



IUS
INSTITUT
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DES SCIENCES

**FACULTÉ DES SCIENCES ET DES TECHNOLOGIES
(FST)**

Troisième année

RAPPORT

Sur le Travail de Laboratoire N° 3

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II

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1. Reproduction de cette topologie en configurant le protocole Telnet.



- Configuration des routeurs

```
R1
R1#1.895: %LINK-5-CHANGED: Interface FastEthernet0/0, changed state to administratively down
R1#en
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#hostname routeur1
routeur1(config)#int f0/0
routeur1(config-if)#ip address 192.168.1.1 255.255.255.0
routeur1(config-if)#no sh
routeur1(config-if)#exit
*Apr 25 12:39:21.399: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Apr 25 12:39:22.399: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
routeur1(config-if)#exit
```

```
R2
Copyright (c) 1986-2011 by Cisco Systems, Inc.
Compiled Fri 04-Mar-11 06:49 by prod_rel_team
*Apr 25 12:37:50.659: %SNMP-5-COLDSTART: SNMP agent on host R2 is undergoing a cold start
*Apr 25 12:37:50.735: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to down
*Apr 25 12:37:50.755: %CRYPTO-6-ISAKMP_ON_OFF: ISAKMP is OFF
*Apr 25 12:37:50.755: %CRYPTO-6-GDOI_ON_OFF: GDOI is OFF
*Apr 25 12:37:52.015: %LINK-5-CHANGED: Interface FastEthernet0/0, changed state to administratively down
R2#en
R2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#hostname routeur2
routeur2(config)#int f0/0
routeur2(config-if)#ip address 192.168.1.2 255.255.255.0
routeur2(config-if)#no sh
routeur2(config-if)#exit
routeur2(config)#
*Apr 25 12:40:12.127: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Apr 25 12:40:13.215: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
```

- Configuration du protocole Telnet sur le routeur 1

```
routeur1(config-if)#exit
routeur1(config)#line vty 0 4
routeur1(config-line)#password 1234
routeur1(config-line)#login
routeur1(config-line)#transport input telnet
routeur1(config-line)#exit
routeur1(config)#show running-config | include line vty
^
% Invalid input detected at '^' marker.
routeur1(config)#exit
```

- Testez la connectivité sur le routeur 2

```
routeur2#ping 192.168.1.1
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.1.1, timeout is 2 seconds:
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 64/83/92 ms
routeur2#telnet 192.168.1.1
Trying 192.168.1.1 ... Open

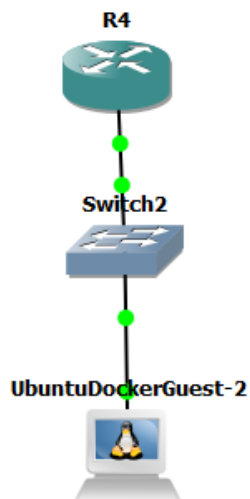
User Access Verification

Password:
routeur1>
[Connection to 192.168.1.1 closed by foreign host]
routeur2#
```

- Vérification du protocole Telnet

```
routeur1#show running-config | include line vty
line vty 0 4
routeur1#
```

- Deuxième Topologies



- Configuration du routeur

```

R4
*Mar 1 00:00:14.555: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down
*Mar 1 00:00:14.559: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to down
R4#
R4#en
R4#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R4(config)#hostname routbenn
routbenn(config)#interface FastEthernet0/0
routbenn(config-if)#ip address 192.168.1.1 255.255.255.0
routbenn(config-if)#no sh
routbenn(config-if)#exit
routbenn(config)#
*Mar 1 00:01:22.319: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Mar 1 00:01:23.319: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
routbenn(config)#line vty 0 4
routbenn(config-line)#password 1234
routbenn(config-line)#login
routbenn(config-line)#transport input telnet
routbenn(config-line)#exit
routbenn(config)#

```

- Configuration du PC

```

root@UbuntuDockerGuest-1: ~
UbuntuDockerGuest-1 console is now available... Press RETURN to get started.
root@UbuntuDockerGuest-1:~# ipconfig
bash: ipconfig: command not found
root@UbuntuDockerGuest-1:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet6 fe80::42:51ff:fe5d:f100 prefixlen 64 scopeid 0x20<link>
    ether 02:42:51:5d:f1:00 txqueuelen 1000 (Ethernet)
    RX packets 1 bytes 352 (352.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 10 bytes 796 (796.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@UbuntuDockerGuest-1:~#

