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DES SCIENCES

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Exécution du TD

```
Douaa@Ubuntu-24:~$ sudo nmcli connection show
NAME                UUID                                  TYPE      DEVICE
netplan-ens3        1ee77e45-3b9d-3043-bee3-fc5925c90273 ethernet  ens3
netplan-eth0        626dd384-8b3d-3690-9511-192b2c79b3fd ethernet  ..

Douaa@Ubuntu-24:~$ ip addr show eth0
Device "eth0" does not exist.
Douaa@Ubuntu-24:~$ sudo nmcli connection up "dhcp"
Error: unknown connection "dhcp".
Douaa@Ubuntu-24:~$ ip addr show eth0
Device "eth0" does not exist.
Douaa@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: ens3: <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 ens3
        valid_lft 86158sec preferred_lft 86158sec
    inet6 fd00::a00:27ff:fedf:6bab/64 scope global temporary dynamic
        valid_lft 86161sec preferred_lft 14161sec
    inet6 fd00::a00:27ff:fedf:6bab/64 scope global dynamic mngtnpaddr
        valid_lft 86161sec preferred_lft 14161sec
    inet6 fe80::a00:27ff:fedf:6bab/64 scope link
        valid_lft forever preferred_lft forever
Douaa@Ubuntu-24:~$ sudo nmcli connection modify "static" connection.autoconnect no
Error: unknown connection "static".
Douaa@Ubuntu-24:~$ sudo nmcli connection modify "static" ipv4.dns "10.0.0.10"
Error: unknown connection "static".
Douaa@Ubuntu-24:~$ sudo nmcli connection modify "static" +ipv4.dns "8.8.8.8"
```

```
Douaa@Ubuntu-24:~$ sudo nmcli connection modify "static" connection.autoconnect no
Error: unknown connection "static".
Douaa@Ubuntu-24:~$ sudo nmcli connection modify "static" ipv4.dns "10.0.0.10"
Error: unknown connection "static".
Douaa@Ubuntu-24:~$ sudo nmcli connection modify "static" +ipv4.dns "8.8.8.8"
Error: unknown connection "static".
Douaa@Ubuntu-24:~$ sudo nmcli connection modify "static" ipv4.addresses "10.0.0.20/24"
Error: unknown connection "static".
Douaa@Ubuntu-24:~$ sudo nmcli connection modify "static" +ipv4.addresses "10.20.30.40/16"
Error: unknown connection "static".
Douaa@Ubuntu-24:~$ sudo nmcli connection up "static"
Error: unknown connection "static".
Douaa@Ubuntu-24:~$ ip addr show eth0
Device "eth0" does not exist.
Douaa@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: ens3: <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 ens3
        valid_lft 85631sec preferred_lft 85631sec
    inet6 fd00::8ea3:3fff:b096:c372/64 scope global temporary dynamic
        valid_lft 86094sec preferred_lft 14094sec
    inet6 fd00::a00:27ff:fedf:6bab/64 scope global dynamic mngtnpaddr
        valid_lft 86094sec preferred_lft 14094sec
    inet6 fe80::a00:27ff:fedf:6bab/64 scope link
        valid_lft forever preferred_lft forever
Douaa@Ubuntu-24:~$
```

```
Douaa@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
Douaa@Ubuntu-24:~$ netstat -tulin | grep :80
tcp6      0  0  :::80 :::*      LISTEN
Douaa@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
Douaa@Ubuntu-24:~$ hostname -I
10.0.2.15 fd00::4032:9d31:e29e:654
Douaa@Ubuntu-24:~$ nmap 192.168.1.1
Command 'nmap' not found, but can
sudo snap install nmap # version
sudo apt install nmap # version
See 'snap info nmap' for additional
Douaa@Ubuntu-24:~$ nmap -p <address
bash: syntax error near unexpected token `;'
Douaa@Ubuntu-24:~$ nmap -p 22 <address
bash: syntax error near unexpected token `;'
Douaa@Ubuntu-24:~$ sudo nmcli connection show
[sudo] password for Douaa:
