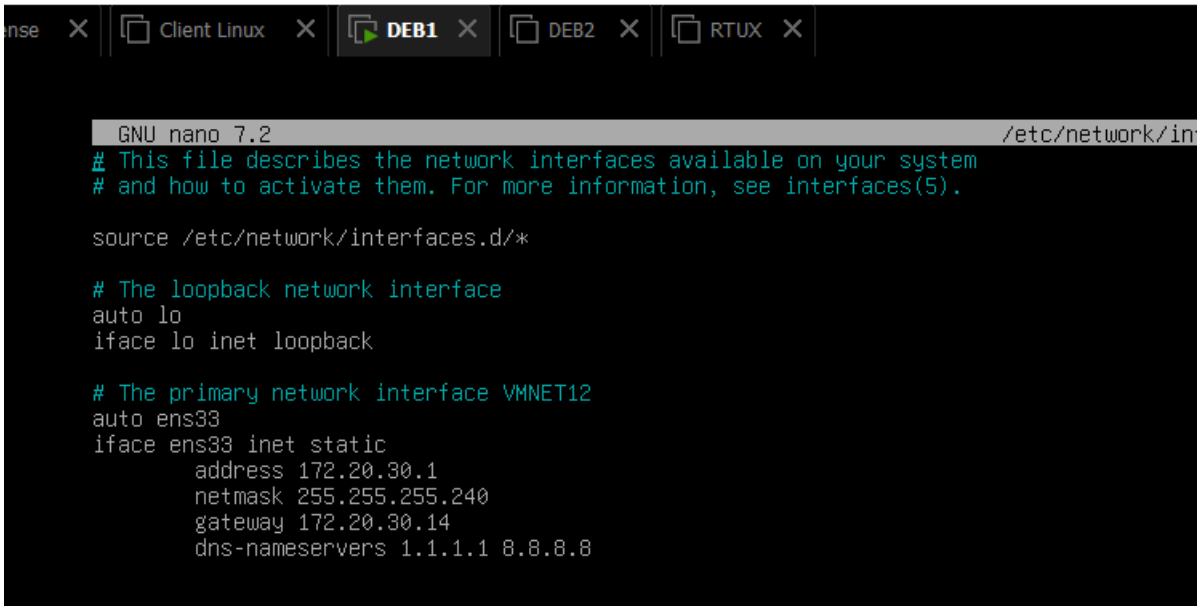
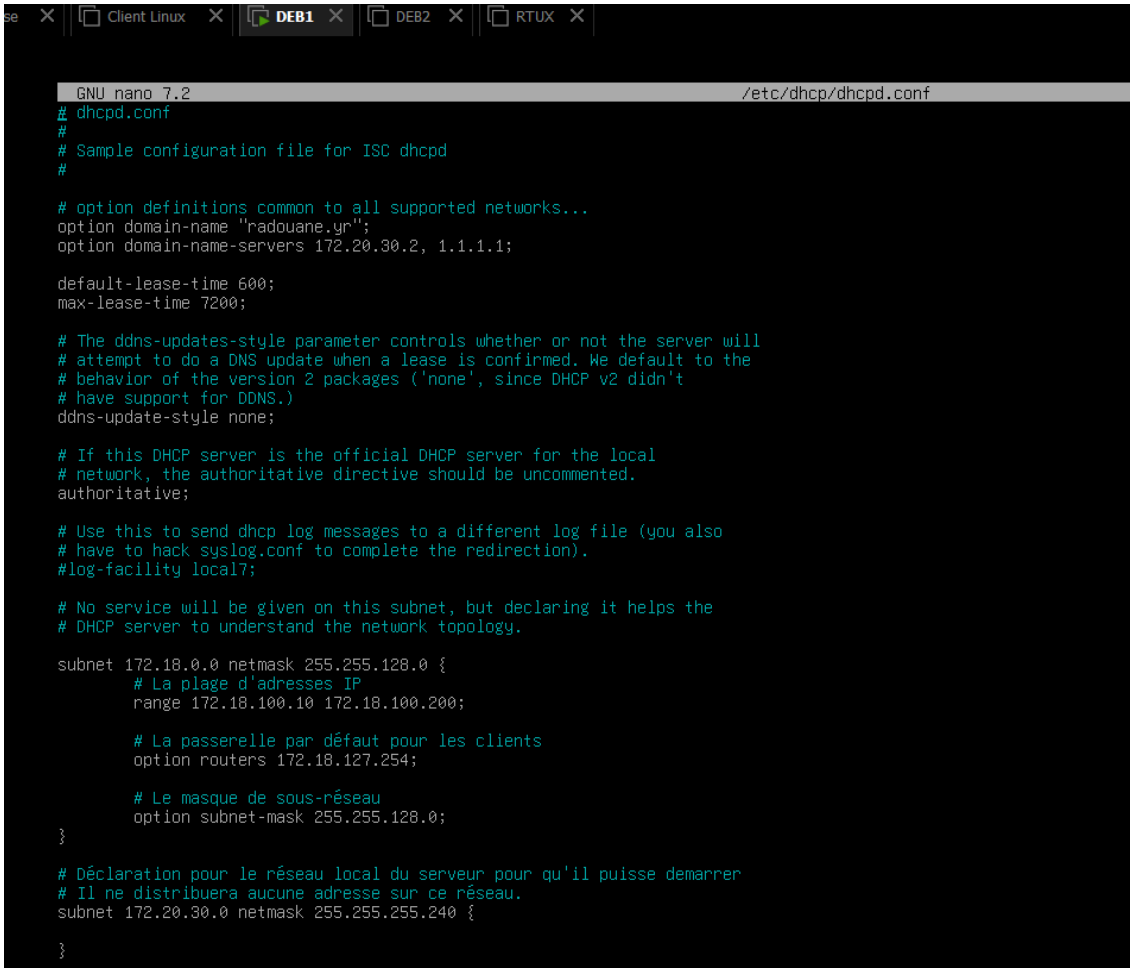
Mise en place d'un serveur DHCP sous Linux avec des clients sur des réseaux différents.

