TP 2: Service DHCP

Solution de TP N°=2 : Partie 01

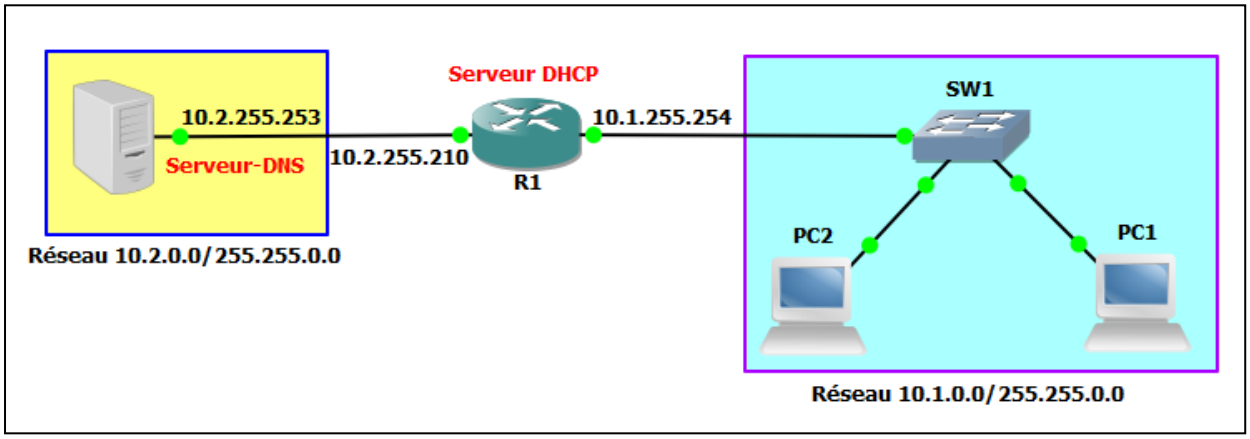

Figure 01 : Schéma du réseau « Serveur-DHCP »

Etape 01 : Configuration l'interface f0/0 du routeur « serveur-dns »

```
serveur-dns#
serveur-dns#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
serveur-dns(config)#int f0/0
serveur-dns(config-if)#ip add 10.2.255.253 255.255.0.0
serveur-dns(config-if)#no shut
serveur-dns(config-if)#
```

Etape 02 : Vérification de la configuration l'interface f0/0 du routeur « serveur-dns »

```
serveur-dns#show ip interface brief
Interface                  IP-Address      OK? Method Status                Protocol
FastEthernet0/0            10.2.255.253    YES manual up                    up
FastEthernet1/0            unassigned      YES unset  administratively down down
serveur-dns#
```

Etape 03 : Configuration de service DNS sur le routeur « serveur-dns »

```
serveur-dns#
serveur-dns#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
serveur-dns(config)#ip dns server
serveur-dns(config)#$ary zarzara.com soa ns1.zarzara.com koko.zarzara.com
serveur-dns(config)#ip host zarzara.com ns 10.2.255.253
serveur-dns(config)#ip host ns 10.2.255.253
serveur-dns(config)#ip host serveur-dhcp 10.2.255.210
serveur-dns(config)#end
serveur-dns#
```

La ligne de création de la zone DNS est :

Serveur-dns#(config)#ip dns primary zarzara.com soa ns1.zarzara.com koko.zarzara.com

Etape 04 : Sauvegardez l'état du routeur « serveur-dns »

```
serveur-dns#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
serveur-dns#
```

Etape 05 : Configuration des interfaces f0/0 et f1/0 du routeur « serveur-dhcp »

```
serveur-dhcp#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
serveur-dhcp(config)#int f0/0
serveur-dhcp(config-if)#ip add 10.2.255.210 255.255.0.0
serveur-dhcp(config-if)#no shut
serveur-dhcp(config-if)#
```

```
serveur-dhcp#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
serveur-dhcp(config)#int f1/0
serveur-dhcp(config-if)#ip add 10.1.255.254 255.255.0.0
serveur-dhcp(config-if)#no shut
serveur-dhcp(config-if)#
```

