

# UNIVERSITE LARBI BEN M'HIDI OUM EL BOUAGHI

## DEPARTEMENT DE MATHÉMATIQUES ET INFORMATIQUE

Filière : INFORMATIQUE

2<sup>ème</sup> année Licence

Module : Réseaux de communication

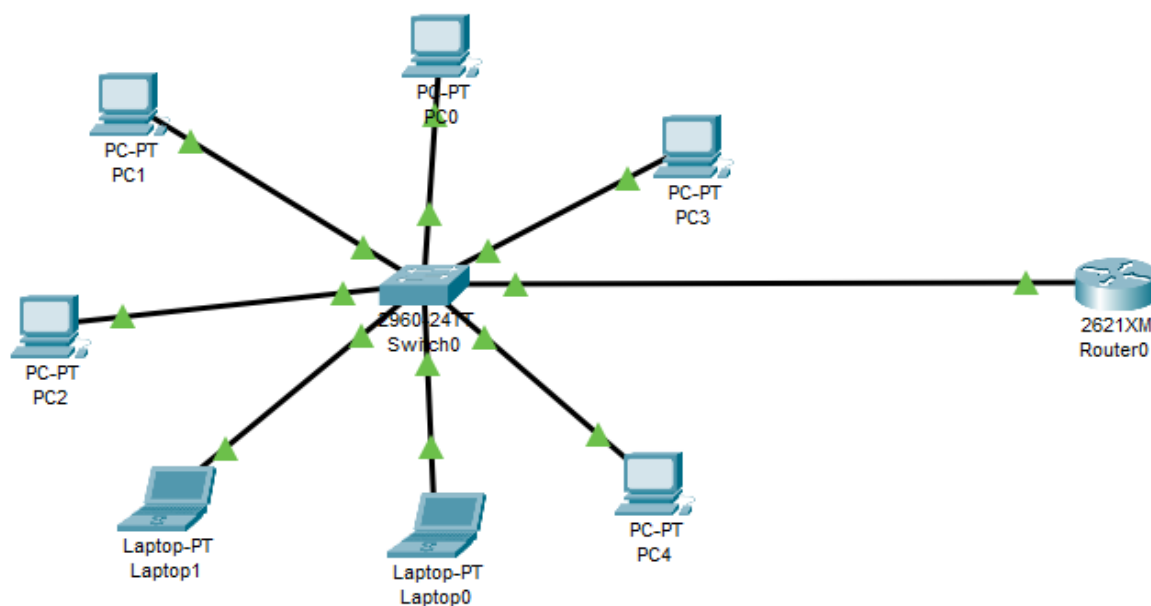
### TP.7 Adressage DHCP

#### Objectifs

- Comprendre d'adressage automatique DHCP<sup>1</sup>
- Configurer un serveur DHCP

#### Exercice N° 1

1/Ouvrir le logiciel Packet Tracer et Réalisez le schéma suivant :



2/ Configurer le routeur comme suit :

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: **n**

Press RETURN to get started!

Router>**enable**

Router#**conf t**

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#**host router1**

router1(config)#**int fa0/0**

router1(config-if)#**ip add 192.168.10.1 255.255.255.0**

router1(config-if)#**no shut**

router1(config-if)#

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

router1(config-if)#**exit**

3/ Créez le groupe d'adresses DHCP

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<sup>1</sup> Le protocole **DHCP ( Dynamic Host Configuration Protocol)** sert principalement à la distribution automatique des adresses IP sur un réseau

Pour configurer le groupe du réseau, utilisez les commandes suivantes :

**ip dhcp pool «nom»**

**network «adresse réseau» «masque»**

**default-router «adresse de la passerelle»**

router1(config)#**ip dhcp pool IP10**

router1(dhcp-config)#**net 192.168.10.0 255.255.255.0**

router1(dhcp-config)#**default 193.168.10.1**

router1(dhcp-config)#**exit**

4- Excluez des adresses du groupe

Utilisez la commande : **ip dhcp excluded-address [adresse Debut] [adresse Fin]**

router1(config)#**ip dhcp exc 192.168.10.1 192.168.10.10**

router1(config)#**exit**

router1#

%SYS-5-CONFIG\_I: Configured from console by console

5/Sauvegardez la configuration :

router1#**copy run start**

Destination filename [startup-config]?

Building configuration...

