Compte-rendu TP0

1 –

```
 Bringing machine 'default' up with 'virtualbox' provider...
==> default: Preparing master VM for linked clones...
    default: This is a one time operation. Once the master VM is prepared,
    default: it will be used as a base for linked clones, making the creation
    default: of new VMs take milliseconds on a modern system.
==> default: Importing base box 'm1reseaux'...
==> default: Cloning VM...
==> default: Matching MAC address for NAT networking...
==> default: Setting the name of the VM: VM1_default_1664739543886_59176
==> default: Clearing any previously set network interfaces...
==> default: Preparing network interfaces based on configuration...
    default: Adapter 1: nat
    default: Adapter 2: intnet
    default: Adapter 3: intnet
==> default: Forwarding ports...
    default: 22 (guest) => 2222 (host) (adapter 1)
==> default: Running 'pre-boot' VM customizations...
==> default: Booting VM...
==> default: Running 'post-boot' VM customizations...
==> default: Waiting for machine to boot. This may take a few minutes...
    default: SSH address: 127.0.0.1:2222
    default: SSH username: vagrant
    default: SSH auth method: private key
    default:
    default: Vagrant insecure key detected. Vagrant will automatically replace
    default: this with a newly generated keypair for better security.
    default:
    default: Inserting generated public key within guest...
    default: Removing insecure key from the guest if it's present...
    default: Key inserted! Disconnecting and reconnecting using new SSH key...
==> default: Machine booted and ready!
==> default: Checking for guest additions in VM...
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==> default: Setting hostname...

==> default: Mounting shared folders...

default: /vagrant => /amuhome/m22008412/reseaux/tp0/VM1

default: /mnt/partage => /amuhome/m22008412/reseaux/tp0/partage

2 – La VM possède 3 interfaces réseaux : loopback, eth0 et eth2.

3 – Les paramètres réseaux de la machine virtuelle :

m1reseaux@VM1:~$ ip addr

1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000

link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00

inet 127.0.0.1/8 scope host lo

valid_lft forever preferred_lft forever

inet6 ::1/128 scope host

valid_lft forever preferred_lft forever

2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000

link/ether 08:00:27:8d:c0:4d brd ff:ff:ff:ff:ff:ff

altname enp0s3

inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic eth0

valid_lft 86332sec preferred_lft 86332sec

inet6 fe80::a00:27ff:fe8d:c04d/64 scope link

valid_lft forever preferred_lft forever

3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000

link/ether 08:00:27:01:ab:a6 brd ff:ff:ff:ff:ff:ff

altname enp0s8

inet6 fe80::a204:8bcd:16a8:1cf4/64 scope link noprefixroute

valid_lft forever preferred_lft forever

4 – Oui.

m1reseaux@VM1:~$ wget https://pageperso.lis-lab.fr/emmanuel.godard/enseignement/tp%20m1%20reseaux/

--2022-10-02 22:28:20-- https://pageperso.lis-lab.fr/emmanuel.godard/enseignement/tp%20m1%20reseaux/

Resolving pageperso.lis-lab.fr (pageperso.lis-lab.fr)... 139.124.22.27

Connecting to pageperso.lis-lab.fr (pageperso.lis-lab.fr)|139.124.22.27|:443... connected.

HTTP request sent, awaiting response... 200 OK

Length: 11073 (11K) [text/html]

Saving to: 'index.html'

index.html 100%[==========>] 10.81K --.-KB/s in 0s

2022-10-02 22:28:20 (66.0 MB/s) - 'index.html' saved [11073/11073]

5 – La bonne manière de stopper la vm c'est d'utiliser la commande « vagrant halt »

8 – Les paramètres réseaux de la machine virtuelle :

m1reseaux@VM1:~$ ip addr

1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000

link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00

inet 127.0.0.1/8 scope host lo

valid_lft forever preferred_lft forever

inet6 ::1/128 scope host

valid_lft forever preferred_lft forever

2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000

link/ether 08:00:27:8d:c0:4d brd ff:ff:ff:ff:ff:ff

altname enp0s3

inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic eth0

valid_lft 86319sec preferred_lft 86319sec

inet6 fe80::a00:27ff:fe8d:c04d/64 scope link

valid_lft forever preferred_lft forever

3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000

link/ether 08:00:27:01:ab:a6 brd ff:ff:ff:ff:ff:ff

altname enp0s8

inet6 fe80::a204:8bcd:16a8:1cf4/64 scope link noprefixroute

valid_lft forever preferred_lft forever

4: eth2: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000

link/ether 08:00:27:97:54:8e brd ff:ff:ff:ff:ff:ff

altname enp0s9

inet6 fe80::ffac:74a0:af9a:8e31/64 scope link noprefixroute

valid_lft forever preferred_lft forever

Vers le routage

1 – Oui.

2 –

Les configurations réseau « Bleue » :

m1reseaux@VM2:~$ ip addr

1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000

link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00

inet 127.0.0.1/8 scope host lo

valid_lft forever preferred_lft forever

inet6 ::1/128 scope host

valid_lft forever preferred_lft forever

2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000

link/ether 08:00:27:8d:c0:4d brd ff:ff:ff:ff:ff:ff

altname enp0s3

inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic eth0

valid_lft 84784sec preferred_lft 84784sec

inet6 fe80::a00:27ff:fe8d:c04d/64 scope link

valid_lft forever preferred_lft forever

3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000

link/ether 08:00:27:7d:d3:cd brd ff:ff:ff:ff:ff:ff

altname enp0s8

Les configurations réseau « Verte » :

m1reseaux@VM3:~$ ip addr

1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000

link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00

inet 127.0.0.1/8 scope host lo

valid_lft forever preferred_lft forever

inet6 ::1/128 scope host

valid_lft forever preferred_lft forever

2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000

link/ether 08:00:27:8d:c0:4d brd ff:ff:ff:ff:ff:ff

altname enp0s3

inet 10.0.2.15/24 brd 10.0.2.255 scope global dynamic eth0

valid_lft 85920sec preferred_lft 85920sec

inet6 fe80::a00:27ff:fe8d:c04d/64 scope link

valid_lft forever preferred_lft forever

3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000

link/ether 08:00:27:0d:a7:e1 brd ff:ff:ff:ff:ff:ff

altname enp0s8

inet6 fe80::e463:9e41:4020:3d39/64 scope link noprefixroute

valid_lft forever preferred_lft forever

1.1 – Non.

