



Systèmes

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Travaux Dirigés

TD7

1. Reproduisez les tâches de 1 à 6.

```
Douda@Ubuntu-24:~$ 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 pfifo_fast state UP mode DEFAULT group default qlen 1000
    link/ether 08:00:27:f6:b6:ab brd ff:ff:ff:ff:ff:ff

Douda@Ubuntu-24:~$ sudo nano /etc/netplan/01-netcfg.yaml
[sudo] password for Douda:
Douda@Ubuntu-24:~$ sudo chmod+x /etc/netplan/01-netcfg.yaml
sudo: chmod+x: command not found
Douda@Ubuntu-24:~$ sudo chmod +x /etc/netplan/01-netcfg.yaml
Douda@Ubuntu-24:~$ sudo netplan apply

** (generate:4727): WARNING **: 23:26:52.677: Permissions for /etc/netplan/01-netcfg.yaml are too open. Netplan configuration should NOT be accessible by others.

** (generate:4727): WARNING **: 23:26:52.677: `gateway4` has been deprecated, use default routes instead.
See the 'Default routes' section of the documentation for more details.

** (generate:4727): WARNING **: 23:26:52.680: Permissions for /etc/netplan/01-network-manager-all.yaml are too open. Netplan configuration should NOT be accessible by others.

** (process:4726): WARNING **: 23:26:53.981: Permissions for /etc/netplan/01-netcfg.yaml are too open. Netplan configuration should NOT be accessible by others.

** (process:4726): WARNING **: 23:26:53.985: `gateway4` has been deprecated, use default routes instead.
See the 'Default routes' section of the documentation for more details.

** (process:4726): WARNING **: 23:26:53.985: Permissions for /etc/netplan/01-network-manager-all.yaml are too open. Netplan configuration should NOT be accessible by others.

** (process:4726): WARNING **: 23:26:54.222: Permissions for /etc/netplan/01-netcfg.yaml are too open. Netplan configuration should NOT be accessible by others.

GNU nano 7.2          /etc/netplan/01-netcfg.yaml
network:
  version: 2
  renderer: networkd
  ethernets:
    eth0:
      dhcp4: no
      addresses:
        - 192.168.1.100/24
      gateway4: 192.168.1.1
      nameservers:
        addresses:
          - 8.8.8.8
          - 8.8.4.4

[ Read 13 lines ]
^G Help      ^O Write Out  ^W Where Is  ^K Cut      ^T Execute  ^C Location
^Q Exit      ^R Read File  ^V Replace   ^U Paste    ^J Justify  ^/ Go To Line
```

```
Douda@Ubuntu-24:~
```

** (process:4726): WARNING **: 23:26:54.222: 'gateway4' has been deprecated, use default routes instead.
See the 'Default routes' section of the documentation for more details.

```
Douda@Ubuntu-24:~$ sudo nano /etc/netplan/01-network-manager-all.yaml
```

```
Douda@Ubuntu-24:~$ ip addr show eth0  
Device "eth0" does not exist.
```

```
Douda@Ubuntu-24:~$ sudo nano /etc/netplan/01-netcfg.yaml
```

```
Douda@Ubuntu-24:~$ sudo netplan apply
```

```
** (generate:5167): WARNING **: 23:30:48.150: Permissions for /etc/netplan/01-netcfg.yaml are too open. Netplan configuration should NOT be accessible by others.
```

```
** (generate:5167): WARNING **: 23:30:48.151: Permissions for /etc/netplan/01-network-manager-all.yaml are too open. Netplan configuration should NOT be accessible by others.
```

```
** (process:5166): WARNING **: 23:30:49.069: Permissions for /etc/netplan/01-netcfg.yaml are too open. Netplan configuration should NOT be accessible by others.
```

```
** (process:5166): WARNING **: 23:30:49.073: Permissions for /etc/netplan/01-network-manager-all.yaml are too open. Netplan configuration should NOT be accessible by others.
```

```
** (process:5166): WARNING **: 23:30:49.346: Permissions for /etc/netplan/01-netcfg.yaml are too open. Netplan configuration should NOT be accessible by others.
```

```
** (process:5166): WARNING **: 23:30:49.346: Permissions for /etc/netplan/01-network-manager-all.yaml are too open. Netplan configuration should NOT be accessible by others.
```

```
Douda@Ubuntu-24:~$ ip addr show eth0  
Device "eth0" does not exist.
```

```
Douda@Ubuntu-24:~$ ping -c 4 8.8.8.8  
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.  
64 bytes from 8.8.8.8: icmp_seq=1 ttl=255 time=61.7 ms
```

```
Douda@Ubuntu-24:~$ ip addr show eth0  
Device "eth0" does not exist.
```

```
Douda@Ubuntu-24:~$ ping -c 4 8.8.8.8  
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.  
64 bytes from 8.8.8.8: icmp_seq=1 ttl=255 time=61.7 ms  
64 bytes from 8.8.8.8: icmp_seq=2 ttl=255 time=34.3 ms  
64 bytes from 8.8.8.8: icmp_seq=3 ttl=255 time=43.8 ms  
64 bytes from 8.8.8.8: icmp_seq=4 ttl=255 time=38.6 ms
```

```
Douda@Ubuntu-24:~$ ping -c 4 8.8.8.8  
--- 8.8.8.8 ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3005ms  
rtt min/avg/max/mdev = 34.300/44.609/61.707/10.428 ms
```

```
Douda@Ubuntu-24:~$ ping -c 4 google.com  
PING google.com (142.250.64.174) 56(84) bytes of data.  
64 bytes from mia09s22-in-f14.1e100.net (142.250.64.174): icmp_seq=1 ttl=255 time=36.6 ms  
64 bytes from mia09s22-in-f14.1e100.net (142.250.64.174): icmp_seq=2 ttl=255 time=28.0 ms  
64 bytes from mia09s22-in-f14.1e100.net (142.250.64.174): icmp_seq=3 ttl=255 time=35.1 ms  
64 bytes from mia09s22-in-f14.1e100.net (142.250.64.174): icmp_seq=4 ttl=255 time=41.0 ms
```

```
Douda@Ubuntu-24:~$ ping -c 4 google.com  
--- google.com ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3002ms  
rtt min/avg/max/mdev = 27.989/35.175/41.009/4.680 ms
```

```
Douda@Ubuntu-24:~$ sudo ip link  
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 pfifo_fast state UP mode DEFAULT group default qlen 1000  
    link/ether 08:00:27:f6:bab brd ff:ff:ff:ff:ff:ff
```

```
Douda@Ubuntu-24:~$ ip route show  
default via 10.0.2.2 dev enp0s3 proto dhcp src 10.0.2.15 metric 100  
10.0.2.0/24 dev enp0s3 proto kernel scope link src 10.0.2.15 metric 100
```

```
Douda@Ubuntu-24:~$ sudo journalctl -u systemd-networkd  
-- No entries --
```

```
Douda@Ubuntu-24:~$ systemctl status systemd-networkd
```

```
Douda@Ubuntu-24:~
```

--- 6.6.6.6 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 34.300/44.609/61.707/10.428 ms
Douda@Ubuntu-24:~\$ ping -c 4 google.com
PING google.com (142.250.64.174) 56(84) bytes of data.
64 bytes from mia09s22-in-f14.1e100.net (142.250.64.174): icmp_seq=1 ttl=255 time=36.6 ms
64 bytes from mia09s22-in-f14.1e100.net (142.250.64.174): icmp_seq=2 ttl=255 time=28.0 ms
64 bytes from mia09s22-in-f14.1e100.net (142.250.64.174): icmp_seq=3 ttl=255 time=35.1 ms
64 bytes from mia09s22-in-f14.1e100.net (142.250.64.174): icmp_seq=4 ttl=255 time=41.0 ms

