

UNIT	LOAD	ACTIVE	SUB	DESCRIPTION
accounts-daemon.service	loaded	active	running	Accounts Service
alsa-restore.service	loaded	active	exited	Save/Restore Sound Card State
alsa-state.service	loaded	inactive	dead	Manage Sound Card State (restore and store)
anacron.service	loaded	active	running	Run anacron jobs
apparmor.service	loaded	active	exited	Load AppArmor profiles
apt-daily-upgrade.service	loaded	inactive	dead	Daily apt upgrade and clean activities
apt-daily.service	loaded	inactive	dead	Daily apt download activities
● audited.service	not-found	inactive	dead	audited.service
● auto-cpufreq.service	not-found	inactive	dead	auto-cpufreq.service
avahi-daemon.service	loaded	active	running	Avahi mDNS/DNS-SD Stack
blk-availability.service	loaded	active	exited	Availability of block devices
blueman-mechanism.service	loaded	inactive	dead	Bluetooth management mechanism
● casper-md5check.service	loaded	failed	failed	casper-md5check Verify Live ISO checksums
casper.service	loaded	inactive	dead	Shuts down the "live" preinstalled system cleanly
● cloud-init-local.service	not-found	inactive	dead	cloud-init-local.service
colord.service	loaded	active	running	Manage, Install and Generate Color Profiles
● connman.service	not-found	inactive	dead	connman.service
● console-screen.service	not-found	inactive	dead	console-screen.service
console-setup.service	loaded	active	exited	Set console font and keymap
cron.service	loaded	active	running	Regular background program processing daemon
cups-browsed.service	loaded	active	running	Make remote CUPS printers available locally
cups.service	loaded	active	running	CUPS Scheduler

1. `iti@iti:~$ sudo systemctl list-units --type=service --all`

```
iti@iti:~$ sudo systemctl get-default
graphical.target
iti@iti:~$ sudo systemctl set-default graphical.target
iti@iti:~$
```

2.

```
iti@iti:~$ echo "mail to the root task" | mail -s "Task3" root
iti@iti:~$ sudo cat /var/mail/root

From iti@iti Mon Jan 26 13:12:02 2026
Return-Path: <iti@iti>
X-Original-To: root
Delivered-To: root@iti
Received: by iti (Postfix, from userid 1000)
          id A3D5A150F0D; Mon, 26 Jan 2026 13:12:02 +0200 (EET)
Subject: Task3
To: root@iti
User-Agent: mail (GNU Mailutils 3.17)
Date: Mon, 26 Jan 2026 13:12:02 +0200
Message-Id: <20260126111202.A3D5A150F0D@iti>
From: iti <iti@iti>

mail to the root task
```

3. `iti@iti:~$`

4. this is the verification above

5. stop Postfix.service

```
sudo systemctl stop postfix.service
```

```
iti@localhost:~$ sudo systemctl stop postfix
iti@localhost:~$ echo "sending after stopping..." | mail -s "Stopped Service" root
iti@localhost:~$ sudo cat /var/mail/root

iti@localhost:~$ sudo systemctl start postfix
iti@localhost:~$ sudo cat /var/mail/root

From iti@localhost.localdomain Mon Jan 26 17:22:37 2026
Return-Path: <iti@localhost.localdomain>
X-Original-To: root
Delivered-To: root@localhost.localdomain
Received: by localhost.localdomain (Postfix, from userid 1000)
          id 3EB2C1977E4; Mon, 26 Jan 2026 17:21:58 +0200 (EET)
Date: Mon, 26 Jan 2026 17:21:58 +0200
To: root@localhost.localdomain
Subject: Stopped Service
User-Agent: s-nail v14.9.24
Message-Id: <20260126152237.3EB2C1977E4@localhost.localdomain>
From: iti <iti@localhost.localdomain>

sending after stopping...
```

6. [REDACTED]

7. done above

8. done above

9. done above

```
iti@localhost:~$ sudo vim /etc/default/grub
iti@localhost:~$ sudo cat /etc/default/grub
GRUB_TIMEOUT=20
GRUB_DISTRIBUTOR="$(sed 's, release .*$,,g' /etc/system-release)"
GRUB_DEFAULT=1
GRUB_DISABLE_SUBMENU=true
GRUB_TERMINAL_OUTPUT="console"
GRUB_CMDLINE_LINUX="crashkernel=2G-64G:256M,64G-:512M resume=UUID=90e43ad0-5055-44b8-8b62-6aa6903bfae1 rd.lvm.lv=rhel/root rd.
lvm.lv=rhel/swap rhgb quiet"
GRUB_DISABLE_RECOVERY="true"
GRUB_ENABLE_BLSCFG=true
iti@localhost:~$ sudo grub2-mkconfig -o /boot/grub2/grub.cfg
Generating grub configuration file ...
Adding boot menu entry for UEFI Firmware Settings ...
done
iti@localhost:~$ [REDACTED]
```