NAME                UUID                                  TYPE      DEVICE
netplan-ens3        1ee77e45-3b9d-3043-bee3-fc5925c90273 ethernet  ens3
netplan-eth0        626dd384-8b3d-3690-9511-192b2c79b3fd ethernet  ..
Douaa@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
Douaa@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_CApath=/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.example.com
mydomain = example.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
```

```
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

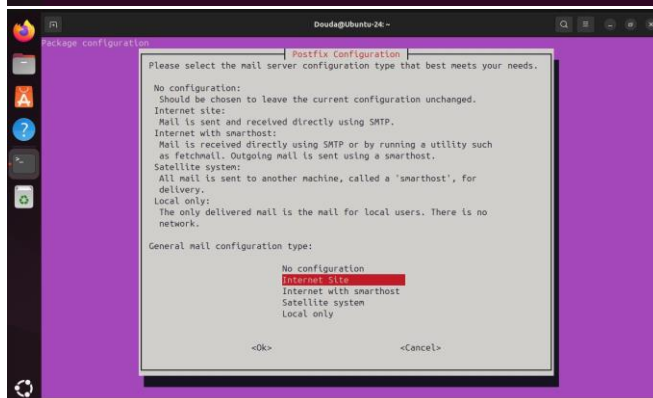
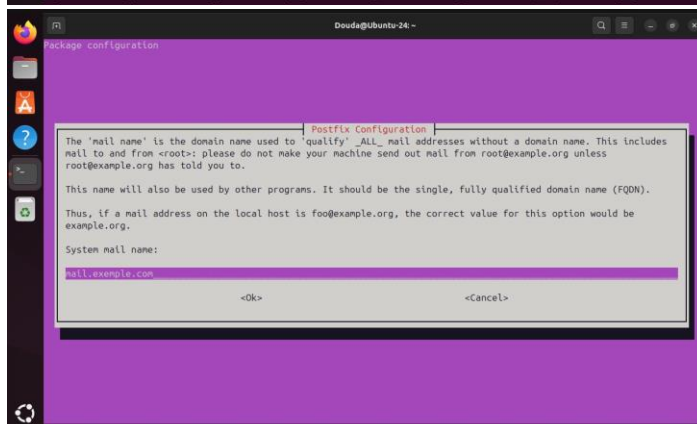
# appending .domain is the MUA's job.
append_dot_mydomain = no

# 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
```




```
Doude@Ubuntu-24:~$ nano /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";
};
```

```
Doude@Ubuntu-24:~$ sudo systemctl restart bind9
Doude@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

Doude@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 libapr164 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 libapr164
  libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
0 upgraded, 8 newly installed, 0 to remove and 216 not upgraded.
Need to get 1,500 kB of archives.
After this operation, 7,455 kB of additional disk space will be used.
```

```
Doude@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: ens3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:fd:6b:ab brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute ens3
        valid_lft 85075sec preferred_lft 85075sec
    inet6 fd00:a0b:27ff:fe6b:64 scope global dynamic temporary dynamic
        valid_lft 86275sec preferred_lft 14275sec
    inet6 fd00:a0b:27ff:fe6b:64 scope global dynamic mngtppadr
        valid_lft 86275sec preferred_lft 14275sec
    inet6 fe80:a0b:27ff:fe6b:64 scope link
        valid_lft forever preferred_lft forever
Doude@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, 1,685 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://ft.archive.ubuntu.com/ubuntu noble-updates/main amd64 bind9-utils amd64 1:9.18.30-0ubuntu24.04.2 [159 kB]
```

```
Doude@Ubuntu-24:~$ systemctl status isc-dhcp-server
Feb 14 23:49:54 Ubuntu-24 systemd[1]: isc-dhcp-server.service: Main process exited
Feb 14 23:49:54 Ubuntu-24 systemd[1]: isc-dhcp-server.service: Failed with result 'EX
ny
[2]+  Stopped                  sudo nano /etc/netplan/00-installer-config.yaml
Doude@Ubuntu-24:~$ sudo netplan apply
** (generate:674): WARNING **: 23:50:00.000: 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)
    ens3:
    ^
Doude@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: ens3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 08:00:27:fd:6b:ab brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute ens3
        valid_lft 85075sec preferred_lft 85075sec
    inet6 fd00:a0b:27ff:fe6b:64 scope global temporary dynamic
        valid_lft 86275sec preferred_lft 14275sec
    inet6 fd00:a0b:27ff:fe6b:64 scope global dynamic mngtppadr
        valid_lft 86275sec preferred_lft 14275sec
    inet6 fe80:a0b:27ff:fe6b:64 scope link
        valid_lft forever preferred_lft forever
Doude@Ubuntu-24:~$ sudo dhclient ens3
sudo: dhclient: command not found
Doude@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/netplan/00-installer-config.yaml *
network:
  version: 2
  renderer: networkd
  ethernet:
    ens33:
      dhcp4: true