```

```

GNU nano 7.2 /etc/network/interfaces
# This is a sample network config, please uncomment lines to configure the network
#
# Uncomment this line to load custom interface files
# source /etc/network/interfaces.d/*
#
# Static config for eth0
#auto eth0
#iface eth0 inet static
#    address 192.168.0.2
#    netmask 255.255.255.0
#    gateway 192.168.0.1
#    up echo nameserver 192.168.0.1 > /etc/resolv.conf
#
# DHCP config for eth0
#auto eth0
#iface eth0 inet dhcp
#    hostname UbuntuDockerGuest-1

```

```

GNU nano 7.2 /etc/network/interfaces *
# This is a sample network config, please uncomment lines to configure the network
#
# Uncomment this line to load custom interface files
# source /etc/network/interfaces.d/*
#
# Static config for eth0
#auto eth0
#iface eth0 inet static
#    address 192.168.1.2
#    netmask 255.255.255.0
#    gateway 192.168.1.1
#    up echo nameserver 192.168.0.1 > /etc/resolv.conf
#
# DHCP config for eth0
#auto eth0
#iface eth0 inet dhcp
#    hostname UbuntuDockerGuest-1

```

```

root@UbuntuDockerGuest-2: ~
UbuntuDockerGuest-2 console is now available... Press RETURN to get started.
root@UbuntuDockerGuest-2:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.1.2 netmask 255.255.255.0 broadcast 0.0.0.0
    inet6 fe80::42:62ff:fe81:6400 prefixlen 64 scopeid 0x20<link>
    ether 02:42:62:81:64:00 txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 7 bytes 586 (586.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@UbuntuDockerGuest-2:~#

```

- Commande Telnet sur le PC

```

root@UbuntuDockerGuest-2:~# telnet 192.168.1.1
Trying 192.168.1.1...
Connected to 192.168.1.1.
Escape character is '^['.

User Access Verification

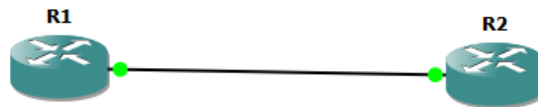
Password:
routbenn>

```

- Vérifier la configuration Telnet

```
routbenn(config)#exit
routbenn#en
*Mar 1 00:23:11.279: %SYS-5-CONFIG_I: Configured from console by console
routbenn#show running-config | include line vty
line vty 0 4
routbenn#
```

2. Reproduction de cette topologie en configurant le protocole SSH.



- Configuration du Routeur

```
R1
R1#en
R1#
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#hostname R1peter
R1peter(config)#int f0/0
R1peter(config-if)#ip address 192.168.1.1 255.255.255.0
R1peter(config-if)#Routeur1(config-if)# no shutdown
^
% Invalid input detected at '^' marker.
R1peter(config-if)#Routeur1(config-if)# exit
^
% Invalid input detected at '^' marker.
R1peter(config-if)#ip address 192.168.1.1 255.255.255.0
R1peter(config-if)#no sh
R1peter(config-if)#exit
*Apr 26 07:11:56.455: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Apr 26 07:11:57.455: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
R1peter(config-if)#exit
R1peter(config)#
```

- Configuration du protocole SSH sur le Routeur

 R1

% Invalid input detected at '^' marker.

R1peter(config)#ip domain-name petergraphic.com

R1peter(config)#crypto key generate rsa

The name for the keys will be: R1peter.petergraphic.com

Choose the size of the key modulus in the range of 360 to 2048 for your
General Purpose Keys. Choosing a key modulus greater than 512 may take
a few minutes.

How many bits in the modulus [512]: 2048

% Generating 2048 bit RSA keys, keys will be non-exportable...

*Apr 26 07:27:31.859: %SYS-3-CPUHOG: Task is running for (2020)msecs, more than
(2000)msecs (0/0),process = crypto sw pk proc.