--- google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3002ms
rtt min/avg/max/mdev = 27.989/35.175/41.009/4.680 ms
Douda@Ubuntu-24:~\$ sudo ip link
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 pfifo_fast state UP mode DEFAULT group default qlen 1000
 link/ether 08:00:27:df:6b:ab brd ff:ff:ff:ff:ff:ff
Douda@Ubuntu-24:~\$ ip route show
default via 10.0.2.2 dev enp0s3 proto dhcp src 10.0.2.15 metric 100
10.0.2.0/24 dev enp0s3 proto kernel scope link src 10.0.2.15 metric 100
Douda@Ubuntu-24:~\$ sudo journalctl -u systemd-networkd
-- No entries --
Douda@Ubuntu-24:~\$ systemctl status systemd-networkd
● systemd-networkd.service - Network Configuration
 Loaded: loaded (/usr/lib/systemd/system/systemd-networkd.service; disabled)
 Active: inactive (dead)
TriggeredBy: ● systemd-networkd.socket
 Docs: man:systemd-networkd.service(8)
 man:org.freedesktop.network(5)
 FD Store: 0 (limit: 512)
...skipping...

```
Douda@Ubuntu-24:~
```

[1]+ Stopped systemct status systemd-networkd
Douda@Ubuntu-24:~\$ sudo apt update
Hit:1 http://ht.archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://ht.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:4 http://ht.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:5 http://ht.archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [865 kB]
Get:6 http://ht.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [151 kB]
Get:7 http://ht.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:8 http://ht.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [362 kB]
Get:9 http://ht.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:10 http://ht.archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 B]
Get:11 http://ht.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:12 http://ht.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [17.7 kB]
Get:13 http://ht.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Get:14 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [8,992 B]
Get:15 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [208 B]
Get:16 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52.0 kB]
Get:17 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Fetched 1,838 kB in 2s (788 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
216 packages can be upgraded. Run 'apt list --upgradable' to see them.
Douda@Ubuntu-24:~\$ sudo apt install isc-dhcp-server
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
 isc-dhcp-common
Suggested packages:
 isc-dhcp-client libisc-dhcp-client1

```
Douda@Ubuntu-24:~
```

Selecting previously unselected package isc-dhcp-common.
Preparing to unpack .../isc-dhcp-common_4.4.3-1~4ubuntu2_amd64.deb ...
Unpacking isc-dhcp-common (4.4.3-1~4ubuntu2) ...
Setting up isc-dhcp-server (4.4.3-1~4ubuntu2) ...
Generated symlink /etc/systemd/system/multi-user.target.wants/isc-dhcp-server.serv
ice → /usr/lib/systemd/system/isc-dhcp-server.service.
Generated symlink /etc/systemd/system/multi-user.target.wants/isc-dhcp-server6.ser
vice → /usr/lib/systemd/system/isc-dhcp-server6.service.
Setting up isc-dhcp-common (4.4.3-1~4ubuntu2) ...
Processing triggers for man-db (2.12.0-4build2) ...
Douda@Ubuntu-24:~\$ 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 pfifo_fast state UP mode DEFAULT group default qlen 1000
 link/ether 08:00:27:df:6b:ab brd ff:ff:ff:ff:ff:ff
Douda@Ubuntu-24:~\$ sudo nano /etc/dhcp/dhcp.conf
Douda@Ubuntu-24:~\$ sudo nano /etc/dhcp/dhcpd.conf
Douda@Ubuntu-24:~\$ sudo nano /etc/dhcp/dhcpd.conf
Douda@Ubuntu-24:~\$ sudo nano /etc/default/isc-dhcp-server
Douda@Ubuntu-24:~\$ sudo systemctl restart isc-dhcp-server
Douda@Ubuntu-24:~\$ sudo systemctl status isc-dhcp-server
● isc-dhcp-server.service - ISC DHCP IPv4 server
 Loaded: loaded (/usr/lib/systemd/system/isc-dhcp-server.service; enabled;)
 Active: failed (Result: exit-code) since Fri 2025-02-14 23:49:54 UTC; 27s ago
 Duration: 59ms
 Docs: man:dhcpd(8)
 Process: 6643 ExecStart=/bin/sh -ec CONFIG_FILE=/etc/dhcp/dhcpd.conf; >
 Main PID: 6643 (code=exited, status=1/FAILURE)
 CPU: 39ms
Feb 14 23:49:54 Ubuntu-24 dhacd[6643]:
Feb 14 23:49:54 Ubuntu-24 dhacd[6643]:

```
Douda@Ubuntu-24:~
```

GNU nano 7.2 /etc/dhcp/dhcpd.conf *

```
# }  
# pool {  
#     allow members of "foo";  
#     range 10.17.224.10 10.17.224.250;  
# }  
# pool {  
#     deny members of "foo";  
#     range 10.0.29.10 10.0.29.230;  
# }  
#}  
subnet 192.168.1.0 netmask 255.255.255.0 {  
    range 192.168.1.100 192.168.1.200;  
    option domain-name-servers 8.8.8.8, 8.8.4.4;  
    option domain-name "example.local";  
    option routers 192.168.1.1;  
    option broadcast-address 192.168.1.255;  
    default-lease-time 600;  
    max-lease-time 7200;  
}  
  
^G Help      ^O Write Out  ^W Where Is  ^K Cut          ^T Execute  ^C Location  
^X Exit      ^R Read File  ^P Replace  ^U Paste          ^J Justify  ^L Go To Line
```

```
Douda@Ubuntu-24:~
```

Feb 14 23:49:54 Ubuntu-24 systemd[1]: isc-dhcp-server.service: Main process exited with code 1
Feb 14 23:49:54 Ubuntu-24 systemd[1]: isc-dhcp-server.service: Failed with result 'exit-code'.
[2]+ Stopped sudo systemctl status isc-dhcp-server
Douda@Ubuntu-24:~\$ sudo nano /etc/netplan/00-installer-config.yaml
Douda@Ubuntu-24:~\$ sudo netplan apply
** (generate:6674): WARNING **: 23:52:45.668: Permissions for /etc/netplan/00-installer-config.yaml are too open. Netpla
n configuration should NOT be accessible by others.
/etc/netplan/00-installer-config.yaml:5:11: Error in network definition: expected mapping (check indentation)
ens33:
Douda@Ubuntu-24:~\$ 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
 inet6 ::1/128 scope host noprefixroute
 valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
 link/ether 08:00:27:df:6b:ab brd ff:ff:ff:ff:ff:ff
 inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute enp0s3
 valid_lft 85075sec preferred_lft 85075sec
 inet6 fd00::4032:9d31:e29e:6541/64 scope global temporary dynamic
 valid_lft 86276sec preferred_lft 14276sec
 inet6 fd00::a00:27ff:fedf:6bab/64 scope global dynamic mngtmpaddr
 valid_lft 86276sec preferred_lft 14276sec
 inet6 fe80::a00:27ff:fedf:6bab/64 scope link
 valid_lft forever preferred_lft forever
Douda@Ubuntu-24:~\$ sudo dhclient ens3
sudo: dhclient: command not found
Douda@Ubuntu-24:~\$ ip addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000

Douda@Ubuntu-24:~

```
GNU nano 7.2          /etc/default/isc-dhcp-server *
# Defaults for isc-dhcp-server (sourced by /etc/init.d/isc-dhcp-server)

# Path to dhcpcd's config file (default: /etc/dhcp/dhcpd.conf).
#DHCPDv4_CONF=/etc/dhcp/dhcpd.conf
#DHCPDv6_CONF=/etc/dhcp/dhcpd6.conf

# Path to dhcpcd's PID file (default: /var/run/dhcpcd.pid).
#DHCPDv4_PID=/var/run/dhcpcd.pid
#DHCPDv6_PID=/var/run/dhcpcd6.pid

# Additional options to start dhcpcd with.
#       Don't use options -cf or -pf here; use DHCPD_CONF/ DHCPD_PID instead
#OPTIONS=""

# On what interfaces should the DHCP server (dhcpcd) serve DHCP requests?
#       Separate multiple interfaces with spaces, e.g. "eth0 eth1".
INTERFACESv4="eth0"
INTERFACESv6=""
```

