

Dimanche, le 27 Octobre 2024

DAMBE Lamboni

Option : Master 2 SSI

Module : Administration et Protocoles Réseaux

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THÈME : Rapport du TP4, Script de déploiement

| NOTE | OBSERVATION |
|------|-------------|
| | |

Résultats des tests de validation :

```
dambe@hackbookpro:~/Documents/DLA_UFR_Mad/M2/AdministrationReseau/TP4_dla$ chmod +x validationTest.sh
dambe@hackbookpro:~/Documents/DLA_UFR_Mad/M2/AdministrationReseau/TP4_dla$ ./validationTest.sh
```

***** Test de connectivité de C1TP4 vers C2TP4 *****

```
PING 10.207.193.78 (10.207.193.78) 56(84) bytes of data.
64 bytes from 10.207.193.78: icmp_seq=1 ttl=64 time=0.195 ms
64 bytes from 10.207.193.78: icmp_seq=2 ttl=64 time=0.169 ms
64 bytes from 10.207.193.78: icmp_seq=3 ttl=64 time=0.138 ms
64 bytes from 10.207.193.78: icmp_seq=4 ttl=64 time=0.271 ms

--- 10.207.193.78 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3071ms
rtt min/avg/max/mdev = 0.138/0.193/0.271/0.049 ms
```

***** Test de connectivité de C1TP4 vers C3TP4 *****

```
PING 10.207.193.157 (10.207.193.157) 56(84) bytes of data.
64 bytes from 10.207.193.157: icmp_seq=1 ttl=64 time=0.221 ms
64 bytes from 10.207.193.157: icmp_seq=2 ttl=64 time=0.156 ms
64 bytes from 10.207.193.157: icmp_seq=3 ttl=64 time=0.133 ms
64 bytes from 10.207.193.157: icmp_seq=4 ttl=64 time=0.134 ms

--- 10.207.193.157 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3081ms
rtt min/avg/max/mdev = 0.133/0.161/0.221/0.035 ms
```

***** Test de connectivité de C1TP4 vers DHCP-TP4 *****

```
PING 10.207.193.79 (10.207.193.79) 56(84) bytes of data.
64 bytes from 10.207.193.79: icmp_seq=1 ttl=64 time=0.174 ms
```

***** Test de connectivité de C1TP4 vers DHCP-TP4 *****

```
PING 10.207.193.79 (10.207.193.79) 56(84) bytes of data.
64 bytes from 10.207.193.79: icmp_seq=1 ttl=64 time=0.174 ms
64 bytes from 10.207.193.79: icmp_seq=2 ttl=64 time=0.167 ms
64 bytes from 10.207.193.79: icmp_seq=3 ttl=64 time=0.148 ms
64 bytes from 10.207.193.79: icmp_seq=4 ttl=64 time=0.164 ms

--- 10.207.193.79 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3053ms
rtt min/avg/max/mdev = 0.148/0.163/0.174/0.009 ms
```