```

```

Douda@Ubuntu:24~$ nano /etc/default/isc-dhcp-server *
# Defaults for isc-dhcp-server (sourced by /etc/init.d/isc-dhcp-server)

# Path to dhcpd's config file (default: /etc/dhcp/dhcpd.conf).
DHCPD_CONF=/etc/dhcp/dhcpd.conf
DHCPD6_CONF=/etc/dhcp/dhcpd6.conf

# Path to dhcpd's PID file (default: /var/run/dhcpd.pid).
DHCPD_PID=/var/run/dhcpd.pid
DHCPD6_PID=/var/run/dhcpd6.pid

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

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

```

[D] Douda@ubuntu24:~$
Feb 14 23:49:54 Ubuntu-24 systemd[1]: isc-dhcp-server.service: Main process exited
Feb 14 23:49:54 Ubuntu-24 systemd[1]: isc-dhcp-server.service: Failed with result
"X".
[D] Stopped
Douda@ubuntu24:~$ sudo nano /etc/netplan/00-installer-config.yaml
Douda@ubuntu24:~$ sudo netplan apply

** (generate:6674): WARNING **: 2025-02-14 23:50:00: Permissions for /etc/netplan/00-installer-config.yaml are too open. Netplan
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@ubuntu24:~$ ls -la
total 12
drwxr-xr-x 1 root root 4096 Feb 14 23:50 .
drwxr-xr-x 1 root root 4096 Feb 14 23:50 ..
-rw-r--r-- 1 root root  171 Feb 14 23:50 00-installer-config.yaml
Douda@ubuntu24:~$ cat 00-installer-config.yaml
1: lo:
  - LOOPBACK_UP_LOWER_UP: mtu 65536 qdisc noop queue 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: emps3:
  - BROADCAST_MULTICAST_UP_LOWER_UP: mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
  link ether 08:00:27:fd:bab:64 brd ff:ff:ff:ff:ff:ff
  inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic noprefixroute emps3
    valid_lft 85075sec preferred_lft 85075sec
  inet6 fd00:4b32:9d31:c229:65a1:64 scope global temporary dynamic
    valid_lft 86276sec preferred_lft 14276sec
  inet6 fd00:a00:27ff:fe:6bab:64 scope global dynamic mngtaddr
    valid_lft 86276sec preferred_lft 14276sec
  inet6 fe80:a00:27ff:fe:6bab:64 scope link
    valid_lft forever preferred_lft forever
Douda@ubuntu24:~$ sudo dhclient ens33
sudo dhclient: command not found
Douda@ubuntu24:~$ ip addr show
1: lo: sID00000000 UP LOWER_UP mtu 65536 qdisc noop queue state UNKNOWN group default qlen 1000

```

```

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;
}

```

```
Douad@Ubuntu-24:~$ sudo apt install isc-dhcp-server
Selecting previously unselected package isc-dhcp-common.
Preparing to unpack .../isc-dhcp-common_4.4.3-1ubuntu2_amd64.deb ...
Unpacking isc-dhcp-common (4.4.3-1ubuntu2) ...
Setting up isc-dhcp-server (4.4.3-1ubuntu2) ...
Generating /etc/default/isc-dhcp-server:
Created symlink /etc/systemd/system/multi-user.target.wants/isc-dhcp-server.service
→ /usr/lib/systemd/system/isc-dhcp-server.service.
Created symlink /etc/systemd/system/multi-user.target.wants/isc-dhcp-server6.service
→ /usr/lib/systemd/system/isc-dhcp-server6.service.
Setting up isc-dhcp-common (4.4.3-1ubuntu2) ...
Processing triggers for man-db (2.12.0-4ubuntu2) ...