^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location
^X Exit ^R Read File ^V Replace ^U Paste ^J Justify ^/ Go To Line

Douda@Ubuntu-24:~

```
GNU nano 7.2          /etc/netplan/00-installer-config.yaml *
network:
  version: 2
  renderer: networkd
  ethernets:
    ens33:
      dhcp4: true
```

^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location
^X Exit ^R Read File ^V Replace ^U Paste ^J Justify ^/ Go To Line

Douda@Ubuntu-24:~

```
Feb 14 23:49:54 Ubuntu-24 systemd[1]: isc-dhcp-server.service: Main process exited with code 1
Feb 14 23:49:54 Ubuntu-24 systemd[1]: isc-dhcp-server.service: Failed with result 'exit-code'.
[2]+  Stopped                  sudo systemctl status isc-dhcp-server
Douda@Ubuntu-24:~$ sudo nano /etc/netplan/00-installer-config.yaml
Douda@Ubuntu-24:~$ sudo netplan apply

** (generate:6674): WARNING **: 23:52:45.668: Permissions for /etc/netplan/00-installer-config.yaml are too open. Netplan configuration should NOT be accessible by others.
/etc/netplan/00-installer-config.yaml:5:11: Error in network definition: expected mapping (check indentation)
  ens33:
    ^
Douda@Ubuntu-24:~$ 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
      inet6 ::1/128 scope host noprefixroute
        valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
  link/ether 08:00:27:df:6b:ab brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute enp0s3
      valid_lft 85075sec preferred_lft 85075sec
      inet6 fd00::4032:9d31:e29e:6541/64 scope global temporary dynamic
        valid_lft 86276sec preferred_lft 14276sec
      inet6 fd00::a00:27ff:fedf:6bab/64 scope global dynamic mngtmpaddr
        valid_lft 86276sec preferred_lft 14276sec
      inet6 fe80::a00:27ff:fedf:6bab/64 scope link
        valid_lft forever preferred_lft forever
Douda@Ubuntu-24:~$ sudo dhclient ens33
sudo: dhclient: command not found
Douda@Ubuntu-24:~$ ip addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
```

```

Douda@Ubuntu-24:~$ ip addr show
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
            inet6 ::1/128 scope host noprefixroute
                valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:df:6b:ab brd ff:ff:ff:ff:ff:ff
        inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute enp0s3
            valid_lft 85026sec preferred_lft 85026sec
            inet6 fd00::4032:9d31:e29e:6541/64 scope global temporary dynamic
                valid_lft 86227sec preferred_lft 14227sec
            inet6 fd00::a00:27ff:fedf:6bab/64 scope global dynamic mngtmpaddr
                valid_lft 86227sec preferred_lft 14227sec
            inet6 fe80::a00:27ff:fedf:6bab/64 scope link
                valid_lft forever preferred_lft forever
Douda@Ubuntu-24:~$ sudo apt install bind9
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  bind9-utils
Suggested packages:
  bind-doc
The following NEW packages will be installed:
  bind9 bind9-utils
0 upgraded, 2 newly installed, 0 to remove and 216 not upgraded.
Need to get 413 kB of archives.
After this operation, 1,605 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://ht.archive.ubuntu.com/ubuntu noble-updates/main amd64 bind9-utils amd64 1:9.18.30-0ubuntu0.24.04.2 [159 kB]
...
Douda@Ubuntu-24:~$ created symlink /etc/systemd/system/multi-user.target.wants/named.service → /usr/lib/systemd/system/named.service.
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for ufw (0.36.2-6) ...
Douda@Ubuntu-24:~$ sudo nano /etc/bind/named.conf.local
Douda@Ubuntu-24:~$ sudo cp /etc/bind/db.local /etc/bind/db.example.local
Douda@Ubuntu-24:~$ sudo nano /etc/bind/db.example.local
Douda@Ubuntu-24:~$ sudo named-checkconf
Douda@Ubuntu-24:~$ sudo named-checkzone example.local /etc/bind/db.example.local
zone example.local/IN: loaded serial 2
OK
Douda@Ubuntu-24:~$ sudo systemctl restart bind9
Douda@Ubuntu-24:~$ nslookup www.example.local 192.168.1.10
;; communications error to 192.168.1.10#53: timed out
;; communications error to 192.168.1.10#53: timed out
;; communications error to 192.168.1.10#53: timed out
;; no servers could be reached

Douda@Ubuntu-24:~$ sudo apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3
  libaprutil1-ldap libaprutil1t64
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1t64
  libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
0 upgraded, 8 newly installed, 0 to remove and 216 not upgraded.
Need to get 1,900 kB of archives.
After this operation, 7,455 kB of additional disk space will be used.

Douda@Ubuntu-24:~$ nano /etc/bind/named.conf.local
GNU nano 7.2          /etc/bind/named.conf.local *

// Do any local configuration here
//
// Consider adding the 1918 zones here, if they are not used in your
// organization
//include "/etc/bind/zones.rfc1918";
zone "example.local" {
    type master;
    file "/etc/bind/db.example.local";
};

^G Help      ^O Write Out ^W Where Is  ^K Cut      ^T Execute   ^C Location
^X Exit      ^R Read File ^V Replace   ^U Paste     ^J Justify   ^/ Go To Line

```

```

Douda@Ubuntu-24:~          GNU nano 7.2           /etc/bind/db.example.local *
;
; BIND data file for local loopback interface
;
$TTL    604800
@      IN      SOA     localhost. root.localhost. (
                        2                  ; Serial
                        604800            ; Refresh
                        86400             ; Retry
                        2419200           ; Expire
                        604800 )           ; Negative Cache TTL
;
@      IN      NS      ns.example.local.
ns    IN      A       192.168.1.10
www   IN      A       192.168.1.20
;

^G Help      ^O Write Out  ^W Where Is  ^K Cut      ^T Execute  ^C Location
^X Exit      ^R Read File  ^Y Replace   ^U Paste    ^J Justify  ^/ Go To Line

```

```

Douda@Ubuntu-24:~          Douda@Ubuntu-24:~          Douda@Ubuntu-24:~
Enabling conf _default_error_pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /usr/lib/systemd/system/apache2.service.
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /usr/lib/systemd/system/apache-htcacheclean.service.
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu8.4) ...
Douda@Ubuntu-24:~$ sudo systemctl status apache2
sudo: system: command not found
Douda@Ubuntu-24:~$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset: active)
   Active: active (running) since Sat 2025-02-15 00:04:00 UTC; 38s ago
     Docs: https://httpd.apache.org/docs/2.4/
 Main PID: 8352 (apache2)
    Tasks: 55 (limit: 13252)
   Memory: 5.3M (peak: 5.5M)
      CPU: 155ms
     CGroup: /system.slice/apache2.service
             ├─8352 /usr/sbin/apache2 -k start
             ├─8354 /usr/sbin/apache2 -k start
             └─8357 /usr/sbin/apache2 -k start

Feb 15 00:03:59 Ubuntu-24 systemd[1]: Starting apache2.service - The Apache HTTP
Feb 15 00:04:00 Ubuntu-24 apachectl[8351]: AH00558: apache2: Could not reliably
Feb 15 00:04:00 Ubuntu-24 systemd[1]: Started apache2.service - The Apache HTTP
ESCOC

