

RAPPORT EXERCICE

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M1 SSI SERE

1- 2- La configuration des @ ip des pcs et la configuration des interfaces router était en suivant les @ mentionnés dans l'énoncé et par rapport à quel vlan ils appartiennent Création et configuration des VLAN. (puisque ya la connectivité dans les @ sont bien correctes)

3- la création des VLAN:

D'abord la configuration du port en mode agrégation pour S1, S3 , S5:

The image displays three separate windows of the Cisco IOS Command Line Interface (CLI) for different switches: Switch10, Switch9, and Switch13. Each window shows the CLI prompt and the configuration commands entered by the user.

Switch10 Configuration (Left Window):

```
Switch10
Physical Config CLI Attributes
IOS Command Line Interface

Press RETURN to get started!

%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/4, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/4, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/5, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed state to up

Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int f 0/5
Switch(config-if)#switch mode trunk
Switch(config-if)#
%LINKPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5, changed state to up
Switch(config-if)#exit
Switch(config)#

```

Switch9 Configuration (Middle Window):

```
Switch9
Physical Config CLI Attributes
IOS Command Line Interface

Switch con0 is now available

Press RETURN to get started.

Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int f 0/1
Switch(config-if)#switchport mode trunk
Switch(config-if)#

```

Switch13 Configuration (Right Window):

```
Switch13
Physical Config CLI Attributes
IOS Command Line Interface

Technical Support: http://www.cisco.com/techsupport
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Compiled Wed Jun 26 02:49 by mnguyen

Press RETURN to get started!

%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up

Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int f 0/1
Switch(config-if)#switch mode trunk
Switch(config-if)#
%LINKPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
Switch(config-if)#exit
Switch(config)#

```

Maintenant la création des vlan au niveau du serveur vtp (S1) et le résultat de la propagation :

The image displays three screenshots from Cisco Packet Tracer illustrating the propagation of VLAN configurations from a VTP server (Switch 9) to two other switches (Switch 9 and Switch 11).

Switch 9 Configuration (Left):

```

Switch(config)#ftp mode server
Device mode already VTP SERVER.
Switch(config)#ftp dom
Switch(config)#ftp domain
% Incomplete command.
Switch(config)#ftp do
Switch(config)#ftp domain SSI
Changing VTP domain name from NULL to SSI
Switch(config)#VTP PASS
% Incomplete command.
Switch(config)#VTP PA
Switch(config)#VTP PPassword
Switch(config)#VTP PPassword CISCO
Setting device VLAN database password to CISCO
Switch(config)#INT VLAN 2
Switch(config-if)#NAME SSI-G1
^
% Invalid input detected at '^' marker.

Switch(config-if)#INT VLAN 2
Switch(config-if)#NAME VLAN 2
^
% Invalid input detected at '^' marker.

Switch(config-if)#VLAN 2
Switch(config-vlan)#
%LINK-5-CHANGED: Interface Vlan2, changed state to up

Switch(config-vlan)#NAME SSI-G1
Switch(config-vlan)#
%LINK-5-CHANGED: Interface Vlan3, changed state to up

```

Switch 9 Propagation (Middle):

```

Press RETURN to get started.

%LINK-3-UPDOWN: Interface FastEthernet0/3, changed state to down
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to down
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up

Switch>EN
Switch#CONF T
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#INT VLAN 10
Switch(config-if)#VLAN 10
Switch(config-vlan)#
%LINK-5-CHANGED: Interface Vlan10, changed state to up

Switch(config-vlan)#
%LINK-5-CHANGED: Interface NATIF, changed state to up
Switch(config-vlan)#
%LINK-5-CHANGED: Interface VLAN 99, changed state to up
Switch(config-vlan)#
%LINK-5-CHANGED: Interface Trou-Noir, changed state to up
Switch(config-vlan)#

