

ACTIVIDAD 16

Wuke Zhang

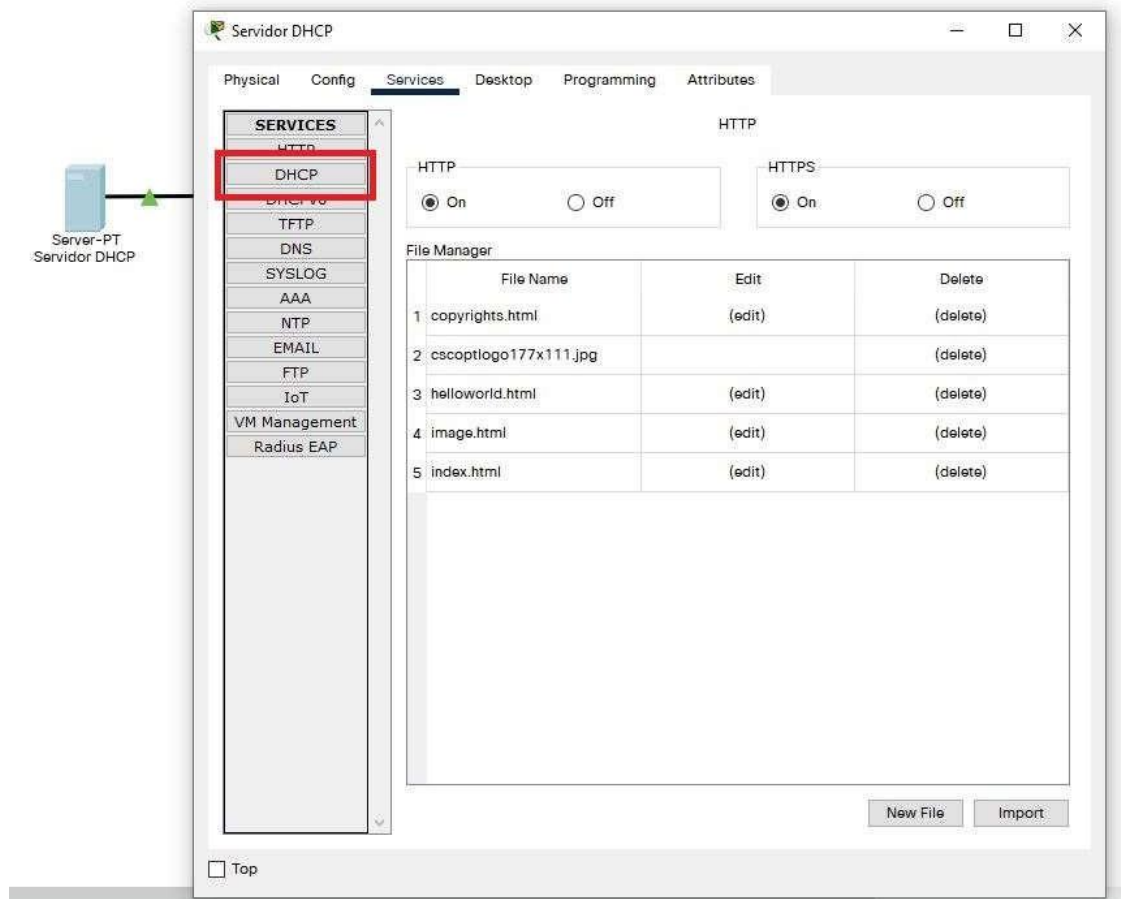
1-ASIR

Configurar DHCP

DHCP es un servicio que permite asignación de IPs a host de forma automática y sin repetición de forma que podemos ahorrarnos todo el proceso de poner IPs manuales.

¿Cómo configurar un Servidor DHCP en Packet Tracer?

Después de añadir un servidor “Server-PT”, ir a la pestaña “Services” y seleccionar DHCP para configurar el protocolo:



Configurar DHCP:

Servidor DHCP

Physical Config **Services** Desktop Programming Attributes

SERVICES

- HTTP
- DHCP**
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: DHCP_Server

