COMPTE RENDU
TP1 RESEAU

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GROUPE 1

Physique et liaison de données :

1. Il y a 18 stations.
2. Elle n'a qu'une carte réseau Ethernet.
3. Il y a 8 connecteurs électriques.
4. L'autre extrémité du câble est identique et est reliée à un autre connecteur RJ45 (mural), lui-même relié au réseau (switch).
5. La salle contient un switch.
6. C'est la même prise donc je ne pense pas.
7. MAC : 50:9a:4c:4d:0a:d6 Ipv4 : 139.124.75.159

```
$ 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
2: enp0s31f6: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel
state UP group default qlen 1000
    link/ether 50:9a:4c:4d:0a:d6 brd ff:ff:ff:ff:ff:ff
    inet 139.124.75.159/24 brd 139.124.75.255 scope global dynamic
enp0s31f6
       valid_lft 12578sec preferred_lft 12578sec
```

Compte-rendu :

2. Elle a 3 interfaces réseaux : l'interface locale (lo), et deux interfaces ethernet (la première étant mise en place par défaut par vagrant).
3.

```
$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group
default
    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:f8:33:b7 brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global eth0
       valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fef8:33b7/64 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:7f:ae brd ff:ff:ff:ff:ff:ff
```

```
    inet6 fe80::a00:27ff:fe7d:7fae/64 scope link
       valid_lft forever preferred_lft forever
```

4. Il est possible de se connecter à internet via l'interface réseau créée automatiquement par vagrant, dans la mesure où l'accès aux serveurs DNS à été établi préalablement (il est parfois nécessaire de lancer le service DHCP manuellement).

```
   m1reseaux@VM1:~$ wget https://pageperso.lis-
   lab.fr/emmanuel.godard/enseignement/tp%20m1%20reseaux/
--2022-09-22 16:59:27-- 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 0.001s
   2022-09-22 16:59:27 (19.7 MB/s) - 'index.html' saved [11073/11073]
```

5. On lance `vagrant halt` depuis l'hôte ,sinon on clique sur machine dans la navigation bar de la fenêtre et on choisit stop .
6. Pour éditer le fichier le prof nous a dit d'ouvrire et faire un copier-coller.

```
m1reseaux@VM1:~$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group
default
    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:f8:33:b7 brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global eth0
       valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fef8:33b7/64 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:7f:ae brd ff:ff:ff:ff:ff:ff
    inet6 fe80::a00:27ff:fe7d:7fae/64 scope link
       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 08:00:27:3b:17:7d brd ff:ff:ff:ff:ff:ff
    inet6 fe80::a00:27ff:fe3b:177d/64 scope link
       valid_lft forever preferred_lft forever
```

```
ip a
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 86318sec preferred_lft 86318sec
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:a0:12:6f brd ff:ff:ff:ff:ff:ff
altname enp0s8
inet6 fe80::c02a:d5a2:f2ed:bb9/64 scope link noprefixroute
valid_lft forever preferred_lft forever
```

Nouvelles VMs :

1. Hôte <-> VM impossible. VM <-> VM ok.
2. On peut accéder à internet grâce à l'interface mise en place par vagrant.
3.

```
@bleu$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group
default
    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:f8:33:b7 brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global eth0
       valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fef8:33b7/64 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 08:00:27:0b:9a:69 brd ff:ff:ff:ff:ff:ff
    inet6 fe80::a00:27ff:fe0b:9a69/64 scope link
       valid_lft forever preferred_lft forever
@verte$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group
default
    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:f8:33:b7 brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global eth0
       valid_lft forever preferred_lft forever
    inet6 fe80::a00:27ff:fef8:33b7/64 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 08:00:27:7f:5a:08 brd ff:ff:ff:ff:ff:ff
    inet6 fe80::a00:27ff:fe7f:5a08/64 scope link
       valid_lft forever preferred_lft forever
```

5. Paramètres nécessaires: adresse IP, masque, MAC, passerelle. Optionnels: serveur DNS.

Observation du Trafic Réseau :

3. Mise en évidence du protocole ARP (requête / réponse), extrait sous format texte de WireShark :

```
No.     Time           Source                Destination           Protocol
Length Info
17      43.268202000   CadmusCo_0b:9a:69     Broadcast             ARP
60     Who has 192.168.1.2?  Tell 192.168.1.1

Frame 17: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on
interface 0
Ethernet II, Src: CadmusCo_0b:9a:69 (08:00:27:0b:9a:69), Dst: Broadcast
(ff:ff:ff:ff:ff:ff)
Address Resolution Protocol (request)

No.     Time           Source                Destination           Protocol
Length Info
18      43.268267000   CadmusCo_7f:5a:08     CadmusCo_0b:9a:69     ARP
42     192.168.1.2 is at 08:00:27:7f:5a:08

Frame 18: 42 bytes on wire (336 bits), 42 bytes captured (336 bits) on
interface 0
Ethernet II, Src: CadmusCo_7f:5a:08 (08:00:27:7f:5a:08), Dst:
CadmusCo_0b:9a:69 (08:00:27:0b:9a:69)
Address Resolution Protocol (reply)

No.     Time           Source                Destination           Protocol
Length Info
31      48.270922000   CadmusCo_7f:5a:08     CadmusCo_0b:9a:69     ARP
42     Who has 192.168.1.1?  Tell 192.168.1.2

Frame 31: 42 bytes on wire (336 bits), 42 bytes captured (336 bits) on
interface 0
Ethernet II, Src: CadmusCo_7f:5a:08 (08:00:27:7f:5a:08), Dst:
CadmusCo_0b:9a:69 (08:00:27:0b:9a:69)
Address Resolution Protocol (request)

No.     Time           Source                Destination           Protocol
Length Info
```

```
32      48.271302000   CadmusCo_0b:9a:69     CadmusCo_7f:5a:08     ARP
60     192.168.1.1 is at 08:00:27:0b:9a:69

Frame 32: 60 bytes on wire (480 bits), 60 bytes captured (480 bits) on
interface 0
Ethernet II, Src: CadmusCo_0b:9a:69 (08:00:27:0b:9a:69), Dst:
CadmusCo_7f:5a:08 (08:00:27:7f:5a:08)
Address Resolution Protocol (reply)
```