

**HỌC VIỆN CÔNG NGHỆ BƯU CHÍNH VIỄN THÔNG
KHOA AN TOÀN THÔNG TIN**



**BÁO CÁO BÀI THỰC HÀNH
HỌC PHẦN: AN TOÀN MẠNG NÂNG CAO
MÃ HỌC PHẦN: INT1483**

**BÀI THỰC HÀNH
Cấu hình tường lửa**

Sinh viên thực hiện: Trần Thị Thu Phương

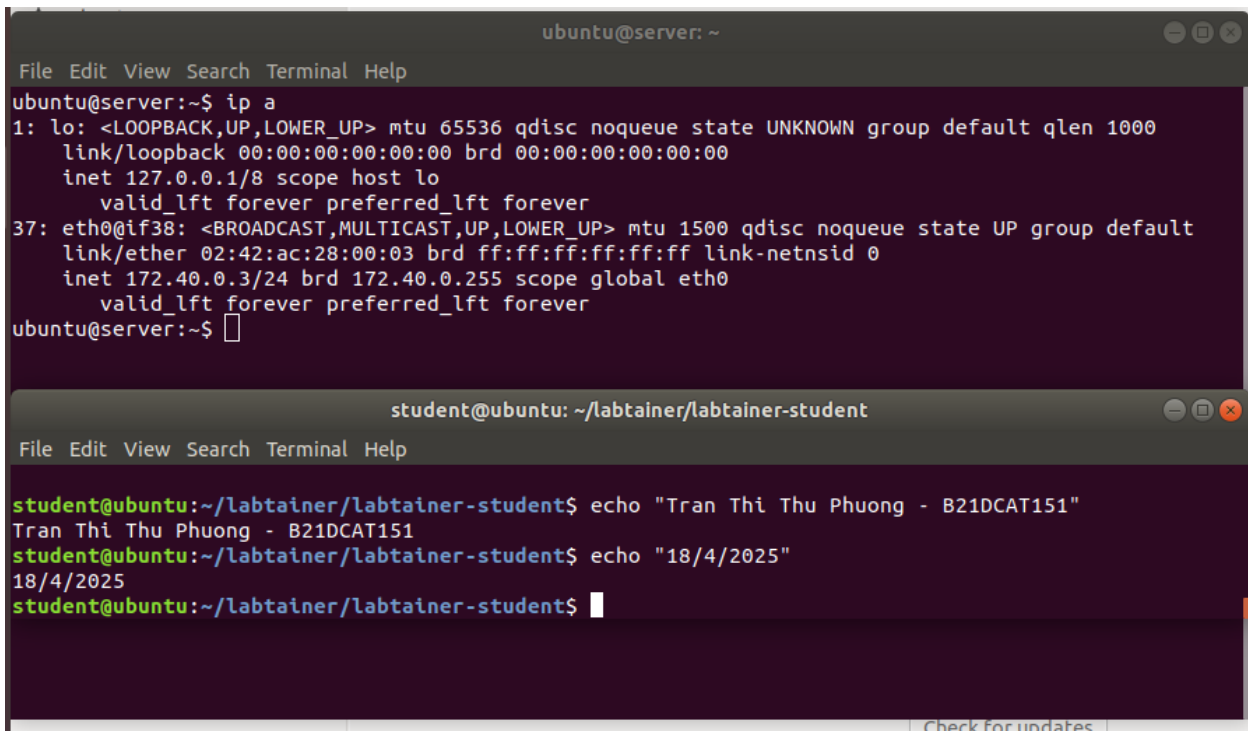
Mã sinh viên: B21DCAT151

Giảng viên hướng dẫn: TS. Phạm Hoàng Duy

HỌC KỲ 2 NĂM HỌC 2024-2025

1. Tiến hành cài đặt firewall

- Kiểm tra địa chỉ ip của server

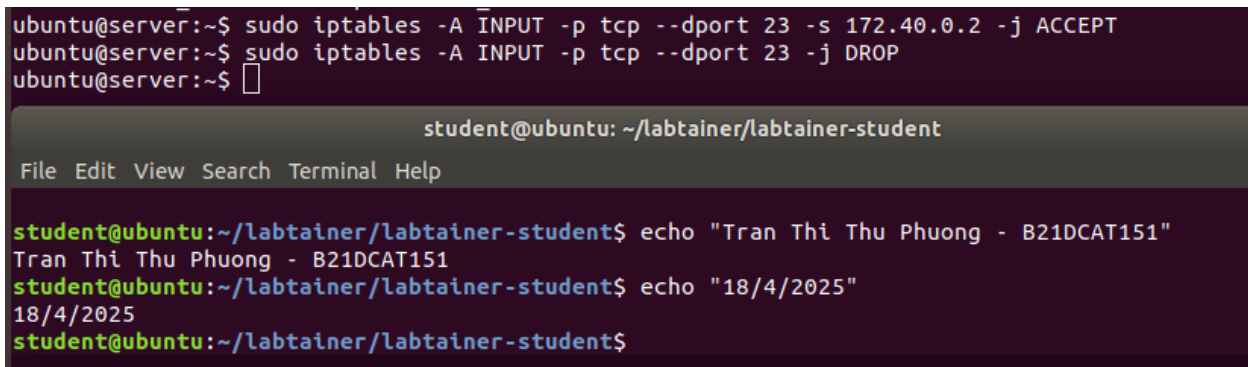


```
ubuntu@server: ~  
File Edit View Search Terminal Help  
ubuntu@server:~$ ip a  
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000  
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00  
    inet 127.0.0.1/8 scope host lo  
        valid_lft forever preferred_lft forever  
37: eth0@if38: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default  
    link/ether 02:42:ac:28:00:03 brd ff:ff:ff:ff:ff:ff link-netnsid 0  
    inet 172.40.0.3/24 brd 172.40.0.255 scope global eth0  
        valid_lft forever preferred_lft forever  
ubuntu@server:~$  
  
student@ubuntu: ~/labtainer/labtainer-student  
File Edit View Search Terminal Help  
student@ubuntu:~/labtainer/labtainer-student$ echo "Tran Thi Thu Phuong - B21DCAT151"  
Tran Thi Thu Phuong - B21DCAT151  
student@ubuntu:~/labtainer/labtainer-student$ echo "18/4/2025"  
18/4/2025  
student@ubuntu:~/labtainer/labtainer-student$
```

- Trên terminal server thiết lập IP cấp phép truy cập và bật tường lửa để chặn IP