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

Start IP Address: 172.10.0.2

Subnet Mask: 255.255.0.0

Maximum Number of Users: 150

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Add Save Remove

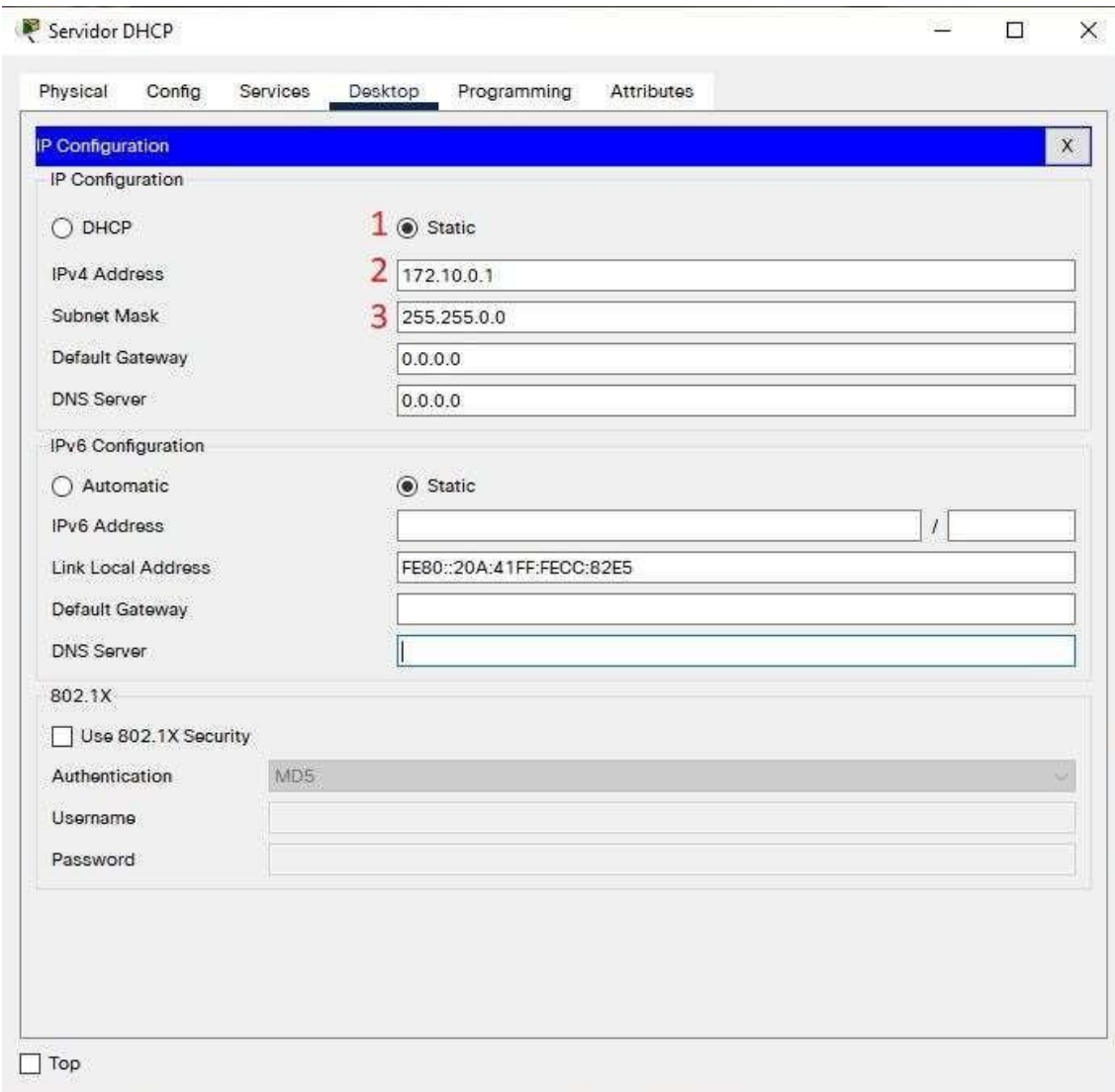
Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
DHCP_Server	0.0.0.0	0.0.0.0	172.10.0.2	255.255.0.0	150	0.0.0.0	0.0.0.0

☐ Top

- 1 - Activar el servicio.
- 2 - Ponerle nombre si se desea modificar el que viene por defecto.
- 3 - Asignar la dirección IP con la cual empezará a asignar a los equipos el protocolo.
- 4 - Asignar máscara.
- 5 - Determinar el número máximo de equipos para asignar IPs.