[OK]

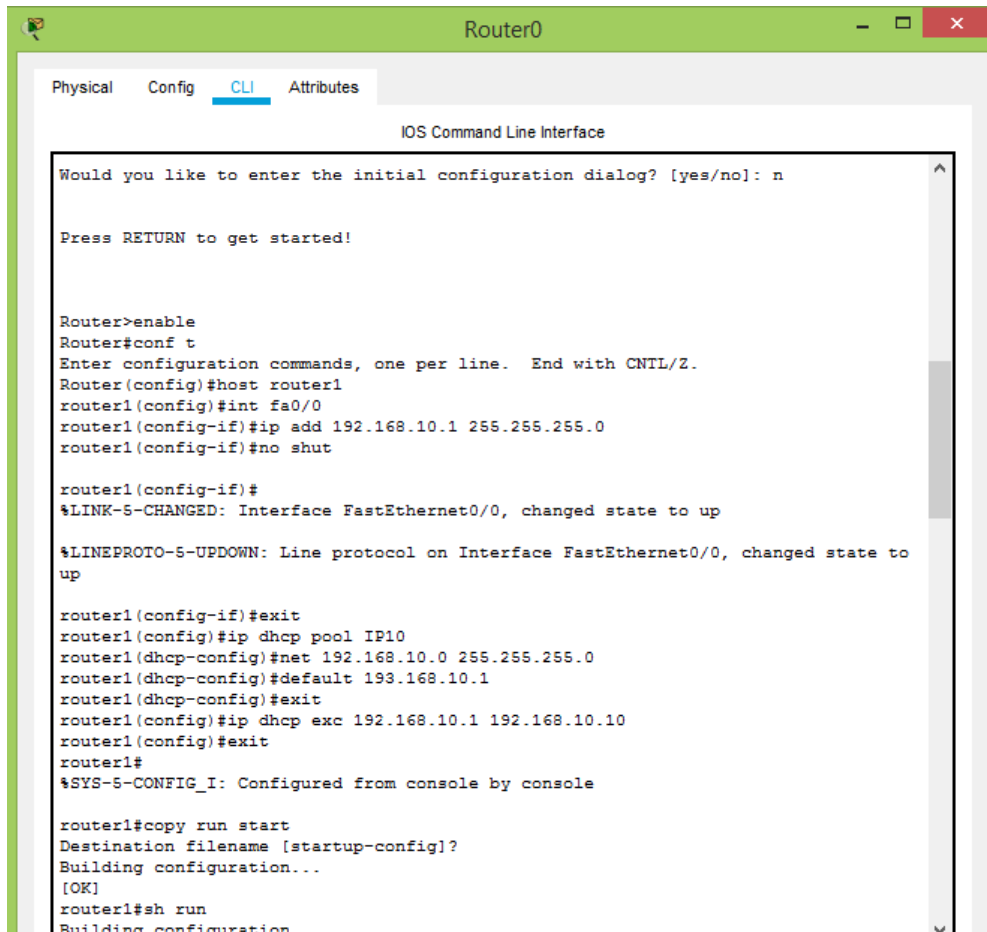
router1#**sh run**

router1#**exit**

router1 con0 is now available

Press RETURN to get started.

router1>

A screenshot of a web-based CLI interface for a device named Router0. The interface has tabs for Physical, Config, CLI (selected), and Attributes. The CLI window shows the following sequence of commands and outputs: 'Would you like to enter the initial configuration dialog? [yes/no]: n', 'Press RETURN to get started!', 'Router>enable', 'Router#conf t', 'Enter configuration commands, one per line. End with CNTL/Z.', 'Router(config)#host router1', 'router1(config)#int fa0/0', 'router1(config-if)#ip add 192.168.10.1 255.255.255.0', 'router1(config-if)#no shut', 'router1(config-if)#', '%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up', '%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up', 'router1(config-if)#exit', 'router1(config)#ip dhcp pool IP10', 'router1(dhcp-config)#net 192.168.10.0 255.255.255.0', 'router1(dhcp-config)#default 193.168.10.1', 'router1(dhcp-config)#exit', 'router1(config)#ip dhcp exc 192.168.10.1 192.168.10.10', 'router1(config)#exit', 'router1#', '%SYS-5-CONFIG\_I: Configured from console by console', 'router1#copy run start', 'Destination filename [startup-config]?', 'Building configuration...', '[OK]', 'router1#sh run', 'Building configuration...'.

```
Router0
Physical Config CLI Attributes
IOS Command Line Interface

Would you like to enter the initial configuration dialog? [yes/no]: n

Press RETURN to get started!

Router>enable
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#host router1
router1(config)#int fa0/0
router1(config-if)#ip add 192.168.10.1 255.255.255.0
router1(config-if)#no shut

router1(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to
up

router1(config-if)#exit
router1(config)#ip dhcp pool IP10
router1(dhcp-config)#net 192.168.10.0 255.255.255.0
router1(dhcp-config)#default 193.168.10.1
router1(dhcp-config)#exit
router1(config)#ip dhcp exc 192.168.10.1 192.168.10.10
router1(config)#exit
router1#
%SYS-5-CONFIG_I: Configured from console by console

router1#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
router1#sh run
Building configuration...
```

```
Current configuration : 636 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname router1
!
!
!
!
ip dhcp excluded-address 192.168.10.1 192.168.10.10
!
ip dhcp pool IP10
network 192.168.10.0 255.255.255.0
default-router 193.168.10.1
!
!
!
ip cef
no ipv6 cef
!
!
!
!
!

router1#xit
Translating "xit"...domain server (255.255.255.255)
% Unknown command or computer name, or unable to find computer address

router1#exit
```