```
sudo iptables -A INPUT -p tcp --dport 23 -s 172.40.0.2 -j ACCEPT
```

```
sudo iptables -A INPUT -p tcp --dport 23 -j DROP
```



```
ubuntu@server:~$ sudo iptables -A INPUT -p tcp --dport 23 -s 172.40.0.2 -j ACCEPT  
ubuntu@server:~$ sudo iptables -A INPUT -p tcp --dport 23 -j DROP  
ubuntu@server:~$  
  
student@ubuntu: ~/labtainer/labtainer-student  
File Edit View Search Terminal Help  
student@ubuntu:~/labtainer/labtainer-student$ echo "Tran Thi Thu Phuong - B21DCAT151"  
Tran Thi Thu Phuong - B21DCAT151  
student@ubuntu:~/labtainer/labtainer-student$ echo "18/4/2025"  
18/4/2025  
student@ubuntu:~/labtainer/labtainer-student$
```

2. Telnet từ client đến server

- Từ client1 tiến hành telnet đến server

```
ubuntu@client1: ~  
File Edit View Search Terminal Help  
ubuntu@client1:~$ telnet 172.40.0.3  
Trying 172.40.0.3...  
telnet: Unable to connect to remote host: Connection timed out  
ubuntu@client1:~$ ifconfig  
eth0      Link encap:Ethernet  HWaddr 02:42:ac:28:00:01  
          inet addr:172.40.0.1  Bcast:172.40.0.255  Mask:255.255.255.0  
student@ubuntu: ~/labtainer/labtainer-student  
File Edit View Search Terminal Help  
student@ubuntu:~/labtainer/labtainer-student$ echo "Tran Thi Thu Phuong - B21DCAT151"  
Tran Thi Thu Phuong - B21DCAT151  
student@ubuntu:~/labtainer/labtainer-student$ echo "18/4/2025"  
18/4/2025  
student@ubuntu:~/labtainer/labtainer-student$ checkwork
```

Kết nối đã bị chặn.

