Network Administration - Worksheet 1

> Célian RIBOULET

> S3B"

System configuration and local networking with Linux

User management

3)

After launching all VMs, we can try to change the user password.

I have changed the spy VM password to `plopplop` using :

```
passwd root
```

4)

I have added the user `celian` on spy with the password `plopplop`

```
adduser celian
```

System administration

9)

Un réseaux /24 est un réseaux qui possède un masque de sous réseaux de 24 bits A /24 network is a network having a 24 bits sub-network mask

10)

Frist sub-network will be using addresses starting with : `192.168.0.X`

Second will be using addresses starting with : `192.168.1.X`

11)

opeth **eth0** : `192.168.0.1`

nightwish **eth0** : `192.168.0.2`

zonaria **eth0** : `192.198.0.3`

opeth **eth1** : `192.168.1.1`

(spy) alcest **eth0** : `192.168.1.2`

Dynamic configuration

12)

> It is better to use the ip command as it is more modern than ifconfig

opeth eth0 :

```
ip addr add 192.168.0.1/24 dev eth0
```

nightwish eth0 :

```
ip addr add 192.168.0.2/24 dev eth0
```

zonario eth0 :

```
ip addr add 192.168.0.2/24 dev eth0
```

opeht eth1 :

```
ip addr add 192.168.1.1/24 dev eth1
```

(spy) alcest eth0 :

```
ip addr add 192.168.1.2/24 dev eth0
```

We then run the following command on machines (with eth1 if required)

```
ip link set eth0 up
```

15)

Nightwish and alcest still don't know that they need to use opeth as a gateway to communnicate.

16)

In order to setup the gateways, we run the following command : `route add default gw <ip>`

On nightwish and zonaria:

```
route add default gw 192.168.0.1
```

On alcest :

```
route add default gw 192.168.1.1
```

17)

We can know connect from nightwish to opeth over ssh :

`ssh root@192.168.0.1`

18)

Sur nightwish `traceroute 192.168.0.1`

19)

In /etc/hosts de nightwish :

```
192.168.0.3     zonaria
192.168.0.1     opeth
192.168.1.2     alcest
```

We can know uses the machines names intead of the IPs

20)

All the configurations made with the ip command have not been saved after the reboot The is beacause we just did a dynamic configuration.

Static configuration

> The kind of configuration we have done before is not very practical as everything is lost after a restart

21) 22) 23) 24) 25)

File `/etc/network/interfaces` on opeth :

```
auto lo
iface lo inet loopback

auto eth0
iface eth0 inet static
    address 192.168.0.1
    netmask 255.255.255.0
    echo > 1 /procs/sys/net/ipv4/ip_forward

auto eth1
iface eth1 inet static
    address 192.168.1.1
    netmask 255.255.255.0
```

26)

On nightwish :

