Instituto Tecnológico de Salina Cruz

Fundamentos de Redes

Semestre Enero – Julio 2015

Reporte de Practica

Practica n° 2

Unidad 5

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Fecha: 1 de JUNIO del 2015

Objetivo:

Al completar esta práctica de laboratorio, usted podrá:

- Interpretar los resultados del router.
- Identificar las direcciones IP de cada router.
- Diseñar un diagrama de la topología de red.
- Conectar y configurar una red en base al diagrama de topología.
- Probar y verificar la conectividad total.
- Reflexionar sobre la implementación de la red y documentarlo.

Instrucciones:

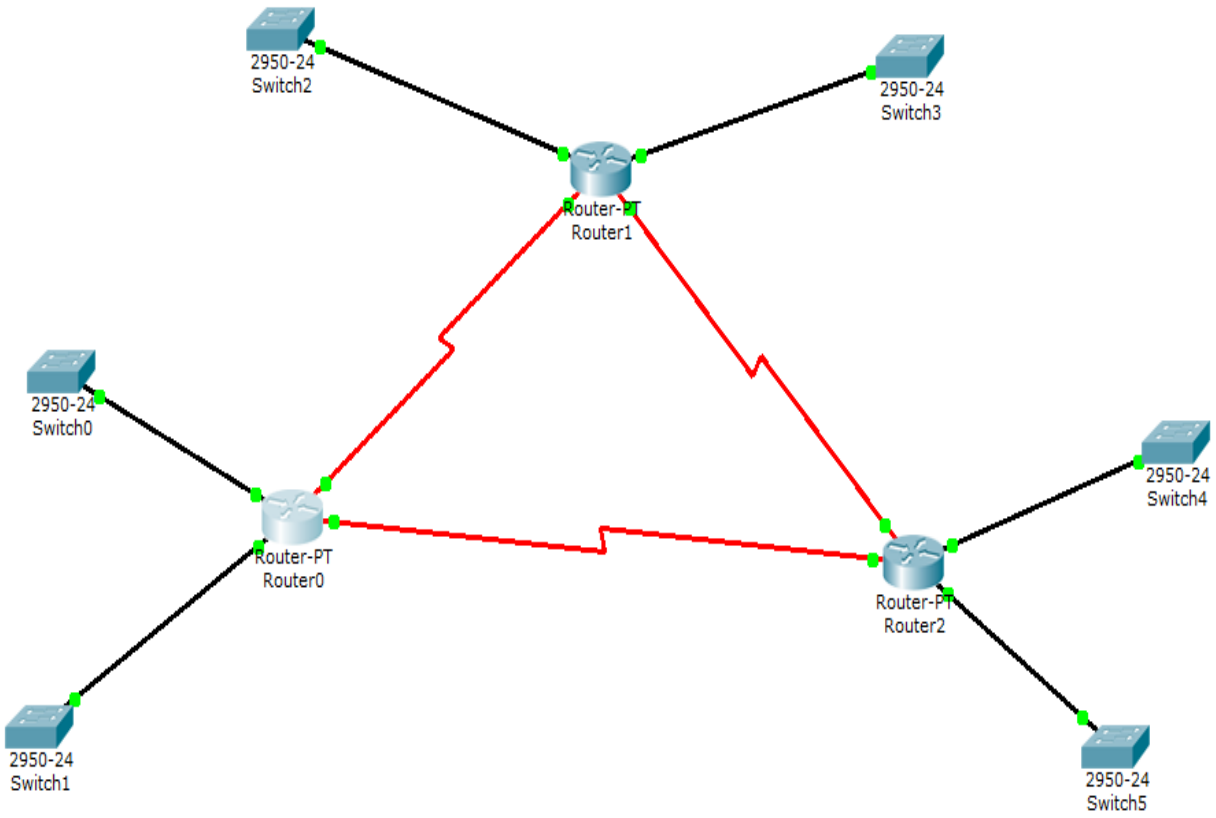
1.- Crear la topología de la red.
2.- Realizar la tabla de enrutamiento.
3.- Realizar configuraciones iniciales.
4.- Comprobar la conectividad.