- Từ client tiến hành telnet đến server

```
ubuntu@server: ~  
File Edit View Search Terminal Help  
ubuntu@client:~$ telnet 172.40.0.3  
Trying 172.40.0.3...  
Connected to 172.40.0.3.  
Escape character is '^]'.  
Ubuntu 16.04.4 LTS  
server login: ubuntu  
Password:  
Welcome to Ubuntu 16.04.4 LTS (GNU/Linux 4.18.0-15-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:        https://ubuntu.com/advantage  
  
The programs included with the Ubuntu system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by  
applicable law.  
ubuntu@server:~$  
student@ubuntu: ~/labtainer/labtainer-student  
File Edit View Search Terminal Help  
student@ubuntu:~/labtainer/labtainer-student$ echo "Tran Thi Thu Phuong - B21DCAT151"  
Tran Thi Thu Phuong - B21DCAT151  
student@ubuntu:~/labtainer/labtainer-student$ echo "18/4/2025"  
18/4/2025  
student@ubuntu:~/labtainer/labtainer-student$
```

3. Lấy file thành công từ server về client

```

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

ubuntu@server:~$ ls
flag.txt
ubuntu@server:~$ cat flag.txt
# Filename: filetoview.txt
#
# Description: This is a pre-created file for each student (telnet-server) container

# This file is modified when container is created
# The string below will be replaced with a keyed hash
My string is: 435ecaee15b4f407a919dc28ce3c41a1
ubuntu@server:~$ copy flag.txt
-bash: copy: command not found
ubuntu@server:~$

```

```

student@ubuntu: ~/labtainer/labtainer-student
File Edit View Search Terminal Help

student@ubuntu:~/labtainer/labtainer-student$ echo "Tran Thi Thu Phuong - B21DCAT151"
Tran Thi Thu Phuong - B21DCAT151
student@ubuntu:~/labtainer/labtainer-student$ echo "18/4/2025"
18/4/2025
student@ubuntu:~/labtainer/labtainer-student$

```

- Trên máy client, sao chép file từ server về client bằng lệnh scp

```

ubuntu@client:~$ scp ubuntu@172.40.0.3:/home/ubuntu/flag.txt ~/
The authenticity of host '172.40.0.3 (172.40.0.3)' can't be established.
ECDSA key fingerprint is SHA256:nFDnpYXdisAGpF1Zx0Bv8Xc83CDp5qYU2frYQvB7Pt8.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '172.40.0.3' (ECDSA) to the list of known hosts.
ubuntu@172.40.0.3's password:
flag.txt                                0% 0 0.0KB/s --:-- E
flag.txt                                100% 266 0.3KB/s 00:00
ubuntu@client:~$

student@ubuntu: ~/labtainer/labtainer-student
File Edit View Search Terminal Help

What is automatically assessed for this lab:

student@ubuntu:~/labtainer/labtainer-student$ echo "Tran Thi Thu Phuong - B21DCAT151"
Tran Thi Thu Phuong - B21DCAT151
student@ubuntu:~/labtainer/labtainer-student$ echo "18/4/2025"

```

- Tiến hành đọc file flag.txt

```

ubuntu@client:~$ ls
flag.txt
ubuntu@client:~$ cat flag.txt
# Filename: filetoview.txt
#
# Description: This is a pre-created file for each student (telnet-server) container

# This file is modified when container is created
# The string below will be replaced with a keyed hash
My string is: 435ecaee15b4f407a919dc28ce3c41a1
ubuntu@client:~$

student@ubuntu: ~/labtainer/labtainer-student
File Edit View Search Terminal Help

What is automatically assessed for this lab:

student@ubuntu:~/labtainer/labtainer-student$ echo "Tran Thi Thu Phuong - B21DCAT151"
Tran Thi Thu Phuong - B21DCAT151
student@ubuntu:~/labtainer/labtainer-student$ echo "18/4/2025"

```

4. Kiểm tra checkwork

```

student@ubuntu:~/labtainer/labtainer-student$ checkwork
Results stored in directory: /home/student/labtainer_xfer/ptit-firewall
Labname ptit-firewall

Student          |          firewall |          telnet |          fileview |
===== | ===== | ===== | ===== |
B21DCAT151      |          Y        |          Y      |          Y        |
What is automatically assessed for this lab:

student@ubuntu:~/labtainer/labtainer-student$ echo "Tran Thi Thu Phuong - B21DCAT151"
Tran Thi Thu Phuong - B21DCAT151
student@ubuntu:~/labtainer/labtainer-student$ echo "18/4/2025"
18/4/2025
student@ubuntu:~/labtainer/labtainer-student$ █

```