



Université Cheikh Anta Diop de Dakar (UCAD)

Faculté des Sciences et Techniques Département Mathématiques et Informatiques (FST/DMI)

## Administration SYSTEME

Licence 3 Transmission des Données et Sécurité de l'Information

(L3-TDSI)

Option : Cryptographie et Informatique

CONFIGURATION DNS AVEC  
BIND9 SUR DEBIAN

## Configuration du DNS

Etape 1 :

```
GNU nano 3.2 /etc/hostname
```

```
server1.l3tdsi-ucad.sn
```

Etape 2 :

```
Fichier Édition Affichage Rechercher Terminal Aide
```

```
GNU nano 3.2 /etc/host.conf
```

```
order host, bind  
multi on
```

Etape 3:

```
GNU nano 3.2 /etc/hosts
```

```
127.0.0.1      localhost  
172.16.1.10    server1.l3tdsi-ucad.sn server1
```

Etape 4:

```
GNU nano 3.2 /etc/resolv.conf
```

```
domain l3tdsi-ucad.sn  
search l3tdsi-ucad.sn  
nameserver 172.16.1.10
```

## Etape 5:

```
GNU nano 3.2                                direct

;
; BIND data file for local loopback interface
;
$TTL    604800
@       IN      SOA     server1.l3tdsi-ucad.sn. root.l3tdsi-ucad.sn. (
                      2           ; Serial
                      604800      ; Refresh
                      86400       ; Retry
                     2419200     ; Expire
                     604800 )    ; Negative Cache TTL
;
@ [REDACTED] IN      NS      server1.l3tdsi-ucad.sn.
server1 IN      A       172.16.1.10
www      IN      CNAME   server1.l3tdsi-ucad.sn.
```

## Etape 6 :

```
GNU nano 3.2                                db.172.16.1

;
; BIND reverse data file for local loopback interface
;
$TTL    604800
@       IN      SOA     server1.l3tdsi-ucad.sn. l3tdsi-ucad.sn. (
                      1           ; Serial
                      604800      ; Refresh
                      86400       ; Retry
                     2419200     ; Expire
                     604800 )    ; Negative Cache TTL
;
@       IN      NS      server1.
10     IN      PTR     server1.l3tdsi-ucad.sn.
```

## Etape 7:

```
zone "l3tdsi-ucad.sn" IN {
    type master;
    file "/etc/bind/direct";
};

zone "1.16.172.in-addr.arpa" IN {
    type master;
```

## Etape 8 :

```
include "/etc/bind/named.conf.default-zones";

zone "l3tdsi-ucad.sn" IN {
    type master;
    file "/etc/bind/direct";
};

zone "1.16.172.in-addr.arpa" IN {
    type master;
    file "/etc/bind/db.172.16.1";
};
```

## Etape 9 :

Fichier	Édition	Affichage	Rechercher	Terminal	Aide
root@server1:/etc/bind# /etc/init.d/bind9 restart					
[ ok ] Restarting bind9 (via systemctl): bind9.service.					
root@server1:/etc/bind#					
root@server1:/etc/bind#					
root@server1:/etc/bind# named-checkzone l3tdsi-ucad.sn /etc/bind/direct					
zone l3tdsi-ucad.sn/IN: loaded serial 2					
OK					
root@server1:/etc/bind# named-checkzone l3tdsi-ucad.sn /etc/bind/db.172.16.1					
zone l3tdsi-ucad.sn/IN: loaded serial 1					
OK					
root@server1:/etc/bind# named-checkconf /etc/bind/named.conf					
root@server1:/etc/bind# _					

## Etape 10 :

```
Fichier Édition Affichage Rechercher Terminal Aide
root@server1:/etc/bind# host server1.l3tdsi-ucad.sn
server1.l3tdsi-ucad.sn has address 172.16.1.10
root@server1:/etc/bind#
root@server1:/etc/bind# host 172.16.1.10
10.1.16.172.in-addr.arpa domain name pointer server1.l3tdsi-ucad.sn.
root@server1:/etc/bind#
root@server1:/etc/bind# █
```

