

DHCP

On commence par installer :

```
apt install isc-dhcp-server  
nano /etc/dhcp/dhcpd.conf
```

```
ddns-update-style none;  
log-facility local7;  
  
subnet 10.31.192.0 netmask 255.255.252.0 {  
    # Plage d'adresses dynamiquement allouées  
    range 10.31.193.0 10.31.194.255;  
    # Passerelle par défaut  
    option routers 10.31.195.254;  
  
    # Serveurs de noms  
    option domain-name-servers 1.1.1.1,1.0.0.1 ;  
    # Durée du bail par défaut en secondes  
    default-lease-time 172800;  
    # Durée maximale du bail accordé à un client en secondes  
    max-lease-time 604400;  
    # Réserve d'adresses  
    group {  
        use-host-decl-names true;  
        host priv-db {  
            hardware ethernet c6:dd:b6:c5:05:3a;  
            fixed-address 10.31.192.33;}  
  
        host backupPC {  
            hardware ethernet 4a:8d:39:c2:2e:1a;  
            fixed-address 10.31.192.73;}  
    }  
}  
  
subnet 10.31.200.0 netmask 255.255.252.0 {  
    # Plage d'adresses dynamiquement allouées  
    range 10.31.201.0 10.31.202.255;  
    # Passerelle par défaut  
    option routers 10.31.203.254;  
  
    # Serveurs de noms  
    option domain-name-servers 1.1.1.1,1.0.0.1 ;  
    # Durée du bail par défaut en secondes  
    default-lease-time 172800;
```

```
# Durée maximale du bail accordé à un client en secondes
max-lease-time 604400;
# Réserveation d'adresses
}
```

```
nano /etc/default/isc-dhcp-server
INTERFACES="ens18"
systemctl restart isc-dhcp-server
```

Pour le relay :

```
apt install isc-dhcp-relay
```

La configuration se fait pendant l'installation

Tests

```
tcpdumpc -i ens18 -w /root/dhcp.pcap portrange 67-68
```

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0x3c321f55
2	1.001427	10.31.192.67	10.31.193.3	DHCP	342	DHCP Offer - Transaction ID 0x3c321f55
3	1.001438	10.31.192.67	10.31.193.3	DHCP	342	DHCP Offer - Transaction ID 0x3c321f55
4	1.001914	0.0.0.0	255.255.255.255	DHCP	344	DHCP Request - Transaction ID 0x3c321f55
5	1.003078	10.31.192.67	10.31.193.3	DHCP	342	DHCP ACK - Transaction ID 0x3c321f55
6	1.003763	10.31.192.67	10.31.193.3	DHCP	342	DHCP ACK - Transaction ID 0x3c321f55
7	25.764156	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0xaac6965a
8	26.765466	10.31.192.67	10.31.193.4	DHCP	342	DHCP Offer - Transaction ID 0xaac6965a
9	26.765475	10.31.192.67	10.31.193.4	DHCP	342	DHCP Offer - Transaction ID 0xaac6965a
10	26.765965	0.0.0.0	255.255.255.255	DHCP	342	DHCP Request - Transaction ID 0xaac6965a
11	26.767280	10.31.192.67	10.31.193.4	DHCP	342	DHCP ACK - Transaction ID 0xaac6965a
12	26.767285	10.31.192.67	10.31.193.4	DHCP	342	DHCP ACK - Transaction ID 0xaac6965a

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000	10.31.193.2	10.31.192.67	DHCP	342	DHCP Release - Transaction ID 0xa1689b30
2	4.154715	0.0.0.0	255.255.255.255	DHCP	342	DHCP Discover - Transaction ID 0xfbb30f35
3	5.156145	10.31.192.67	10.31.193.2	DHCP	342	DHCP Offer - Transaction ID 0xfbb30f35
4	5.156154	10.31.192.67	10.31.193.2	DHCP	342	DHCP Offer - Transaction ID 0xfbb30f35
5	5.156576	0.0.0.0	255.255.255.255	DHCP	342	DHCP Request - Transaction ID 0xfbb30f35
6	5.158189	10.31.192.67	10.31.193.2	DHCP	342	DHCP ACK - Transaction ID 0xfbb30f35
7	5.158219	10.31.192.67	10.31.193.2	DHCP	342	DHCP ACK - Transaction ID 0xfbb30f35

DHCP - failover

Pour faire un failover il faut ajouter des choses dans le DHCP du 1er serveur :

DHCP - 1 - Conf

```
failover peer "GSB" {
    primary;
    address 10.31.192.67;
    port 647;
    peer address 10.31.192.68;
    peer port 847;
    max-response-delay 60;
    max-unacked-updates 10;
    mclt 3;
    split 256;
    load balance max seconds 3;
}

authoritative;

pool{
    failover peer "GSB";
    # Plage d'adresses dynamiquement allouées
    range 10.31.193.0 10.31.194.255;
}
```

DHCP - 2 - Conf

Dans le failover on copie le dhcp.conf du 1er et on ajoute :

```
failover peer "GSB" {
    secondary;
    address 10.31.192.68;
    port 847;
    peer address 10.31.192.67;
    peer port 647;
    max-response-delay 60;
    max-unacked-updates 10;
    load balance max seconds 3;
}

pool{
    failover peer "GSB";
    # Plage d'adresses dynamiquement allouées
    range 10.31.193.0 10.31.194.255;
}
```

test load balancer

2023-10-17T14:14:33.541457+02:00 dhcp2-priv dhcpd[938]: balancing pool 55d3b4abafc0
10.31.200.0/22 total 512 free 256 backup 256 lts 0 max-own (+/-)51

2023-10-17T14:14:33.541578+02:00 dhcp2-priv dhcpd[938]: balanced pool 55d3b4abafc0
10.31.200.0/22 total 512 free 256 backup 256 lts 0 max-misbal 77

2023-10-17T14:14:33.541619+02:00 dhcp2-priv dhcpd[938]: balancing pool 55d3b4ab6470
10.31.192.0/22 total 512 free 256 backup 256 lts 0 max-own (+/-)51

2023-10-17T14:14:33.541647+02:00 dhcp2-priv dhcpd[938]: balanced pool 55d3b4ab6470
10.31.192.0/22 total 512 free 256 backup 256 lts 0 max-misbal 77