Configurar IP del servidor:

Ir a pestaña “Desktop” y seleccionar “IP Configuration”



The screenshot shows the 'Servidor DHCP' configuration window with the 'Desktop' tab selected. The 'IP Configuration' section is highlighted. It contains three main sections: IP Configuration, IPv6 Configuration, and 802.1X. The IP Configuration section has radio buttons for 'DHCP' and 'Static' (selected). Below are input fields for 'IPv4 Address' (172.10.0.1), 'Subnet Mask' (255.255.0.0), 'Default Gateway' (0.0.0.0), and 'DNS Server' (0.0.0.0). The IPv6 Configuration section has radio buttons for 'Automatic' and 'Static' (selected), followed by input fields for 'IPv6 Address', 'Link Local Address' (FE80::20A:41FF:FECC:82E5), 'Default Gateway', and 'DNS Server'. The 802.1X section has a checkbox for 'Use 802.1X Security' (unchecked), a dropdown for 'Authentication' (MD5), and input fields for 'Username' and 'Password'. A 'Top' button is at the bottom left.

Physical Config Services **Desktop** Programming Attributes

IP Configuration

IP Configuration

☐ DHCP **1** ☒ Static

IPv4 Address **2** 172.10.0.1

Subnet Mask **3** 255.255.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::20A:41FF:FECC:82E5

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

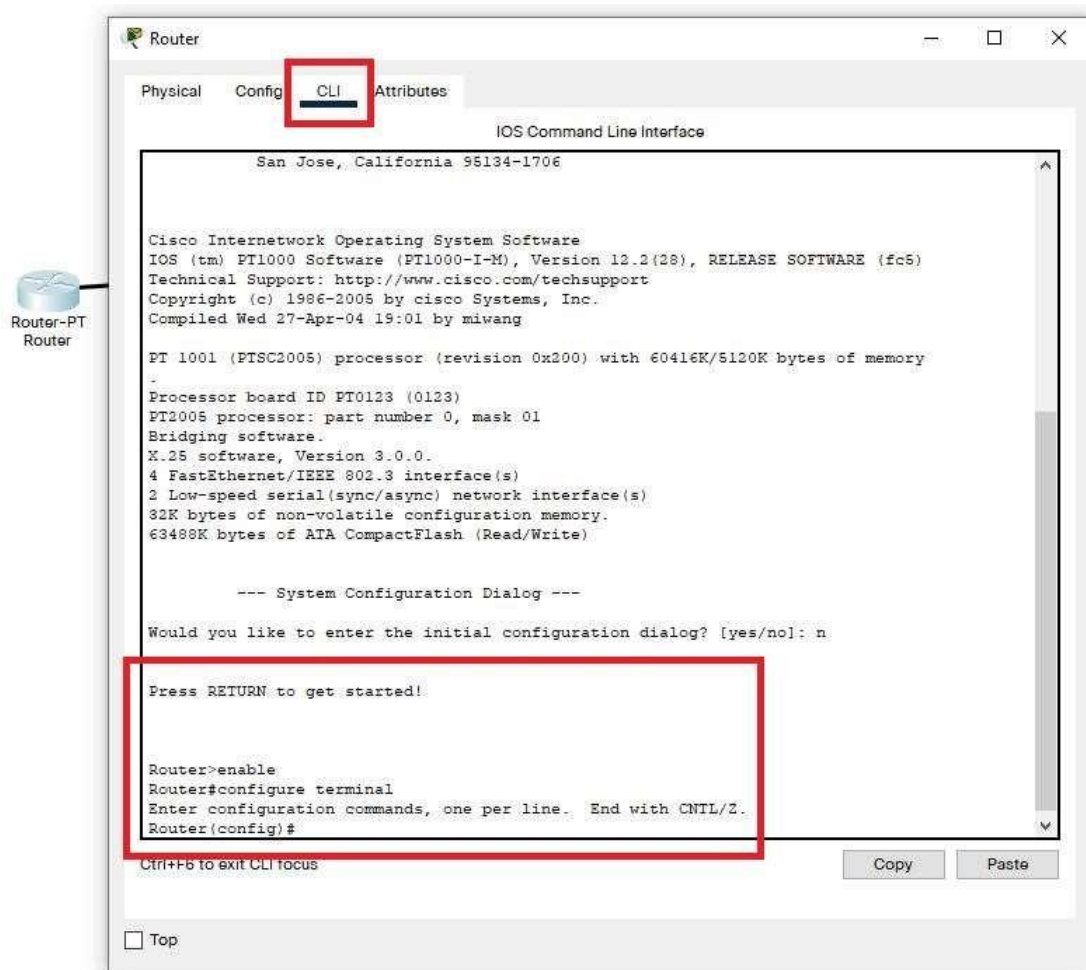
- 1 - Elegir opción “Static”.
- 2 - Asignar IP.
- 3 - Asignar máscara.