***** Test de connectivité de C1TP4 vers DNS-TP4 *****

```
PING 10.207.193.115 (10.207.193.115) 56(84) bytes of data.
64 bytes from 10.207.193.115: icmp_seq=1 ttl=64 time=0.131 ms
64 bytes from 10.207.193.115: icmp_seq=2 ttl=64 time=0.130 ms
64 bytes from 10.207.193.115: icmp_seq=3 ttl=64 time=0.147 ms
64 bytes from 10.207.193.115: icmp_seq=4 ttl=64 time=0.147 ms

--- 10.207.193.115 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3062ms
```

```
***** Test de connectivité de C2TP4 vers C1TP4 *****

PING 10.207.193.70 (10.207.193.70) 56(84) bytes of data.
From 10.207.193.78 icmp_seq=1 Destination Host Unreachable
From 10.207.193.78 icmp_seq=2 Destination Host Unreachable
From 10.207.193.78 icmp_seq=3 Destination Host Unreachable
From 10.207.193.78 icmp_seq=4 Destination Host Unreachable

--- 10.207.193.70 ping statistics ---
4 packets transmitted, 0 received, +4 errors, 100% packet loss, time 3095ms
pipe 4

***** Test de connectivité de C2TP4 vers C3TP4 *****

PING 10.207.193.157 (10.207.193.157) 56(84) bytes of data.
64 bytes from 10.207.193.157: icmp_seq=1 ttl=64 time=0.166 ms
64 bytes from 10.207.193.157: icmp_seq=2 ttl=64 time=0.155 ms
64 bytes from 10.207.193.157: icmp_seq=3 ttl=64 time=0.156 ms
64 bytes from 10.207.193.157: icmp_seq=4 ttl=64 time=0.127 ms

--- 10.207.193.157 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3060ms
rtt min/avg/max/mdev = 0.127/0.151/0.166/0.014 ms
```

```
***** Test de connectivité de C2TP4 vers DNS-TP4 *****

PING 10.207.193.115 (10.207.193.115) 56(84) bytes of data.
64 bytes from 10.207.193.115: icmp_seq=1 ttl=64 time=0.171 ms
64 bytes from 10.207.193.115: icmp_seq=2 ttl=64 time=0.142 ms
64 bytes from 10.207.193.115: icmp_seq=3 ttl=64 time=0.140 ms
64 bytes from 10.207.193.115: icmp_seq=4 ttl=64 time=0.141 ms

--- 10.207.193.115 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3092ms
rtt min/avg/max/mdev = 0.140/0.148/0.171/0.013 ms

***** Test de connectivité de C3TP4 vers C1TP4 *****

PING 10.207.193.70 (10.207.193.70) 56(84) bytes of data.
From 10.207.193.157 icmp_seq=1 Destination Host Unreachable
From 10.207.193.157 icmp_seq=2 Destination Host Unreachable
From 10.207.193.157 icmp_seq=3 Destination Host Unreachable
From 10.207.193.157 icmp_seq=4 Destination Host Unreachable

--- 10.207.193.70 ping statistics ---
4 packets transmitted, 0 received, +4 errors, 100% packet loss, time 3103ms
pipe 4
```

***** Test de connectivité de C3TP4 vers C2TP4 *****

```
PING 10.207.193.78 (10.207.193.78) 56(84) bytes of data.  
64 bytes from 10.207.193.78: icmp_seq=1 ttl=64 time=0.104 ms  
64 bytes from 10.207.193.78: icmp_seq=2 ttl=64 time=0.150 ms  
64 bytes from 10.207.193.78: icmp_seq=3 ttl=64 time=0.145 ms  
64 bytes from 10.207.193.78: icmp_seq=4 ttl=64 time=0.158 ms  
  
--- 10.207.193.78 ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3026ms  
rtt min/avg/max/mdev = 0.104/0.139/0.158/0.020 ms
```

***** Test de connectivité de C3TP4 vers DHCP-TP4 *****

```
PING 10.207.193.79 (10.207.193.79) 56(84) bytes of data.  
64 bytes from 10.207.193.79: icmp_seq=1 ttl=64 time=0.261 ms  
64 bytes from 10.207.193.79: icmp_seq=2 ttl=64 time=0.180 ms  
64 bytes from 10.207.193.79: icmp_seq=3 ttl=64 time=0.158 ms  
64 bytes from 10.207.193.79: icmp_seq=4 ttl=64 time=0.143 ms  
  
--- 10.207.193.79 ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3049ms  
rtt min/avg/max/mdev = 0.143/0.185/0.261/0.045 ms
```

***** Test de connectivité de DHCP-TP4 vers DNS-TP4 *****

```
PING 10.207.193.115 (10.207.193.115) 56(84) bytes of data.  
64 bytes from 10.207.193.115: icmp_seq=1 ttl=64 time=0.138 ms  
64 bytes from 10.207.193.115: icmp_seq=2 ttl=64 time=0.157 ms  
64 bytes from 10.207.193.115: icmp_seq=3 ttl=64 time=0.147 ms  
64 bytes from 10.207.193.115: icmp_seq=4 ttl=64 time=0.134 ms  
  
--- 10.207.193.115 ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3050ms  
rtt min/avg/max/mdev = 0.134/0.144/0.157/0.008 ms
```