Materiales:

Programa de simulacion Packet Tracer

	Interfaz	Dirección IP	Mascar de subred
HQ	Fa0/0	192.168.1.1	255.255.255.0
	Fa1/0	192.168.10.2	255.255.255.0
	S2/0	10.10.10.1	255.0.0.0
	S3/0	11.10.10.1	255.0.0.0
BRANCH 1	Fa0/0	172.164.10.1	255.255.0.0
	Fa1/0	192.164.1.2	255.255.0.0
	S2/0	10.10.10.2	255.0.0.0
	S3/0	11.11.0.1	255.0.0.0
BRANCH 2	Fa0/0	200.10.9.2	255.255.255.0
	Fa1/0	200.10.11.5	255.255.255.0
	s2/0	11.11.0.2	255.0.0.0
	S3/0	10.11.10.2	255.0.0.0

Escenario.



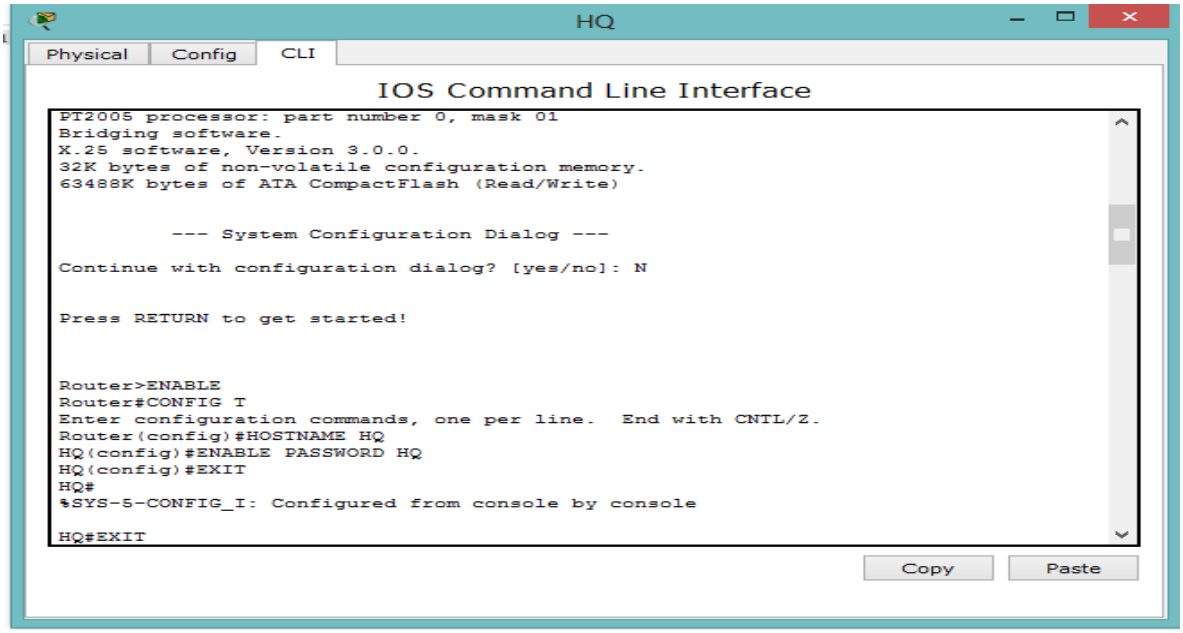
CONFIGURACIÓN INICIAL: En este apartado es donde nosotros realizaremos configuraciones tales como cambio de nombre, asignación de un password y asignación de un banner a cada uno de los routers.

R1 (HQ).

Cambio de nombre

Asignación de una contraseña.

Asignación de un banner.