¿Cómo configurar un Servidor DHCP con un router en Packet Tracer?

Después de añadir un router, ir a la pestaña “CLI” para configurar el DHCP.

Para poder iniciar la configuración seguir los siguientes pasos:

- 1- Darle al botón de “ENTRAR” para empezar con la configuración.
- 2- Escribir el comando “enable” para activar el modo de configuración.
- 3- Escribir el comando “configure terminal” para empezar la configuración.



A partir de aquí disponemos de los siguientes comandos de configuración:

ip dhcp excluded-address: configurar rango de IPs que serán excluidas del direccionamiento.

Ejemplo: **ip dhcp excluded-address 172.10.10.200 172.10.10.210**

ip dhcp pool “Nombre del protocolo”: asigna nombre al ámbito de direccionamiento.

Ejemplo: **ip dhcp pool DHCP_Router**

network “ID de la red” “Máscara”: ámbito de la red.

Ejemplo: **network 172.10.0.0 255.255.0.0**

default-router “IP puerta de enlace”: asignar puerta de enlace.

Ejemplo: **default-router 172.10.0.1**

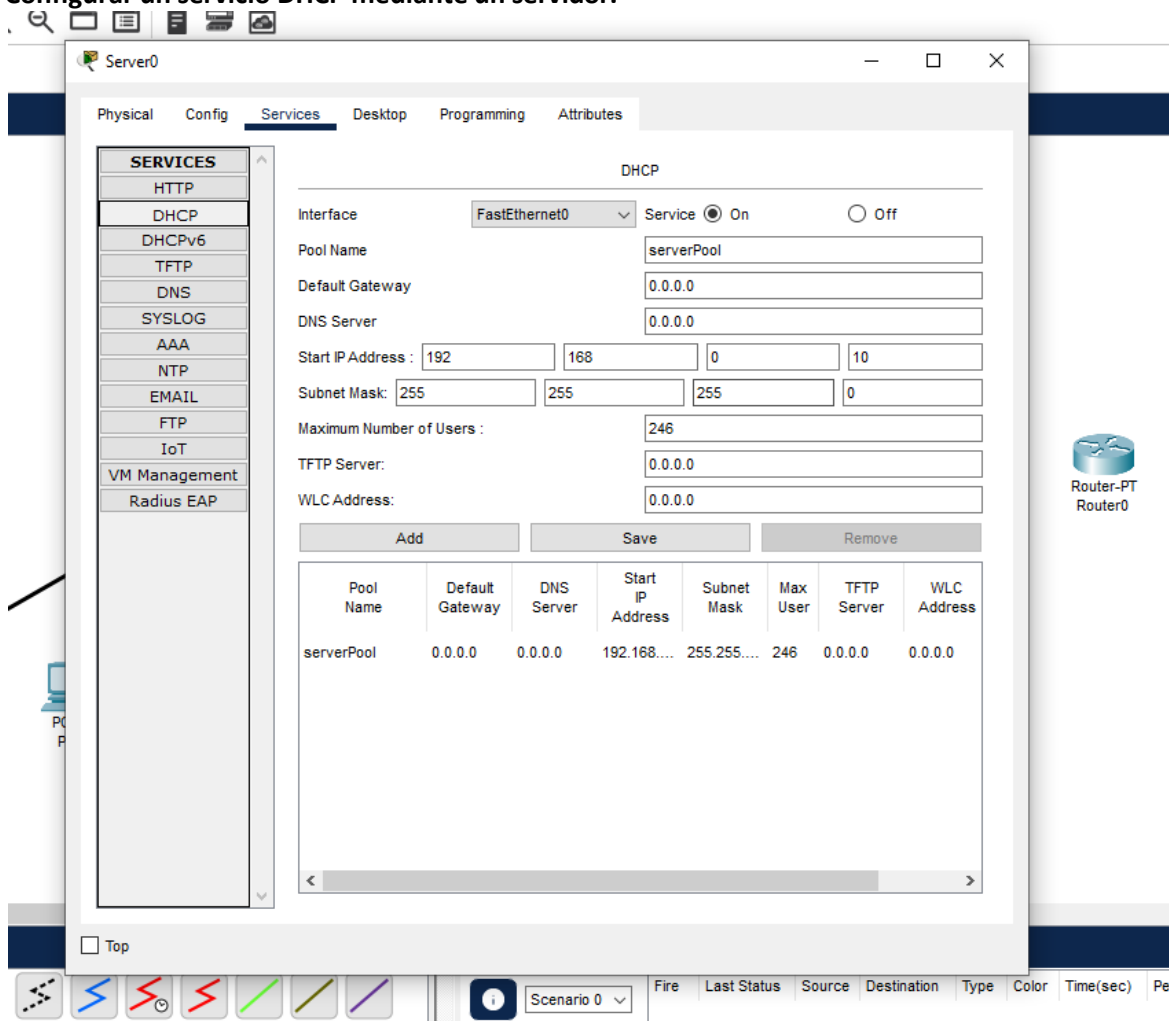
dns-server “IP DNS”: Ip del servidor DNS simulado que utilizarán los hosts.