Configuration de SRV-DEB1 :

1. Configuration de l'IP Statique

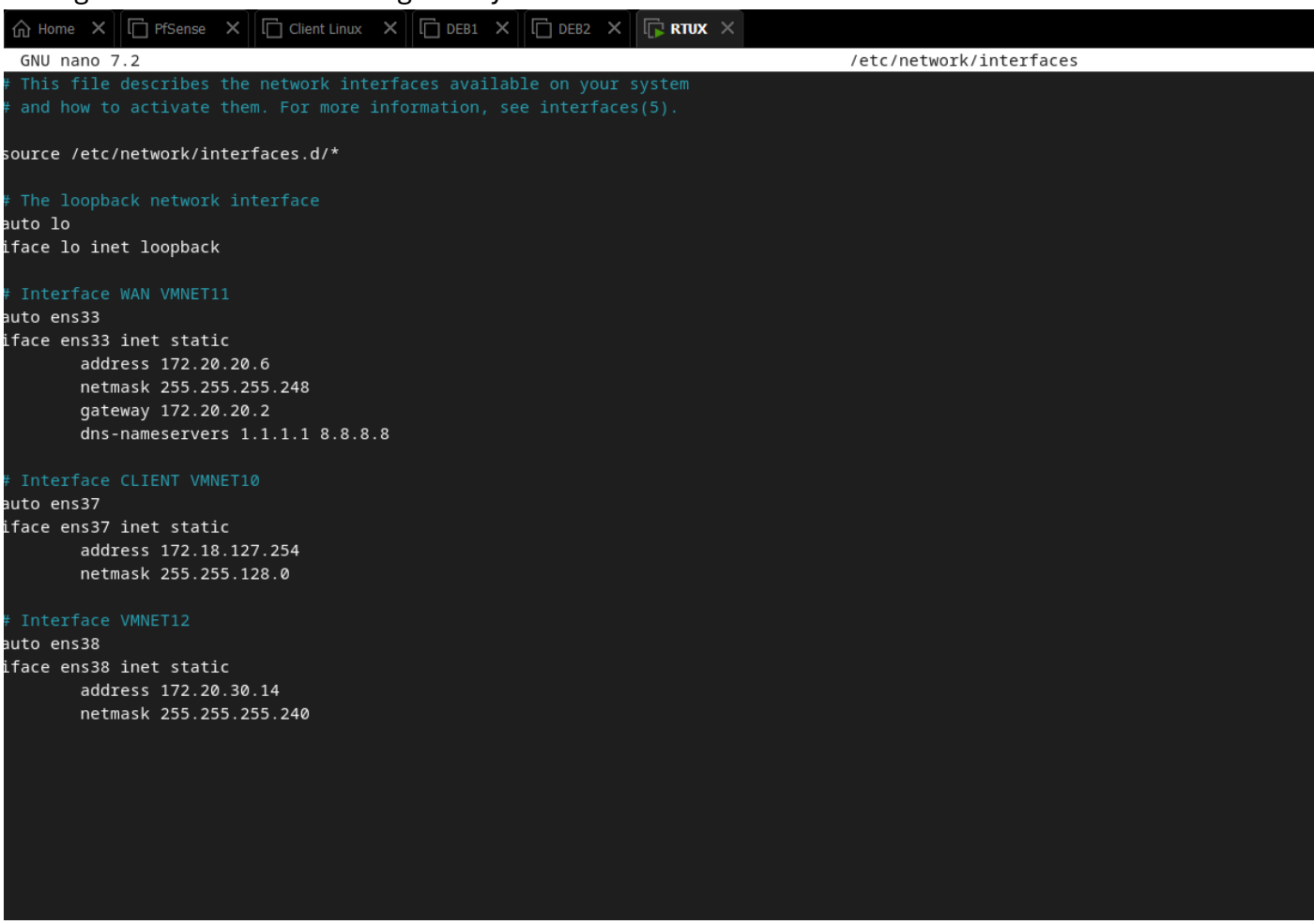


2. Installation du serveur DHCP et plages d'adresses des clients