10. [REDACTED]

```
iti@localhost:~$ sudo vim /etc/default/grub
iti@localhost:~$ sudo cat /etc/default/grub
GRUB_TIMEOUT=20
GRUB_DISTRIBUTOR="$(sed 's, release .*$,,g' /etc/system-release)"
GRUB_DEFAULT=1
GRUB_DISABLE_SUBMENU=true
GRUB_TERMINAL_OUTPUT="console"
GRUB_CMDLINE_LINUX="crashkernel=2G-64G:256M,64G-:512M resume=UUID=90e43ad0-5055-44b8-8b62-6aa6903bfae1 rd.lvm.lv=rhel/root rd.
lvm.lv=rhel/swap rhgb quiet"
GRUB_DISABLE_RECOVERY="true"
GRUB_ENABLE_BLSCFG=true
iti@localhost:~$ sudo grub2-mkconfig -o /boot/grub2/grub.cfg
Generating grub configuration file ...
Adding boot menu entry for UEFI Firmware Settings ...
done
iti@localhost:~$ [REDACTED]
```

11. [REDACTED]

```
iti@localhost:~$ sudo crontab -l -u root
*/10 8-17 * * * tail -n 50 /var/log/kern.log | logger -t "Memory-check"
```

12. [REDACTED]

```
root@localhost:~# mail
s-mail version v14.9.24. Type `?' for help
/var/spool/mail/root: 6 messages
► 1 iti                      2026-01-26 17:21  16/539  "Stopped Service
  2 (Cron Daemon)            2026-01-27 13:00  31/1149  "Cron <root@localhost>
  3 (Cron Daemon)            2026-01-27 13:10  31/1149  "Cron <root@localhost>
  4 (Cron Daemon)            2026-01-27 13:20  31/1149  "Cron <root@localhost>
  5 (Cron Daemon)            2026-01-27 13:30  31/1150  "Cron <root@localhost>
  6 (Cron Daemon)            2026-01-27 13:40  31/1150  "Cron <root@localhost>
&
```

13.

```
*10 8-17 * * * tail -n 50 /var/log/kern.log | logger -t "Memory-check"
```

```
MAILTO=manager
```

14.

15. the mail is not working for some reason :(

16. Create /opt/research and do other operations

```
iti@localhost:~$ sudo mkdir /opt/research
```

1.

```
iti@localhost:~$ sudo groupadd profs
[sudo] password for iti:
iti@localhost:~$ sudo groupadd grads
iti@localhost:~$
```

2.

3. Owned By root

```
iti@localhost:/opt$ ls -al
total 0
drwxr-xr-x. 3 root root 22 Jan 27 18:03 .
dr-xr-xr-x. 18 root root 235 Jan 26 14:26 ..
drwxr-xr-x. 2 root root 6 Jan 27 18:03 research
```

4. the group owners is grads

```
iti@localhost:/opt$ sudo chgrp grads ./research/
[sudo] password for iti:
iti@localhost:/opt$ ls -l
total 0
drwxr-xr-x. 2 root grads 6 Jan 27 18:03 research
```

5. this to ensure no other group has acces and all the files that will be created inside this directory will be owned by the group grads

```
iti@localhost:/opt$ sudo chmod 2770 research/
[sudo] password for iti:
iti@localhost:/opt$ ls -l
total 0
drwxrws---. 2 root grads 6 Jan 27 18:03 research
iti@localhost:/opt$
```

6. edit profs and interns permissions

```
iti@localhost:/opt$ sudo setfacl -m g:profs:rw ./research/
iti@localhost:/opt$ sudo groupadd interns
iti@localhost:/opt$ sudo setfacl -m g:interns:r ./research/
```

17. using ifconfig and ip link show

```
iti@localhost:/opt$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fd17:625c:f037:2:a00:27ff:feb2:1b98 prefixlen 64 scopeid 0x0<global>
        inet6 fe80::a00:27ff:feb2:1b98 prefixlen 64 scopeid 0x20<link>
            ether 08:00:27:b2:1b:98 txqueuelen 1000 (Ethernet)
            RX packets 1768277 bytes 2410051477 (2.2 GiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 271626 bytes 20166218 (19.2 MiB)
            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 154 bytes 11323 (11.0 KiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 154 bytes 11323 (11.0 KiB)
            TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

18. iti@localhost:/opt\$

```
iti@localhost:/opt$ ip link show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN mode DEFAULT group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP mode DEFAULT group default qlen 1000
    link/ether 08:00:27:b2:1b:98 brd ff:ff:ff:ff:ff:ff
    altname enx080027b21b98
```

19.