```

```

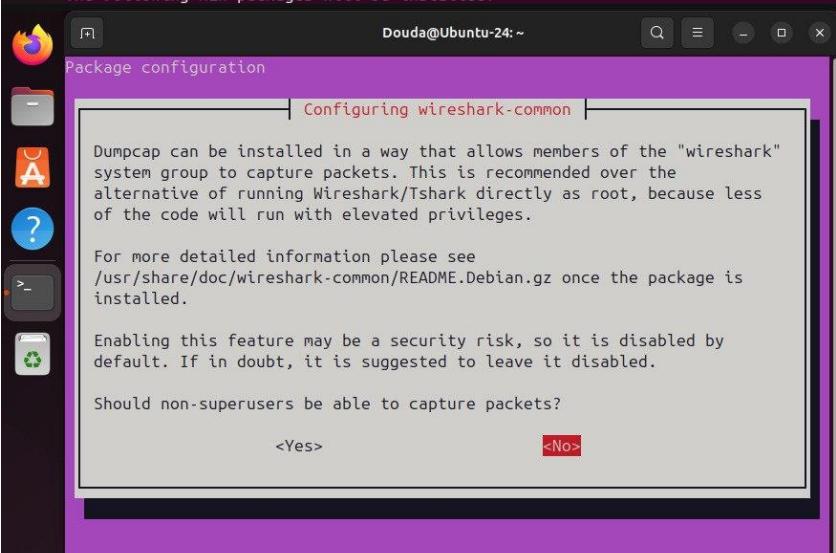
Douda@Ubuntu-24:~          Douda@Ubuntu-24:~          Douda@Ubuntu-24:~
^ Stopped
[3]+  sudo systemctl status apache2
Bienvenue sur le serveur HTTP
Douda@Ubuntu-24:~$ curl http://<adresse_IP_du_serveur>
bash: syntax error near unexpected token `newline'
Douda@Ubuntu-24:~$ sudo apt install wireshark
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  libllvm17t64
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  i965-va-driver intel-media-va-driver libaacs0 libavcodec60 libavformat60
  libavutil58 libb2-1 libbcq729-0 libbdplus0 libbluray2 libchromaprint1
  lib cJSON1 libcodec2-1.2 libdav1d7 libdouble-conversion3 libdrm-amdgpu1
  libdrm-common libdrm-intel1 libdrm-nouveau2 libdrm-radeon1 libdrm2
  libegl-mesa0 libgbm1 libgl1-mesa-dri libglapi-mesa libglx-mesa0 libgme0
  libgsm1 libhywayt64 libigdmm12 libjxl0.7 libl1v19 libluas5.2-0
  libmbcrypto7t64 libmd4c0 libminizip1t64 libnghtp3-3 libnorm1t64
  libopencore-amrnb0 libopenmp7t64 libpcre2-16-0 libpcre2-32-0 libpcre2-8-0
  libpgm-5.3-0t64 libqt6core5compat6 libqt6core6t64 libqt6dbus6t64
  libqt6gui6t64 libqt6multimedia6 libqt6network6t64 libqt6opengl6t64
  libqt6printsupport6t64 libqt6qml6 libqt6qmlmodels6 libqt6quick6 libqt6svg6
  libqt6waylandclient6 libqt6waylandcompositor6
  libqt6waylandeglclienthwintegration6 libqt6widgets6t64
  libqt6wlshellintegration6 librabbitmq4 libravie0 librist4 libshine3
  libsmi2t64 libsnappy1v5 libodium23 libsoxr0 libspandsp2t64 libsr1.5-gnutls
  libssh-gcrypt-4 libstav1enc1d1 libswresample4 libswscale7 libts0t64
  libudread0 libva-drm2 libva-x11-2 libva2 libvpaul1 libvpv2
  libwireshark-data libwireshark17t64 libwiretap14t64 libwsutil15t64

```



```
Douda@Ubuntu-24:~
```

DQEBLWUAA4IBAQZS/tLVU11Dje0LO/M/4PFAOLZTP4B0LZQBWLqW8At1W5bg
45c8dznppg4+VL6XVpKwZJQvhDk6LNWsebfphNRazhTwk5W6vFcBdLjsQmV9fOE
fcF51ofNwmLQqe3fcKG08CVSj/46epoAQGZEajLxwyv47lDFjg6AK5g8LvvoruY
ASd5muLyagu4fdsvEZiPCZ67dVpp0OUFYGyNk8KWiNRJ+dEfRoznKTUMdpQNN2
DW4fq1Gn0r+d7kroUxmH3tE7K/iuSVaU2ptYjSxK2d17psne5UwqfHcZKk3mQSK
iUu8N5Q0mAzbqQyQ4n3tdtuqjA59DGKAfOo
-----END CERTIFICATE-----
Douda@Ubuntu-24: \$ sudo openssl req -x509 -nodes -days 365 -newkey rsa:2048 \ -keyout /etc/ssl/private/apache-selfsigned
.key \ out /etc/ssl/certs/apache-selfsigned.crt
req: Use -help for summary.
Douda@Ubuntu-24: \$ sudo nano /etc/apache2/sites-available/default-ssl.conf
Douda@Ubuntu-24: \$ sudo a2ensite default-ssl
Enabling site default-ssl.
To activate the new configuration, you need to run:
 systemctl reload apache2
Douda@Ubuntu-24: \$ sudo systemctl reload apache2
Job for apache2.service failed.
See "systemctl status apache2.service" and "journalctl -xeu apache2.service" for details.
Douda@Ubuntu-24: \$ curl -k https://<adresse_IP_du_seurver>
bash: syntax error near unexpected token 'newline'
Douda@Ubuntu-24: \$ sudo apt install postfix
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
 libl1vm17t64
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
 libnsnsl2
Suggested packages:
 mail-reader postfix-cdb postfix-doc postfix-ldap postfix-lmdb postfix-mta-sts-resolver postfix-mysql postfix-pcre
 postfix-pgsql postfix-sqlite procmail sasl2-bin | dovecot-common
The following NEW packages will be installed:



```
GNU nano 7.2                               Douda@Ubuntu-24: ~
/etc/apache2/sites-available/default-ssl.conf *
<VirtualHost *:443>
    ServerAdmin admin@localhost

    DocumentRoot /var/www/html

    # Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
    # error, crit, alert, emerg.
    # It is also possible to configure the loglevel for particular
    # modules, e.g.
    #LogLevel info ssl:warn

    # For most configuration files from conf-available/, which are
    # enabled or disabled at a global level, it is possible to
    # include a line for only one particular virtual host. For example the
    # following line enables the CGI configuration for this host only
    # after it has been globally disabled with "a2disconf".
    #Include conf-available/serve-cgi-bin.conf

    # SSL Engine Switch:
    # Enable/Disable SSL for this virtual host.
    SSLEngine on

    # A self-signed (snakeoil) certificate can be created by installing
    # the ssl-cert package. See
    # /usr/share/doc/apache2/README.Debian.gz for more info.
    # If both key and certificate are stored in the same file, only the
    # SSLCertificateFile directive is needed.
```

```
Douda@Ubuntu-24:~
```

```
GNU nano 7.2 /etc/apache2/sites-available/default-ssl.conf *
```

```
# If both key and certificate are stored in the same file, only the
# SSLCertificateFile directive is needed.
SSLCertificateFile /etc/ssl/certs/apache-selfsigned.crt
SSLCertificateKeyFile /etc/ssl/private/apache-selfsigned.key

# Server Certificate Chain:
# Point SSLCertificateChainFile at a file containing the
# concatenation of PEM encoded CA certificates which form the
# certificate chain for the server certificate. Alternatively
# the referenced file can be the same as SSLCertificateFile
# when the CA certificates are directly appended to the server
# certificate for convinience.
#SSLCertificateChainFile /etc/apache2/ssl.crt/server-ca.crt

# Certificate Authority (CA):
# Set the CA certificate verification path where to find CA
# certificates for client authentication or alternatively one
# huge file containing all of them (file must be PEM encoded)
# Note: Inside SSLCACertificatePath you need hash symlinks
#       to point to the certificate files. Use the provided
#       Makefile to update the hash symlinks after changes.
#SSLCACertificatePath /etc/ssl/certs/
#SSLCACertificateFile /etc/apache2/ssl.crt/ca-bundle.crt

# Certificate Revocation Lists (CRL):
# Set the CA revocation path where to find CA CRLs for client
# authentication or alternatively one huge file containing all
# of them (file must be PEM encoded)
```

```
^G Help      ^O Write Out   ^W Where Is    ^K Cut        ^T Execute   ^C Location   M-U Undo
^X Exit      ^R Read File   ^\ Replace     ^U Paste      ^J Justify    ^/ Go To Line M-E Redo
                                         M-A Set Mark
                                         M-6 Copy
```

```
Douda@Ubuntu-24:~
```

```
GNU nano 7.2 /etc/apache2/sites-available/default-ssl.conf *
```