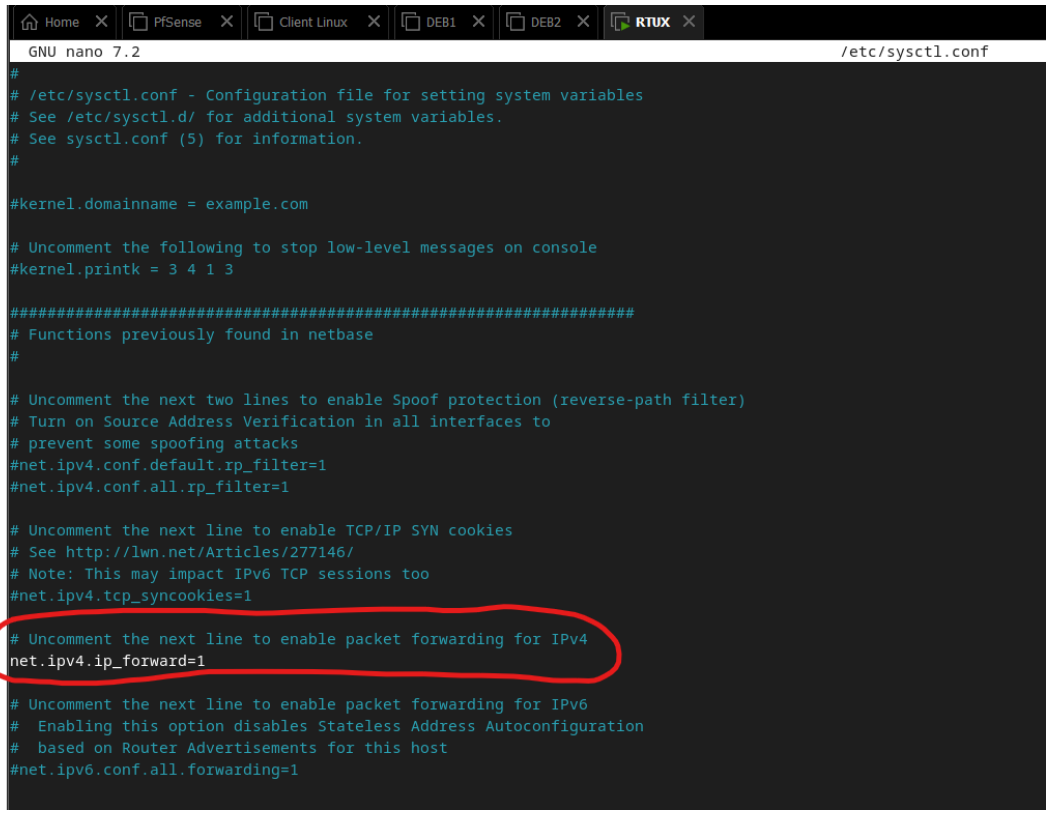


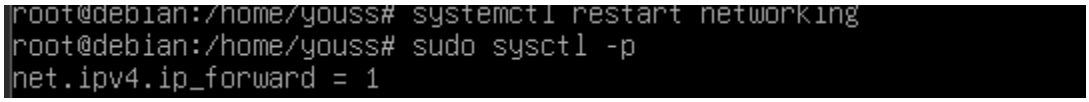
Configuration de RTUX

1. Configuration des interfaces + gateway

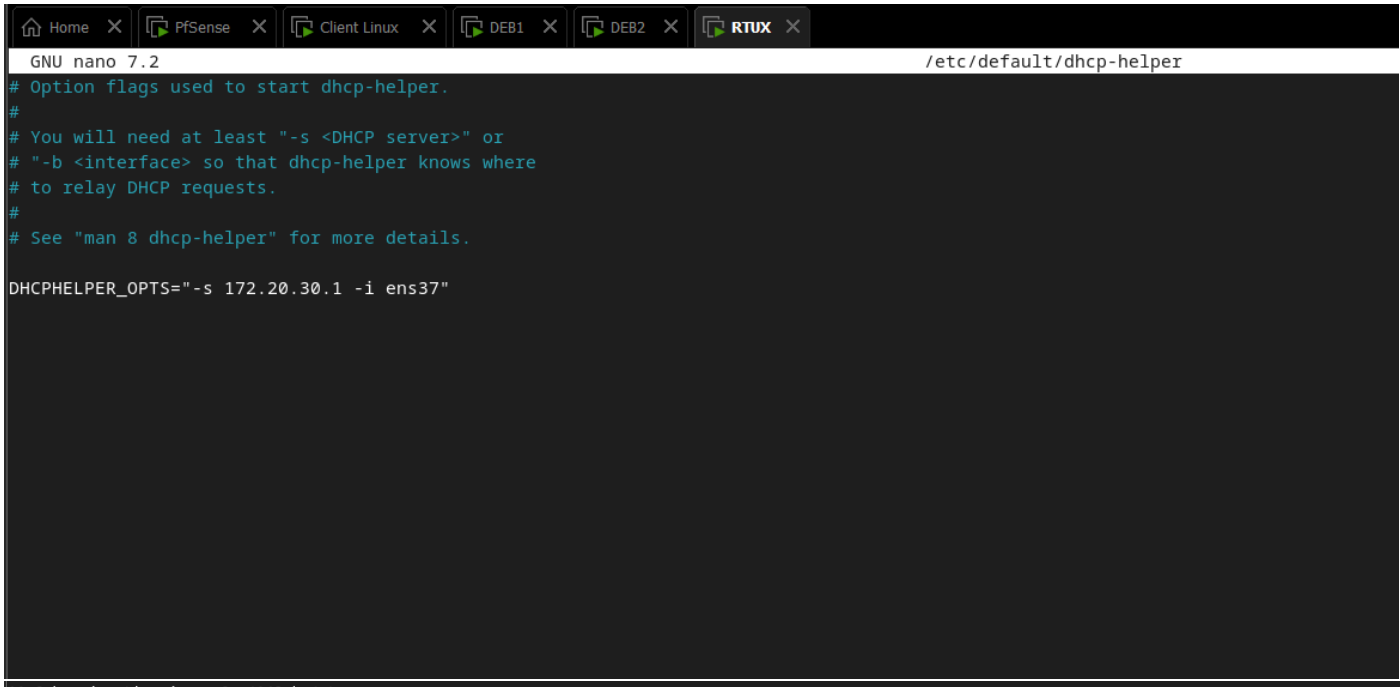