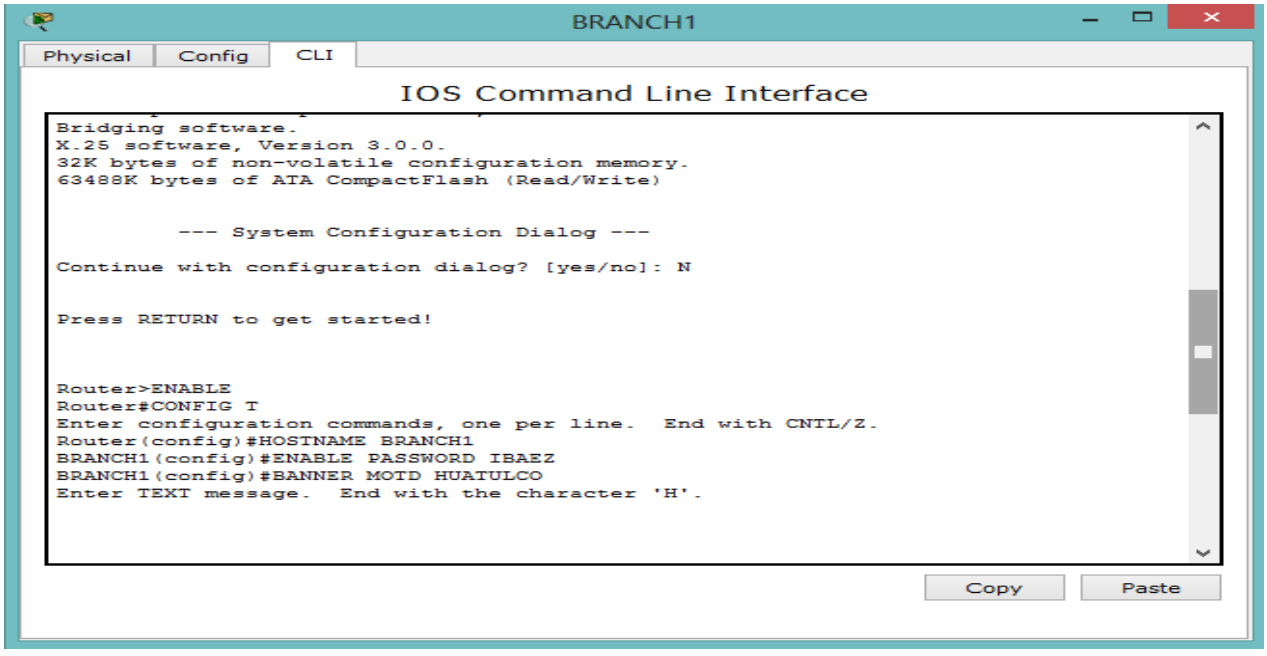


R2 (BRANCH1)

Cambio de nombre

Asignación de una contraseña.

Configuración del banner.

