

INSTITUT UNIVERSITAIRE DES SCIENCES

**Faculté des Sciences et Technologies (FST)**

**Td7 – réseau 2**

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## Mise en Œuvre Pratique d'un Réseau d'Entreprise Sécurisé et Évolutif

### Configurations des Switches

```
Switch>
Switch>enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname
% Incomplete command.
Switch(config)#vlan 10
Switch(config-vlan)#name Admin
Switch(config-vlan)#vlan 20
Switch(config-vlan)#name Finance
Switch(config-vlan)#vlan 30
Switch(config-vlan)#name Production
Switch(config-vlan)#vlan 40
Switch(config-vlan)#name Guest
Switch(config-vlan)#vlan 99
Switch(config-vlan)#name Management
Switch(config-vlan)#interface range fa0/1 - 5
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 10
Switch(config-if-range)#interface range fa0/6 - 10
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 20
Switch(config-if-range)#interface f0/24
Switch(config-if)#switchport mode trunk
Switch(config-if)#
```

### Routeur

```
R1#enable
R1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#
R1(config)#interface FastEthernet0/0
R1(config-if)#ip address 192.168.1.1 255.255.255.0
R1(config-if)#no shutdown

R1(config-if)#exit
R1(config)#
R1(config)#interface FastEthernet0/1
R1(config-if)#ip address 192.168.2.1 255.255.255.0
R1(config-if)#no shutdown

R1(config-if)#exit
R1(config)#
R1(config)#ip routing
```

```
R1>enable
R1#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#
R1(config)#interface FastEthernet0/0.10
R1(config-subif)#encapsulation dot1q 10
R1(config-subif)#ip address 192.168.10.1 255.255.255.0
R1(config-subif)#exit
R1(config)#
R1(config)#interface FastEthernet0/0.20
R1(config-subif)#encapsulation dot1q 20
R1(config-subif)#ip address 192.168.20.1 255.255.255.0
R1(config-subif)#exit
R1(config)#
R1(config)#interface FastEthernet0/0.30
R1(config-subif)#encapsulation dot1q 30
R1(config-subif)#ip address 192.168.30.1 255.255.255.0
R1(config-subif)#exit
R1(config)#
R1(config)#interface FastEthernet0/0.40
R1(config-subif)#encapsulation dot1q 40
R1(config-subif)#ip address 192.168.40.1 255.255.255.0
R1(config-subif)#exit
R1(config)#
R1(config)#interface FastEthernet0/0.99
R1(config-subif)#encapsulation dot1q 99
R1(config-subif)#ip address 192.168.99.1 255.255.255.0
R1(config-subif)#exit
R1(config)#
R1(config)#ip dhcp pool ADMIN
R1(dhcp-config)#network 192.168.10.0 255.255.255.0
R1(dhcp-config)#default-router 192.168.10.1
R1(dhcp-config)#dns-server 8.8.8.8
R1(dhcp-config)#exit
R1(config)#
R1(config)#ip dhcp pool FINANCE
R1(dhcp-config)#network 192.168.20.0 255.255.255.0
```

```
R1(config)#interface FastEthernet0/0.99
R1(config-subif)#encapsulation dot1q 99
R1(config-subif)#ip address 192.168.99.1 255.255.255.0
R1(config-subif)#exit
R1(config)#
R1(config)#ip dhcp pool ADMIN
R1(dhcp-config)#network 192.168.10.0 255.255.255.0
R1(dhcp-config)#default-router 192.168.10.1
R1(dhcp-config)#dns-server 8.8.8.8
R1(dhcp-config)#exit
R1(config)#
R1(config)#ip dhcp pool FINANCE
R1(dhcp-config)#network 192.168.20.0 255.255.255.0
R1(dhcp-config)#default-router 192.168.20.1
R1(dhcp-config)#dns-server 8.8.8.8
R1(dhcp-config)#exit
R1(config)#
R1(config)#ip dhcp pool PRODUCTION
R1(dhcp-config)#network 192.168.30.0 255.255.255.0
R1(dhcp-config)#default-router 192.168.30.1
R1(dhcp-config)#dns-server 8.8.8.8
R1(dhcp-config)#exit
R1(config)#
R1(config)#ip dhcp pool GUEST
R1(dhcp-config)#network 192.168.40.0 255.255.255.0
R1(dhcp-config)#default-router 192.168.40.1
R1(dhcp-config)#dns-server 8.8.8.8
R1(dhcp-config)#exit
R1(config)#
R1(config)#ip domain-name smarttech.local
R1(config)#crypto key generate rsa
The name for the keys will be: R1.smarttech.local
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]: username admin privilege 15 secret admin123
```