Shutdown eth0 interface

```
ifdown eth0
```

Then we make it up again

```
ifup eth0
```

Then we try to ping opeth and it should work

```
ping opeth
```

Web server setup
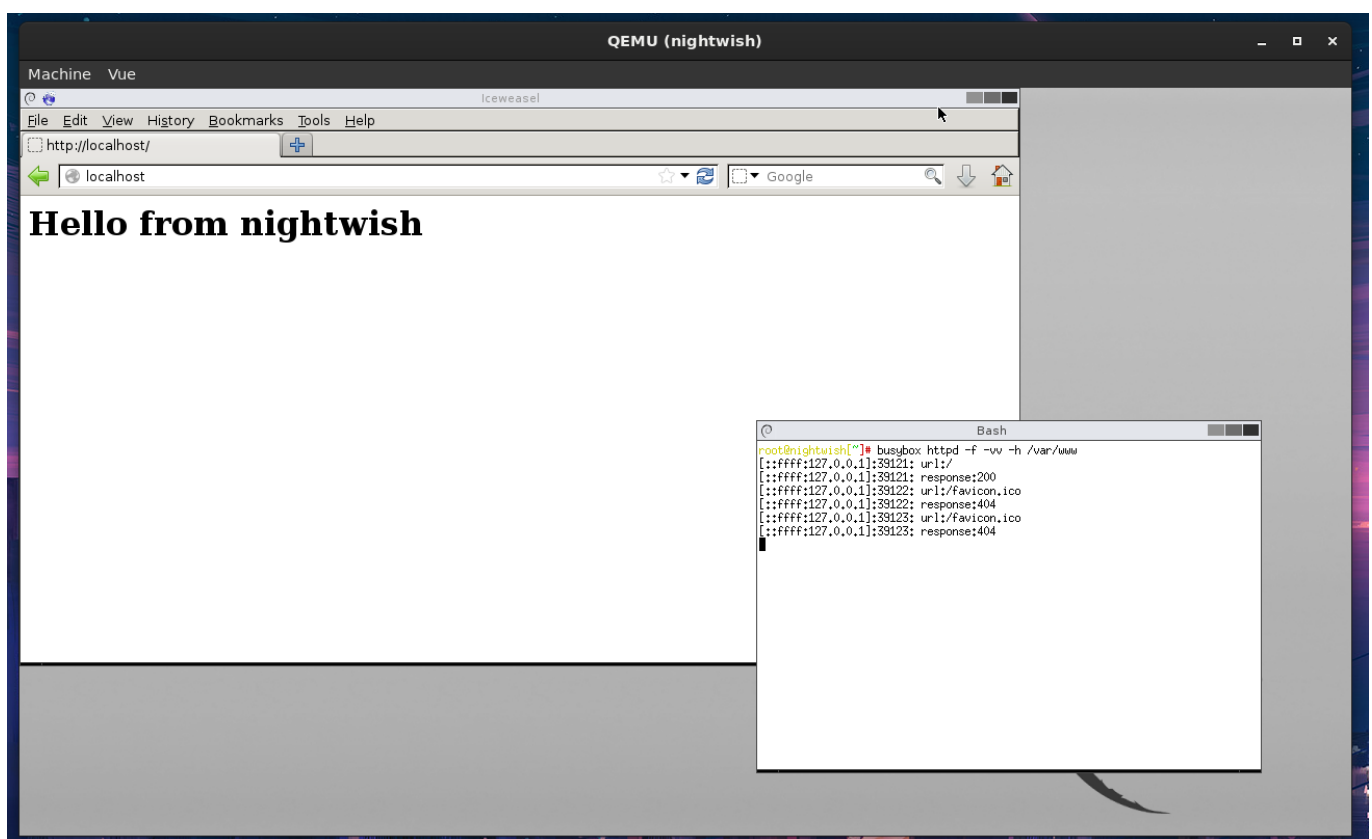
28)

> Content of the web page that will be runned by the web server
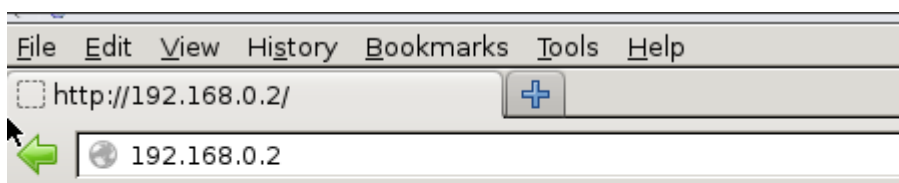
```
root@nightwish[~]# cat /var/www/index.html
<html>
<body>
<h1>Hello from nightwish</h1>
</body>
</html>
```

29) 30)

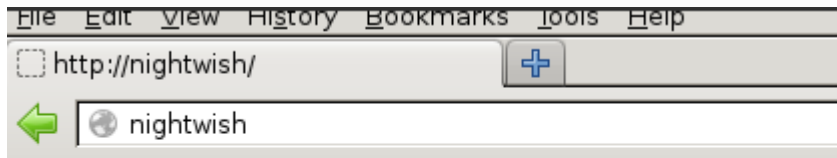> The machine can now acces its own web server using the loopback interface (localhost)

31)

32)

> We can acces the website using th host IP address

File Edit View History Bookmarks Tools Help

http://nightwish/

nightwish

Hello from nightwish

32 to 42

> Some tests with wireshark

42)

> I then tried to do some authentication on the web server

Connecting...

nightwish   Google

Connecting...

Authentication Required

A username and password are being requested by http://nightwish. The site says: "Web Server Authentication"

User Name: root

Password: ●●●●●●●●

Cancel   OK