2. Activation du routage





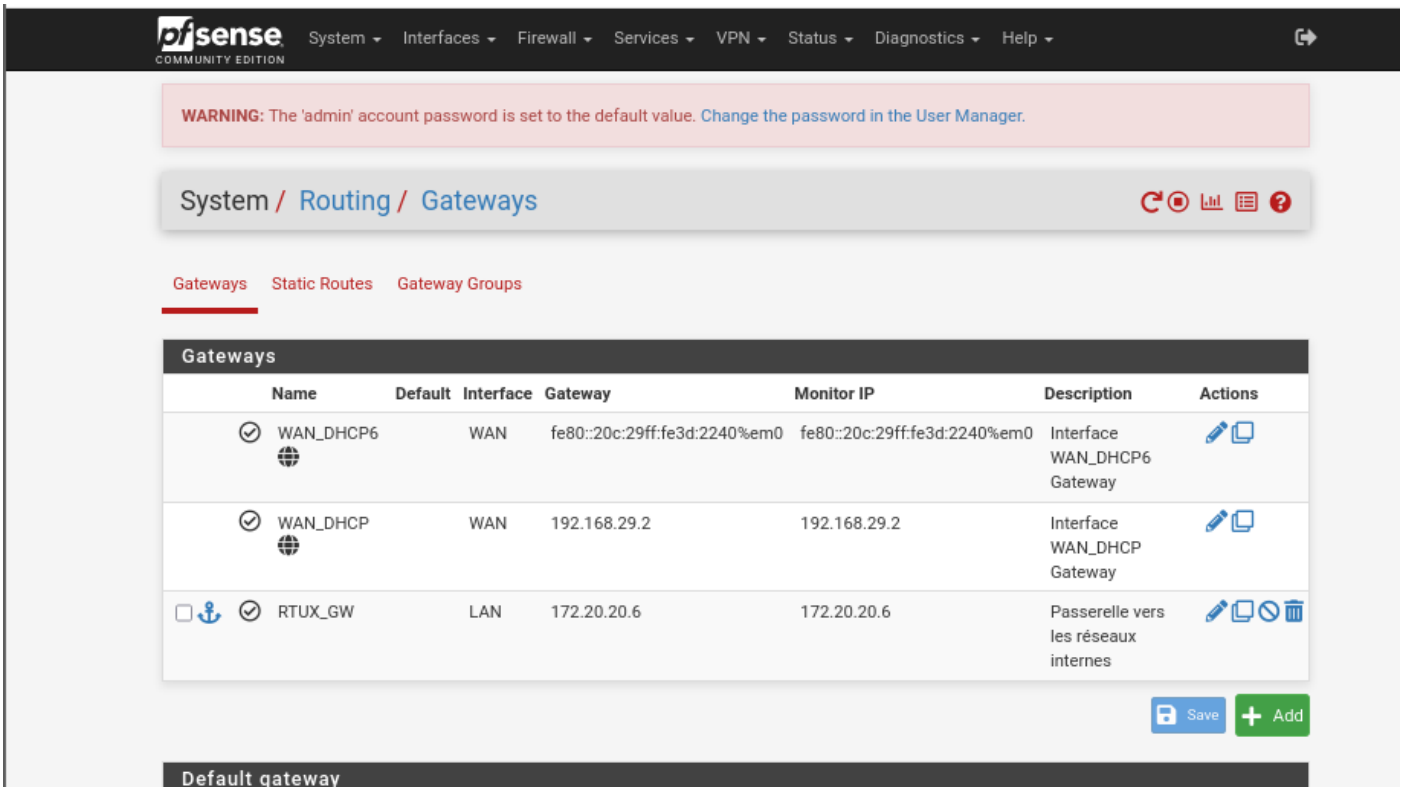
3. Installation du relais avec dhcp-helper (J'ai eu un problème avec dhcp-relay donc je l'ai supprimé)