Ejemplo: **dns-server 8.8.8.8**

exit: para finalizar con la configuración.

Se pide:

1- Configurar un servicio DHCP mediante un servidor.



The screenshot shows the configuration window for a server named 'Server0'. The 'Services' tab is selected, and the 'DHCP' service is configured. The interface is 'FastEthernet0' and the service is set to 'On'. The pool name is 'serverPool'. The default gateway is '0.0.0.0' and the DNS server is '0.0.0.0'. The start IP address is '192.168.0.10' and the subnet mask is '255.255.0.0'. The maximum number of users is '246'. The TFTP server is '0.0.0.0' and the WLC address is '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	0.0.0.0	0.0.0.0	192.168.0.10	255.255.0.0	246	0.0.0.0	0.0.0.0

Server0

Physical Config Services Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 192.168.0.2

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.0.1

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::202:4AFF:FED2:C634

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

Top

Router-PT
Router0

PC0

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address: 192.168.0.10

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::230:A3FF:FE8A:74E3

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

Top

PC-PT
PC0

Router-PT
Router0

Fire Last Status Source Destination Type Color Time(sec)

PC1

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface: FastEthernet0

IP Configuration

☒ DHCP ☐ Static

IPv4 Address: 192.168.0.11

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::20C:CFFF:FE23:5A08

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

Top

PC2

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface: FastEthernet0

IP Configuration

☒ DHCP ☐ Static

IPv4 Address: 192.168.0.12

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::20D:BDFF:FE3D:3B47

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

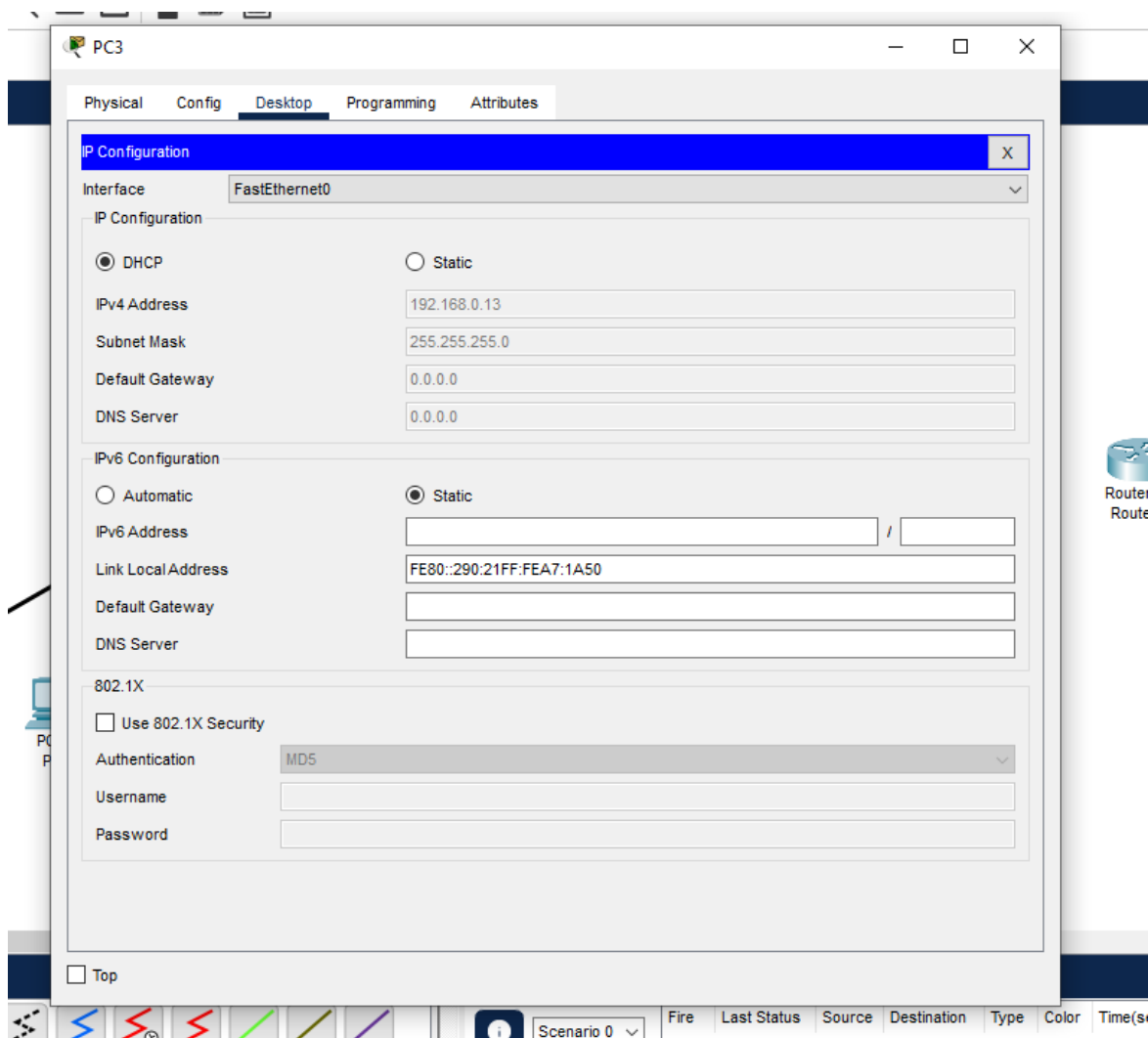
Authentication: MD5

Username:

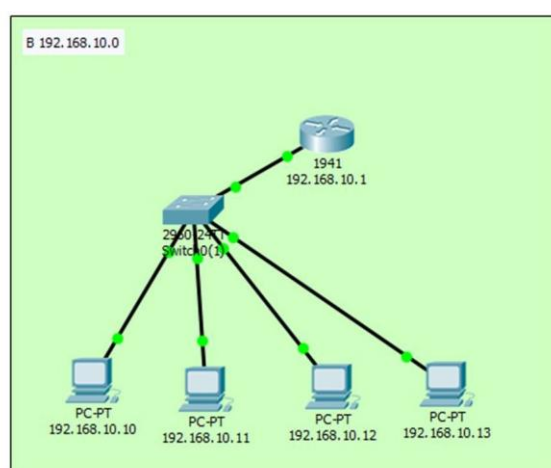
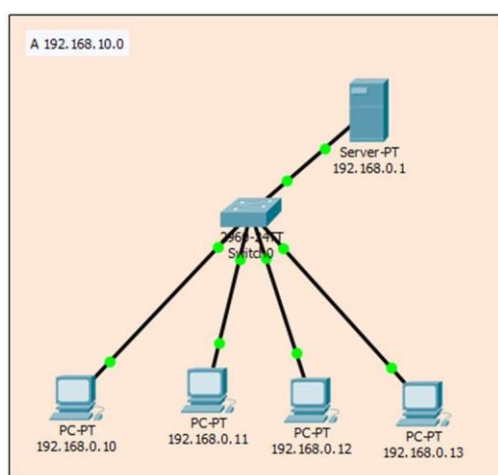
Password:

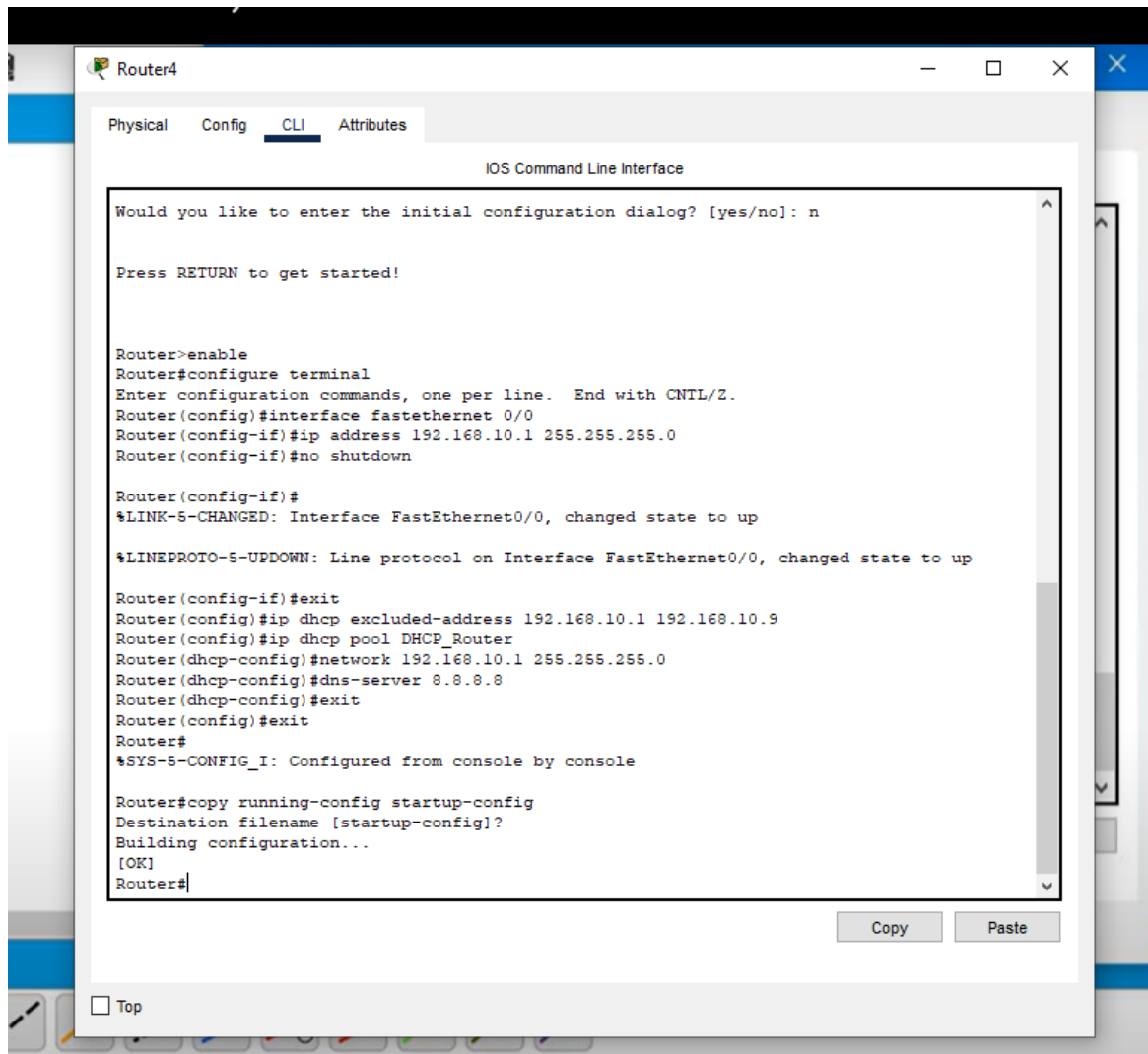
Top

Router-PT
Router0



2- Configurar un servicio DHCP mediante un router.





```
Router4
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#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastethernet 0/0
Router(config-if)#ip address 192.168.10.1 255.255.255.0
Router(config-if)#no shutdown

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

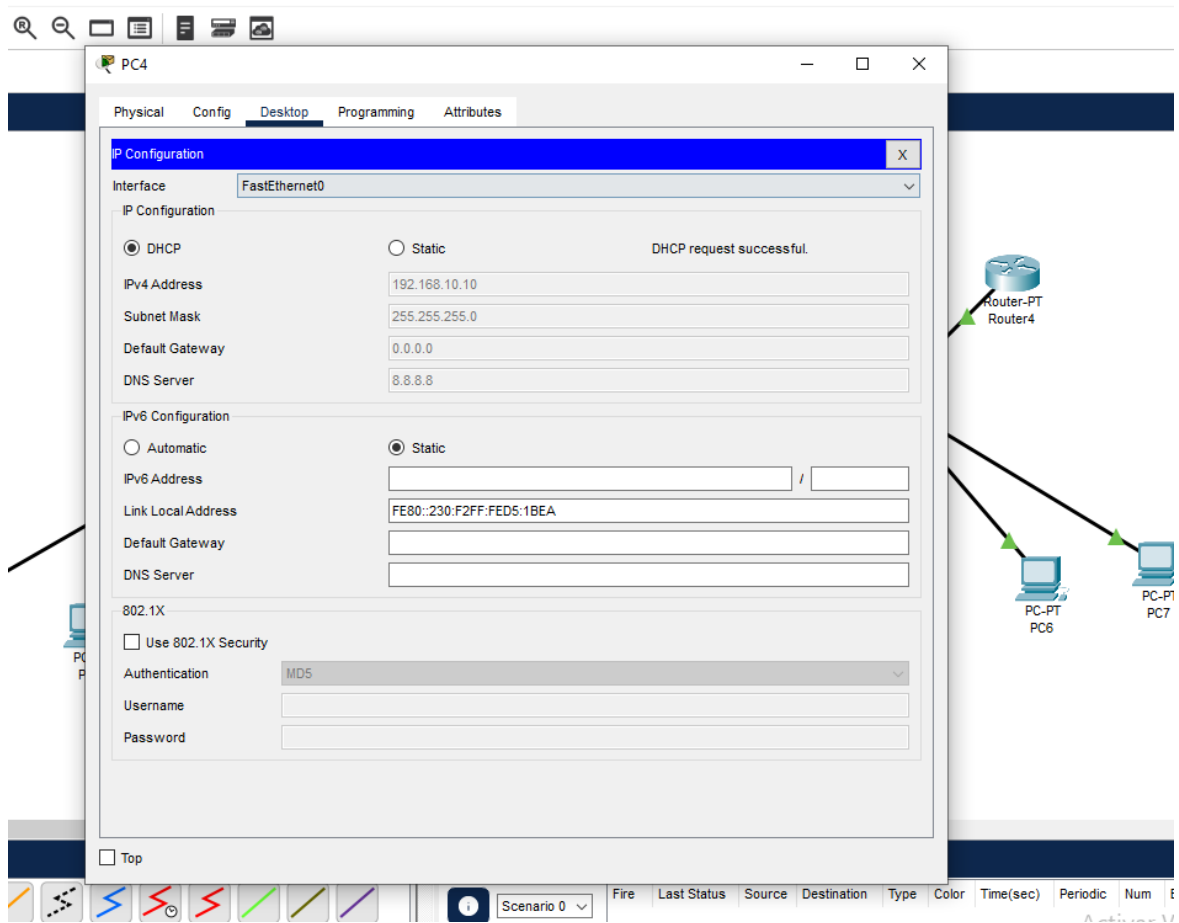
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#ip dhcp excluded-address 192.168.10.1 192.168.10.9
Router(config)#ip dhcp pool DHCP_Router
Router(dhcp-config)#network 192.168.10.1 255.255.255.0
Router(dhcp-config)#dns-server 8.8.8.8
Router(dhcp-config)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Router#
```

Copy Paste

☐ Top



The screenshot shows a network configuration window for PC4. The window has tabs for Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is active, showing IP Configuration for the FastEthernet0 interface. The DHCP option is selected, and the status indicates 'DHCP request successful'. The IPv4 Address is 192.168.10.10, Subnet Mask is 255.255.255.0, Default Gateway is 0.0.0.0, and DNS Server is 8.8.8.8. The IPv6 Configuration section shows the Static option selected, with an IPv6 Address field, a Link Local Address of FE80::230:F2FF:FED5:1BEA, and empty fields for Default Gateway and DNS Server. The 802.1X section has the 'Use 802.1X Security' checkbox unchecked, and the Authentication dropdown is set to MD5, with empty fields for Username and Password. The background shows a network diagram with Router-PT Router4 connected to PC-PT PC6 and PC-PT PC7. The bottom status bar shows 'Scenario 0' and various network parameters.

PC4

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful

IPv4 Address: 192.168.10.10

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 8.8.8.8

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::230:F2FF:FED5:1BEA

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

Router-PT Router4

PC-PT PC6

PC-PT PC7

Scenario 0

Fire Last Status Source Destination Type Color Time(sec) Periodic Num

Help

PC5

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address: 192.168.10.11

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 8.8.8.8

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::290:CFF:FE2E:92EC

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

Top

PC0

PC1

Router

Fire Last Status Source Destination Type Color Time

PC6

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address 192.168.10.12

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 8.8.8.8

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::201:C7FF:FE93:7639

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

Fire	Last Status	Source	Destination	Type	Color

PC7

Physical Config **Desktop** Programming Attributes

IP Configuration [X]

Interface: FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address: 192.168.10.13

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 8.8.8.8

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::200:CFF:FE31:776C

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

☐ Top

Scenario 0

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Peri
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Router-PT Router4

PC-PT PC6

La entrega de esta tarea se realizará vía Moodle y mediante un archivo .pkt con las configuraciones y con el siguiente formato de nombre:

Actividad16_Nombre_Apellido1_Apellido2.pkt

Ejemplo:

Actividad16_Hadriel_Fernando_Quintero_Ceballos.pkt