-Traceback= 0x6392B88Cz 0x6395448Cz 0x63954B04z 0x63951FE0z 0x639524
04z 0x63952640z 0x639536F0z 0x6307E640z 0x6307E624z

*Apr 26 07:27:32.987: %SYS-3-CPUYLD: Task ran for (3148)msecs, more than (2000)m
secs (0/0),process = crypto sw pk proc[OK]

R1peter(config)#

*Apr 26 07:27:39.731: %SSH-5-ENABLED: SSH 1.99 has been enabled

R1peter(config)#username admin secret 1234

R1peter(config)#line vty 0 4

R1peter(config-line)#transport input ssh

R1peter(config-line)#login local

R1peter(config-line)#exit

R1peter(config)#ip ssh version 2

R1peter(config)#ssh time-out 60

^

% Invalid input detected at '^' marker.

R1peter(config)#ssh authentication-retries 5

^

% Invalid input detected at '^' marker.

R1peter(config)#end

R1peter#

*Apr 26 07:38:20.203: %SYS-5-CONFIG_I: Configured from console by console

R1peter#wr

Building configuration...

[OK]

R1peter#sh admin@192.168.1.1

 R2

R2(config)#hostname R2peter

R2peter(config)#int f0/0

R2peter(config-if)#ip address 192.168.1.1 255.255.255.0

R2peter(config-if)#no sh

R2peter(config-if)#

*Apr 26 09:19:30.103: %IP-4-DUPADDR: Duplicate address 192.168.1.1 on FastEthernet

et0/0, sourced by ca01.14f4.0000

R2peter(config-if)#exit

*Apr 26 09:19:32.135: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state t

o up

*Apr 26 09:19:33.135: %XLINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet

et0/0, changed state to up

R2peter(config-if)#exit

R2peter(config)#ssh admin@192.168.1.1

^

% Invalid input detected at '^' marker.

R2peter(config)#

*Apr 26 09:20:01.103: %IP-4-DUPADDR: Duplicate address 192.168.1.1 on FastEthernet

et0/0, sourced by ca01.14f4.0000

R2peter(config)#exit

R2peter#

*Apr 26 09:20:11.035: %SYS-5-CONFIG_I: Configured from console by console

R2peter#ssh admin@192.168.1.1

% No user specified nor available for SSH client

R2peter#

*Apr 26 09:20:31.339: %IP-4-DUPADDR: Duplicate address 192.168.1.1 on FastEthernet

et0/0, sourced by ca01.14f4.0000

R2peter#

*Apr 26 09:21:01.355: %IP-4-DUPADDR: Duplicate address 192.168.1.1 on FastEthernet

et0/0, sourced by ca01.14f4.0000

R2peter#

*Apr 26 09:21:31.371: %IP-4-DUPADDR: Duplicate address 192.168.1.1 on FastEthernet

et0/0, sourced by ca01.14f4.0000

R2peter#

*Apr 26 09:22:01.627: %IP-4-DUPADDR: Duplicate address 192.168.1.1 on FastEthernet

et0/0, sourced by ca01.14f4.0000

R2peter#

*Apr 26 09:22:31.631: %IP-4-DUPADDR: Duplicate address 192.168.1.1 on FastEthernet

et0/0, sourced by ca01.14f4.0000

R2peter#

*Apr 26 09:23:01.639: %IP-4-DUPADDR: Duplicate address 192.168.1.1 on FastEthernet

et0/0, sourced by ca01.14f4.0000

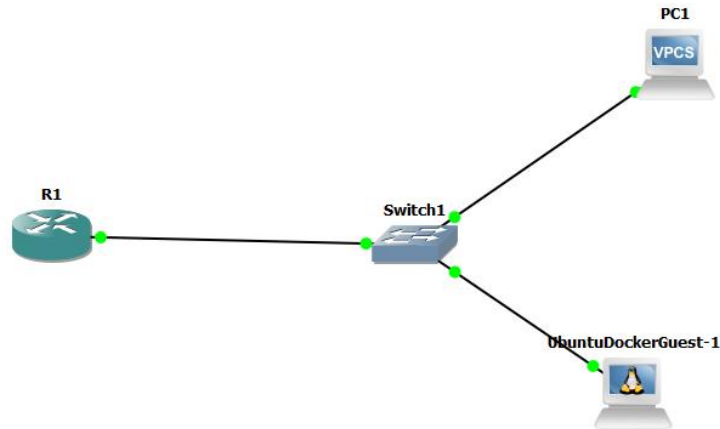
R2peter#

*Apr 26 09:23:33.367: %IP-4-DUPADDR: Duplicate address 192.168.1.1 on FastEthernet