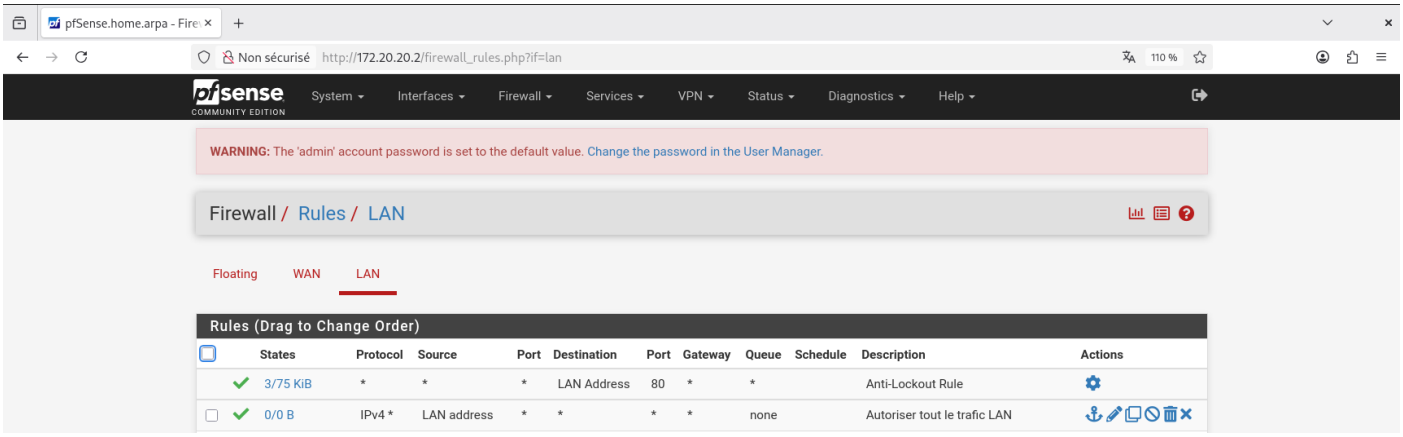

```
11,6 ko réceptionnés en 0s (142 ko/s)
Sélection du paquet dhcp-helper précédemment désélectionné.
(Lecture de la base de données... 155540 fichiers et répertoires déjà installés.)
Préparation du dépaquetage de .../dhcp-helper_1.2-3.1_amd64.deb ...
Dépaquetage de dhcp-helper (1.2-3.1) ...
Paramétrage de dhcp-helper (1.2-3.1) ...
Job for dhcp-helper.service failed because the control process exited with error code.
See "systemctl status dhcp-helper.service" and "journalctl -xeu dhcp-helper.service" for details.
invoke-rc.d: initscript dhcp-helper, action "start" failed.
× dhcp-helper.service - DHCP/BOOTP relay agent
     Loaded: loaded (/lib/systemd/system/dhcp-helper.service; disabled; preset: enabled)
     Active: failed (Result: exit-code) since Mon 2025-10-13 10:46:11 CEST; 23ms ago
    Process: 3937 ExecStart=/usr/sbin/dhcp-helper -r /run/dhcp-helper.pid $DHCPHELPER_OPTS (code=exited, status=1/FAILURE)
        CPU: 2ms

oct. 13 10:46:11 debian systemd[1]: Starting dhcp-helper.service - DHCP/BOOTP relay agent...
oct. 13 10:46:11 debian dhcp-helper[3937]: dhcp-helper: bad interface eth0: No such device
oct. 13 10:46:11 debian systemd[1]: dhcp-helper.service: Control process exited, code=exited, status=1/FAILURE
oct. 13 10:46:11 debian systemd[1]: dhcp-helper.service: Failed with result 'exit-code'.
oct. 13 10:46:11 debian systemd[1]: Failed to start dhcp-helper.service - DHCP/BOOTP relay agent.
Traitement des actions différées (« triggers ») pour man-db (2.11.2-2) ...
root@debian:/home/youss# sudo nano /etc/default/dhcp-helper
root@debian:/home/youss# sudo systemctl enable --now dhcp-helper
Synchronizing state of dhcp-helper.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable dhcp-helper
Created symlink /etc/systemd/system/multi-user.target.wants/dhcp-helper.service → /lib/systemd/system/dhcp-helper.service.
root@debian:/home/youss# systemctl status dhcp-helper
● dhcp-helper.service - DHCP/BOOTP relay agent
     Loaded: loaded (/lib/systemd/system/dhcp-helper.service; enabled; preset: enabled)
     Active: active (running) since Mon 2025-10-13 10:47:05 CEST; 25s ago
    Process: 4036 ExecStart=/usr/sbin/dhcp-helper -r /run/dhcp-helper.pid $DHCPHELPER_OPTS (code=exited, status=0/SUCCESS)
   Main PID: 4038 (dhcp-helper)
      Tasks: 1 (limit: 2248)
     Memory: 212.0K
        CPU: 4ms
     CGroup: /system.slice/dhcp-helper.service
             └─4038 /usr/sbin/dhcp-helper -r /run/dhcp-helper.pid -s 172.20.30.1 -i ens37

oct. 13 10:47:05 debian systemd[1]: Starting dhcp-helper.service - DHCP/BOOTP relay agent...
oct. 13 10:47:05 debian systemd[1]: Started dhcp-helper.service - DHCP/BOOTP relay agent.
root@debian:/home/youss# S
```