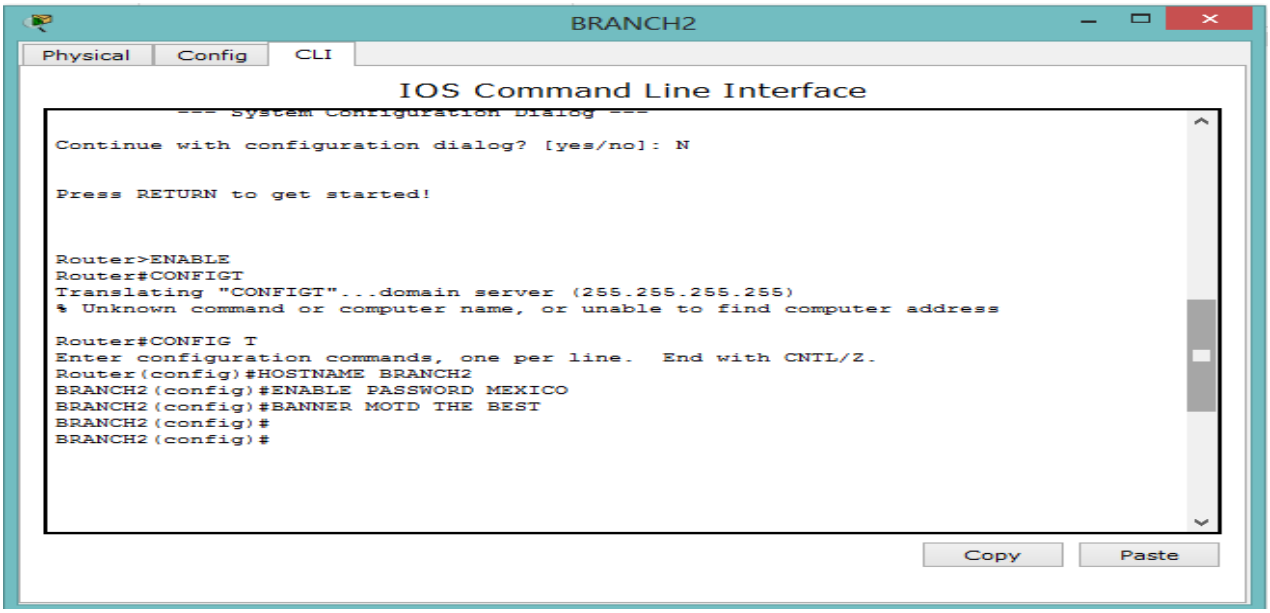


R3 (BRANCH 2)

Cambio de nombre

Configuración de una contraseña.

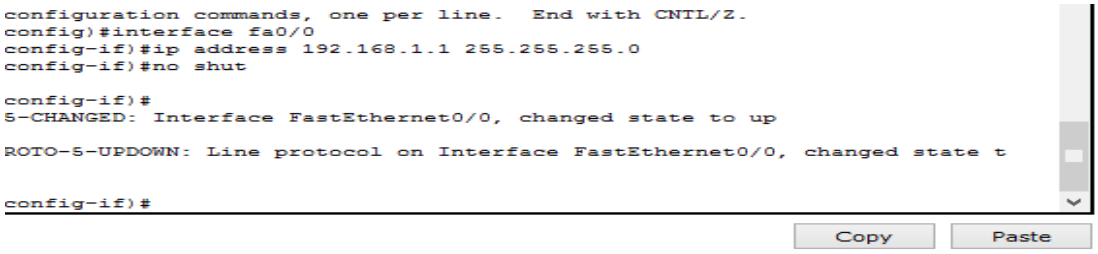
Asignación de un banner.



Después de todas estas configuraciones pasamos al levantamiento o habilitación de puertos, tanto de Fa como seriales, esto con el fin de que se pueda llevar a cabo las conexiones

HQ (R1)

Puerto fa0/0.



Puerto fa1/0

```
configuration commands, one per line.  End with CNTL/Z.
config)#interface fa0/0
config-if)#ip address 192.168.1.1 255.255.255.0
config-if)#no shut

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

ROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state t


config-if)#exit
config)#interface fa1/0
config-if)#ip address 192.168.1.2 255.255.255.0
168.1.0 overlaps with FastEthernet0/0
config-if)#ip address 192.168.10.2 255.255.255.0
config-if)#no shut

config-if)#
5-CHANGED: Interface FastEthernet1/0, changed state to up

ROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state t


config-if)#
```

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Serial 2/0

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

PROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state t


(config-if)#exit
(config)#interface fa1/0
(config-if)#ip address 192.168.1.2 255.255.255.0
.168.1.0 overlaps with FastEthernet0/0
(config-if)#ip address 192.168.10.2 255.255.255.0
(config-if)#no shut

(config-if)#
-5-CHANGED: Interface FastEthernet1/0, changed state to up

PROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state t


(config-if)#exit
(config)#interface s2/0
(config-if)#ip address 10.10.10.1 255.0.0.0
(config-if)#no shut

-5-CHANGED: Interface Serial2/0, changed state to down
(config-if)#
```

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Serial 3/0

```
PROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state t


(config-if)#exit
(config)#interface s2/0
(config-if)#ip address 10.10.10.1 255.0.0.0
(config-if)#no shut

-5-CHANGED: Interface Serial2/0, changed state to down
(config-if)#exit
(config)#interface s3/=
                      ^
alid input detected at '^' marker.