Ctrl+F6 to exit CLI focus

Copy Paste

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3/ Vérifiez le fonctionnement de DHCP

PC3

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static

IP Address 192.168.10.11

Subnet Mask 255.255.255.0

Default Gateway 193.168.10.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::201:C7FF:FEB0:4310

IPv6 Gateway

IPv6 DNS Server

802.1X

☐ Use 802.1X Security

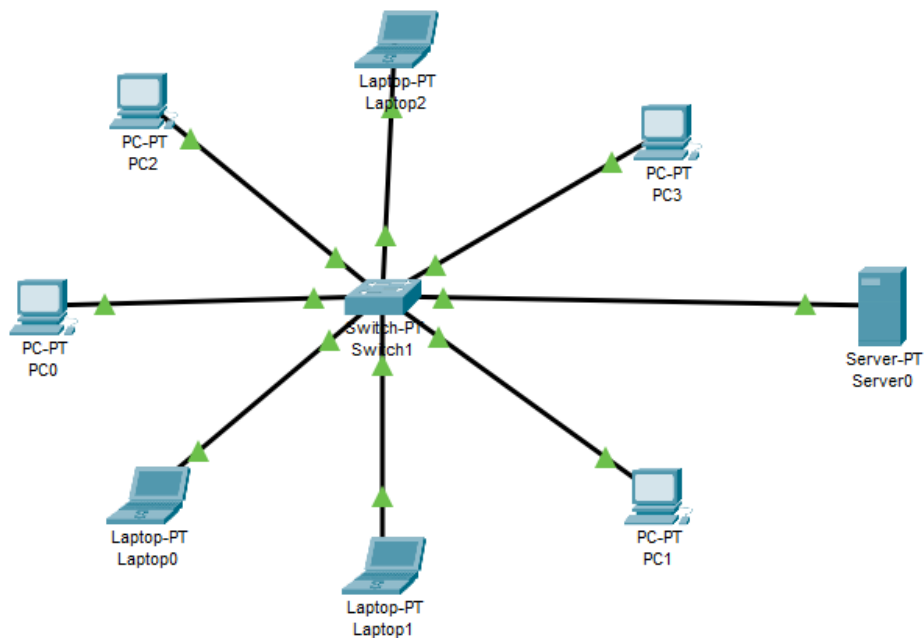
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3/ Testez la connectivité entre les PCs du réseau :

Realtime Simulation									
Scenario 1	Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num
New	Successful		PC3	Laptop1	ICMP		0.000	N	0
Delete	Successful		PC0	Laptop0	ICMP		0.000	N	1
Toggle PDU List Window									

## Exercice N° 2 :

1/ Réalisez le schéma suivant :



2/ Attribuez au serveur d'@ :192.168.0.1/24

Server0

Physical
Config
Services
Desktop
Programming
Attributes

IP Configuration

☐ DHCP
☒ Static

IP Address: 192.168.0.1
Subnet Mask: 255.255.255.0
Default Gateway: 0.0.0.0
DNS Server: 0.0.0.0

IPv6 Configuration

☐ DHCP
☐ Auto Config
☒ Static

IPv6 Address: /
Link Local Address: FE80::230:A3FF:FE27:6170
IPv6 Gateway:
IPv6 DNS Server:

802.1X

☐ Use 802.1X Security
Authentication: MD5

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3/ Configurer le serveur DHCP comme suit :

The screenshot shows the 'Server0' configuration window with the 'Services' tab selected. The 'DHCP' service is highlighted in the left sidebar. The main configuration area for DHCP is visible, showing the 'FastEthernet0' interface with the service turned 'On'. The configuration includes a pool named 'serverPool' with a default gateway of 192.168.0.1, DNS server 10.0.0.0, and a start IP address of 192.168.0.10 with a subnet mask of 255.255.255.0. The maximum number of users is set to 20. The TFTP and WLC addresses are both 0.0.0.0. A table at the bottom lists the configured DHCP pool.

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	192.168.0.1	10.0.0.0	192.168.0.10	255.255.255.0	20	0.0.0.0	0.0.0.0

4/ Vérifiez le fonctionnement de DHCP

The screenshot shows the 'PC3' configuration window with the 'Desktop' tab selected. The 'IP Configuration' section is expanded, showing the 'FastEthernet0' interface. The 'DHCP' option is selected, and the 'DHCP request successful' message is displayed. The IP address is 192.168.0.10, the subnet mask is 255.255.255.0, the default gateway is 192.168.0.1, and the DNS server is 10.0.0.0. The 'IPv6 Configuration' section is also visible, with 'Static' selected.

## 5/ Testez la connexion entre les PCs du réseau :