Router0

Physical Config CLI Attributes

IOS Command Line Interface

```
How many bits in the modulus [512]: login local
% A decimal number between 360 and 2048
How many bits in the modulus [512]: % A decimal number between 360 and 2048
How many bits in the modulus [512]: transport input ssh
% A decimal number between 360 and 2048
How many bits in the modulus [512]: % A decimal number between 360 and 2048
How many bits in the modulus [512]: exit
% A decimal number between 360 and 2048
How many bits in the modulus [512]: % A decimal number between 360 and 2048
How many bits in the modulus [512]:
% Generating 512 bit RSA keys, keys will be non-exportable...[OK]

R1(config)#access-list 1 permit 192.168.0.0 0.0.255.255
*Mar 1 1:17:50.698: RSA key size needs to be at least 768 bits for ssh version 2
*Mar 1 1:17:50.701: %SSH-5-ENABLED: SSH 1.5 has been enabled
R1(config)#interface FastEthernet0/1
R1(config-if)#ip nat outside
R1(config-if)#exit
R1(config)#interface FastEthernet0/0
R1(config-if)#ip nat inside
R1(config-if)#exit
R1(config)#ip nat inside source list 1 interface FastEthernet0/1 overload
R1(config)#
R1(config)#access-list 100 deny ip 192.168.40.0 0.0.0.255 any
R1(config)#access-list 100 permit ip any any
R1(config)#interface FastEthernet0/0.40
R1(config-subif)#ip access-group 100 in
R1(config-subif)#exit
R1(config)#
R1(config)#exit
R1#
%SYS-5-CONFIG_I: Configured from console by console

R1#write memory
Building configuration...
[OK]
```

Configuration serveur Web

Server DNS/DHCP

Physical

Config

Services

Desktop

Programming

Attributes

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

IoT

VM Management

Radius EAP

DHCP

InterfaceFastEthernet0ServiceOnOff

Pool NameserverPool

Default Gateway192.168.1.1

DNS Server192.168.1.2

Start IP Address : 0000

Subnet Mask: 0000

Maximum Number of Users :512

TFTP Server:0.0.0.0

WLC Address:0.0.0.0

AddSaveRemove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	0.0.0.0	0.0.0.0	0.0.0.0	0.0.0.0	512	0.0.0.0	0.0.0.0

Top

Server DNS/DHCP

Physical

Config

Services

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SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

IoT

VM Management

Radius EAP

DNS

DNS Service

On

Off

Resource Records

NameType

A Record

Address

Add

Save

Remove

No.	Name	Type	Detail
-----	------	------	--------

DNS Cache

Top

PC0

Physical Config **Desktop** Programming Attributes

**IP Configuration** X

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static

IPv4 Address 192.168.1.5

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.1

DNS Server 192.168.1.2

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::201:63FF:FE65:4082

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password



PC4

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

InterfaceFastEthernet0

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

192.168.1.6

Subnet Mask

255.255.255.0

Default Gateway

192.168.1.1

DNS Server

192.168.1.2

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

 / 

Link Local Address

FE80::206:2AFF:FE7A:463B

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication

MD5

Username

Password

Server DNS/DHCP

PhysicalConfigServicesDesktopProgrammingAttributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IPv4 Address

