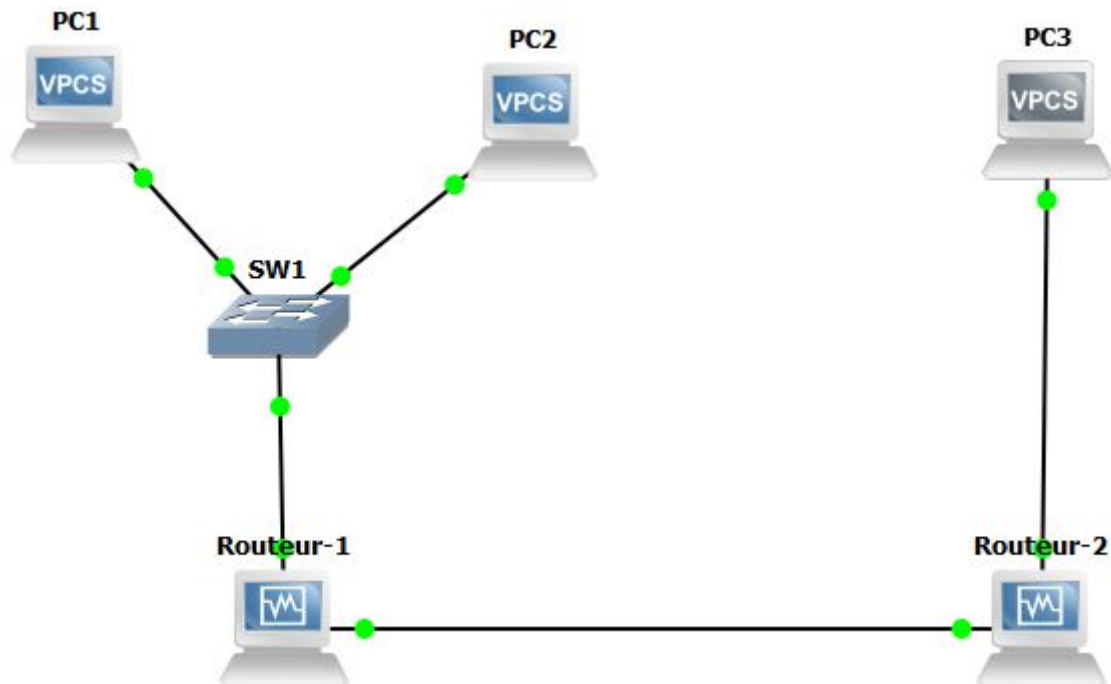

TP N°0: Préambule - Environnement des TP

**Noreddine Belhadj Cheikh
Group 1**

**Master 2 : Ingénierie des systèmes d'Information
Matière : Technologies Emergentes en ISI
Année universitaire: 2018/2019**

Network Topology :



Configuration of interface eth0 of router 1 :

```
tc@box:~$ sudo vtysh
Hello, this is Quagga (version 0.99.22.4).
Copyright 1996-2005 Kunihiro Ishiguro, et al.

box# configure terminal
box(config)# interface eth1
box(config-if)# ip address 172.16.10.1/24
box(config-if)#
```

Configuration of interface eth1 of router 1 :

```
tc@box:~$ sudo vtysh
Hello, this is Quagga (version 0.99.22.4).
Copyright 1996-2005 Kunihiro Ishiguro, et al.

box# configure terminal
box(config)# interface eth1
box(config-if)# ip address 172.16.10.1/24
box(config-if)#
```

Configuration of interface eth0 of router 2 :

```
box# configure terminal
box(config)# interface eth0
box(config-if)# ip address 172.16.20.2/24
box(config-if)# exit
box(config)# ip route 172.16.10.0 255.255.255.0 172.16.20.1
box(config)# exit
box#
```

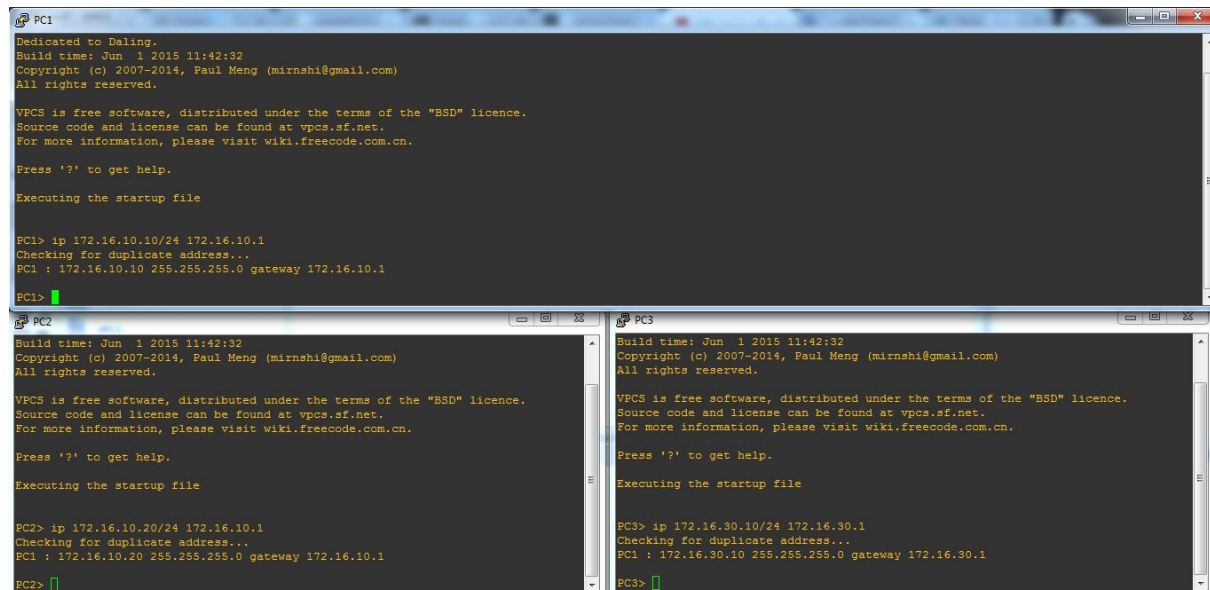
Configuration of interface eth1 of router 2 :

```
tc@box:~$ sudo vtysh

Hello, this is Quagga (version 0.99.22.4).
Copyright 1996-2005 Kunihiro Ishiguro, et al.

box# configure terminal
box(config)# interface eth1
box(config-if)# ip address 172.16.30.1/24
box(config-if)# exit
box(config)# exit
box#
```

Configuration of PC-Client :



After the configuration of the network is done, we might test the connectivity of the network nodes by pinging the nodes using the command :

- **ping <ip address>**
- If the packets are received it means that the connection has been established successfully, otherwise in case of a timeout or a reachability error message there should be some investigation and network connection troubleshooting done.

In our case when pinging nodes that are in the same subnetwork or between nodes that are connected with a switcher, the packets are sent and received successfully. But in case of separate sub-networks, for instance PC-1 and PC-3, I get timeout message which means there is a problem in the connection between the nodes (Transmission of Packets). I couldn't solve this issue as the professor mentioned that the firewall could lead to this issue. I deactivated the firewall but the problem persisted.

Conclusion

It is my first time using GNS3 and creating a network using virtual devices that emulate real devices, I could see that it has a great potential in reducing the costs of network creations by emulating real network components and creating a full virtual network that could be modified analysed and validated before implementing it with real components. As it helps discover and try new network topologies and configurations for almost no cost. It is definitely a fundamental tool for network test and virtualization.