et0/0, sourced by ca01.14f4.0000

R2peter#

3. Reproduction de cette topologie en configurant le protocole SSH.



- Configuration du routeur

```
R1
et0/1, changed state to down
R1#en
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#hostname R1graphic
R1graphic(config)#int f0/0
R1graphic(config-if)#ip address 192.168.1.1 255.255.255.0
R1graphic(config-if)#no sh
R1graphic(config-if)#exit
R1graphic(config)#
*Mar 1 00:01:56.751: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Mar 1 00:01:57.751: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
R1graphic(config)#ip domain-name petergraphic.com
```

- Configuration du protocole SSH routeur

```
R1graphic(config)#ip domain-name petergraphic.com
R1graphic(config)#crypto key generate rsa
The name for the keys will be: R1graphic.petergraphic.com
Choose the size of the key modulus in the range of 360 to 2048 for your
General Purpose Keys. Choosing a key modulus greater than 512 may take
a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

R1graphic(config)#
*Mar 1 00:02:46.379: %SSH-5-ENABLED: SSH 1.99 has been enabled
R1graphic(config)#username admin secret 1234
R1graphic(config)#line vty 0 4
R1graphic(config-line)#transport input ssh
R1graphic(config-line)#login local
R1graphic(config-line)#exit
R1graphic(config)#ip ssh version 2
R1graphic(config)#ssh time-out 50
^
% Invalid input detected at '^' marker.

R1graphic(config)#ssh time-out 60
^
% Invalid input detected at '^' marker.

R1graphic(config)#ssh authentication-retries 5
^
% Invalid input detected at '^' marker.

R1graphic(config)#end
R1graphic#
*Mar 1 00:04:19.243: %SYS-5-CONFIG_I: Configured from console by console
R1graphic#wr
Building configuration...
[OK]
R1graphic#
```

- Configuration du PC Ubuntu

```

root@UbuntuDockerGuest-1: ~
UbuntuDockerGuest-1 console is now available... Press RETURN to get started.
root@UbuntuDockerGuest-1:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet6 fe80::42:b8ff:fee2:ce00 prefixlen 64 scopeid 0x20<link>
    ether 02:42:b8:e2:ce:00 txqueuelen 1000 (Ethernet)
    RX packets 12 bytes 3829 (3.8 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 13 bytes 1006 (1.0 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

root@UbuntuDockerGuest-1:~#

```

```

root@UbuntuDockerGuest-1: ~
GNU nano 7.2 /etc/network/interfaces
# This is a sample network config, please uncomment lines to configure the network
#
# Uncomment this line to load custom interface files
# source /etc/network/interfaces.d/*

# Static config for eth0
auto eth0
iface eth0 inet static
    address 192.168.1.2
    netmask 255.255.255.0
    gateway 192.168.1.1
    up echo nameserver 192.168.0.1 > /etc/resolv.conf

# DHCP config for eth0
#auto eth0
#iface eth0 inet dhcp
#    hostname UbuntuDockerGuest-1

Wrote 19 lines

```

```

root@UbuntuDockerGuest-1: ~
GNU nano 7.2 /etc/ssh/ssh_config
# Any configuration value is only changed the first time it is set.
# Thus, host-specific definitions should be at the beginning of the
# configuration file, and defaults at the end.

# Site-wide defaults for some commonly used options. For a comprehensive
# list of available options, their meanings and defaults, please see the
# ssh_config(5) man page.

Include /etc/ssh/ssh_config.d/*.conf
Host 192.168.1.1
    KexAlgorithms +diffie-hellman-group1-sha1
    HostKeyAlgorithms +ssh-rsa
    Ciphers +aes128-cbc
# ForwardAgent no