## Etape 11:

```
Fichier Édition Affichage Rechercher Terminal Aide
root@server1:/etc/bind# nslookup
> server1.l3tdsi-ucad.sn
Server:      172.16.1.10
Address:     172.16.1.10#53

Name:   server1.l3tdsi-ucad.sn
Address: 172.16.1.10
>
> 172.16.1.10
10.1.16.172.in-addr.arpa      name = server1.l3tdsi-ucad.sn.
>
> █
```

## Etape 12 :

```
Fichier Édition Affichage Rechercher Terminal Aide
root@server1:/etc/bind# dig server1.l3tdsi-ucad.sn
; <>>> DiG 9.11.5-P4-5.1+deb10u2-Debian <>>> server1.l3tdsi-ucad.sn
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 26055
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 1, ADDITIONAL: 1
;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 4096
;; COOKIE: 36842a0292283dfdbf46a498603508f1d3c2ad6a6cf8c4d0 (good)
;; QUESTION SECTION:
server1.l3tdsi-ucad.sn.           IN      A
;; ANSWER SECTION:
server1.l3tdsi-ucad.sn. 604800  IN      A      172.16.1.10
;; AUTHORITY SECTION:
l3tdsi-ucad.sn.      604800  IN      NS      server1.l3tdsi-ucad.sn.
;; Query time: 0 msec
;; SERVER: 172.16.1.10#53(172.16.1.10)
;; WHEN: mar. févr. 23 14:53:53 CET 2021
;; MSG SIZE  rcvd: 109
```

## Etape 13 :

```
root@server1:/etc/bind#
root@server1:/etc/bind# dig l3tdsi-ucad.sn

; <>> DiG 9.11.5-P4-5.1+deb10u2-Debian <>> l3tdsi-ucad.sn
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 11690
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
; COOKIE: 917fe777536fded65a9986fc6035094f85768b970459d3cf (good)
;; QUESTION SECTION:
;l3tdsi-ucad.sn.           IN      A

;; AUTHORITY SECTION:
l3tdsi-ucad.sn.      604800  IN      SOA      server1.l3tdsi-ucad.sn. root.l3t
dsi-ucad.sn. 2 604800 86400 2419200 604800

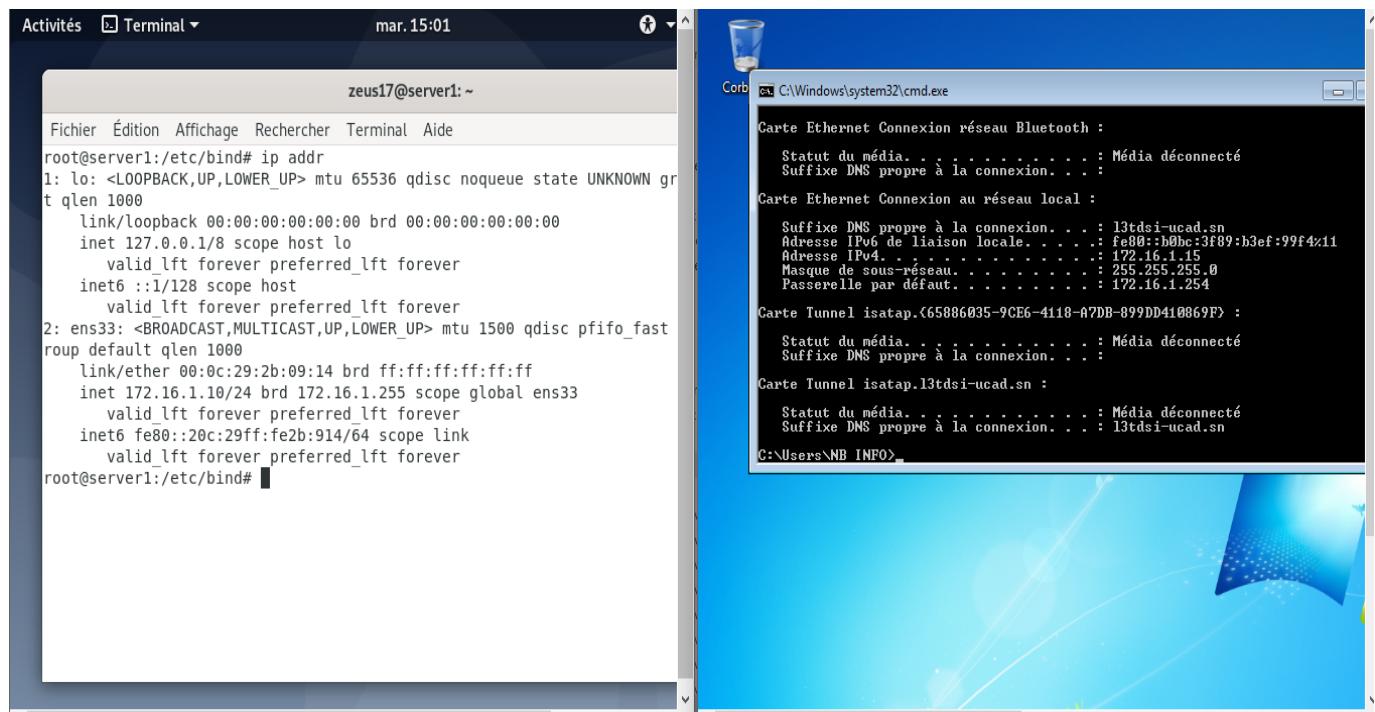
;; Query time: 0 msec
;; SERVER: 172.16.1.10#53(172.16.1.10)
;; WHEN: mar. févr. 23 14:55:27 CET 2021
;; MSG SIZE  rcvd: 120

root@server1:/etc/bind#
```