192.168.1.2

Subnet Mask

255.255.255.0

Default Gateway

192.168.1.1

DNS Server

192.168.1.2

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

/

Link Local Address

FE80::202:16FF:FEA7:E902

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

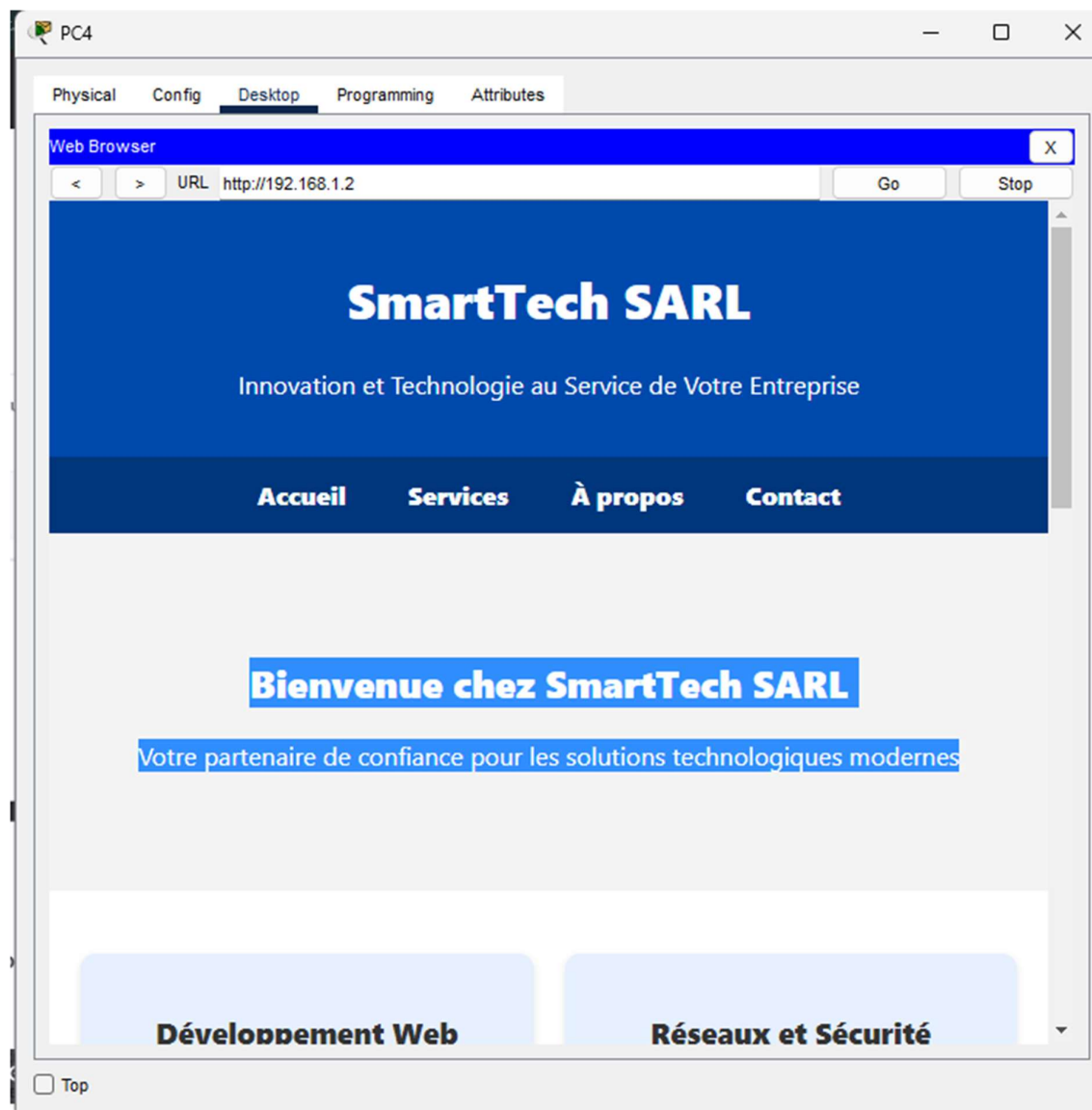
Authentication

MD5

Username

Password

☐ Top



```
C:\>ping 192.168.1.6

Pinging 192.168.1.6 with 32 bytes of data:

Reply from 192.168.1.6: bytes=32 time<1ms TTL=128
Request timed out.
Reply from 192.168.1.6: bytes=32 time<1ms TTL=128
Request timed out.

Ping statistics for 192.168.1.6:
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128
Reply from 192.168.1.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
```