```
20. iti@localhost:~$ ip link show up
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN mode DEFAULT group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP mode DEFAULT
group default qlen 1000
    link/ether 08:00:27:b2:1b:98 brd ff:ff:ff:ff:ff:ff
        altname enx080027b21b98
```

```
21. iti@localhost:~$ ip link show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN mode DEFAULT group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP mode DEFAULT
group default qlen 1000
    link/ether 08:00:27:b2:1b:98 brd ff:ff:ff:ff:ff:ff
        altname enx080027b21b98
```

```
22. iti@localhost:~$ sudo ip link set enp0s3 down
iti@localhost:~$ ping 1.1.1.1
ping: connect: Network is unreachable
```

```
23. iti@localhost:~$ sudo nmcli connection modify enp0s3 ipv4.addresses 192.168.1.99/24 ipv4.gateway 192.168.1.1
iti@localhost:~$ sudo nmcli connection modify enp0s3 ipv4.method manual
iti@localhost:~$ sudo nmcli connection up enp0s3
Connection successfully activated (D-Bus active path: /org/freedesktop/NetworkManager/ActiveConnection/3)
```

```
24. iti@localhost:~$ sudo ip link set enp0s3 up
iti@localhost:~$ ping 1.1.1.1
PING 1.1.1.1 (1.1.1.1) 56(84) bytes of data.
64 bytes from 1.1.1.1: icmp_seq=1 ttl=255 time=248 ms
64 bytes from 1.1.1.1: icmp_seq=2 ttl=255 time=270 ms
^C
--- 1.1.1.1 ping statistics ---
3 packets transmitted, 2 received, 33.3333% packet loss, time 2003ms
rtt min/avg/max/mdev = 247.575/258.625/269.676/11.050 ms
```

```
25. iti@localhost:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.1.99 netmask 255.255.255.0 broadcast 192.168.1.255
        inet6 fe80::a00:27ff:feb2:1b98 prefixlen 64 scopeid 0x20<link>
        inet6 fd17:625c:f037:2:a00:27ff:feb2:1b98 prefixlen 64 scopeid 0x0<global>
            ether 08:00:27:b2:1b:98 txqueuelen 1000 (Ethernet)
            RX packets 551 bytes 164983 (161.1 KiB)
            RX errors 0 dropped 0 overruns 0 frame 0
            TX packets 651 bytes 90954 (88.8 KiB)
            TX errors 0 dropped 3 overruns 0 carrier 0 collisions 0