```

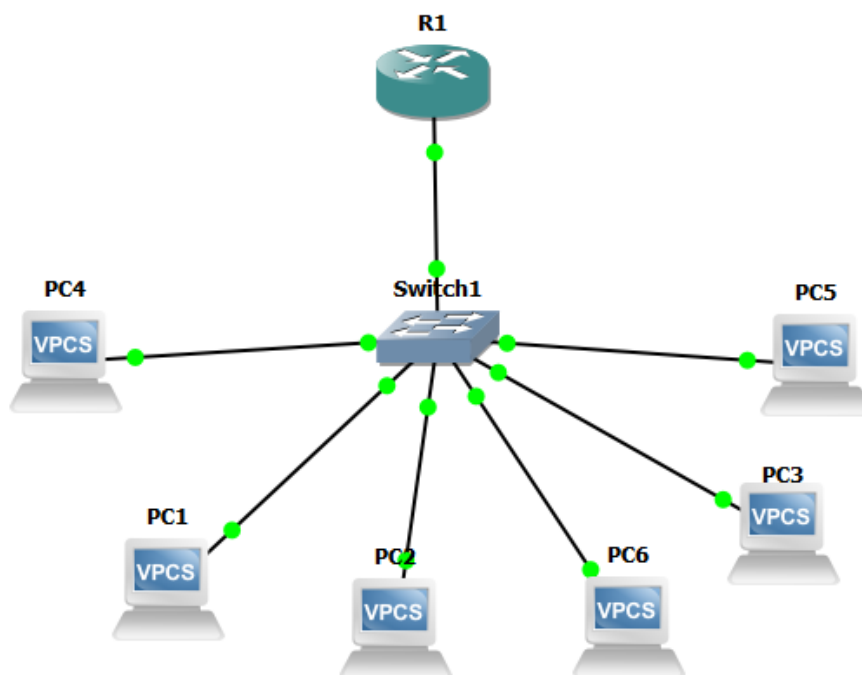
- Vérification la configuration Ssh

```

R1graphiC#show ip ssh
SSH Enabled - version 2.0
Authentication timeout: 120 secs; Authentication retries: 3
R1graphiC#show ssh
%No SSHv2 server connections running.
%No SSHv1 server connections running.
R1graphiC#

```

4. Reproduction d'une topologie en configurant le serveur DNS.



- Configuration du routeur

```

R1#en
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#hostname Rlismael
Rlismael(config)#int f0/0
Rlismael(config-if)#ip address 192.168.1.1 255.255.255.0
Rlismael(config-if)#no sh
Rlismael(config-if)#ex
*Apr 26 10:02:14.791: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Apr 26 10:02:15.791: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Rlismael(config-if)#exit
Rlismael(config)#
  
```

- Configuration les adresses IP des PC

```

PC1> ip 192.168.1.2 255.255.255.0 192.168.1.1
Checking for duplicate address...
PC1 : 192.168.1.2 255.255.255.0 gateway 192.168.1.1
PC1>
  
```

```

PC2> ip 192.168.1.3 255.255.255.0 192.168.1.1
Checking for duplicate address...
PC2 : 192.168.1.3 255.255.255.0 gateway 192.168.1.1
PC2>
  
```

```

PC3> ip 192.168.1.4 255.255.255.0 192.168.1.1
Checking for duplicate address...
PC3 : 192.168.1.4 255.255.255.0 gateway 192.168.1.1
PC3>
  
```

```

PC4> ip 192.168.1.5 255.255.255.0 192.168.1.1
Checking for duplicate address...
PC4 : 192.168.1.5 255.255.255.0 gateway 192.168.1.1
PC4>
  
```

```

PC5> ip 192.168.1.6 255.255.255.0 192.168.1.1
Checking for duplicate address...
PC5 : 192.168.1.6 255.255.255.0 gateway 192.168.1.1
PC5>
  
```

```

PC6> ip 192.168.1.7 255.255.255.0 192.168.1.1
Checking for duplicate address...
PC6 : 192.168.1.7 255.255.255.0 gateway 192.168.1.1
PC6>
  