(config)#interface s3/0
(config-if)#ip address 10.10.11.1 255.0.0.0
).0.0 overlaps with Serial2/0
(config-if)#ip address 11.10.10.1 255.0.0.0
(config-if)#no shut

-5-CHANGED: Interface Serial3/0, changed state to down
(config-if)#
```

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BRANCH 1 (R2)

Puerto fa0/0

IOS Command Line Interface

```
salazar unidad5
otd

enable
:
conf t
nfiguration commands, one per line.  End with CNTL/Z.
config)#interface fa0/0
config-if)#ip address 172.164.10.1 255.255.0.0
config-if)#no shut

config-if)#
CHANGED: Interface FastEthernet0/0, changed state to up

TO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state t


config-if)#
```

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Puerto fa1/0

IOS Command Line Interface

```
(config-if)#no shut

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

OTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state t


(config-if)#exit
(config)#interface fa1/0
(config-if)#ip address 172.164.10.2 255.255.0.0
64.0.0 overlaps with FastEthernet0/0
(config-if)#ip address 172.164.11.2 255.255.0.0
64.0.0 overlaps with FastEthernet0/0
(config-if)#ip address 172.164.1.2 255.255.0.0
64.0.0 overlaps with FastEthernet0/0
(config-if)#ip address 192.164.1.2 255.255.255.0
(config-if)#no shut

(config-if)#
-CHANGED: Interface FastEthernet1/0, changed state to up

OTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state t


(config-if)#
```

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Serial 2/0

IOS Command Line Interface

```
config-if)#exit
config)#interface fa1/0
config-if)#ip address 172.164.10.2 255.255.0.0
4.0.0 overlaps with FastEthernet0/0
config-if)#ip address 172.164.11.2 255.255.0.0
4.0.0 overlaps with FastEthernet0/0
config-if)#ip address 172.164.1.2 255.255.0.0
4.0.0 overlaps with FastEthernet0/0
config-if)#ip address 192.164.1.2 255.255.255.0
config-if)#no shut

config-if)#
CHANGED: Interface FastEthernet1/0, changed state to up

TO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state t


config-if)#exit
config)#interface s2/0
config-if)#ip address 10.10.10.2 255.0.0.0
config-if)#no shut

config-if)#
CHANGED: Interface Serial2/0, changed state to up

config-if)#
```

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Serial 3/0

IOS Command Line Interface

```
TO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state t


config-if)#exit
config)#interface s2/0
config-if)#ip address 10.10.10.2 255.0.0.0
config-if)#no shut

config-if)#
CHANGED: Interface Serial2/0, changed state to up

config-if)#
TO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

config-if)#exit
config)#interface s3/=
                     ^
d input detected at '^' marker.

config)#interface s3/0
config-if)#ip address 11.11.0.1 255.0.0.0
config-if)#no shut

CHANGED: Interface Serial3/0, changed state to down
config-if)#
```

BRANCH 2 (R3)

Puerto fa0/0

IOS Command Line Interface

```
 redes de computadoras eduardo salazar irrizari
motd

enable
d:
conf t
onfiguration commands, one per line.  End with CNTL/Z.
config)#interface fa0/0
config-if)#ip address 200.10.9.2 255.255.255.0
config-if)#no shut