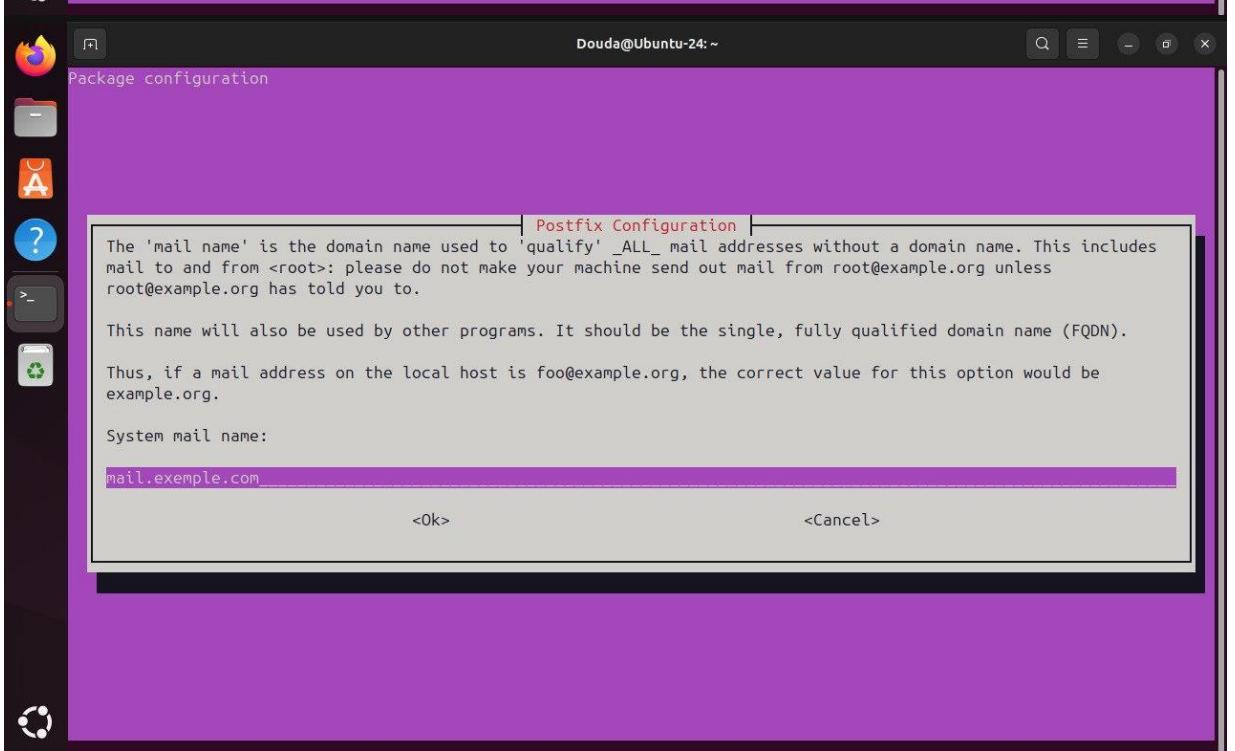
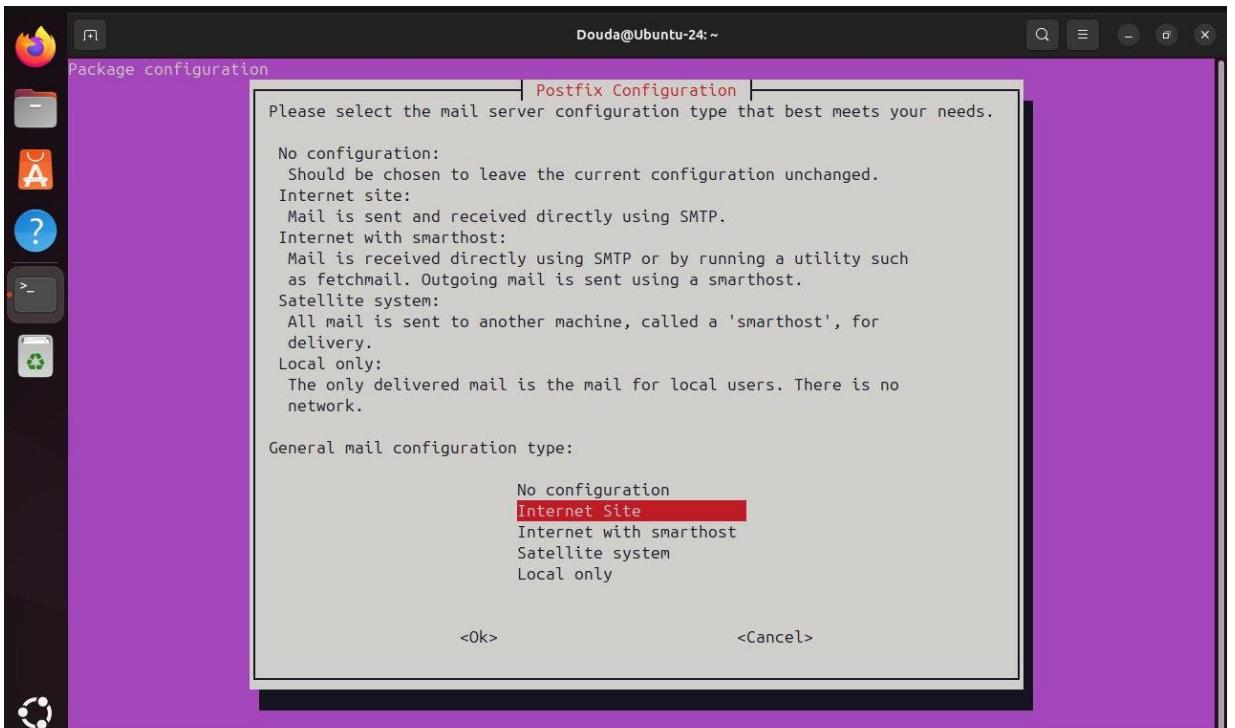
```
# the standard Auth/DBMAuth methods can be used for access control. The
# user name is the 'one line' version of the client's X.509 certificate.
# Note that no password is obtained from the user. Every entry in the user
# file needs this password: 'xxj31ZMTZzkVA'.
# o ExportCertData:
# This exports two additional environment variables: SSL_CLIENT_CERT and
# SSL_SERVER_CERT. These contain the PEM-encoded certificates of the
# server (always existing) and the client (only existing when client
# authentication is used). This can be used to import the certificates
# into CGI scripts.
# o StdEnvVars:
# This exports the standard SSL/TLS related 'SSL_*' environment variables.
# Per default this exportation is switched off for performance reasons,
# because the extraction step is an expensive operation and is usually
# useless for serving static content. So one usually enables the
# exportation for CGI and SSI requests only.
# o OptRenegotiate:
# This enables optimized SSL connection renegotiation handling when SSL
# directives are used in per-directory context.
#SSLOptions +FakeBasicAuth +ExportCertData +StrictRequire
<FilesMatch "\.(?:cgi|shtml|phtml|php)$">
    SSLOptions +StdEnvVars
</FilesMatch>
<Directory /usr/lib/cgi-bin>
    SSLOptions +StdEnvVars
</Directory>
</VirtualHost>
```

```
^G Help      ^O Write Out   ^W Where Is    ^K Cut        ^T Execute   ^C Location   M-U Undo
^X Exit      ^R Read File   ^\ Replace     ^U Paste      ^J Justify    ^/ Go To Line M-E Redo
                                         M-A Set Mark
                                         M-6 Copy
```

```

Douda@Ubuntu-24:~ Work Phone []: 40946470
Douda@Ubuntu-24:~ Home Phone []: 38383189
Douda@Ubuntu-24:~ Other []: 34473655
Is the information correct? [Y/n] Y
info: Adding new user 'utilisateur' to supplemental / extra groups 'users' ...
info: Adding user 'utilisateur' to group 'users' ...
Douda@Ubuntu-24:~$ sudo mkdir -p /home/utilisateur/Maildir
Douda@Ubuntu-24:~$ sudo chmod +x /home/utilisateur/Maildir
Douda@Ubuntu-24:~$ sudo systemctl restart postfix
Douda@Ubuntu-24:~$ telnet localhost25
Server lookup failure: localhost25:telnet, Temporary failure in name resolution
Douda@Ubuntu-24:~$ cat /home/utilisateur/Maildir/new/*
cat: '/home/utilisateur/Maildir/new/*': Permission denied
Douda@Ubuntu-24:~$ sudo apt install openssl
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
openssl is already the newest version (3.0.13-0ubuntu3.4).
openssl set to manually installed.
The following package was automatically installed and is no longer required:
libllvm17t64
Use 'sudo apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 201 not upgraded.
Douda@Ubuntu-24:~$ openssl req -new -x509 -days 365 -nodes -out /etc/ssl/certs/postfix.pem -keyout /etc/ssl/private/postfix.x.key
req: Unknown option or message digest: keyout/etc/ssl/private/postfix.key
req: Use -help for summary.
Douda@Ubuntu-24:~$ chmod 600 /etc/ssl/private/postfix.key
chmod: cannot access '/etc/ssl/private/postfix.key': Permission denied
Douda@Ubuntu-24:~$ sudo systemctl restart postfix
Douda@Ubuntu-24:~$ sudo apt install net-tools
Reading package lists... Done
Building dependency tree... Done
Douda@Ubuntu-24:~$ chmod 600 /etc/ssl/private/postfix.key
chmod: cannot access '/etc/ssl/private/postfix.key': Permission denied
Douda@Ubuntu-24:~$ sudo systemctl restart postfix
Douda@Ubuntu-24:~$ sudo apt install net-tools
Reading package lists... Done
Building dependency tree... Done
Douda@Ubuntu-24:~$ netstat -tuln
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 127.0.0.1:953          0.0.0.0:*             LISTEN
tcp        0      0 127.0.0.1:953          0.0.0.0:*             LISTEN
tcp        0      0 0.0.0.0:25            0.0.0.0:*             LISTEN
tcp        0      0 127.0.0.1:631          0.0.0.0:*             LISTEN
tcp        0      0 127.0.0.1:53            0.0.0.0:*             LISTEN
tcp        0      0 127.0.0.1:53            0.0.0.0:*             LISTEN
tcp        0      0 127.0.0.53:53          0.0.0.0:*             LISTEN
tcp        0      0 10.0.2.15:53           0.0.0.0:*             LISTEN
tcp        0      0 10.0.2.15:53           0.0.0.0:*             LISTEN
tcp        0      0 127.0.0.54:53           0.0.0.0:*             LISTEN
tcp6       0      0 :::80                  :::*                  LISTEN
tcp6       0      0 :::25                  :::*                  LISTEN
tcp6       0      0 ::1:631                :::*                  LISTEN
tcp6       0      0 fe80::a00:27ff:fedf::53  :::*                  LISTEN
tcp6       0      0 fe80::a00:27ff:fedf::53  :::*                  LISTEN
tcp6       0      0 ::1:953                :::*                  LISTEN
tcp6       0      0 ::1:953                :::*                  LISTEN
tcp6       0      0 ::1:53                 ...                  LISTEN