```

- Configuration du serveur DNS sur le routeur

```
Rlismael#en
Rlismael#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Rlismael(config)#ip dns server
Rlismael(config)#ip host pc1.local 192.168.1.2
Rlismael(config)#ip host pc2.local 192.168.1.3
Rlismael(config)#ip host pc3.local 192.168.1.4
Rlismael(config)#ip host google.com 8.8.8.8
Rlismael(config)#ip name-server 8.8.8.8
Rlismael(config)#ip domain-lookup
Rlismael(config)#
```

- Tester la connectivité

```
PC1> ping 192.168.1.1

84 bytes from 192.168.1.1 icmp_seq=1 ttl=255 time=46.112 ms
84 bytes from 192.168.1.1 icmp_seq=2 ttl=255 time=16.489 ms
84 bytes from 192.168.1.1 icmp_seq=3 ttl=255 time=3.313 ms
84 bytes from 192.168.1.1 icmp_seq=4 ttl=255 time=2.452 ms
84 bytes from 192.168.1.1 icmp_seq=5 ttl=255 time=2.876 ms

PC1>
```

```
PC2> ping 192.168.1.1

84 bytes from 192.168.1.1 icmp_seq=1 ttl=255 time=15.105 ms
84 bytes from 192.168.1.1 icmp_seq=2 ttl=255 time=3.026 ms
84 bytes from 192.168.1.1 icmp_seq=3 ttl=255 time=3.831 ms
84 bytes from 192.168.1.1 icmp_seq=4 ttl=255 time=4.119 ms
84 bytes from 192.168.1.1 icmp_seq=5 ttl=255 time=3.975 ms

PC2>
```

```
PC3> ping 192.168.1.1

84 bytes from 192.168.1.1 icmp_seq=1 ttl=255 time=14.912 ms
84 bytes from 192.168.1.1 icmp_seq=2 ttl=255 time=16.307 ms
84 bytes from 192.168.1.1 icmp_seq=3 ttl=255 time=15.588 ms
84 bytes from 192.168.1.1 icmp_seq=4 ttl=255 time=13.958 ms
84 bytes from 192.168.1.1 icmp_seq=5 ttl=255 time=15.285 ms

PC3>
```

- Configuration du serveur DNS sur les PC

```
PC1> ip dns 192.168.1.1
PC1>
```

```
PC2> ip dns 192.168.1.1
PC2>
```

```
PC3> ip dns 192.168.1.1
PC3>
```

- Tester la résolution DNS

```
PC1> ping pc2.local
pc2.local resolved to 192.168.1.3

84 bytes from 192.168.1.3 icmp_seq=1 ttl=64 time=0.354 ms
84 bytes from 192.168.1.3 icmp_seq=2 ttl=64 time=0.582 ms
84 bytes from 192.168.1.3 icmp_seq=3 ttl=64 time=0.488 ms
84 bytes from 192.168.1.3 icmp_seq=4 ttl=64 time=0.590 ms
84 bytes from 192.168.1.3 icmp_seq=5 ttl=64 time=0.599 ms

PC1> █
```

```
PC2> ping pc3.local
pc3.local resolved to 192.168.1.4

84 bytes from 192.168.1.4 icmp_seq=1 ttl=64 time=0.408 ms
84 bytes from 192.168.1.4 icmp_seq=2 ttl=64 time=0.507 ms
84 bytes from 192.168.1.4 icmp_seq=3 ttl=64 time=0.447 ms
84 bytes from 192.168.1.4 icmp_seq=4 ttl=64 time=0.399 ms
84 bytes from 192.168.1.4 icmp_seq=5 ttl=64 time=0.416 ms

PC2> █
```

```
PC3> ping pc1.local
pc1.local resolved to 192.168.1.2

84 bytes from 192.168.1.2 icmp_seq=1 ttl=64 time=0.409 ms
84 bytes from 192.168.1.2 icmp_seq=2 ttl=64 time=0.379 ms
84 bytes from 192.168.1.2 icmp_seq=3 ttl=64 time=0.472 ms
84 bytes from 192.168.1.2 icmp_seq=4 ttl=64 time=0.430 ms
84 bytes from 192.168.1.2 icmp_seq=5 ttl=64 time=0.468 ms

PC3> █
```

