



admin:tp8

TP8 (DNS & DHCP)

Config Serveur DNS

domain: metal.fr server: immortal (192.168.0.2)

Dans /etc/bind/named.conf.local :

```
zone "metal.fr" {
    type master;
    file "/etc/bind/db.metal";
};

zone "0.168.192.in-addr.arpa" {
    type master;
    file "/etc/bind/db.0.168.192";
};
```

Dans /etc/bind/db.metal :

```
; $ORIGIN metal.fr
$TTL      86400
@         IN      SOA      dns1.metal.fr. mailer.metal.fr. (
                                1           ; Serial
                                604800      ; Refresh
                                86400       ; Retry
                                2419200    ; Expire
                                86400      ) ; Negative Cache TTL
;

@         IN      NS       immortal
@         IN      MX       10      nile

immortal  IN      A        192.168.0.2
syl       IN      A        192.168.0.1
nile      IN      A        192.168.0.3

; alias
mailer    IN      CNAME    nile
dns1      IN      CNAME    immortal
```

Nota Bene : NS = DNS Server, IN = Internet (optionel), mailer.metal.fr ⇒ mailer@metal.fr (@email du DNS admin)

Dans /etc/bind/db.0.168.192 (reverse) :

```
; $ORIGIN 0.168.192.in-addr.arpa
$TTL      86400
@         IN      SOA      dns1.metal.fr. mailer.metal.fr. (
                                1           ; Serial
                                604800      ; Refresh
                                86400       ; Retry
                                2419200    ; Expire
                                86400      ) ; Negative Cache TTL
;

@         IN      NS       dns1.metal.fr.

; reverse
2         IN      PTR      immortal.metal.fr.
1         IN      PTR      syl.metal.fr.
3         IN      PTR      nile.metal.fr.
```

Vérif Config Serveur :

```
$ named-checkzone 0.168.192.in-addr.arpa db.0.168.192
$ named-checkzone metal.fr db.metal
$ named-checkconf -z
```

Démarrage du serveur :

```
$ /etc/init.d/bind9 restart
```

Les logs :

```
$ tail /var/log/syslog
```

Config Client DNS

Dans /etc/resolv.conf :

```
search metal.fr
nameserver 192.168.0.2
```

Dans /etc/nsswitch.conf :

```
...
hosts:          files dns
...
```

Ne pas oublier de redémarrer le daemon *nscd*.

Test Client, sur syl par exemple :

```
$ nslookup nile
Server:          192.168.0.2
Address:         192.168.0.2#53
Name: nile.metal.fr
Address: 192.168.0.3

$ ping nile
PING nile.metal.fr (192.168.0.3) 56(84) bytes of data.
64 bytes from nile.metal.fr (192.168.0.3): icmp_seq=1 ttl=64 time=12.8 ms
```

Config du serveur DHCP

Serveur DHCP su syl.

Configuration sans DNS

Dans /etc/dhcp/dhcpd.conf:

```
default-lease-time 600;
max-lease-time 7200;

subnet 192.168.0.0 netmask 255.255.255.0 {
    range 192.168.0.10 192.168.0.20;
    option broadcast-address 192.168.0.255;
}
```

On démarre le serveur DHCP :

```
$/etc/init.d/isc-dhcp-server start
```

Configuration avec DNS

On suppose le serveur DNS bien configuré sur immortal...

Dans /etc/dhcp/dhcpd.conf (syl), ajouter à la fin :

```
subnet 192.168.0.0 netmask 255.255.255.0 {
    range 192.168.0.10 192.168.0.30;
    option domain-name "metal.fr";
    option domain-name-servers 192.168.0.2;
    # option routers 192.168.0.254;
    option subnet-mask 255.255.255.0;
    option broadcast-address 192.168.0.255;

    host nile {
        hardware ethernet A2:00:00:00:03:00;
        fixed-address 192.168.0.9;
    }
}
```

Range of IP addresses to be issued to DHCP clients
Domain name
Default DNS to be used by DHCP clients
Default gateway to be used by DHCP clients
Default subnet mask to be used by DHCP clients
Default broadcast address to be used by DHCP clients

```
}
```

On redémarre le serveur DHCP.

Configuration du Client DHCP

Dans /etc/network/interfaces (nile) :

```
auto eth0
iface eth0 inet dhcp
```

Puis on démarre le client...

```
$/etc/init.d/networking restart
```

Ou encore :

```
root@nile:~ #dhclient -v

Listening on LPF/eth0/a2:00:00:00:03:00
Sending on   LPF/eth0/a2:00:00:00:03:00
Sending on   Socket/fallback
DHCPDISCOVER on eth0 to 255.255.255.255 port 67 interval 4
DHCPOFFER from 192.168.0.1
DHCPREQUEST on eth0 to 255.255.255.255 port 67
DHCPACK from 192.168.0.1
bound to 192.168.0.10 -- renewal in 265 seconds.
```

On peut vérifier les entrées ajoutées dynamiquement sur le serveur DHCP dans le fichier /var/lib/dhcp/dhclient.leases

Configuration avancée du serveur DHCP

On souhaite maintenant faire en sorte que le serveur DHCP collabore avec le serveur DNS pour mettre à jour automatiquement la liste des nouvelles machines reconnues par DNS.

On utilise le secret défini dans /etc/bind/rndc.key

On modifie la config DHCP du serveur dans /etc/dhcp/dhcpd.conf :

```
ddns-update-style interim;
ddns-updates on;
deny client-updates;
ddns-domainname "metal.fr.";
ddns-rev-domainname "0.168.192.in-addr.arpa.";
authoritative;

key "rndc-key" {
    algorithm hmac-md5;
    secret "nnuTF/RJEhvmKhttRzIv8w==";
}

zone metal.fr. {
    primary 192.168.0.2;
    key rndc-key;
}

zone 0.168.192.in-addr.arpa. {
    primary 192.168.0.2;
    key rndc-key;
}

subnet 192.168.0.0 netmask 255.255.255.0 {
    range 192.168.0.10 192.168.0.30;           # Range of IP addresses to be issued to DHCP clients
    option domain-name "metal.fr.";           # Domain name
    option domain-name-servers 192.168.0.2;   # Default DNS to be used by DHCP clients
    option subnet-mask 255.255.255.0;         # Default subnet mask to be used by DHCP clients
    option broadcast-address 192.168.0.255;   # Default broadcast address to be used by DHCP clients
}
```

Puis on modifie la config du serveur DNS dans /etc/bind/named.conf.local :

```
key "rndc-key" {
    algorithm hmac-md5;
    secret "nnuTF/RJEhvmKhttRzIv8w==";
}
```

```
};  
  
zone "metal.fr" {  
    type master;  
    file "/etc/bind/db.metal";  
    allow-update {key "rndc-key"; };  
};  
  
zone "0.168.192.in-addr.arpa" {  
    type master;  
    file "/etc/bind/db.0.168.192";  
    allow-update {key "rndc-key"; };  
};
```

Ne pas oublier `chmod g+wx /etc/bind` (pour le group “bind”).

Finalement, côté client DHCP (nile), dans `/etc/dhcp/dhclient.conf` :

```
send host-name "nile";
```

Puis :

```
$ dhclient -v
```

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