```

Switch 11 Configuration (Right):

```

Switch11
Physical Config CLI Attributes
IOS Command Line Interface

Fa0/6, Fa0/7, Fa0/8, Fa0/9
Fa0/10, Fa0/11, Fa0/12, Fa0/13
Fa0/14, Fa0/15, Fa0/16, Fa0/17
Fa0/18, Fa0/19, Fa0/20, Fa0/21
Fa0/22, Fa0/23, Fa0/24, Gig0/1
Gig0/2
1002 fddi-default active
1003 token-ring-default active
1004 fddinet-default active
1005 trnet-default active
Switch#
%LINK-5-CHANGED: Interface Vlan2, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan2, changed state to up

Switch#show vlan brief

VLAN Name Status Ports
-----+
1 default active Fa0/2, Fa0/3, Fa0/4, Fa0/5
Fa0/6, Fa0/7, Fa0/8, Fa0/9
Fa0/10, Fa0/11, Fa0/12, Fa0/13
Fa0/14, Fa0/15, Fa0/16, Fa0/17
Fa0/18, Fa0/19, Fa0/20, Fa0/21
Fa0/22, Fa0/23, Fa0/24, Gig0/1
Gig0/2
2 SSI-G1 active
3 SSI-G2 active
10 NATIF active
99 Trou-Noir active
1002 fddi-default active
1003 token-ring-default active
1004 fddinet-default active
1005 trnet-default active
Switch#

```

4-La configuration des ports des commutateurs :

Pour S1 et S2 et c'était la même chose pour S3 S4 S5

```

Switch9
Cisco Packet Tracer - /home/diibark/Downloads/Evercise.nbt
Physical Config CLI Attributes
IOS Command Line Interface
% Invalid input detected at '^' marker.

Switch(config-if)#swi
Switch(config-if)#switchport tru
% Incomplete command.
Switch(config-if)#switchport trunk native vlan 10
Switch(config-if)##SPAN TREE-2-RECV_PVID_ERR: Received BPDU with inconsistent peer vlan id 1 on FastEthernet0/1
VLAN10.

%SPAN TREE-2-BLOCK_PVID_LOCAL: Blocking FastEthernet0/1 on VLAN0010. Inconsistent local vlan.

Switch(config-if)###
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on FastEthernet0/1 (10), with Switch
FastEthernet0/1 (1).

Switch(config)int f 0/2
Switch(config-if)swi
Switch(config-if)switchport trunk native vlan 10
Switch(config-if)#
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on FastEthernet0/1 (10), with Switch
FastEthernet0/1 (1).

Switch(config-if)##exit
Switch(config)int f 0/3
Switch(config-if)swi
Switch(config-if)switchport acc
Switch(config-if)switchport access
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on FastEthernet0/1 (10), with Switch
FastEthernet0/1 (1).

% Incomplete command.
Switch(config-if)switchport access vlan 2

Switch11
Cisco Packet Tracer - /home/diibark/Downloads/Evercise.nbt
Physical Config CLI Attributes
IOS Command Line Interface

Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)int f 0/2
Switch(config-if)swi
Switch(config-if)switchport acc
Switch(config-if)switchport access vlan 3
Switch(config-if)##exit
Switch(config)#
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on FastEthernet0/1 (1), with Switch
FastEthernet0/1 (10).

Switch(config)int f 0/3
Switch(config-if)swi
Switch(config-if)switchport ac
Switch(config-if)switchport access vlan 2
Switch(config-if)#
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on FastEthernet0/1 (1), with Switch
FastEthernet0/1 (10).

%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on FastEthernet0/1 (1), with Switch
FastEthernet0/1 (10).

Switch(config-if)##exit
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on FastEthernet0/1 (1), with Switch
FastEthernet0/1 (10).

Switch(config)int f 0/1
Switch(config-if)##sw
Switch(config-if)switchport ac
Switch(config-if)switchport access
Switch(config-if)switchport trunk native vlan 10

