

Lab3 System Admin2

1-Install ftpd service on your laptop

```
habiba@habiba-VirtualBox: ~  
habiba@habiba-VirtualBox:~$ sudo apt install vsftpd  
[sudo] password for habiba:  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following package was automatically installed and is no longer required:  
  systemd-hwe-hwdb  
Use 'sudo apt autoremove' to remove it.
```

2-Enable port 21 and 20 (tcp) using iptables command using INPUT chain

```
habiba@habiba-VirtualBox:~$ sudo iptables -A INPUT -p tcp --dport 20 -j ACCEPT  
habiba@habiba-VirtualBox:~$ sudo iptables -A INPUT -p tcp --dport 21 -j ACCEPT  
habiba@habiba-VirtualBox:~$
```

3-Connect to ftp server (e.g: localhost) and browse the current directory

```
habiba@habiba-VirtualBox:~$ ftp localhost  
Connected to localhost.  
220 (vsFTPd 3.0.5)  
Name (localhost:habiba): habiba  
331 Please specify the password.  
Password:  
230 Login successful.  
Remote system type is UNIX.  
Using binary mode to transfer files.  
ftp> ftp  
Already connected to localhost, use close first.  
ftp> ls  
229 Entering Extended Passive Mode (|||54373|)  
150 Here comes the directory listing.  
drwxr-xr-x  2 1000    1000          4096 Feb 01 13:32 Desktop  
drwxr-xr-x  2 1000    1000          4096 Feb 01 13:32 Documents  
drwxr-xr-x  2 1000    1000          4096 Feb 11 23:07 Downloads  
drwxr-xr-x  2 1000    1000          4096 Feb 01 13:32 Music  
drwxr-xr-x  2 1000    1000          4096 Feb 01 13:32 Pictures  
drwxr-xr-x  2 1000    1000          4096 Feb 01 13:32 Public  
drwxr-xr-x  2 1000    1000          4096 Feb 01 13:32 Templates
```

4-Enable ufw service

```
habiba@habiba-VirtualBox:~$ sudo ufw enable
[sudo] password for habiba:
Firewall is active and enabled on system startup
habiba@habiba-VirtualBox:~$ sudo ufw status
Status: active

To Action From
--
Apache ALLOW Anywhere
Apache (v6) ALLOW Anywhere (v6)
```

5-Block port 20 and 21 (tcp) using ufw

```
habiba@habiba-VirtualBox:~$ sudo ufw deny 20/tcp
Rule added
Rule added (v6)
habiba@habiba-VirtualBox:~$ sudo ufw deny 21/tcp
Rule added
Rule added (v6)
habiba@habiba-VirtualBox:~$
```

6-Try to connect to ftp service

```
habiba@habiba-VirtualBox:~$ ftp localhost
Connected to localhost.
220 (vsFTPd 3.0.5)
Name (localhost:habiba): habiba
331 Please specify the password.
Password:
```

7-Capture the ufw log to detect the blocked operation

```
habiba@habiba-VirtualBox:~$ tail /var/log/kern.log
Apr 11 04:50:42 habiba-VirtualBox kernel: [ 40.371260] kauditd_printk_skb: 36
callbacks suppressed
Apr 11 04:50:42 habiba-VirtualBox kernel: [ 40.371266] audit: type=1400 audit(
1681181442.928:48): apparmor="DENIED" operation="capable" class="cap" profile="/
usr/sbin/cupsd" pid=740 comm="cupsd" capability=12 capname="net_admin"
Apr 11 04:50:45 habiba-VirtualBox kernel: [ 42.881021] loop16: detected capaci
ty change from 0 to 8
Apr 11 04:50:52 habiba-VirtualBox kernel: [ 50.204082] audit: type=1400 audit(
1681181452.760:49): apparmor="DENIED" operation="capable" class="cap" profile="/
snap/snapd/18596/usr/lib/snapd/snap-confine" pid=972 comm="snap-confine" capabil
ity=12 capname="net_admin"
Apr 11 04:50:52 habiba-VirtualBox kernel: [ 50.207858] audit: type=1400 audit(
1681181452.764:50): apparmor="DENIED" operation="capable" class="cap" profile="/
snap/snapd/18596/usr/lib/snapd/snap-confine" pid=972 comm="snap-confine" capabil
ity=38 capname="perfmon"
Apr 11 04:51:13 habiba-VirtualBox kernel: [ 68.626797] rfkill: input handler d
isabled
Apr 11 04:51:24 habiba-VirtualBox kernel: [ 79.469374] loop16: detected capaci
ty change from 0 to 149488
Apr 11 04:51:46 habiba-VirtualBox kernel: [ 101.130458] rfkill: input handler e
```

8-Install nfs service on your system

```
habiba@habiba-VirtualBox:~$ sudo apt install nfs-kernel-server
[sudo] password for habiba:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  systemd-hwe-hwdb
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  keyutils libevent-core-2.1-7 libnfsidmap1 nfs-common rpcbind
Suggested packages:
  open-iscsi watchdog
The following NEW packages will be installed:
  keyutils libevent-core-2.1-7 libnfsidmap1 nfs-common nfs-kernel-server
  rpcbind
0 upgraded, 6 newly installed, 0 to remove and 205 not upgraded.
Need to get 615 kB of archives.
After this operation, 2,235 kB of additional disk space will be used.
```

9-Enable nfs service on the firewall

```
habiba@habiba-VirtualBox:~$ sudo ufw allow 2049/tcp
[sudo] password for habiba:
Rule added
Rule added (v6)
```

10-Create and share /tmp/shares folder using exportfs command and /etc/exports file

```
habiba@habiba-VirtualBox:~$ mkdir /tmp/shares
habiba@habiba-VirtualBox:~$ sudo echo "/tmp/shares *(rw)" | sudo tee -a /etc/exports
/tmp/shares *(rw)
habiba@habiba-VirtualBox:~$ sudo exportfs -a
exportfs: /etc/exports [1]: Neither 'subtree_check' or 'no_subtree_check' specified for export "*/tmp/shares".
Assuming default behaviour ('no_subtree_check').
NOTE: this default has changed since nfs-utils version 1.0.x
```

11- Mount the remote share on /mnt folder (you can using localhost as well)

```
habiba@habiba-VirtualBox:~$ sudo mount -t nfs localhost:/tmp/shares /mnt
habiba@habiba-VirtualBox:~$
```

12-Copy some files to the remote share

```
habiba@habiba-VirtualBox:~$ scp /tmp/file.txt /mnt
habiba@habiba-VirtualBox:~$
```

13-Save iptables rules to /tmp/iptables-backup file

```
habiba@habiba-VirtualBox:~$ sudo iptables-save > /tmp/iptables-backup
habiba@habiba-VirtualBox:~$
```