Configuration du PfSense

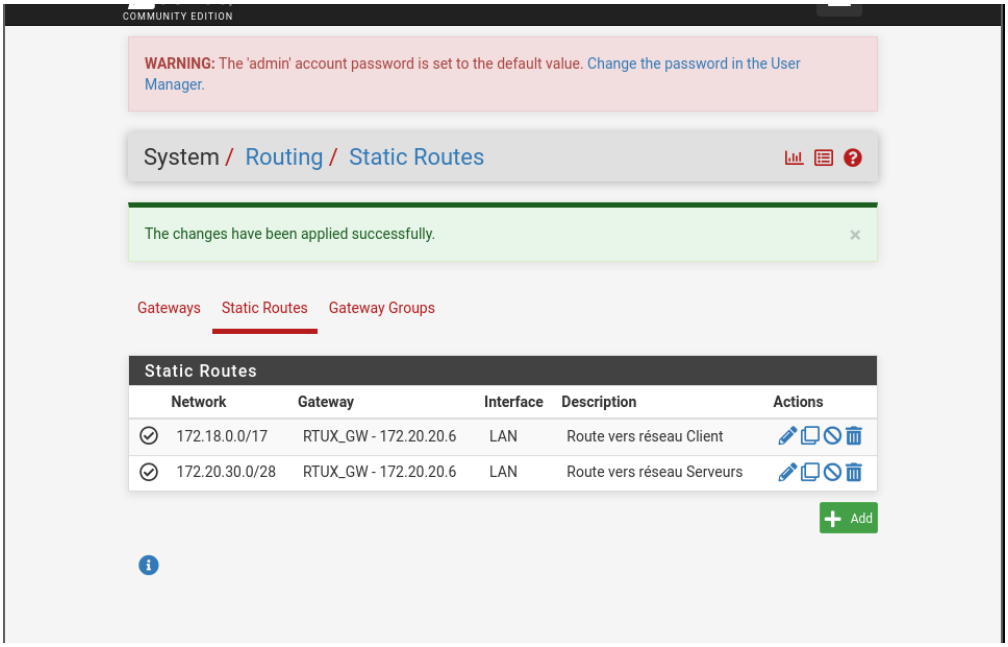
1. Interfaces réseaux



2. Autoriser tout le traffic sur la carte LAN via le pare-feu

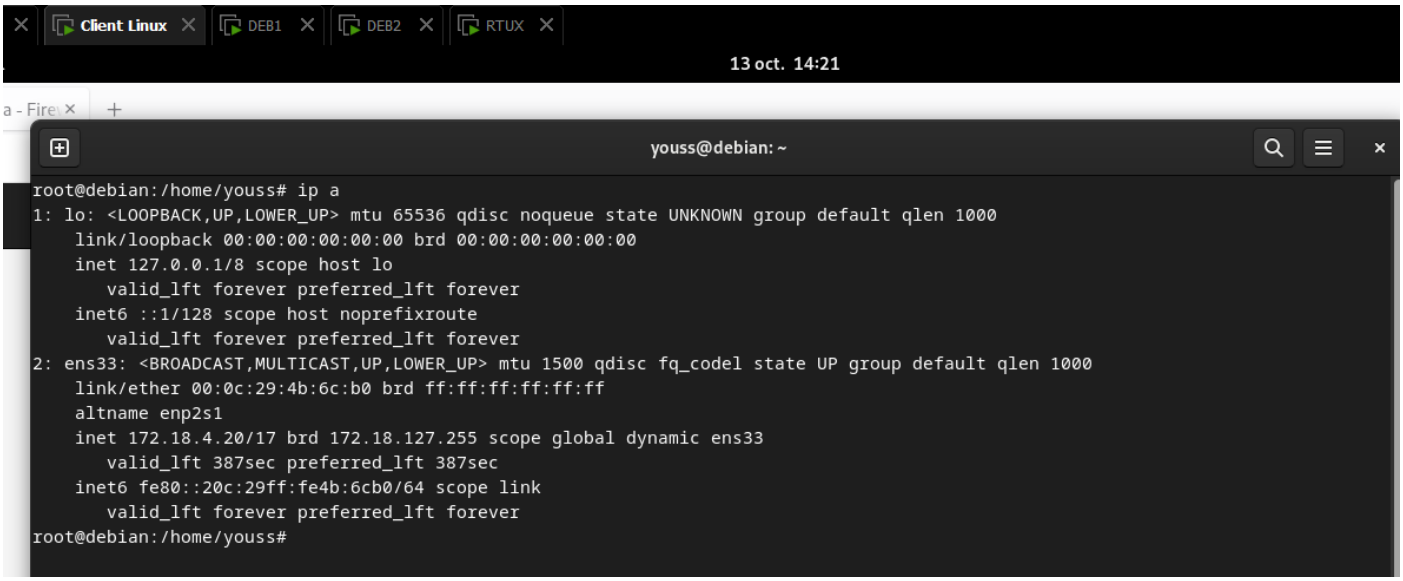


3. Routes statiques pour atteindre les réseaux clients et serveurs



Configuration du client

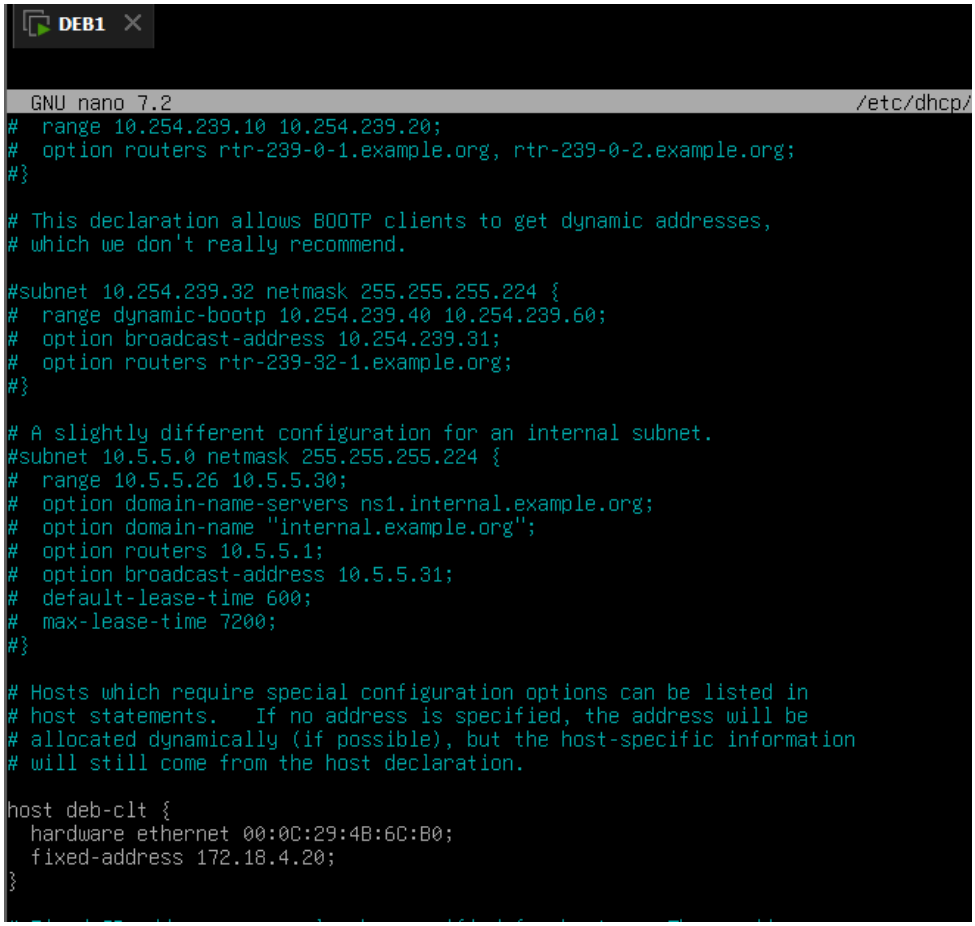
1. Configuration des interfaces réseaux pour obtenir une IP automatiquement



La configuration du DHCP fonctionne sur le client

Configuration de SRV-DEB1

1. Réservation pour le client DEB-CLT avec l'adresse 172.18.4.20



2. Release/renew à la linux

   Le premier sudo dhclient -r && sudo dhclient n'a pas récupérer l'adresse reservée et a repris la même adresse qu'avant. Il fallait donc supprimer le fichier présent dans /var/lib/dhcp/dhclient.leases pour supprimer les anciens baux pour forcer le client DHCP à chercher une nouvelle adresse et donc trouver l'adresse 172.18.4.20.

```
root@debian:/home/youss# systemctl restart networking
root@debian:/home/youss# 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: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 00:0c:29:4b:6c:b0 brd ff:ff:ff:ff:ff:ff
    altname enp2s1
    inet 172.18.4.20/17 brd 172.18.127.255 scope global dynamic ens33
       valid_lft 598sec preferred_lft 598sec
    inet6 fe80::20c:29ff:fe4b:6cb0/64 scope link
       valid_lft forever preferred_lft forever
root@debian:/home/youss#
```