**Exercise 4.- Networking.**

4.1.- How you connect to the edge

a) what ip range

The ip range is 192.168.2.0/23 where host\_min is 192.168.2.1 and host\_max is 192.168.3.254

b) what protocol you should use to connect

If the edge has port 22 open the best protocol to connect is ssh.

c) write the linux command or the connection string for this protocol.

Ssh <username>@<ip\_edge> ssh support@<ip\_edge>

4.2.- Write 3 different things you should check

Firstly I have to know the ip address that this edge computer has with the following commands:

a) netstat -putan In order to know the foreign address that connect by foreign port 22 and my vpn local port

b) sudo arp-scan 192.168.2.0/23 To match ips with macs

c) sudo arp-scan -I <vpn\_nic> -Q 46 –destaddr=<mac\_edge> 192.168.2.0/23 To know the ip addres which is matched to the mac\_edge

d) nslookup <edge\_ip>

e) dig @DNS-server <edge\_ip>

f) nslookup <edge\_ip>

g) tracert <edge\_ip> to know and resolve ip address destination.

h) tcpdump dst <edge\_ip> In order to get the packets to edge\_ip

i) tcpdump -nnSX port <vpn\_port\_number> To listen the packets from vpn\_port

4.3.- Write 5 different errors that should happened.

a) There is not connectivity to ip\_edge. We should use ping to prove comunication.

b) The port is not listening in edge computer

i)(netstat -putan) and (tcpdump) should use to get this information.

ii) Also we can use telenet <ip\_edge> 22.

c) In the sever with monitoring tool installed we have to prove if all ports are openned doing

i) netstat -putan

ii) telnet <ip\_database\_sink> <port\_database\_sink>

iii) From monitoring server does tcpdump -nnSX port <monitoring\_tool>

and tcpdump dst <ip\_database\_sink>

d) No communication In the vpn server to do:

i) Check there is traffic packets in vpn lan

tcpdump net 192.168.2.0/23

tcpdump net 10.2.3.0/32

e) The docker stack is not working properly.

i) docker stack ls In order to check the list database and monitoring tool

ii) docker stack ps In order to check the list of tasks database and monitoring tool.

Iii) docker stack services In order to check the list database and monitoring tool

f) Check the different communications between the different parts with tracerouter:

i) tracert <ip\_destination>

ii) More completely.

tracert -d -h maximum\_hops -j host-list -w timeout target\_host