Douad@Ubuntu-24:~$ 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: enp8s3: <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

Douad@Ubuntu-24:~$ sudo nano /etc/dhcp/dhcpd.conf
Douad@Ubuntu-24:~$ sudo nano /etc/dhcp/dhcpd.conf
Douad@Ubuntu-24:~$ sudo nano /etc/dhcp/dhcpd.conf
Douad@Ubuntu-24:~$ sudo nano /etc/default/isc-dhcp-server
Douad@Ubuntu-24:~$ sudo systemctl restart isc-dhcp-server
Douad@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
   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 dhcpd[6643]:
```

```
Douad@Ubuntu-24:~$ systemctl status systemd-networkd
[1]~ Stopped
Douad@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 [162 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 [288 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 [248 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 [288 B]
Fetched 1,838 kB in 2s (888 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.
Douad@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:
```

```
Douad@Ubuntu-24:~$ ping -c 4 google.com
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/ndev = 34.380/44.609/61.707/10.428 ms

Douad@Ubuntu-24:~$ ping -c 4 google.com
PING google.com (142.250.64.174) 56(84) bytes of data:
64 bytes from mla89s22-in-f14.1e100.net (142.250.64.174): icmp_seq=1 ttl=255 time=36.6 ms
64 bytes from mla89s22-in-f14.1e100.net (142.250.64.174): icmp_seq=2 ttl=255 time=28.0 ms
64 bytes from mla89s22-in-f14.1e100.net (142.250.64.174): icmp_seq=3 ttl=255 time=35.1 ms
64 bytes from mla89s22-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/ndev = 27.909/35.175/41.009/4.680 ms

Douad@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: enp8s3: <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

Douad@Ubuntu-24:~$ ip route show
default via 10.0.2.2 dev enp8s3 proto dhcp src 10.0.2.15 metric 100
10.0.2.0/24 dev enp8s3 proto kernel scope link src 10.0.2.15 metric 100
Douad@Ubuntu-24:~$ sudo journalctl -u systemd-networkd
-- No entries --

Douad@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.network1(8)
   FD Store: 0 (Limit: 512)
   ...skipping...
```

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

Douad@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=34.3 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=43.0 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=255 time=38.6 ms

--- 8.8.8.8 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/ndev = 34.380/44.609/61.707/10.428 ms

Douad@Ubuntu-24:~$ ping -c 4 google.com
PING google.com (142.250.64.174) 56(84) bytes of data:
64 bytes from mla89s22-in-f14.1e100.net (142.250.64.174): icmp_seq=1 ttl=255 time=36.6 ms
64 bytes from mla89s22-in-f14.1e100.net (142.250.64.174): icmp_seq=2 ttl=255 time=28.0 ms
64 bytes from mla89s22-in-f14.1e100.net (142.250.64.174): icmp_seq=3 ttl=255 time=35.1 ms
64 bytes from mla89s22-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/ndev = 27.909/35.175/41.009/4.680 ms

Douad@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: enp8s3: <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

Douad@Ubuntu-24:~$ ip route show
default via 10.0.2.2 dev enp8s3 proto dhcp src 10.0.2.15 metric 100
10.0.2.0/24 dev enp8s3 proto kernel scope link src 10.0.2.15 metric 100
Douad@Ubuntu-24:~$ sudo journalctl -u systemd-networkd
-- No entries --

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

```
Douda@Ubuntu24:~$ sudo nano /etc/netplan/01-network-manager-all.yaml
** (process:4726): WARNING **: 23:30:44.371: 'gateway4' has been deprecated, use default routes instead.
See the 'Default routes' section of the documentation for more details.