## Phase de test :

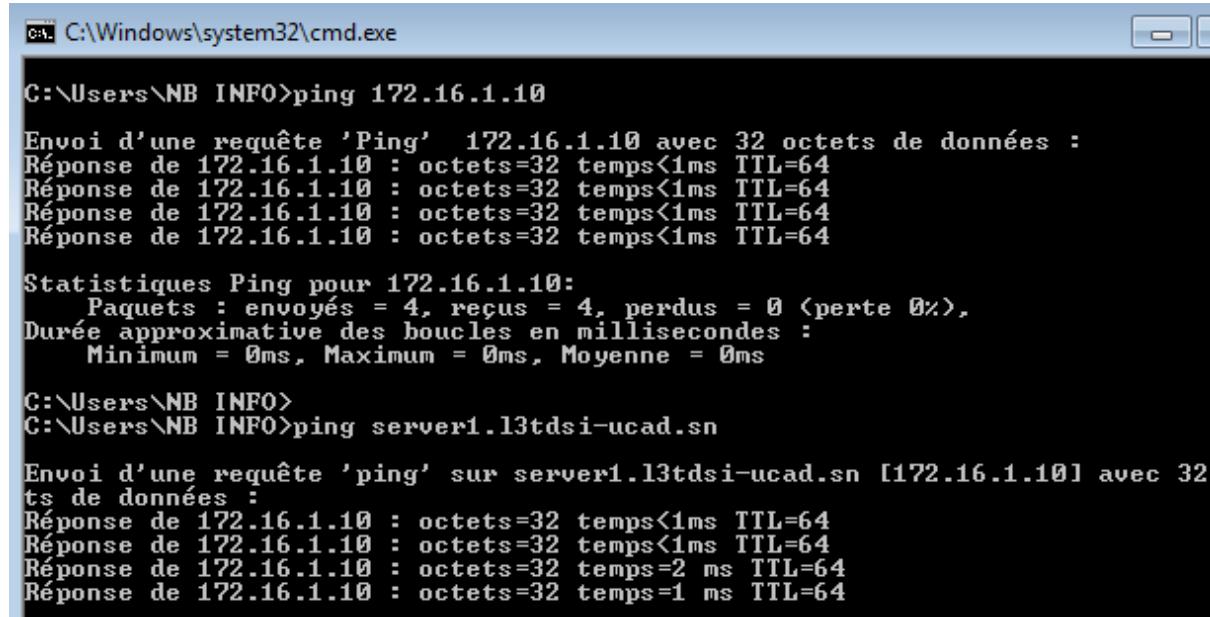
### Etape 14:

Ici on récupère l'adresse IP du serveur (du debian9) et celle du client (win7)