***** Test de connectivité de R1-TP4 vers R2-TP4 *****

```
PING 10.207.193.27 (10.207.193.27) 56(84) bytes of data.  
64 bytes from 10.207.193.27: icmp_seq=1 ttl=64 time=0.233 ms  
64 bytes from 10.207.193.27: icmp_seq=2 ttl=64 time=0.124 ms  
64 bytes from 10.207.193.27: icmp_seq=3 ttl=64 time=0.125 ms  
64 bytes from 10.207.193.27: icmp_seq=4 ttl=64 time=0.142 ms  
  
--- 10.207.193.27 ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3100ms  
rtt min/avg/max/mdev = 0.124/0.156/0.233/0.045 ms
```

***** Test de connectivité de R1-TP4 vers R3-TP4 *****

```
PING 10.207.193.190 (10.207.193.190) 56(84) bytes of data.  
64 bytes from 10.207.193.190: icmp_seq=1 ttl=64 time=0.151 ms  
64 bytes from 10.207.193.190: icmp_seq=2 ttl=64 time=0.140 ms  
64 bytes from 10.207.193.190: icmp_seq=3 ttl=64 time=0.148 ms  
64 bytes from 10.207.193.190: icmp_seq=4 ttl=64 time=0.054 ms
```

```
--- 10.207.193.190 ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3099ms  
rtt min/avg/max/mdev = 0.054/0.123/0.151/0.040 ms
```

***** Test de connectivité de R2-TP4 vers R1-TP4 *****

```
PING 10.207.193.88 (10.207.193.88) 56(84) bytes of data.  
64 bytes from 10.207.193.88: icmp_seq=1 ttl=64 time=1.74 ms  
64 bytes from 10.207.193.88: icmp_seq=2 ttl=64 time=0.123 ms  
64 bytes from 10.207.193.88: icmp_seq=3 ttl=64 time=0.145 ms  
64 bytes from 10.207.193.88: icmp_seq=4 ttl=64 time=0.122 ms
```

```
--- 10.207.193.88 ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3063ms  
rtt min/avg/max/mdev = 0.122/0.532/1.739/0.696 ms
```

***** Test de connectivité de R2-TP4 vers R3-TP4 *****

```
PING 10.207.193.190 (10.207.193.190) 56(84) bytes of data.  
64 bytes from 10.207.193.190: icmp_seq=1 ttl=64 time=0.134 ms  
64 bytes from 10.207.193.190: icmp_seq=2 ttl=64 time=0.120 ms  
64 bytes from 10.207.193.190: icmp_seq=3 ttl=64 time=0.136 ms  
64 bytes from 10.207.193.190: icmp_seq=4 ttl=64 time=0.127 ms
```

```
--- 10.207.193.190 ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3105ms  
rtt min/avg/max/mdev = 0.120/0.129/0.136/0.006 ms
```

***** Test de connectivité de R3-TP4 vers R1-TP4 *****

```
PING 10.207.193.88 (10.207.193.88) 56(84) bytes of data.  
64 bytes from 10.207.193.88: icmp_seq=1 ttl=64 time=0.091 ms  
64 bytes from 10.207.193.88: icmp_seq=2 ttl=64 time=0.129 ms  
64 bytes from 10.207.193.88: icmp_seq=3 ttl=64 time=0.144 ms  
64 bytes from 10.207.193.88: icmp_seq=4 ttl=64 time=0.149 ms
```

```
--- 10.207.193.88 ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3112ms  
rtt min/avg/max/mdev = 0.091/0.128/0.149/0.022 ms
```

```
rtt min/avg/max/mdev = 0.091/0.128/0.149/0.022 ms
```

