Báo Cáo Thự Hành VPN

SV : Đặng Phạm Thế Minh

Mã SV : B14DCAT243

Task 1 host to host

Ta thấy máy dangminhb14dcat243 là 1 host :

Ta sẽ kết nối đến máy đangminhat3 cũng là 1 host:

Các câu lệnh thực hiện:

Sau khi kết nối bằng TUN/TAP bằng cách sử dụng simpletun ta được kết quả :

Khi ta ping đến địa chỉ mặt lạ 10.0.5.1

Sử dụng ssh:

```
dangminhb14dcat243@ubuntu:~/simpletun$ sudo ssh dangminhat3@10.0.5.1
The authenticity of host '10.0.5.1 (10.0.5.1)' can't be established.
ECDSA key fingerprint is e7:6b:cf:76:f4:0d:be:30:f8:8c:5e:7a:9d:a8:17:dc.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '10.0.5.1' (ECDSA) to the list of known hosts.
dangminhat3@10.0.5.1's password:
```

Task 2 host to getway

ta thấy máy dangminhb14dcat243 là host :

```
dangminhat3@ubuntu: ~
dangminhat3@ubuntu:~$ ifconfig
eth0      Link encap:Ethernet  HWaddr 00:0c:29:b4:01:f4
          inet addr:192.168.194.132  Bcast:192.168.194.255  Mask:255.255.255.0
          inet6 addr: fe80::20c:29ff:feb4:1f4/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:5708 errors:2 dropped:2 overruns:0 frame:0
          TX packets:322 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:4977317 (4.9 MB)  TX bytes:36218 (36.2 KB)
          Interrupt:19 Base address:0x2000
```

Ta thấy máy dangminhat3 là getway:

```
dangminhat3@ubuntu: ~
eth1      Link encap:Ethernet  HWaddr 00:0c:29:b4:01:fe
          inet addr:10.0.10.3  Bcast:10.0.10.255  Mask:255.255.255.0
          inet6 addr: fe80::20c:29ff:feb4:1fe/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:27 errors:0 dropped:0 overruns:0 frame:0
          TX packets:95 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:6111 (6.1 KB)  TX bytes:15129 (15.1 KB)
          Interrupt:19 Base address:0x2080
```

Kết quả thực hiện kết lối :

Khi ta ping host tới getway :

```
dangminhat3@ubuntu: ~/simpletun        ✖    dangminhat3@ubuntu: ~/simpletun        ✖
dangminhat3@ubuntu:~/simpletun$ sudo ip addr add 10.0.5.1/24 dev tun0
[sudo] password for dangminhat3:
dangminhat3@ubuntu:~/simpletun$ sudo route add -net 10.0.4.0 netmask 255.255.255
.0 dev tun0
SIOCADDRT: Network is down
dangminhat3@ubuntu:~/simpletun$ sudo route add -net 10.0.4.0 netmask 255.255.255
.0 dev tun0
SIOCADDRT: Network is down
dangminhat3@ubuntu:~/simpletun$ sudo ifconfig tun0 up
dangminhat3@ubuntu:~/simpletun$ sudo route add -net 10.0.4.0 netmask 255.255.255
.0 dev tun0
dangminhat3@ubuntu:~/simpletun$ ping 10.0.4.1
PING 10.0.4.1 (10.0.4.1) 56(84) bytes of data.
64 bytes from 10.0.4.1: icmp_req=1 ttl=64 time=42.4 ms
64 bytes from 10.0.4.1: icmp_req=2 ttl=64 time=82.2 ms
64 bytes from 10.0.4.1: icmp_req=3 ttl=64 time=83.2 ms
64 bytes from 10.0.4.1: icmp_req=4 ttl=64 time=83.7 ms
^C
--- 10.0.4.1 ping statistics ---
5 packets transmitted, 4 received, 20% packet loss, time 4009ms
rtt min/avg/max/mdev = 42.461/72.949/83.784/17.612 ms
```

```
dangminhat3@ubuntu: ~/simpletun        ✖    dangminhat3@ubuntu: ~/simpletun        ✖
dangminhat3@ubuntu:~$ cd simpletun
dangminhat3@ubuntu:~/simpletun$ gcc -o simpletun simpletun.c
dangminhat3@ubuntu:~/simpletun$ sudo./simpletun -i tun0 -c 10.20.0.6 -d
bash: sudo./simpletun: No such file or directory
dangminhat3@ubuntu:~/simpletun$ sudo ./simpletun -i tun0 -c 10.20.0.6 -d
[sudo] password for dangminhat3:
Successfully connected to interface tun0
CLIENT: Connected to server 10.20.0.6
TAP2NET 1: Read 84 bytes from the tap interface
TAP2NET 1: Written 84 bytes to the network
NET2TAP 1: Read 84 bytes from the network
NET2TAP 1: Written 84 bytes to the tap interface
TAP2NET 2: Read 84 bytes from the tap interface
TAP2NET 2: Written 84 bytes to the network
NET2TAP 2: Read 84 bytes from the network
NET2TAP 2: Written 84 bytes to the tap interface
TAP2NET 3: Read 84 bytes from the tap interface
TAP2NET 3: Written 84 bytes to the network
NET2TAP 3: Read 84 bytes from the network
NET2TAP 3: Written 84 bytes to the tap interface
```