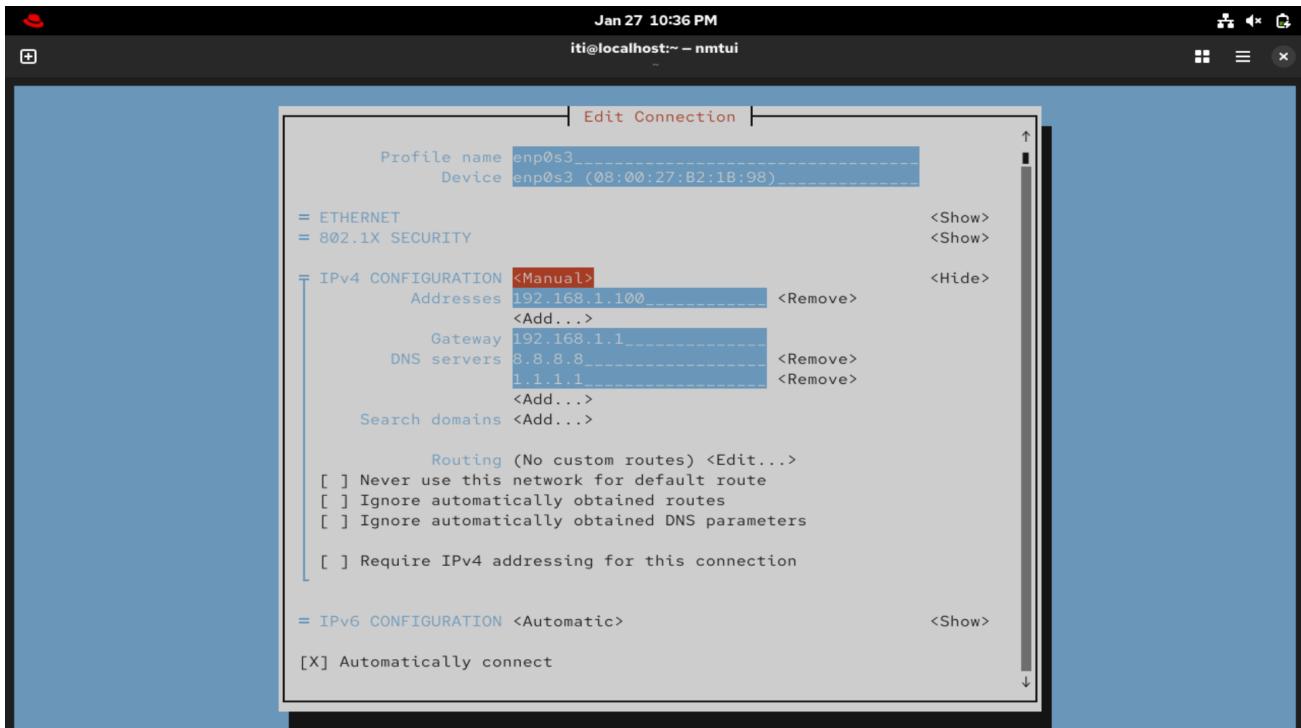
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
        inet6 ::1 prefixlen 128 scopeid 0x10<host>
        loop txqueuelen 1000 (Local Loopback)
        RX packets 52 bytes 5574 (5.4 KiB)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 52 bytes 5574 (5.4 KiB)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
26. iti@localhost:~$ sudo nmcli connection modify enp0s3 ipv4.method auto
iti@localhost:~$ sudo nmcli connection up enp0s3
Connection successfully activated (D-Bus active path: /org/freedesktop/NetworkManager/ActiveConnection/8)
```

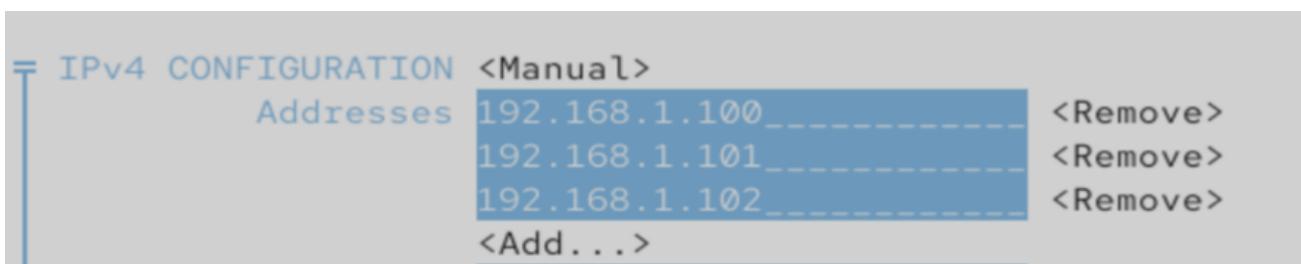
```
iti@localhost:~$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
        inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:27ff:feb2:1b98 prefixlen 64 scopeid 0x20<link>
        inet6 fd17:625c:f037:2:a00:27ff:feb2:1b98 prefixlen 64 scopeid 0x0<global>
        ether 08:00:27:b2:1b:98 txqueuelen 1000 (Ethernet)
        RX packets 48929 bytes 63615381 (60.6 MiB)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 21693 bytes 1769906 (1.6 MiB)
        TX errors 0 dropped 3 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 3444 bytes 325822 (318.1 KiB)
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 3444 bytes 325822 (318.1 KiB)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

27. iti@localhost:~\$



28.



29.

```
iti@localhost:~$ sudo vim /etc/hosts
[sudo] password for iti:
iti@localhost:~$ cat /etc/hosts
# Loopback entries; do not change.
# For historical reasons, localhost precedes localhost.localdomain:
127.0.0.1 NewHostName localhost.localdomain localhost4 localhost4.localdomain4
::1 localhost localhost.localdomain localhost6 localhost6.localdomain6
# See hosts(5) for proper format and other examples:
# 192.168.1.10 foo.example.org foo
# 192.168.1.13 bar.example.org bar
```

30.