config-if)#
-CHANGED: Interface FastEthernet0/0, changed state to up

OTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state t


config-if)#
```

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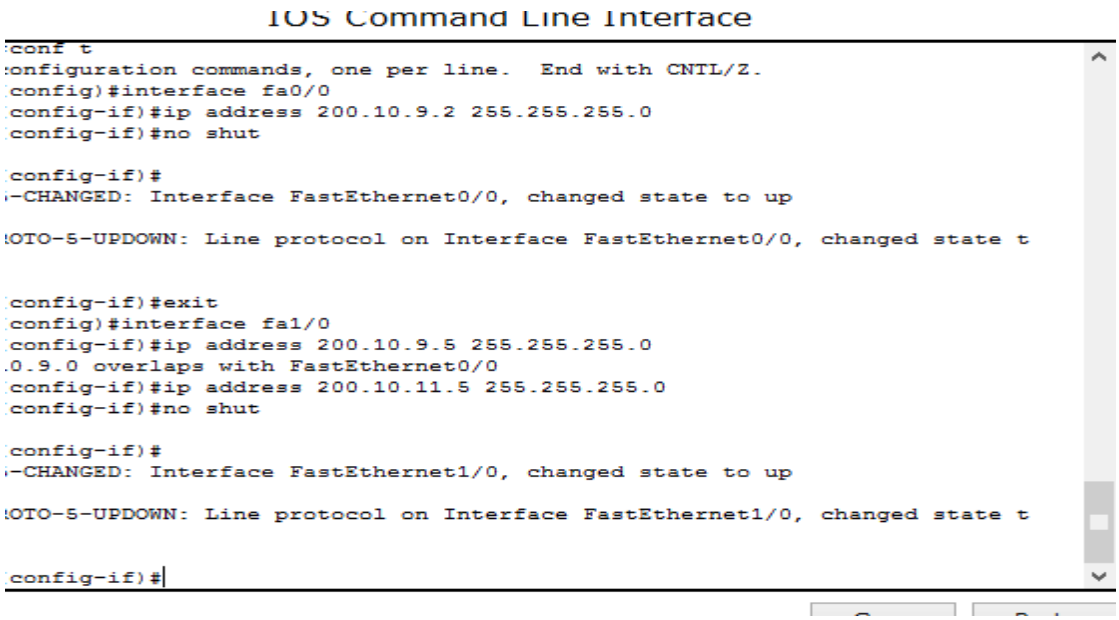
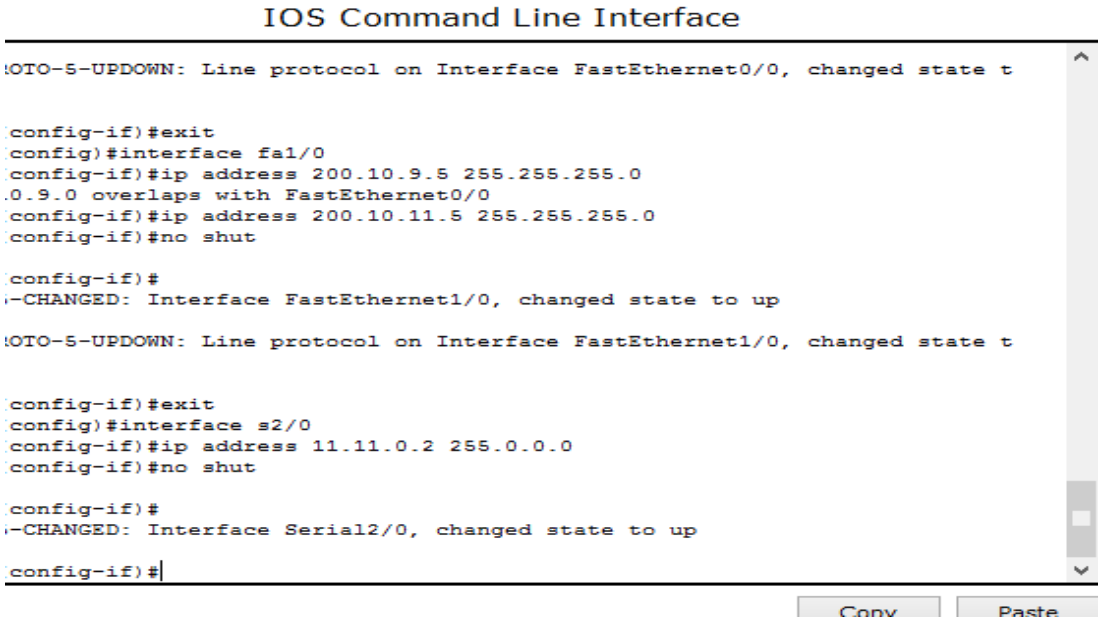
Puerto fa1/0



Serial 2/0



Serial 3/0

IOS Command Line Interface

