchi12/CDROM mount p
  clean-mount-point@media-ruchi12-RUHI.service loaded active running Clean the /media/ruchi12/RUHI mount poi
  clean-mount-point@media-ruchi12-Ubuntu\x2018.04.3\x20LTS\x20amd64.service loaded active running Clean the
```

```
ruchi12@ubuntu:~$ systemctl list-unit-files -t service
UNIT FILE                                  STATE
accounts-daemon.service                    enabled
acpid.service                              disabled
alsa-restore.service                       static
alsa-state.service                         static
alsa-utils.service                         masked
anacron.service                            enabled
apparmor.service                           enabled
apport-autoreport.service                  static
apport-forward@.service                    static
apport.service                             generated
apt-daily-upgrade.service                  static
apt-daily.service                          static
auth-rpcgss-module.service                 static
autovt@.service                            enabled
avahi-daemon.service                       enabled
bluetooth.service                          enabled
bolt.service                               static
bootlogd.service                           masked
bootlogs.service                           masked
bootmisc.service                           masked
brltty-udev.service                        static
brltty.service                             disabled
checkfs.service                            masked
checkroot-bootclean.service                masked
checkroot.service                          masked
clean-mount-point@.service                 static
colord.service                             static
configure-printer@.service                 static
console-getty.service                      disabled
console-setup.service                      enabled
container-getty@.service                   static
cron.service                               enabled
cryptdisks-early.service                   masked
cryptdisks.service                         masked
cups-browsed.service                       enabled
cups.service                               enabled
```