m1reseaux@VM1:~$ ping 192.168.1.1

PING 192.168.1.1 (192.168.1.1) 56(84) bytes of data.

^C

--- 192.168.1.1 ping statistics ---

5 packets transmitted, 0 received, 100% packet loss, time 4095ms

1.2 – Oui.

m1reseaux@VM2:~$ ping 192.168.1.2

PING 192.168.1.2 (192.168.1.2) 56(84) bytes of data.

64 bytes from 192.168.1.2: icmp_seq=1 ttl=64 time=0.782 ms

64 bytes from 192.168.1.2: icmp_seq=2 ttl=64 time=0.620 ms

64 bytes from 192.168.1.2: icmp_seq=3 ttl=64 time=0.585 ms

64 bytes from 192.168.1.2: icmp_seq=4 ttl=64 time=0.749 ms

^C

--- 192.168.1.2 ping statistics ---

4 packets transmitted, 4 received, 0% packet loss, time 3076ms

rtt min/avg/max/mdev = 0.585/0.684/0.782/0.083 ms

m1reseaux@VM3:~$ ping 192.168.1.1

PING 192.168.1.1 (192.168.1.1) 56(84) bytes of data.

64 bytes from 192.168.1.1: icmp_seq=1 ttl=64 time=0.596 ms

64 bytes from 192.168.1.1: icmp_seq=2 ttl=64 time=0.601 ms

64 bytes from 192.168.1.1: icmp_seq=3 ttl=64 time=0.646 ms

64 bytes from 192.168.1.1: icmp_seq=4 ttl=64 time=0.617 ms

^C

--- 192.168.1.1 ping statistics ---

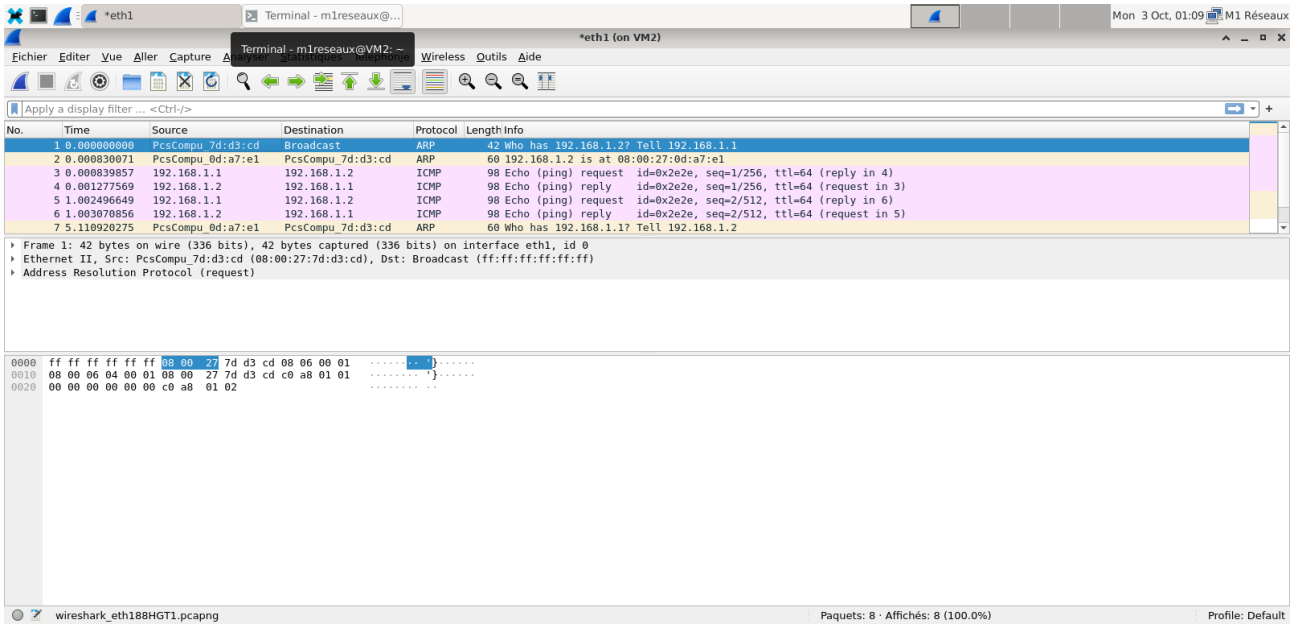
4 packets transmitted, 4 received, 0% packet loss, time 3065ms

rtt min/avg/max/mdev = 0.596/0.615/0.646/0.019 ms

2 – Les paramètres réseaux à connaître pour configurer le réseaux sont : l'adresse IP, le masque de sous-réseau et la passerelle.

- L'adresse IP et le masque de sous-réseau.

Observation du Trafic Réseau



La VM « Bleue » envoie une trame ARP au broadcast pour connaître l'adresse MAC de la machine ayant comme adresse IP « 192.168.1.2 » (La VM « Verte »).

La VM « Verte » répond avec son adresse MAC en envoyant une autre trame ARP.

La VM « Bleue » peut envoyer maintenant les paquets ICMP à la VM « Verte ».