Etape 06 : Vérification de la configuration des interfaces f0/0 et f1/0 du routeur « serveur-dhcp »

```
serveur-dhcp#show ip interface brief
Interface                  IP-Address      OK? Method Status                Protocol
FastEthernet0/0            10.2.255.210    YES manual up                    up
FastEthernet1/0            10.1.255.254    YES manual up                    up
serveur-dhcp#
```

Etape 07 : Configuration du routeur « serveur- dhcp » comme client DNS

```
serveur-dhcp#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
serveur-dhcp(config)#no ip domain name local.lab
serveur-dhcp(config)#ip domain-lookup
serveur-dhcp(config)#ip name-server 10.2.255.253
serveur-dhcp(config)#end
serveur-dhcp#
```

Etape 08 : Vérification du fonctionnement du service DNS

```
serveur-dns#ping serveur-dhcp

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.2.255.210, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 8/16/24 ms
serveur-dns#
```

```
serveur-dhcp#ping serveur-dns

Translating "serveur-dns"...domain server (10.2.255.253) [OK]

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.2.255.253, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 20/20/24 ms
serveur-dhcp#
```

Etape 09 : Configuration du service DHCP sur le routeur « serveur-dhcp »

```
serveur-dhcp#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
serveur-dhcp(config)#ip dhcp pool campus
serveur-dhcp(dhcp-config)#network 10.1.0.0 255.255.0.0
serveur-dhcp(dhcp-config)#default-router 10.1.255.254
serveur-dhcp(dhcp-config)#dns-server 10.1.255.253
serveur-dhcp(dhcp-config)#domain-name zarzara.com
serveur-dhcp(dhcp-config)#lease infinite
serveur-dhcp(dhcp-config)#end
serveur-dhcp#
```

```
serveur-dhcp#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
serveur-dhcp(config)#ip dhcp excluded-address 10.1.255.254
serveur-dhcp(config)#
```

Etape 10 : Configuration des PC1 et PC2 comme clients DHCP

```
PC1> ip dhcp
DDORA IP 10.1.0.1/16 GW 10.1.255.254

PC1> show ip all

NAME   IP/MASK              GATEWAY           MAC                 DNS
PC1    10.1.0.1/16          10.1.255.254      00:50:79:66:68:00   10.1.255.253
```

```
PC1> Cannot resolve pc2
PC1> sh ip

NAME        : PC1[1]
IP/MASK     : 10.1.0.1/16
GATEWAY     : 10.1.255.254
DNS         : 10.1.255.253
DHCP SERVER : 10.1.255.254
DHCP LEASE  : 0, 4294967295/2147483647/536870911
DOMAIN NAME : zarzara.com
MAC         : 00:50:79:66:68:00
LPORT       : 10001
RHOST:PORT  : 127.0.0.1:10000
MTU:        : 1500
```

```
PC2> ip dhcp
DDORA IP 10.1.0.2/16 GW 10.1.255.254

PC2> show ip all

NAME    IP/MASK              GATEWAY           MAC                 DNS
PC2     10.1.0.2/16          10.1.255.254      00:50:79:66:68:01   10.1.255.253
```

```
NAME        : PC2[1]
IP/MASK     : 10.1.0.2/16
GATEWAY     : 10.1.255.254
DNS         : 10.1.255.253
DHCP SERVER : 10.1.255.254
DHCP LEASE  : 0, 4294967295/2147483647/536870911
DOMAIN NAME : zarzara.com
MAC         : 00:50:79:66:68:01
LPORT       : 10003
RHOST:PORT  : 127.0.0.1:10002
MTU:        : 1500
```

Etape 11 : Vérification de la configuration du service DHCP sur le routeur « serveur-dhcp »

```
serveur-dhcp#show ip dhcp binding
Bindings from all pools not associated with VRF:
IP address          Client-ID/              Lease expiration        Type
                    Hardware address/
                    User name
10.1.0.1            0100.5079.6668.00       Infinite                Automatic
10.1.0.2            0100.5079.6668.01       Infinite                Automatic
serveur-dhcp#
```

```
serveur-dhcp#show ip dhcp server statistics
Memory usage         24153
Address pools        1
Database agents      0
Automatic bindings   2
Manual bindings      0
Expired bindings     0
Malformed messages   0
Secure arp entries   0
```