```

Et voilà pour le S6:

```

Switch14
Cisco Packet Tracer - /home/diibark/Downloads/Evercise.nbt
Physical Config CLI Attributes
IOS Command Line Interface

%LINK-5-CHANGED: Interface FastEthernet0/5, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on interface FastEthernet0/5, changed state to up

Switch>enable
Switch#
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)##interface FastEthernet0/6
Switch(config-if)##exit
Switch(config)##swi
Switch(config)##swi
Switch(config)##int range f 0/3-6
Switch(config-if-range)##sw
Switch(config-if-range)##switchport acc
Switch(config-if-range)##switchport access vlan 100
% Access VLAN does not exist. Creating vlan 100
Switch(config-if-range)##exit
Switch(config)##int range f 0/7-24 g 0/1-2
Switch(config-if-range)##range
% Invalid input detected at '^' marker.

Switch(config)##int range f 0/7-24 ,g 0/1-2
Switch(config-if-range)##sw
Switch(config-if-range)##switchport mode a
Switch(config-if-range)##switchport mode access
Switch(config-if-range)##swi
Switch(config-if-range)##switchport acc
Switch(config-if-range)##switchport access vlan 99
% Access VLAN does not exist. Creating vlan 99
Switch(config-if-range)##switchport access vlan 99
Switch(config-if-range)##exit
Switch(config)#

```

5- Configuration du routage inter-vlan au niveau de R2:

The image shows a Cisco Packet Tracer window titled "Router1". The "CLI" tab is selected. The interface is labeled "IOS Command Line Interface". A message at the top says "Press RETURN to get started.". Below this, several log entries are displayed:

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to down  
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to down  
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up  
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up
```

Following these messages, the configuration mode prompt is shown:

```
Router>en  
Router#conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
Router(config)#int f 1/0.1  
Router(config-subif)#en  
Router(config-subif)#encapsulation dot1Q 2  
Router(config-subif)#exit  
Router(config)#int f 1/0.2  
Router(config-subif)#encapsulation dot1Q 3  
Router(config-subif)#exit  
Router(config)#
```

At the bottom left, there is a note: "Ctrl+F6 to exit CLI focus". On the right side, there are "Copy" and "Paste" buttons.

6- Configuration du routage ospf: R1 R2 R3 R4

The image shows two separate windows of a Cisco IOS Command Line Interface (CLI) running on different routers.

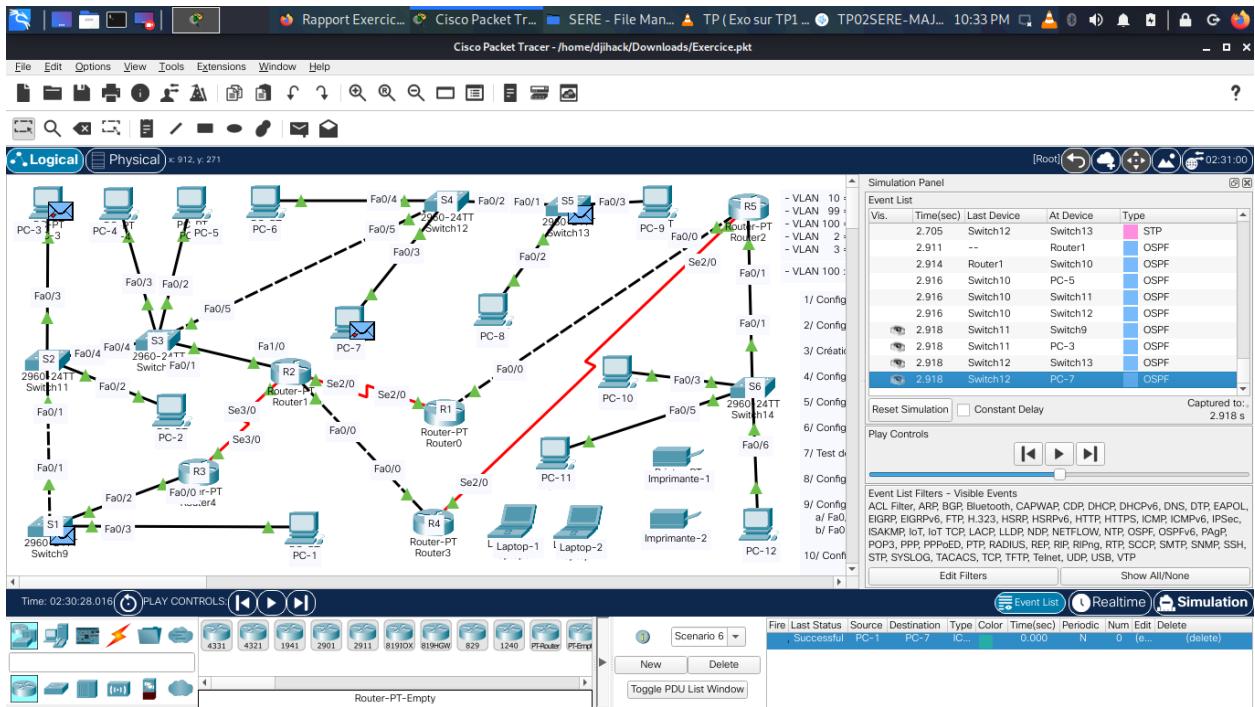
Router4 (Left Window):

- Physical tab selected.
- Output of `show processor`: PT2005 processor, part number 0, mask 01.
- Output of `show version`: Bridging software, Version 3.0.0, X.25 software, Version 3.0.0.
- Output of `show interfaces`: 4 FastEthernet/IEEE 802.3 interface(s), 2 Low-speed serial(sync/async) network interface(s), 32K bytes of non-volatile configuration memory, 63488K bytes of ATA CompactFlash (Read/Write).
- Text area: Press RETURN to get started!
- Output of `show interfaces Serial2/0`: %LINK-5-CHANGED: Interface Serial2/0, changed state to up.
- Output of `show interfaces FastEthernet0/0`: %LINKPROTO-5-UPDOWN: Line protocol on interface FastEthernet0/0, changed state to up.
- Output of `show interfaces Serial2/0`: %LINKPROTO-5-UPDOWN: Line protocol on interface Serial2/0, changed state to up.
- Output of `show interfaces Serial2/0`: %LINKPROTO-5-UPDOWN: Line protocol on interface Serial2/0, changed state to down.
- Output of `show interfaces Serial2/0`: %LINKPROTO-5-UPDOWN: Line protocol on interface Serial2/0, changed state to up.
- Output of `enable`, `configure terminal`, and configuration steps for OSPF (Process 1, Nbr 2.2.2.2 on Serial2/0 from LOADING to FULL, Loading Done).
- Output of `exit` and `end`.

Router3 (Right Window):

- CLI tab selected.
- Output of `show ip route`: % Invalid input detected at '^' marker.
- Output of `enable`, `end`, and configuration step: %SYS-5-CONFIG_I: Configured from console by console.
- Output of `show ip route`: Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP, D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area, N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2, E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP, i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area, * - candidate default, U - per-user static route, o - ODR, P - periodic downloaded static route.
- Output of `show ip route`: Gateway of last resort is not set.
- Output of `show ip route 192.168.24.0/30`: 192.168.24.0/30 is subnetted, 1 subnets.
- Output of `show ip route 192.168.45.0/30`: 192.168.45.0/30 is subnetted, 1 subnets.
- Output of `show ip route 192.168.45.0`: 192.168.45.0 is directly connected, Serial2/0.
- Output of `enable`, `end`, and configuration steps for OSPF (Process 1, Nbr 2.2.2.2 on FastEthernet0/0 from LOADING to FULL, Loading Done).
- Output of `exit` and `end`.

Et voilà la preuve où on retrouve des messages ospf entre routeurs:
On voit aussi que le ping a été effectué avec succès ce qui montre le succès du Test de connectivité :



8- La configuration de SSH au niveau de R1 :

Cisco Packet Tracer - /home/djihack/Downloads/Exercice.pkt

Router0

Physical Config **CLI** Attributes

IOS Command Line Interface

```

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname nonsen
nonsen(config)#ip domain
nonsen(config)#ip domain-name ssi.dz
nonsen(config)#crypto key generate rsa
The name for the keys will be: nonsen.ssi.dz
Choose the size of the key modulus in the range of 360 to 2048 for your
General Purpose Keys. Choosing a key modulus greater than 512 may take
a few minutes.