```



Douda@Ubuntu-24:~

```
GNU nano 7.2 /etc/postfix/main.cf *
# See /usr/share/postfix/main.cf.dist for a commented, more complete version

# Debian specific: Specifying a file name will cause the first
# line of that file to be used as the name. The Debian default
# is /etc/mailname.
#myorigin = /etc/mailname

smtpd_banner = $myhostname ESMTP $mail_name (Ubuntu)
biff = no

# appending .domain is the MUA's job.
append_dot_mydomain = no

# Uncomment the next line to generate "delayed mail" warnings
#delay_warning_time = 4h

readme_directory = no

# See http://www.postfix.org/COMPATIBILITY_README.html -- default to 3.6 on
# fresh installs.
compatibility_level = 3.6

# TLS parameters
smtpd_tls_cert_file=/etc/ssl/certs/ssl-cert-snakeoil.pem
smtpd_tls_key_file=/etc/ssl/private/ssl-cert-snakeoil.key
```

Douda@Ubuntu-24:~

```
GNU nano 7.2 /etc/postfix/main.cf *
readme_directory = no

# See http://www.postfix.org/COMPATIBILITY_README.html -- default to 3.6 on
# fresh installs.
compatibility_level = 3.6

# TLS parameters
smtpd_tls_cert_file=/etc/ssl/certs/ssl-cert-snakeoil.pem
smtpd_tls_key_file=/etc/ssl/private/ssl-cert-snakeoil.key
smtpd_tls_security_level=may

smtp_tls_CApPath=/etc/ssl/certs
smtp_tls_security_level=may
smtp_tls_session_cache_database = btree:${data_directory}/smtp_scache

smtpd_relay_restrictions = permit_mynetworks permit_sasl_authenticated defer_unauth_destination
myhostname = mail.exemple.com
mydomain = exemple.com
mydestination = $myhostname, localhost.$mydomain, localhost, $mydomain
mynetworks = 127.0.0.0/8 [::1]/128 192.168.1.0/24
mailbox_size_limit = 0
recipient_delimiter = +
inet_interfaces = all
inet_protocols = all
```

```
Douda@Ubuntu-24: ~
```

Active Internet connections (only servers)

Proto	Recv-Q	Send-Q	Local Address	Foreign Address	State	PID/Program name
tcp	0	0	127.0.0.1:953	0.0.0.0:*	LISTEN	7581/named
tcp	0	0	127.0.0.1:953	0.0.0.0:*	LISTEN	7581/named
tcp	0	0	0.0.0.0:25	0.0.0.0:*	LISTEN	12445/master
tcp	0	0	127.0.0.1:631	0.0.0.0:*	LISTEN	1111/cupsd
tcp	0	0	127.0.0.1:53	0.0.0.0:*	LISTEN	7581/named
tcp	0	0	127.0.0.1:53	0.0.0.0:*	LISTEN	7581/named
tcp	0	0	127.0.0.53:53	0.0.0.0:*	LISTEN	443/systemd-resolve
tcp	0	0	10.0.2.15:53	0.0.0.0:*	LISTEN	7581/named
tcp	0	0	10.0.2.15:53	0.0.0.0:*	LISTEN	7581/named
tcp	0	0	127.0.0.54:53	0.0.0.0:*	LISTEN	443/systemd-resolve
tcp6	0	0	:::80	:::*	LISTEN	8352/apache2
tcp6	0	0	:::25	:::*	LISTEN	12445/master
tcp6	0	0	::1:631	:::*	LISTEN	1111/cupsd
tcp6	0	0	fe80::a00:27ff:fedf::53	:::*	LISTEN	7581/named
tcp6	0	0	fe80::a00:27ff:fedf::53	:::*	LISTEN	7581/named
tcp6	0	0	::1:953	:::*	LISTEN	7581/named
tcp6	0	0	::1:953	:::*	LISTEN	7581/named
tcp6	0	0	::1:53	:::*	LISTEN	7581/named
tcp6	0	0	::1:53	:::*	LISTEN	7581/named
tcp6	0	0	fd00::a00:27ff:fedf::53	:::*	LISTEN	7581/named
tcp6	0	0	fd00::a00:27ff:fedf::53	:::*	LISTEN	7581/named
tcp6	0	0	fd00::4032:9d31:e29e:53	:::*	LISTEN	7581/named
tcp6	0	0	fd00::4032:9d31:e29e:53	:::*	LISTEN	7581/named
Douda@Ubuntu-24: ~	Douda@Ubuntu-24: ~					

2. Obtenez des priviléges d'administrateur. Afficher des informations sur les connexions de courant: `nmcli connection show`

3. Ajoutez à cette même interface une connexion Ethernet nommée static, une adresse IPv4 statique de l'adaptateur et une adresse de passerelle statique:

```
nmcli connection add con-name "static" ifname eth0 autoconnect no type ethernet ip4 10.0.0.10/24 gw4 10.0.0.1
```

5. Afficher des informations sur les connexions actuelles: `nmcli connection show`

6. Passer à une connexion statique: `nmcli connection up "static"` Vérifiez le succès de la commutation en utilisant `nmcli con show` et `ip addr`.