** (process:4726): WARNING **: 23:30:44.371: Permissions for /etc/netplan/01-network-manager-all.yaml are too open. Netplan configuration should NOT be accessible by others.
Douda@Ubuntu24:~$ sudo nano /etc/netplan/01-netcfg.yaml
Douda@Ubuntu24:~$ ip addr show eth0
Device "eth0" does not exist.
Douda@Ubuntu24:~$ sudo nano /etc/netplan/01-netcfg.yaml
Douda@Ubuntu24:~$ sudo netplan apply

** (generate:5167): WARNING **: 23:30:49.188: Permissions for /etc/netplan/01-netcfg.yaml are too open. Netplan configuration should NOT be accessible by others.

** (generate:5167): WARNING **: 23:30:49.191: Permissions for /etc/netplan/01-network-manager-all.yaml are too open. Netplan configuration should NOT be accessible by others.

** (process:5166): WARNING **: 23:30:49.800: Permissions for /etc/netplan/01-netcfg.yaml are too open. Netplan configuration should NOT be accessible by others.

** (process:5166): WARNING **: 23:30:49.870: Permissions for /etc/netplan/01-network-manager-all.yaml are too open. Netplan configuration should NOT be accessible by others.

** (process:5166): WARNING **: 23:30:49.940: Permissions for /etc/netplan/01-netcfg.yaml are too open. Netplan configuration should NOT be accessible by others.

** (process:5166): WARNING **: 23:30:49.990: Permissions for /etc/netplan/01-network-manager-all.yaml are too open. Netplan configuration should NOT be accessible by others.
Douda@Ubuntu24:~$ ip addr show eth0
Device "eth0" does not exist.
Douda@Ubuntu24:~$ 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=55 time=61.7 ms
```

```
Douda@Ubuntu24:~$ nano /etc/netplan/01-netcfg.yaml
network:
  version: 2
  renderer: networkd
  ethernets:
    eth0:
      dhcp4: yes

Help  Write Out  Where Is  Cut  Execute  Location
Exit  Read File  Replace  Paste  Justify  Go To Line
```

```
Douda@Ubuntu24:~$ nano /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
Help  Write Out  Where Is  Cut  Execute  Location
```

```
Douda@Ubuntu24:~$ 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:d6:8a:b8 brd ff:ff:ff:ff:ff:ff
Douda@Ubuntu24:~$ sudo nano /etc/netplan/01-netcfg.yaml
[sudo] password for Douda:
Douda@Ubuntu24:~$ sudo chmod+x /etc/netplan/01-netcfg.yaml
sudo: chmod+x: command not found
Douda@Ubuntu24:~$ sudo chmod +x /etc/netplan/01-netcfg.yaml
Douda@Ubuntu24:~$ sudo netplan apply

** (generate:4727): WARNING **: 23:30:52.477: Permissions for /etc/netplan/01-netcfg.yaml are too open. Netplan configuration should NOT be accessible by others.

** (generate:4727): WARNING **: 23:30:52.571: 'gateway4' has been deprecated, use default routes instead.
See the 'Default routes' section of the documentation for more details.

** (generate:4727): WARNING **: 23:30:52.600: Permissions for /etc/netplan/01-network-manager-all.yaml are too open. Netplan configuration should NOT be accessible by others.

** (process:4726): WARNING **: 23:30:53.900: Permissions for /etc/netplan/01-netcfg.yaml are too open. Netplan configuration should NOT be accessible by others.

** (process:4726): WARNING **: 23:30:53.990: 'gateway4' has been deprecated, use default routes instead.
See the 'Default routes' section of the documentation for more details.

** (process:4726): WARNING **: 23:30:54.000: Permissions for /etc/netplan/01-network-manager-all.yaml are too open. Netplan configuration should NOT be accessible by others.

** (process:4726): WARNING **: 23:30:54.220: Permissions for /etc/netplan/01-netcfg.yaml are too open. Netplan configuration should NOT be accessible by others.
```

En conclusion, ce TD me permet d'apprendre à configurer un serveur DHCP et un serveur DNS de base sur un réseau local e à tester leur fonctionnement. Il nous permet aussi d'apprendre à configurer un serveur web prenant en charge http et HTTPS, et analyser leur mode de fonctionnement. Et en fin, ce TD me permet de comprendre les bases de la configuration d'un serveur SMTP avec Postfix, en local ou sur un réseau tout en explorant les notions de sécurité et de diagnostic.