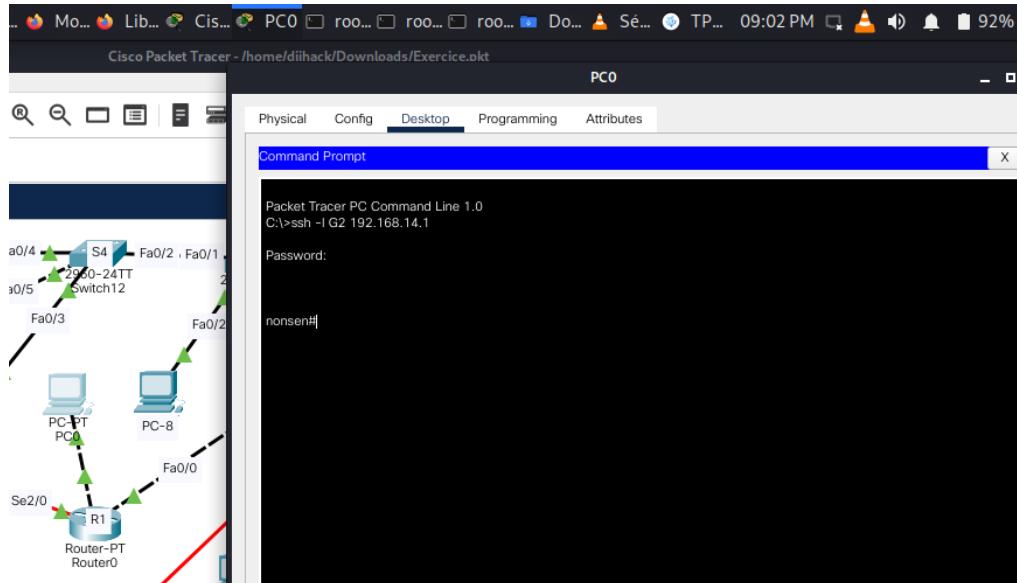
How many bits in the modulus [512]:
% Generating 512 bit RSA keys, keys will be non-exportable...[OK]