7. Retour à la connexion dhcp: `nmcli connection up "dhcp"` Vérifiez le succès de la commutation en utilisant `nmcli con show` et `ip addr`.

8. Désactiver la connexion statique automatique: `nmcli connection modify "static"
connection.autoconnect no`

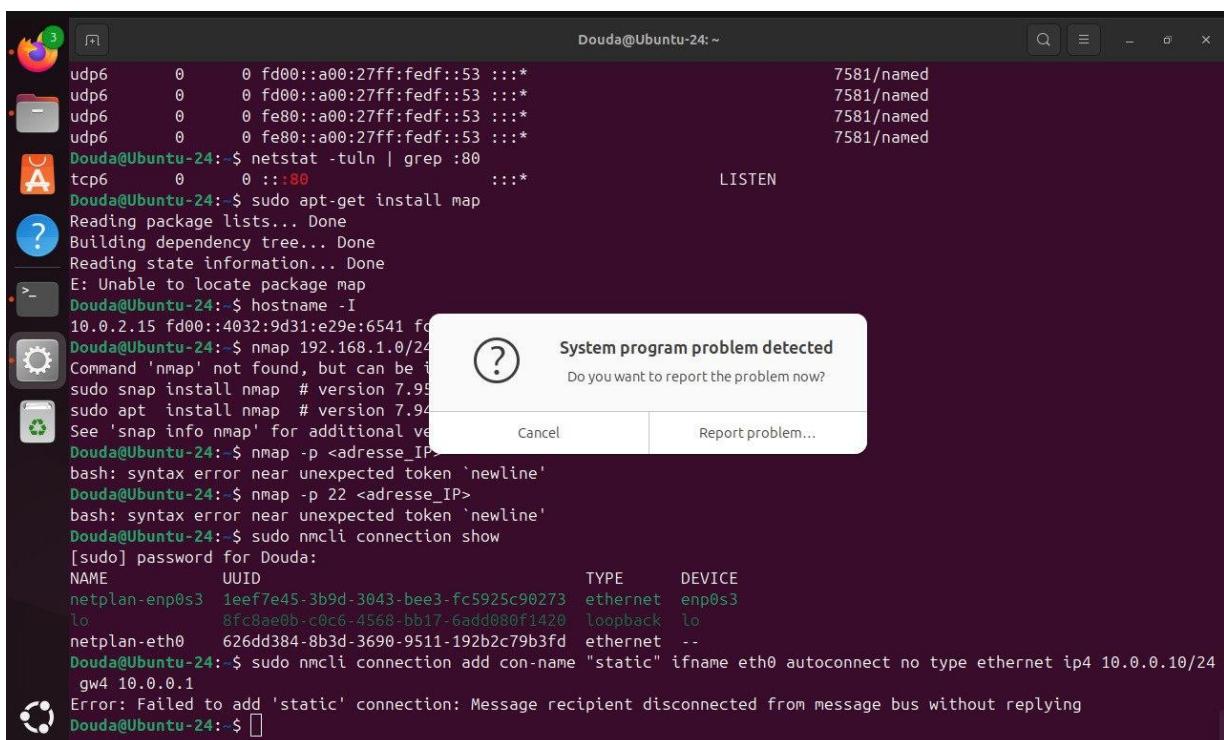
9. Ajoutez le serveur DNS à la connexion statique: `nmcli connection modify "static"`
`ipv4.dns 10.0.0.10` Notez que l'ajout d'une connexion réseau utilise ip4, et lorsque vous modifiez les paramètres d'une connexion existante, il est utilisé ip4.

10. Ajoutez un deuxième serveur DNS: `nmcli connection modify "static" +ipv4.dns`
8.8.8.8 4

11. Modifiez l'adresse IP de la connexion statique: `nmcli connection modify "static"`
 `ipv4.addresses 10.0.0.20/24 5 .`

12. Ajoutez une adresse IP différente pour la connexion statique: `nmcli connection modify "static" +ipv4.addresses 10.20.30.40/16 6`

13. . Après avoir modifié les propriétés de la connexion, activez-la: `nmcli connection up "static"` Vérifiez le succès de la commutation en utilisant `nmcli con show` et `ip addr`.



```
Douda@Ubuntu-24:~
```

```
    udp6      0      0 fd00::a00:27ff:fedf::53 ::::*          7581/named
    udp6      0      0 fd00::a00:27ff:fedf::53 ::::*          7581/named
    udp6      0      0 fe80::a00:27ff:fedf::53 ::::*          7581/named
    udp6      0      0 fe80::a00:27ff:fedf::53 ::::*          7581/named
Douda@Ubuntu-24: $ netstat -tuln | grep :80
tcp6      0      0 ::::80          ::*:*                  LISTEN
Douda@Ubuntu-24: $ sudo apt-get install map
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package map
Douda@Ubuntu-24: $ hostname -I
10.0.2.15 fd00::4032:9d31:e29e:6541
Douda@Ubuntu-24: $ nmap 192.168.1.0/24
Command 'nmap' not found, but can be installed with:
sudo snap install nmap # version 7.99
sudo apt install nmap # version 7.99
See 'snap info nmap' for additional v...
Douda@Ubuntu-24: $ nmap -p <adresse>
bash: syntax error near unexpected token `<adresse>'
Douda@Ubuntu-24: $ nmap -p 22 <adresse>
bash: syntax error near unexpected token `<adresse>'
Douda@Ubuntu-24: $ sudo nmcli connection
[sudo] password for Douda:
NAME           UUID                                         TYPE      DEVICE
netplan-enp0s3  1eef7e45-3b9d-3043-bee3-fc5925c90273  ethernet  enp0s3
lo              8fc8ae0b-c0c6-4568-bb17-6add080f1420  loopback  lo
netplan-eth0    626dd384-8b3d-3690-9511-192b2c79b3fd  ethernet  --
Douda@Ubuntu-24: $ sudo nmcli connection add con-name "static" ifname eth0 autoconnect no type ethernet ip4 10.0.0.10/24 gw4 10.0.0.1
Error: Failed to add 'static' connection: Message recipient disconnected from message bus without replying
Douda@Ubuntu-24: $ 
```

```
Douda@Ubuntu-24:~
```

```
    udp6      0      0 fd00::a00:27ff:fedf::53 ::::*          7581/named
    udp6      0      0 fd00::a00:27ff:fedf::53 ::::*          7581/named
    udp6      0      0 fe80::a00:27ff:fedf::53 ::::*          7581/named
    udp6      0      0 fe80::a00:27ff:fedf::53 ::::*          7581/named
Douda@Ubuntu-24: $ netstat -tuln | grep :80
tcp6      0      0 ::::80          ::*:*                  LISTEN
Douda@Ubuntu-24: $ sudo apt-get install map
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package map
Douda@Ubuntu-24: $ hostname -I
10.0.2.15 fd00::4032:9d31:e29e:6541
Douda@Ubuntu-24: $ nmap 192.168.1.0/24
Command 'nmap' not found, but can be installed with:
sudo snap install nmap # version 7.99
sudo apt install nmap # version 7.99
See 'snap info nmap' for additional v...
Douda@Ubuntu-24: $ nmap -p <adresse>
bash: syntax error near unexpected token `<adresse>'
Douda@Ubuntu-24: $ nmap -p 22 <adresse>
bash: syntax error near unexpected token `<adresse>'
Douda@Ubuntu-24: $ sudo nmcli connection show
[sudo] password for Douda:
NAME           UUID                                         TYPE      DEVICE
netplan-enp0s3  1eef7e45-3b9d-3043-bee3-fc5925c90273  ethernet  enp0s3
lo              8fc8ae0b-c0c6-4568-bb17-6add080f1420  loopback  lo
netplan-eth0    626dd384-8b3d-3690-9511-192b2c79b3fd  ethernet  --
Douda@Ubuntu-24: $ sudo nmcli connection add con-name "static" ifname eth0 autoconnect no type ethernet ip4 10.0.0.10/24 gw4 10.0.0.1
Error: Failed to add 'static' connection: Message recipient disconnected from message bus without replying
Douda@Ubuntu-24: $ 
```