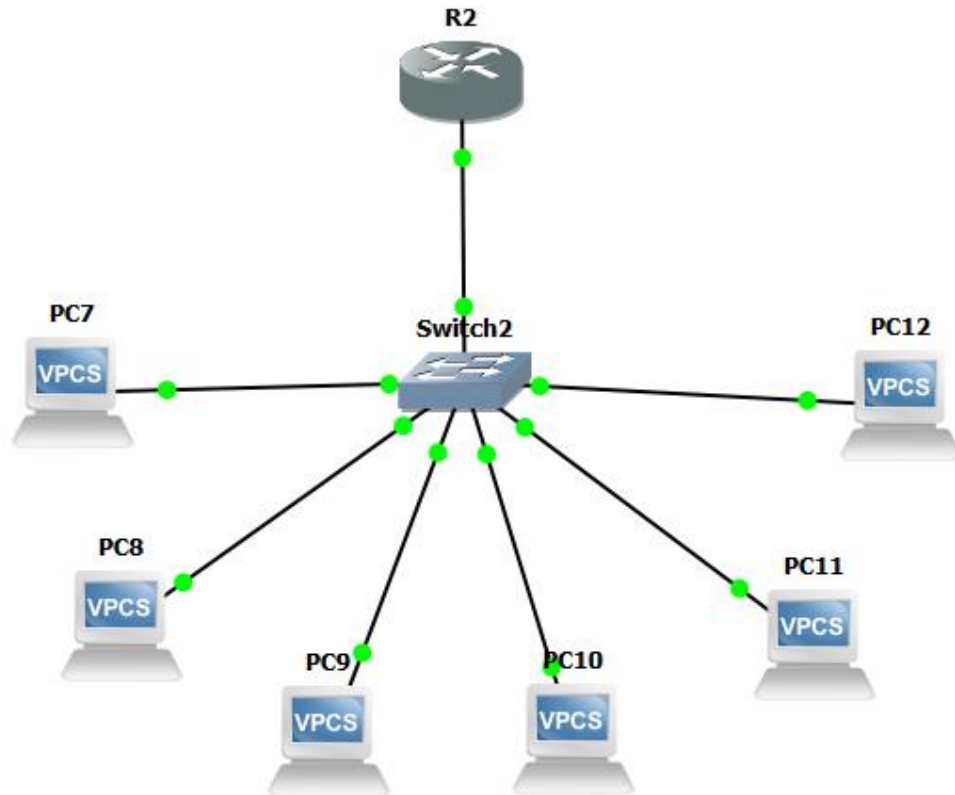
```
VPCS1> bind pc2.local
```

- **Vérification de la configuration DNS**

```
Rlismael#show ip dns view
DNS View default parameters:
Logging is off
DNS Resolver settings:
  Domain lookup is enabled
  Default domain name:
  Domain search list:
  Lookup timeout: 3 seconds
  Lookup retries: 2
  Domain name-servers:
    8.8.8.8
DNS Server settings:
  Forwarding of queries is enabled
  Forwarder timeout: 3 seconds
  Forwarder retries: 2
  Forwarder addresses:

Rlismael# █
```

5. Reproduction d'une topologie en configurant le serveur DHCP.



- Configuration du routeur

```
R2#en
R2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#hostname Routeur1
Routeur1(config)#int f0/0
Routeur1(config-if)#ip address 192.168.1.1 255.255.255.0
Routeur1(config-if)#no sh
Routeur1(config-if)#exit
Routeur1(config)#
*Mar 1 00:13:29.227: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Mar 1 00:13:30.227: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Routeur1(config)#
```

- Configuration du serveur DHCP

```
Routeur1(config)#ip dhcp pool LAN_POOL
Routeur1(dhcp-config)#network 192.168.1.0 255.255.255.0
Routeur1(dhcp-config)#default-router 192.168.1.1
Routeur1(dhcp-config)#dns-server 8.8.8.8
Routeur1(dhcp-config)#exit
Routeur1(config)#ip dhcp excluded-address 192.168.1.1 192.168.1.10
Routeur1(config)#
```