nonsen(config)#USER
*Feb 28 17:24:50: RSA key size needs to be at least 768 bits for ssh version 2
*Feb 28 17:24:50: %SSH-5-ENABLED: SSH 1.5 has been enabled
nonsen(config)#USERname G2 pro
nonsen(config)#USERname G2 priv
nonsen(config)#USERname G2 privilege 15 secret ssi
nonsen(config)#line vty 0 15
nonsen(config-line)#tran
nonsen(config-line)#transport input ssh
nonsen(config-line)#login local
nonsen(config-line)#exit
nonsen(config)#ip ssh version 2
Please create RSA keys (of at least 768 bits size) to enable SSH v2.
nonsen(config)#

```

Ctrl+F6 to exit CLI focus Copy Paste

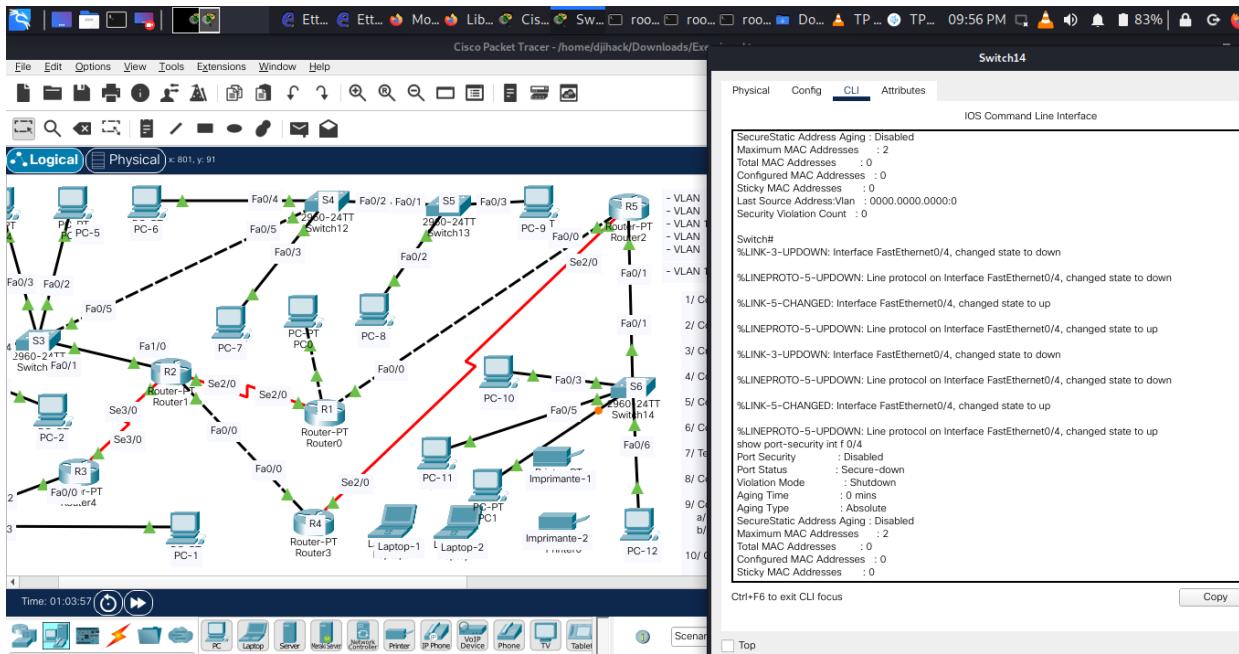
Après cela j'ai connecté un PC directement au routeur et je me suis connecter en ssh à partir de ce dernier:



9-La configuration de la sécurité des ports:

```
%LINK-5-CHANGED: Interface FastEthernet0/5, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/5, changed state to up

Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int f 0/2
Switch(config-if)#sw
Switch(config-if)#switchport mode a
Switch(config-if)#switchport mode access
Switch(config-if)#sw
Switch(config-if)#switchport acc
Switch(config-if)#switchport access vlan 100
Switch(config-if)#s
Switch(config-if)#swi
Switch(config-if)#switchport port
Switch(config-if)#switchport port-security ma
Switch(config-if)#switchport port-security max
Switch(config-if)#switchport port-security maximum 2
Switch(config-if)#swit
Switch(config-if)#switchport ma
Switch(config-if)#switchport mac
Switch(config-if)#switchport mac-a
Switch(config-if)#switchport port
Switch(config-if)#switchport port-security mac
Switch(config-if)#switchport port-security mac-address 0009.7CA0.908E
Switch(config-if)#switchport port-security mac-address 00D0.FFD0.8041
Switch(config-if)#switchport port-security vi
Switch(config-if)#switchport port-security violation shutdown
Switch(config-if)#[
```



Remarque : j'arrive pas a comprendre pourquoi la restriction de 2 maximum ne fonctionne pas :(

10- La configuration du blocage des MAJ ospf inutiles:

```

Router4
Physical Config CLI Attributes
IOS Command Line Interface

IOS (tm) PT1000 Software (PT1000-I-M), Version 12.2(28), RELEASE SOFTWARE (fc5)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2005 by cisco Systems, Inc.
Compiled Wed 27-Apr-04 19:01 by miwang

PT 1001 (PTSC2005) processor (revision 0x200) with 60416K/5120K bytes of memory
Processor board ID PT0123 (0123)
PT2005 processor: part number 0, mask 01
Bridging software.
X.25 software, Version 3.0.0.
4 FastEthernet/IEEE 802.3 interface(s)
2 Low-speed serial(sync/async) network interface(s)
32K bytes of non-volatile configuration memory,
63488K bytes of ATA CompactFlash (Read/Write)

Press RETURN to get started!