Khi ta chạy ssh :

```
dangminhat3@ubuntu:~/simpletun$ sudo ssh dangminhb14dcat243@10.0.4.1
\dangminhb14dcat243@10.0.4.1's password:
Welcome to Ubuntu 14.04.5 LTS (GNU/Linux 4.4.0-31-generic x86_64)

 * Documentation:  https://help.ubuntu.com/

373 packages can be updated.
296 updates are security updates.

New release '16.04.4 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Last login: Sun May  6 00:19:17 2018 from 10.0.5.1
dangminhb14dcat243@ubuntu:~$
```

Task 3 getway to getway

Ta thấy máy dangminhat3 là getway:

Ta thấy máy dangminhb14dcat243 là getway :

Sau đây là khi ta kết nối 2 getway với nhau :

Khi ta dùng ssh giữa 2 getway:

Khi ta dùng ssh từ host trong getway với 1 getway khác :

Ta dùng máy dangminh là 1 host trong getway dangminhatb14dcat243 ssh vào máy dangminhat3:

Khi ta ss từ host dangminh trong getway dangminhb14dcat243 ssh vào getway dangminhb14dcat243:

```
dangminh@ubuntu:~$ sudo ssh dangminhb14dcat243@10.20.0.6
The authenticity of host '10.20.0.6 (10.20.0.6)' can't be established.
ECDSA key fingerprint is e7:6b:cf:76:f4:0d:be:30:f8:8c:5e:7a:9d:a8:17:dc.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '10.20.0.6' (ECDSA) to the list of known hosts.
dangminhb14dcat243@10.20.0.6's password:
Welcome to Ubuntu 14.04.5 LTS (GNU/Linux 4.4.0-31-generic x86_64)

 * Documentation:  https://help.ubuntu.com/

373 packages can be updated.
296 updates are security updates.

New release '16.04.4 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Last login: Sun May  6 03:41:38 2018 from 10.0.5.1
dangminhb14dcat243@ubuntu:~$ sudo ssh dangminhat3@10.0.4.1
[sudo] password for dangminhb14dcat243:
The authenticity of host '10.0.4.1 (10.0.4.1)' can't be established.
ECDSA key fingerprint is 81:82:a9:af:bd:93:78:f9:1a:a7:ca:7f:e8:d6:6c:04.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '10.0.4.1' (ECDSA) to the list of known hosts.
dangminhat3@10.0.4.1's password:
```

Sau đó ta ssh từ getway dangminhb14dcat243 sang getway dangminhat3 :

```
dangminhb14dcat243@ubuntu:~$ sudo ssh dangminhat3@10.0.4.1
[sudo] password for dangminhb14dcat243:
The authenticity of host '10.0.4.1 (10.0.4.1)' can't be established.
ECDSA key fingerprint is 81:82:a9:af:bd:93:78:f9:1a:a7:ca:7f:e8:d6:6c:04.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '10.0.4.1' (ECDSA) to the list of known hosts.
dangminhat3@10.0.4.1's password:
Welcome to Ubuntu 12.04.2 LTS (GNU/Linux 3.5.0-37-generic i686)

 * Documentation:  https://help.ubuntu.com/

576 packages can be updated.
395 updates are security updates.

New release '14.04.1 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

Last login: Sun May  6 04:11:53 2018 from 10.0.10.1
dangminhat3@ubuntu:~$
```