```
config-if)#
OTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

config-if)#exit
config)#interface s3/0
config-if)#ip address 11.10.10.2 255.0.0.0
0.0 overlaps with Serial2/0
config-if)#ip address 11.10.10.2 255.255.0.0
.0.0 overlaps with Serial2/0
config-if)#ip address 11.11.10.2 255.255.0.0
..0.0 overlaps with Serial2/0
config-if)#ip address 11.10.11.2 255.255.0.0
.0.0 overlaps with Serial2/0
config-if)#ip address 11.10.10.2 255.0.0.0
0.0 overlaps with Serial2/0
config-if)#ip address 11.10.11.2 255.0.0.0
0.0 overlaps with Serial2/0
config-if)#ip address 11.10.10.3 255.0.0.0
0.0 overlaps with Serial2/0
config-if)#ip address 10.11.10.2 255.0.0.0
config-if)#no shut

config-if)#
-CHANGED: Interface Serial3/0, changed state to up

config-if)#
```

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Paso 1: Examinar los resultados de los routers

HQ (R1)

IOS Command Line Interface

```
de computadoras unidad5 eduardo
 motd

enable
rd:
show ip route
 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

y of last resort is not set

0.0.0.0/8 is directly connected, Serial2/0
1.0.0.0/8 is directly connected, Serial3/0
92.168.1.0/24 is directly connected, FastEthernet0/0
92.168.10.0/24 is directly connected, FastEthernet1/0
```

BRANCH 1 (R2)

```
>enable
d:
#show ip route
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

 of last resort is not set

.0.0.0/8 is directly connected, Serial2/0
.0.0.0/8 is directly connected, Serial3/0
2.164.0.0/16 is directly connected, FastEthernet0/0
2.164.1.0/24 is directly connected, FastEthernet1/0
```

BRANCH 2 (R3)

```
enable
d:
show ip route
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

 of last resort is not set

.0.0.0/8 is directly connected, Serial3/0
.0.0.0/8 is directly connected, Serial2/0
0.10.9.0/24 is directly connected, FastEthernet0/0
0.10.11.0/24 is directly connected, FastEthernet1/0
```

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Configuración del protocolo de enrutamiento para cada router.

Habilitar el protocolo de enrutamiento RIP en el router1.

```
enable
rd:
conf t
 configuration commands, one per line.  End with CNTL/Z.
config)#router rip
config-router)#network 192.168.0.0
config-router)#network 10.10.10.0
config-router)#network 11.10.10.0
config-router)#end
-CONFIG_I: Configured from console by console
```

Habilitar el protocolo de enrutamiento RIP en el router2.

```
enable
:
conf t
nfiguration commands, one per line.  End with CNTL/Z.
config)#router rip
config-router)#network 172.164.10.0
config-router)#network 191.164.1.0
config-router)#network 10.10.10.0
config-router)#network 11.11.0.0
config-router)#end
ONFIG_I: Configured from console by console

copy run star
ion filename [startup-config]?
 configuration...
```

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Habilitar el protocolo de enrutamiento RIP en el router3.

```
Balboa>enable
Password:
Balboa#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Balboa(config)#router rip
Balboa(config-router)#network 200.20.0.0
Balboa(config-router)#network 11.11.0.0
Balboa(config-router)#network 10.11.10.0
Balboa(config-router)#end
Balboa#
%SYS-5-CONFIG_I: Configured from console by console

Balboa#copy run star
Destination filename [startup-config]?
Building configuration...
```