%LINK-5-CHANGED: Interface Serial3/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up
17:00:10: %OSPF-5-ADJCHG: Process 1, Nbr 2.2.2.2 on Serial3/0 from LOADING to FULL, Loading Done

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf 1
Router(config-router)#passive-interface f 0/0
Router(config-router)#
Ctrl+F6 to exit CLI focus

```

s11- La configuration d'authentification :

Rapport E... Cisco Pac... Router0 SERE - Fil

Router0

Physical Config CLI Attributes

IOS Command Line Interface

```
nonsen(config)#router ospf 1
nonsen(config-router)#ip
nonsen(config-router)#passive-interface f 0/1
%Invalid interface type and number
nonsen(config-router)#passive-interface f
17:46:14: %OSPF-5-ADJCHG: Process 1, Nbr 5.5.5.5 on FastEthernet0/0 from LOADING to FULL, Loading Done
1
^
% Invalid input detected at '^' marker.

nonsen(config-router)#passive-interface f 1/1
%Invalid interface type and number
nonsen(config-router)#end
nonsen#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
nonsen(config)#interface FastEthernet1/0
nonsen(config-if)#
%SYS-5-CONFIG_I: Configured from console by console

nonsen(config-if)#router ospf 1
nonsen(config-router)#interface FastEthernet1/0
nonsen(config-if)#router ospf 1
nonsen(config-router)#passive-interface f 1/0
nonsen(config-router)#int s 2/0
nonsen(config-if)#ip ospf
nonsen(config-if)#ip ospf me
nonsen(config-if)#ip ospf message-digest-key 1 md
nonsen(config-if)#ip ospf message-digest-key 1 md5 ssig2
nonsen(config-if)#os
nonsen(config-if)#ospf authentication me
nonsen(config-if)#ospf authentication me
nonsen(config-if)#ospf authentication mess
nonsen(config-if)#ip ospf authentication message
nonsen(config-if)#ip ospf authentication message-digest
nonsen(config-if)#

Ctrl+F6 to exit CLI focus
```

Voilà la preuve le lien entre R1 et R2 ne figure pas dans les voisins de R2.

```
Router#ch  
Router#s  
Router#sh  
Router#show ip os  
Router#show ip ospf nei  
Router#show ip ospf neighbor  
  
Neighbor ID Pri State     Dead Time Address      Interface  
4.4.4.4      1 FULL/DR    00:00:39  192.168.24.2  FastEthernet0/0  
1.1.1.1      0 FULL/ -    00:00:36  192.168.23.2  Serial3/0  
Router#
```

Router1

Physical Config CLI Attributes

IOS Command Line Interface

```
detached

Router(config-router)#sh
Router(config-router)#end
Router#f
%SYS-5-CONFIG_I: Configured from console by console

Router#ch
Router#ts
Router#sh
Router#show ip os
Router#show ip ospf nei
Router#show ip ospf neighbor

Neighbor ID Pri State Dead Time Address Interface
4.4.4.4 1 FULL/DR 00:00:39 192.168.24.2 FastEthernet0/0
1.1.1.1 0 FULL/ - 00:00:36 192.168.23.2 Serial3/0
Router#f
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router ospf
Router(config)#router ospf 1
Router(config-router)#ip ospf message-digest-key 1 md5 ssig2
^
% Invalid input detected at '^' marker.

Router(config-router)#int s 2/0
Router(config-if)#ip ospf message-digest-key 1 md5 ssig2
Router(config-if)#ip ospf authentication message-digest
Router(config-if)#
18:03:31: %OSPF-5-ADJCHG: Process 1, Nbr 3.3.3.3 on Serial2/0 from LOADING to FULL, Loading Done

Router(config-if)#exit
Router(config)#

Ctrl+F6 to exit CLI focus
```

Copy

Paste