***** Test de connectivité de R3-TP4 vers R2-TP4 *****

```
PING 10.207.193.27 (10.207.193.27) 56(84) bytes of data.  
64 bytes from 10.207.193.27: icmp_seq=1 ttl=64 time=0.081 ms  
64 bytes from 10.207.193.27: icmp_seq=2 ttl=64 time=0.126 ms  
64 bytes from 10.207.193.27: icmp_seq=3 ttl=64 time=0.139 ms  
64 bytes from 10.207.193.27: icmp_seq=4 ttl=64 time=0.147 ms
```

```
--- 10.207.193.27 ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3092ms  
rtt min/avg/max/mdev = 0.081/0.123/0.147/0.025 ms
```

dambe@hackbookpro:~/Documents/DLA_UFR_Mad/M2/AdministrationReseau/TP4_dla\$

Test de demande d'adresse IP

```
Internet Systems Consortium DHCP Client 4.4.1
Copyright 2004-2018 Internet Systems Consortium.
All rights reserved.
For info, please visit https://www.isc.org/software/dhcp/

Listening on LPF/eth0/00:16:3e:d9:6e:4c
Sending on LPF/eth0/00:16:3e:d9:6e:4c
Sending on Socket/fallback
DHCPDISCOVER on eth0 to 255.255.255.255 port 67 interval 3 (xid=0xa0c18e41)
DHCPOFFER of 10.207.193.139 from 10.207.193.1
DHCPREQUEST for 10.207.193.139 on eth0 to 255.255.255.255 port 67 (xid=0x418ec1a0)
DHCPACK of 10.207.193.139 from 10.207.193.1 (xid=0xa0c18e41)
Error: ipv4: Address already assigned.
bound to 10.207.193.139 -- renewal in 1732 seconds.
```

***** Test de demande d'adresse IP au serveur DHCP depuis C2TP4 *****

```
Internet Systems Consortium DHCP Client 4.4.1
Copyright 2004-2018 Internet Systems Consortium.
All rights reserved.
For info, please visit https://www.isc.org/software/dhcp/

Listening on LPF/eth0/00:16:3e:b4:5e:e4
Sending on LPF/eth0/00:16:3e:b4:5e:e4
Sending on Socket/fallback
DHCPDISCOVER on eth0 to 255.255.255.255 port 67 interval 3 (xid=0xe58ff264)
DHCPOFFER of 10.207.193.78 from 10.207.193.1
DHCPREQUEST for 10.207.193.78 on eth0 to 255.255.255.255 port 67 (xid=0x64f28fe5)
DHCPACK of 10.207.193.78 from 10.207.193.1 (xid=0xe58ff264)
Error: ipv4: Address already assigned.
bound to 10.207.193.78 -- renewal in 1535 seconds.
```

bound to 10.207.193.78 -- renewal in 1535 seconds.

***** Test de demande d'adresse IP au serveur DHCP depuis C3TP4 *****

```
Internet Systems Consortium DHCP Client 4.4.1
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All rights reserved.
For info, please visit https://www.isc.org/software/dhcp/

Listening on LPF/eth0/00:16:3e:c3:2f:0a
Sending on LPF/eth0/00:16:3e:c3:2f:0a
Sending on Socket/fallback
DHCPDISCOVER on eth0 to 255.255.255.255 port 67 interval 3 (xid=0x51b2fa19)
DHCPOFFER of 10.207.193.157 from 10.207.193.1
DHCPREQUEST for 10.207.193.157 on eth0 to 255.255.255.255 port 67 (xid=0x19fab251)
DHCPACK of 10.207.193.157 from 10.207.193.1 (xid=0x51b2fa19)
Error: ipv4: Address already assigned.
bound to 10.207.193.157 -- renewal in 1357 seconds.
```

```

***** Test de demande d'adresse IP au serveur DHCP depuis DHCP-TP4 *****

Internet Systems Consortium DHCP Client 4.4.1
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All rights reserved.
For info, please visit https://www.isc.org/software/dhcp/

Listening on LPF/eth0/00:16:3e:68:9d:e2
Sending on   LPF/eth0/00:16:3e:68:9d:e2
Sending on   Socket/fallback
DHCPDISCOVER on eth0 to 255.255.255.255 port 67 interval 3 (xid=0x17869c51)
DHCPOFFER of 10.207.193.79 from 10.207.193.1
DHCPREQUEST for 10.207.193.79 on eth0 to 255.255.255.255 port 67 (xid=0x519c8617)
DHCPACK of 10.207.193.79 from 10.207.193.1 (xid=0x17869c51)
Error: ipv4: Address already assigned.
bound to 10.207.193.79 -- renewal in 1487 seconds.
dambe@hackbookpro:~/Documents/DLA_UFR_Mad/M2/AdministrationReseau/TP4_dla$