Etape 12 : Sauvegardez l'état du routeur « serveur-dhcp »

```
serveur-dhcp#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
serveur-dhcp#
```

Etape 13 : Ajouter une route statique sur le routeur « serveur-dns » pour pouvoir accéder au réseau 10.1.0.0

```
serveur-dns#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
serveur-dns(config)#ip route 10.1.0.0 255.255.0.0 10.2.255.210
serveur-dns(config)#
```

Etape 14 : Vérification de la configuration de la route statique sur le routeur « serveur-dns »

```
serveur-dns#show ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route

Gateway of last resort is not set

     10.0.0.0/16 is subnetted, 2 subnets
C       10.2.0.0 is directly connected, FastEthernet0/0
S       10.1.0.0 [1/0] via 10.2.255.210
serveur-dns#
```

```
serveur-dns#ping 10.1.0.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.1.0.1, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 32/285/1040 ms
serveur-dns#
```

```
serveur-dns#ping 10.1.0.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.1.0.2, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 20/274/1028 ms
```

```
ping 10.2.255.253
84 bytes from 10.2.255.253 icmp_seq=1 ttl=254 time=33.002 ms
84 bytes from 10.2.255.253 icmp_seq=2 ttl=254 time=20.001 ms
84 bytes from 10.2.255.253 icmp_seq=3 ttl=254 time=19.001 ms
84 bytes from 10.2.255.253 icmp_seq=4 ttl=254 time=19.001 ms
84 bytes from 10.2.255.253 icmp_seq=5 ttl=254 time=19.001 ms

PC2>
```

```
ping 10.2.255.253
84 bytes from 10.2.255.253 icmp_seq=1 ttl=254 time=19.001 ms
84 bytes from 10.2.255.253 icmp_seq=2 ttl=254 time=19.001 ms
84 bytes from 10.2.255.253 icmp_seq=3 ttl=254 time=19.001 ms
84 bytes from 10.2.255.253 icmp_seq=4 ttl=254 time=19.001 ms
84 bytes from 10.2.255.253 icmp_seq=5 ttl=254 time=19.001 ms

PC1>
```

Etape 15 : Configuration du relais DHCP ou « ip helper-address » sur l'interface f1/0 du routeur « serveur-dhcp »

```
serveur-dhcp#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
serveur-dhcp(config)#int f1/0
serveur-dhcp(config-if)#ip helper-address 10.2.255.253
serveur-dhcp(config-if)#end
```

```
serveur-dhcp#show ip int f1/0
FastEthernet1/0 is up, line protocol is up
  Internet address is 10.1.255.254/16
  Broadcast address is 255.255.255.255
  Address determined by setup command
  MTU is 1500 bytes
  Helper address is 10.2.255.253
  Directed broadcast forwarding is disabled
  Outgoing access list is not set
  Inbound  access list is not set
  Proxy ARP is enabled
```

```
serveur-dns(config)#ip dns server
serveur-dns(config)#ip host pc1 10.1.0.1
serveur-dns(config)#ip host pc2 10.1.0.2
serveur-dns(config)#end
```

Etape 17 : Test de la configuration

```
serveur-dns#ping pc1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.1.0.1, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 28/285/1044 ms
serveur-dns#
```

```
serveur-dhcp#ping pc2

Translating "pc2"...domain server (10.2.255.253) [OK]

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.1.0.2, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 8/10/12 ms
```

```
serveur-dhcp#ping pc1

Translating "pc1"...domain server (10.2.255.253) [OK]

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.1.0.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 8/10/12 ms
```

```
serveur-dhcp#ping pc2

Translating "pc2"...domain server (10.2.255.253) [OK]

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.1.0.2, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 8/10/12 ms
```