The screenshot shows two terminal windows on an Ubuntu 24.04 desktop. The top window displays a standard terminal session with network configuration and system status commands. The bottom window shows a standard terminal session with the same commands. A modal dialog box titled 'Ubuntu' is overlaid on the bottom terminal window. The dialog contains the text 'Sorry, Ubuntu 24.04 has experienced an internal error.' and 'Send problem report to the developers?'. It also includes a note 'If you notice further problems, try restarting the computer.' and a checkbox 'Remember this in future'. At the bottom of the dialog are three buttons: 'Show Details', 'Don't send', and 'Send'.

```
Douda@Ubuntu-24:~
```

NAME	UUID	TYPE	DEVICE
netplan-enp0s3	1eef7e45-3b9d-3043-bee3-fc5925c90273	ethernet	enp0s3
lo	8fc8ae0b-c0c6-4568-bb17-6add080f1420	loopback	lo
netplan-eth0	626dd384-8b3d-3690-9511-192b2c79b3fd	ethernet	--

```
Douda@Ubuntu-24: $ ip addr show eth0
Device "eth0" does not exist.
Douda@Ubuntu-24: $ sudo nmcli connection up "dhcp"
Error: unknown connection 'dhcp'.
Douda@Ubuntu-24: $ ip addr show eth0
Device "eth0" does not exist.
Douda@Ubuntu-24: $ 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
        inet6 ::1/128 scope host noprefixroute
            valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:df:6b:ab brd ff:ff:ff:ff:ff:ff
        inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute enp0s3
            valid_lft 86158sec preferred_lft 86158sec
        inet6 fd00::8eea:3fff:b896:c372/64 scope global temporary dynamic
            valid_lft 86161sec preferred_lft 14161sec
        inet6 fd00::a00:27ff:fedf:6bab/64 scope global dynamic mngtmpaddr
            valid_lft 86161sec preferred_lft 14161sec
        inet6 fe80::a00:27ff:fedf:6bab/64 scope link
            valid_lft forever preferred_lft forever
Douda@Ubuntu-24: $ sudo nmcli connection modify "static" connection.autoconnect no
Error: unknown connection 'static'.
Douda@Ubuntu-24: $ sudo nmcli connection modify "static" ipv4.dns "10.0.0.10"
Error: unknown connection 'static'.
Douda@Ubuntu-24: $ sudo nmcli connection modify "static" +ipv4.dns "8.8.8.8"
Douda@Ubuntu-24: $ sudo nmcli connection modify "static" +ip4.dns "8.8.8.8"

Douda@Ubuntu-24:~
```

NAME	UUID	TYPE	DEVICE
netplan-enp0s3	1eef7e45-3b9d-3043-bee3-fc5925c90273	ethernet	enp0s3
lo	8fc8ae0b-c0c6-4568-bb17-6add080f1420	loopback	lo
netplan-eth0	626dd384-8b3d-3690-9511-192b2c79b3fd	ethernet	--

```
Douda@Ubuntu-24: $ sudo nmcli connection modify "static" connection.autoconnect no
Error: unknown connection 'static'.
Douda@Ubuntu-24: $ sudo nmcli connection modify "static" ipv4.dns "10.0.0.10"
Error: unknown connection 'static'.
Douda@Ubuntu-24: $ sudo nmcli connection modify "static" +ip4.dns "8.8.8.8"
Error: unknown connection 'static'.
Douda@Ubuntu-24: $ sudo nmcli connection modify "static" ipv4.addresses "10.0.0.20/24"
Error: unknown connection 'static'.
Douda@Ubuntu-24: $ sudo nmcli connection modify "static" +ip4.addresses "10.20.30.40/16"
Error: unknown connection 'static'.
Douda@Ubuntu-24: $ sudo nmcli connection up "static"
Error: unknown connection 'static'.
Douda@Ubuntu-24: $ ip addr show eth0
Device "eth0" does not exist.
Douda@Ubuntu-24: $ ip addr
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
        inet6 ::1/128 scope host noprefixroute
            valid_lft forever preferred_lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:df:6b:ab brd ff:ff:ff:ff:ff:ff
        inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute enp0s3
            valid_lft 85651sec preferred_lft 85651sec
        inet6 fd00::8eea:3fff:b896:c372/64 scope global temporary dynamic
            valid_lft 86094sec preferred_lft 14094sec
        inet6 fd00::a00:27ff:fedf:6bab/64 scope global dynamic mngtmpaddr
            valid_lft 86094sec preferred_lft 14094sec
        inet6 fe80::a00:27ff:fedf:6bab/64 scope link
            valid_lft forever preferred_lft forever
Douda@Ubuntu-24: $
```

Conclusion

Ce parcours de configuration réseau démontre une compétence approfondie dans la gestion des connexions sous Ubuntu, allant de la configuration basique à des paramétrages avancés. Voici les points clés à retenir :

Réalisations Principales

1. Basculer entre DHCP et IP statique :

- Création d'une connexion statique avec adresse IP, passerelle, et désactivation de l'autoconnexion (autoconnect no).
- Retour fluide vers DHCP, garantissant une adaptabilité selon les besoins (ex : mobilité vs stabilité).

2. Personnalisation Avancée :

- Ajout de serveurs DNS (primaire et secondaire) pour une résolution de noms fiable et redondante.
- Attribution d'adresses IP multiples sur une même interface (10.0.0.20/24 et 10.20.30.40/16), idéal pour héberger plusieurs services ou tester des environnements complexes.

3. Vérification Systématique :

- Utilisation de nmcli connection show et ip addr pour valider les configurations en temps réel.
- Diagnostic proactif avec des outils comme ip a ou nslookup, assurant un dépannage rapide.

Importance Pratique

- Stabilité : Une IP statique évite les conflits DHCP et est essentielle pour les serveurs (ex : web, NAS).
- Redondance : Les DNS secondaires et les adresses IP multiples renforcent la disponibilité du réseau.
- Contrôle Granulaire : Désactiver autoconnect permet d'éviter les interférences entre profils réseau.

Outils et Bonnes Pratiques

- nmcli: Outil puissant pour configurer NetworkManager en CLI, adapté aux serveurs sans interface graphique.
- sudo : Utilisation systématique pour les modifications critiques, respectant la sécurité système. Vérification après chaque étape : Une pratique incontournable pour éviter les erreurs de configuration.

En résumé, cette maîtrise de nmcli et des concepts réseau positionne l'utilisateur comme capable de gérer des infrastructures critiques avec précision et efficacité, un atout majeur en administration système et réseau.