- Configuration des PC pour utiliser DHCP

```
PC7> ip dhcp
DDORA IP 192.168.1.11/24 GW 192.168.1.1
```

```
PC7> show ip
```

```
NAME       : PC7[1]
IP/MASK     : 192.168.1.11/24
GATEWAY     : 192.168.1.1
DNS         : 8.8.8.8
DHCP SERVER : 192.168.1.1
DHCP LEASE  : 86134, 86400/43200/75600
MAC         : 00:50:79:66:68:06
LPORT      : 20042
RHOST:PORT  : 127.0.0.1:20043
MTU         : 1500
```

```
PC7> █
```

```
PC8> ip dhcp
DDORA IP 192.168.1.12/24 GW 192.168.1.1
```

```
PC8> show ip
```

```
NAME       : PC8[1]
IP/MASK     : 192.168.1.12/24
GATEWAY     : 192.168.1.1
DNS         : 8.8.8.8
DHCP SERVER : 192.168.1.1
DHCP LEASE  : 86122, 86400/43200/75600
MAC         : 00:50:79:66:68:07
LPORT      : 20044
RHOST:PORT  : 127.0.0.1:20045
MTU         : 1500
```

```
PC8> █
```

```
PC9> ip dhcp
DDORA IP 192.168.1.13/24 GW 192.168.1.1
```

```
PC9> show ip
```

```
NAME       : PC9[1]
IP/MASK     : 192.168.1.13/24
GATEWAY     : 192.168.1.1
DNS         : 8.8.8.8
DHCP SERVER : 192.168.1.1
DHCP LEASE  : 86122, 86400/43200/75600
MAC         : 00:50:79:66:68:08
LPORT      : 20046
RHOST:PORT  : 127.0.0.1:20047
MTU         : 1500
```

```
PC9> █
```

```
PC10> ip dhcp
DDORA IP 192.168.1.14/24 GW 192.168.1.1
```

```
PC10> show ip
```

```
NAME       : PC10[1]
IP/MASK     : 192.168.1.14/24
GATEWAY     : 192.168.1.1
DNS         : 8.8.8.8
DHCP SERVER : 192.168.1.1
DHCP LEASE  : 86131, 86400/43200/75600
MAC         : 00:50:79:66:68:09
LPORT      : 20048
RHOST:PORT  : 127.0.0.1:20049
MTU         : 1500
```

```
PC10> █
```

- Tester les connectivités

```
PC7> ping 192.168.1.12
```

```
84 bytes from 192.168.1.12 icmp_seq=1 ttl=64 time=0.762 ms
84 bytes from 192.168.1.12 icmp_seq=2 ttl=64 time=0.433 ms
84 bytes from 192.168.1.12 icmp_seq=3 ttl=64 time=0.376 ms
84 bytes from 192.168.1.12 icmp_seq=4 ttl=64 time=0.490 ms
84 bytes from 192.168.1.12 icmp_seq=5 ttl=64 time=0.376 ms
```

```
PC7> █
```

```
PC9> ping 192.168.1.11
```

```
84 bytes from 192.168.1.11 icmp_seq=1 ttl=64 time=0.269 ms
84 bytes from 192.168.1.11 icmp_seq=2 ttl=64 time=0.336 ms
84 bytes from 192.168.1.11 icmp_seq=3 ttl=64 time=0.435 ms
84 bytes from 192.168.1.11 icmp_seq=4 ttl=64 time=0.758 ms
84 bytes from 192.168.1.11 icmp_seq=5 ttl=64 time=0.584 ms
```

```
PC9> █
```

```
PC10> ping 192.168.1.12

84 bytes from 192.168.1.12 icmp_seq=1 ttl=64 time=0.274 ms
84 bytes from 192.168.1.12 icmp_seq=2 ttl=64 time=0.456 ms
84 bytes from 192.168.1.12 icmp_seq=3 ttl=64 time=0.612 ms
84 bytes from 192.168.1.12 icmp_seq=4 ttl=64 time=0.479 ms
84 bytes from 192.168.1.12 icmp_seq=5 ttl=64 time=0.466 ms

PC10> █
```

CONCLUSION :

J'ai appris les compétences nécessaires pour Configurer le protocole de Telnet, SSH, DNS et DHCP.