```

NB) Les ping ne marchais et il fallu ajouter cette regle iptables afin de pouvoir tester la connectivité et les requetes DHCP.

```
sudo iptables -P FORWARD ACCEPT
```

--Installation du service DHCP sur le conteneur servant de DHCP

#Ajout des regles permettant le forwardind de paquets

```
sudo iptables -A FORWARD -i lxdbr1_tp4 -o lxdbr1_tp4 -j ACCEPT
```

```
sudo iptables -A FORWARD -i lxdbr1_tp4 -o wlp2s0 -j ACCEPT
```

```
sudo iptables -A FORWARD -i wlp2s0 -o lxdbr1_tp4 -j ACCEPT
```

#Installation du service DCHP sur le connteur DHCP-TP4

```
lxc exec DHCP-TP4 --bash
```

```
systemctl satus isc-dhcp-server
```

#Configuration de DHCP

```
lxc exec DHCP-TP4
```

```
nano /etc/dhcp/dhcpd.conf
```

```
# /etc/dhcp/dhcpd.conf
```

#Nous avons ajouté ces sous reseaus.

Déclaration du sous-réseau pour DHCP_TP4

```
subnet 192.168.1.64 netmask 255.255.255.224 {
```

```
range 192.168.1.70 192.168.1.94; # Plage d'adresses IP à distribuer
```

```
option routers 192.168.1.94; # Adresse IP du routeur
option subnet-mask 255.255.255.224;
option domain-name "local"; # Nom de domaine local
option domain-name-servers 8.8.8.8, 8.8.4.4; # DNS
}

# Déclaration du sous-réseau pour DNS_TP4
subnet 192.168.1.0 netmask 255.255.255.192 {
range 192.168.1.2 192.168.1.62; # Plage d'adresses IP à distribuer
option routers 192.168.1.62;
option subnet-mask 255.255.255.192;
option domain-name "local";
option domain-name-servers 8.8.8.8, 8.8.4.4;
}

# Déclaration du sous-réseau pour DNS_SecondTP4
subnet 192.168.1.96 netmask 255.255.255.240 {
range 192.168.1.98 192.168.1.110; # Plage d'adresses IP à distribuer
option routers 192.168.1.110;
option subnet-mask 255.255.255.240;
}

#Installation des services sur les Conteneurs DNS-TP4 et DNS-SecondTP4

# pour DNS-TP4
sudo apt update
sudo apt install bind9

#Configuration du DNS
nano /etc/bind/named.conf.options
options {
directory "/var/cache/bind";

// Spécifie que ce serveur peut répondre aux requêtes récursives
recursion yes;

// Configure les serveurs DNS en amont
forwarders {
8.8.8.8; // Serveur DNS de Google
```


8.8.4.4; // Serveur DNS de Google

};

// Autres options

dnssec-validation auto;

auth-nxdomain no; # conformes aux RFC

listen-on-v6 { any; };

};

configuration du fichier de zone

nano /etc/bind/named.conf.local

zone "local" {

type master;

file "/etc/bind/db.local"; # Fichier de zone pour le domaine local

};

#configuration du fichier

nano /etc/bind/db.local

\$TTL 604800

@ IN SOA ns.local. admin.local. (

2 ; Serial

604800 ; Refresh

86400 ; Retry

2419200 ; Expire

604800) ; Negative Cache TTL

;

@ IN NS ns.local.

ns IN A 192.168.1.65 # Adresse IP du serveur DNS

@ IN A 192.168.1.65

#pour DNS-SecondTP4

sudo apt update

sudo apt install dnsmasq

nano /etc/dnsmasq.conf

#Ajout de cette configuration par DAMBE Lamboni pour le TP4

Active la résolution DNS

port=53

Spécifie l'interface réseau sur laquelle dnsmasq doit écouter

interface=eth1 # Remplace "eth1" par l'interface appropriée (com>

DNS en amont pour la résolution externe

server=8.8.8.8 # Serveur DNS de Google

server=8.8.4.4 # Serveur DNS de Google

Définir une plage DHCP si nécessaire (facultatif)

dhcp-range=192.168.1.65,192.168.1.94,12h