Homework #8

1. Start a terminal, and do "hostname", then do "su" (password is required), then do "hostname testhost", then do "hostname", then do "domainname jnu.ac.kr", then do "domainname", then do "exit"

- Take a screenshot 
- If you start a new terminal what is changed?
- If you restart the machine and start a new terminal, is still the change of host and domain name valid?

2. do "clear", then do "ifconfig" (you may install net-tools "sudo apt-get install net-tools"), then do "su"(password is required), then do "ifconfig enp0s3 down" (wait for around 5 seconds), then do "ifconfig enp0s3", then do "ifconfig enp0s3 up"(wait for around 5 seconds), then do "ifconfig enp0s3"

- Take a screenshot 
- What is IP address, subnet mask, MAC address (ether) of enp0s3?

(If there is no "enp0s3" device, please find the correct network device and use the device name)

3. Do "clear", then do "route", then do "route –n", then do "route add default gw 10.0.2.3", then do "route –n", then do "route add –net 10.0.3.0 netmask 255.255.255.0 gw 10.0.2.3" then do "route –n"

(Here we assume that the IPv4 address of the basic NIC is 10.0.2.15/24. If you have different subnet, please use the same subnet prefix for setting default gateway. e.g. subnet : 192.168.142.*, possible gateway IPv4 address : 192.168.142.1, 192.168.142.2, and so on)

- Take a screenshot 
-What is the meaning of "route add –net 10.0.3.0 netmask 255.255.255.0 gw 10.0.2.3"?
- What is the command to remove the policies which are added in this exercise?

4. Do "apt-get install openssh-server", then do "netstat –ntl". Do "ssh peterpan@127.0.0.1" (here we assume that this machine has an user "peterpan". For the first question please press "yes", then provide password for the user peterpan). Then, do "exit".

- Take a screenshot of ssh client after connection 

5. Do "apt-get install apache2", then start a firefox browser, and type "http://127.0.0.1" in the address bar, then type "http://127.0.0.1/~peterpan" in the address bar.

- Take a screenshot of firefox browser for both cases 

Do "ln –s /etc/apache2/mods-available/userdir.load /etc/apache2/mods-enabled/userdir.load", then do "ln –s /etc/apache2/mods-available/userdir.conf /etc/apache2/mods-enabled/userdir.conf", then

do “service apache2 restart”, then do “su peterpan”(we assume that we have a user “peterpan”), then do “cd ~”, then do “mkdir public_html”, then do “touch public_html/index.html”, then add the contents of index.html as follows:

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<html><body><h1>Linux System Testing</h1>
<h1>JNU Linux System Exercise Page</h1>
<p>This is the test web page of user.</p>
<p>The web server software is running but no content has been added, yet.</p>
</body></html>
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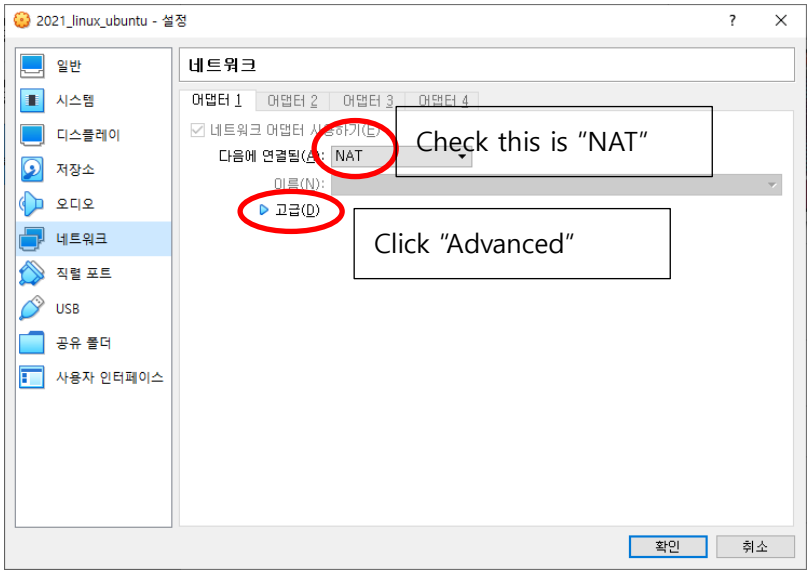
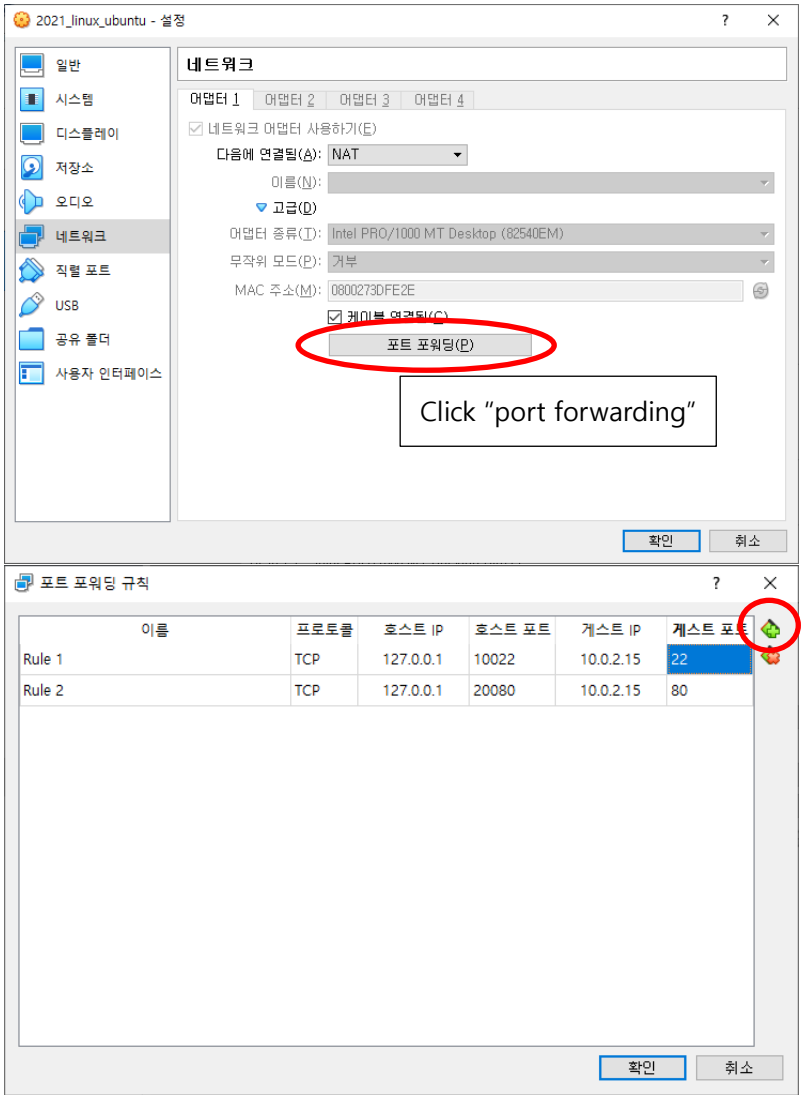
Then, do “chmod 755 ~/public_html”, then do “chmod 644 ~/public_html/index.html”. Then, in the firefox browser, type “http://127.0.0.1/~peterpan” in the address bar.

- Take a screenshot of firefox browser

6. For accessing ssh server and web server from outside of the virtual machine. You need to set up port forwarding rules. Set two forwarding rules as follows:





Click this to add new rules

After setting these rules, try to access ssh server and web server as follows:

1) ssh server : start any ssh client (cmd for windows, putty and so on), then type "ssh –p 10022 peterpan@127.0.0.1"

2) web server : type "http://127.0.0.1:20080" or "http://127.0.0.1:20080/~peterpan" in the address bar of chrome or edge (or other web browser)