## Etape 15 :

Là on ping le serveur avec son IP ça passe et avec le nom du serveur aussi ça passe



```
C:\Windows\system32\cmd.exe
C:\Users\NB INFO>ping 172.16.1.10

Envoi d'une requête 'Ping' à 172.16.1.10 avec 32 octets de données :
Réponse de 172.16.1.10 : octets=32 temps<1ms TTL=64

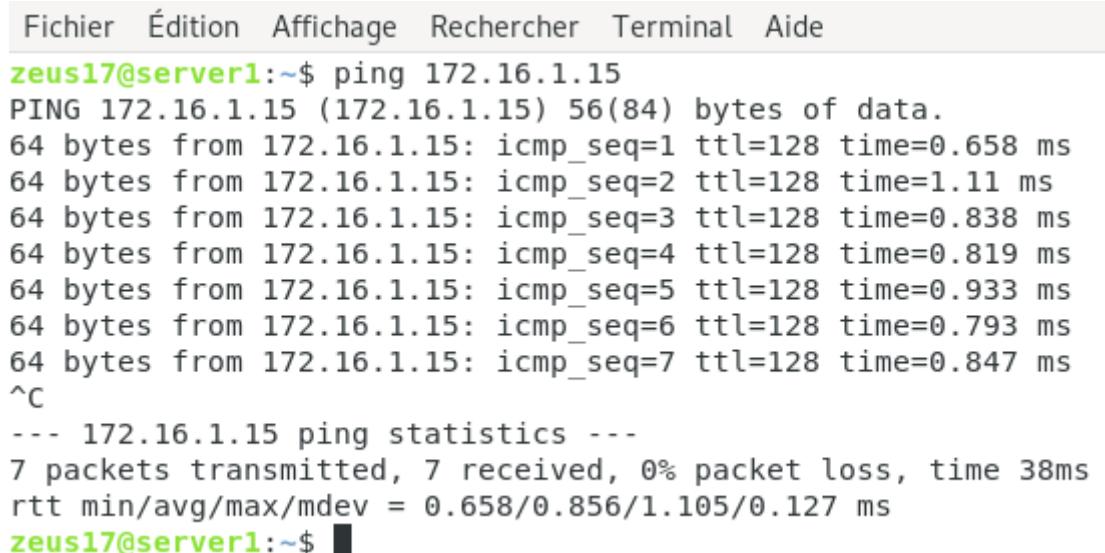
Statistiques Ping pour 172.16.1.10:
    Paquets : envoyés = 4, reçus = 4, perdus = 0 (perte 0%),
Durée approximative des boucles en millisecondes :
    Minimum = 0ms, Maximum = 0ms, Moyenne = 0ms

C:\Users\NB INFO>
C:\Users\NB INFO>ping server1.13tdsi-ucad.sn

Envoi d'une requête 'ping' sur server1.13tdsi-ucad.sn [172.16.1.10] avec 32
ts de données :
Réponse de 172.16.1.10 : octets=32 temps<1ms TTL=64
Réponse de 172.16.1.10 : octets=32 temps<1ms TTL=64
Réponse de 172.16.1.10 : octets=32 temps=2 ms TTL=64
Réponse de 172.16.1.10 : octets=32 temps=1 ms TTL=64
```

## Etape 16 :

Là ping vers le client tout en sachant désactivant le Fire-wall du client



```
Fichier Édition Affichage Rechercher Terminal Aide
zeus17@server1:~$ ping 172.16.1.15
PING 172.16.1.15 (172.16.1.15) 56(84) bytes of data.
64 bytes from 172.16.1.15: icmp_seq=1 ttl=128 time=0.658 ms
64 bytes from 172.16.1.15: icmp_seq=2 ttl=128 time=1.11 ms
64 bytes from 172.16.1.15: icmp_seq=3 ttl=128 time=0.838 ms
64 bytes from 172.16.1.15: icmp_seq=4 ttl=128 time=0.819 ms
64 bytes from 172.16.1.15: icmp_seq=5 ttl=128 time=0.933 ms
64 bytes from 172.16.1.15: icmp_seq=6 ttl=128 time=0.793 ms
64 bytes from 172.16.1.15: icmp_seq=7 ttl=128 time=0.847 ms
^C
--- 172.16.1.15 ping statistics ---
7 packets transmitted, 7 received, 0% packet loss, time 38ms
rtt min/avg/max/mdev = 0.658/0.856/1.105/0.127 ms
zeus17@server1:~$
```

Fin